



 **Watson  
& Associates**  
ECONOMISTS LTD.

# Water and Wastewater Rate Study

## Norfolk County

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# List of Acronyms and Abbreviations

<b>Acronym</b>	<b>Full Description of Acronym</b>
C.P.I.	Consumer Price Index
D.C.	Development Charges
G.I.S.	Geographic Information System
O. Reg.	Ontario Regulation
P.I.L.	Payment-in-Lieu
Q.S.R.	Quick Score Rating
S.D.W.A.	Safe Drinking Water Act



# Report



# Chapter 1

## Introduction



# 1. Introduction

## 1.1 Background

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Norfolk County (County) has a present population of approximately 64,000 people, based on the 2016 Census. There are approximately 15,769 water customers and 14,907 wastewater customers using the municipal systems. The treatment, storage, and distribution/collection of water and wastewater are the responsibility of the County.

Most customers are currently billed a monthly base charge that increases based on meter size and a consumptive rate for both water and wastewater. A relatively small number of customers remain on flat-rate billing, with a monthly flat rate that is equivalent to the base charge applicable to the smallest meter size (i.e. 15/19 mm) and 20 m<sup>3</sup> of consumption. Furthermore, the County imposes special charges for putting an account onto standby that are equivalent to the smallest meter size, a bulk water rate per m<sup>3</sup> of consumption, and separate holding tank/septic waste/leachate charges that are imposed per m<sup>3</sup> of wastewater discharge. The water and wastewater rates currently imposed are summarized below in Table 1-1.



Table 1-1  
Norfolk County  
2020 Water and Wastewater Rates

2020 - Water & Wastewater Billing Rates		
Monthly Base Charge		
Meter Size	Water	Wastewater
15/19 mm	\$22.55	\$31.20
25 mm	\$37.40	\$51.75
40 mm	\$62.61	\$86.63
50 mm	\$158.03	\$218.66
75 mm	\$182.30	\$252.23
100 mm	\$356.96	\$493.89
150 mm	\$641.07	\$887.00
Volume Charge		
	Water	Wastewater
per m <sup>3</sup>	\$1.531	\$2.075
Monthly Flat Rates		
	Water	Wastewater
Base Charge + 20 m <sup>3</sup>	53.17	72.70
Special Charges	Charging Parameter	Charge
Water Bulk Rate	per m <sup>3</sup>	4.32
Septic Waste Disposal	per m <sup>3</sup>	41.71
Holding Tank Disposal	per m <sup>3</sup>	14.85
Leachate Disposal	per m <sup>3</sup>	29.36
Standby (Water & WW)	Monthly	53.75
Standby (Water Only)	Monthly	22.55





## 1.2 Study Process

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The County retained Watson & Associates Economists Ltd. (Watson) to undertake a water and wastewater rate study. The objectives of the study and the steps involved in carrying out this assignment are summarized below:

- Update water and wastewater service demand assumptions based on analysis of historical consumption and recent trends;
- Estimate future consumption levels by applying revised demand assumptions to forecast growth identified in the County's 2018 Development Charges (D.C.) Background Study report;
- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications;
- Build a capital program that addresses specific needs identified by County staff;
- Identify potential methods of cost recovery with respect to the capital needs listing. These recovery methods may include other statutory authorities (e.g. *Development Charges Act, 1997, Municipal Act, etc.*) as an offset to recovery through the water and wastewater rates;
- Forecast annual operating costs and rate-based funding requirements;
- Develop a long-term water and wastewater rate forecast;
- Provide an impact assessment on the rate payers; and
- Present findings to staff and Council for their consideration.

In approaching this study, the following analysis is provided:

- Chapter 2 – Forecast Growth and Service Demands
- Chapter 3 – Capital Infrastructure Needs
- Chapter 4 – Capital Cost Financing Options
- Chapter 5 – Operating Expenditure Forecast
- Chapter 6 – Forecast Water and Wastewater Rates

## 1.3 Legislative Context

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Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario. These changes arose in consequence to the Walkerton Commission



and the 93 recommendations made by the Walkerton Inquiry Part II report. Areas of recommendation included:

- watershed management and source protection;
- quality management;
- preventative maintenance;
- research and development;
- new performance standards;
- sustainable asset management; and
- lifecycle costing.

The following sections describe significant applicable regulatory areas.

### **1.3.1 Sustainable Water and Sewage Systems Act**

The *Sustainable Water and Sewage Systems Act* was passed on December 13, 2002. The intent of the Act was to introduce the requirement for municipalities to undertake an assessment of the “full cost” of providing their water and wastewater services. In total, there were 40 areas within the Act to which the Minister may make regulations; however regulations were never issued. On December 31, 2012, the *Sustainable Water and Sewage Systems Act* was repealed.

### **1.3.2 Safe Drinking Water Act**

The *Safe Drinking Water Act* was passed in December 2002. The *Safe Drinking Water Act* provides for 50 of the 93 Walkerton Part II recommendations. It focuses on the administrative and operational aspects of the provision of water.

The purposes of the *Safe Drinking Water Act* are to “recognize that the people of Ontario are entitled to expect their drinking water to be safe and to provide for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking water systems and drinking water testing. 2002, c. 32, s. 1.”

The following is a brief summary of the key elements included in the *Safe Drinking Water Act*.

- Mandatory licensing and accreditation of testing laboratories;



- New standards for treatment, distribution quality and testing;
- Mandatory operator training and certification;
- Mandatory licensing of municipal water providers;
- Stronger enforcement and compliance provisions; and
- “Standard of care” requirements for municipalities.

This legislation impacts the costs of operating a water system with the need for higher skilled operators including increased training costs, increased reporting protocols and requirements, continuing enhancements to quality standards, and the costs to license each water system.

### **1.3.3 Financial Plans Regulation**

On August 16, 2007, the Ministry of Environment introduced Ontario Regulation (O. Reg.) 453/07 which requires the preparation of financial plans for water systems (and municipalities are encouraged to prepare plans for wastewater systems). The Ministry of Environment has also provided a Financial Plan Guideline to assist municipalities with preparing the plans. A brief summary of the key elements of the regulation is provided below:

- The financial plan will represent one of the key elements to obtain a Drinking Water Licence.
- The plan is to be completed, approved by Council Resolution, and submitted to the Ministry of Municipal Affairs and Housing as part of the application for receiving approval of a water licence.
- The financial plans shall be for a period of at least six years, but longer planning horizons are encouraged.
- As the regulation is under the *Safe Drinking Water Act*, the preparation of the plan is mandatory for water services and encouraged for wastewater services.
- The plan is considered a living document (i.e. it can be updated if there are significant changes to budgets) but an update will need to be undertaken at a minimum every five years.
- The plans generally require the forecasting of capital, operating and reserve fund positions, and providing detailed capital inventories. In addition, Public Sector Accounting Board full accrual information on the system must be provided for each year of the forecast (i.e. total non-financial assets, tangible capital asset



acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities, net debt, etc.).

- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's web site. The availability of this information must also be advertised.

In general, the financial principles of this regulation follow the intent of the *Sustainable Water and Sewage Systems Act, 2002* to move municipalities towards financial sustainability for water services. Many of the prescriptive requirements, however, have been removed (e.g. preparation of two separate documents for provincial approval, auditor opinions, engineer certifications, etc.).

A guideline ("Towards Financially Sustainable Drinking-Water and Wastewater Systems") has been developed to assist municipalities in understanding the Province's direction and provides a detailed discussion on possible approaches to sustainability. The Province's Principles of Financially Sustainable Water and Wastewater Services are provided below:

Principle #1: Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.

Principle #2: An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.

Principle #3: Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.

Principle #4: Lifecycle planning with mid-course corrections is preferable to planning over the short term, or not planning at all.

Principle #5: An asset management plan is a key input to the development of a financial plan.

Principle #6: A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.



Principle #7: Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.

Principle #8: Financial Plans are “living” documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.

Principle #9: Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal council.

### **1.3.4 Water Opportunities Act**

The *Water Opportunities Act* received Royal Assent on November 29, 2010. The Act provides for the following elements:

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

With regard to the sustainability plans:

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

The Financial Plan shall include:

- An asset management plan for the physical infrastructure;
- Financial Plan;
- For water, a water conservation plan;



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

Performance indicators will be established by service that:

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

Regulations will prescribe:

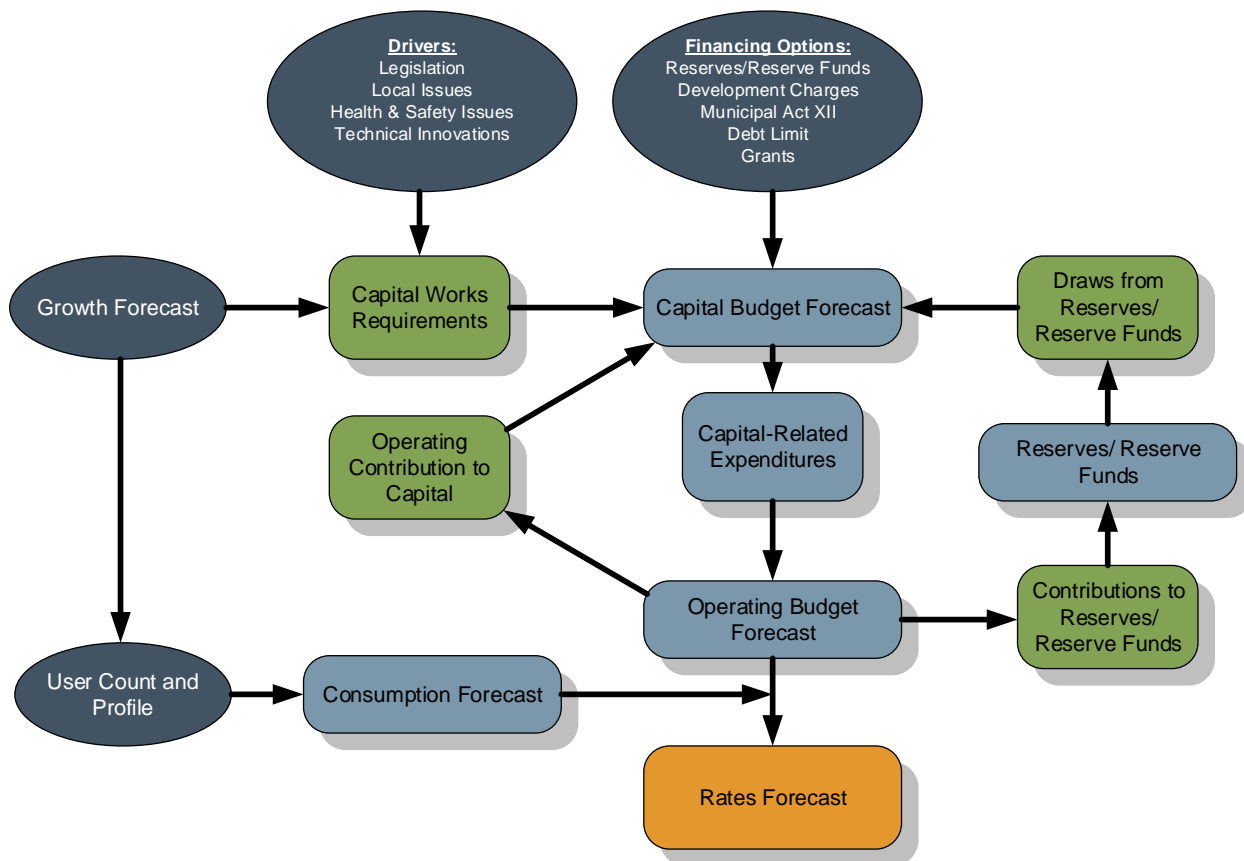
- Timing;
- Contents of the plans;
- Portions of the plan that will require certification;
- Public consultation process; and
- Limitations, updates, refinements, etc.



## 1.4 Water and Wastewater Rate Calculation Methodology

Figure 1-1 illustrates the general methodology used in determining the full cost recovery water and wastewater rate forecast.

Figure 1-1  
Water and Wastewater Rate Calculation Methodology



The methodology employed generally consists of five major elements:

### 1.4.1 Customer Demands and Consumption Forecast

As noted in section 1.1, the County employs a rate structure consisting of a monthly base charge and a consumptive rate. The base charge is imposed based on water meter size with higher charges imposed on larger meters, generally reflective of higher capital infrastructure demands. The consumptive rate is imposed as a constant rate based on consumption.



This first step in the analysis is important as it produces the current base revenue by source and assumptions for forecasting purposes. The base charge revenues are forecast with customer growth. The customer profile forecast is modelled based on the County's 2018 D.C. Background Study growth forecast by type and applying generally witnessed metered size assumptions by use. Moreover, the customer forecast is modelled for the water and wastewater systems independently to identify differences in service demands.

The water consumption forecast is prepared by applying average annual consumption estimates to future development. Consumption estimates are based on average consumption levels by customer type drawn from the County's 2019 billing records. The non-residential consumption estimates are generally adjusted to net out large water-consuming customers that may otherwise skew anticipated average consumption levels of future growth. Consistent with the customer forecast, the water consumption forecast used to determine the wastewater consumptive rates is adjusted to reflect differences in service demands.

### **1.4.2 Capital Needs Forecast**

The capital needs forecast is developed to measure program/service level adjustments, lifecycle requirements, and growth-related needs. Analysis conducted by County staff identified capital projects that together form the capital forecast. Included in the capital forecast are the growth-related needs identified in the County's 2018 D.C. Background Study as well as additional growth-related capital projects that have been identified since the preparation of that study. Capital expenditures are forecast with inflationary adjustments based on capital cost indices.

### **1.4.3 Capital Funding Plan**

The capital funding plan considers the potential funding sources available to address the capital needs forecast. The sources of capital funding include rate-based support, reserves/reserve funds, and debt for program/service level improvements. Growth-related sources of funding include D.C. and debt. The use of rate-based funding is measured against the revenue projections and affordability impacts. The reserve/reserve fund sources are measured against the sustainability of these funds, relative to lifecycle demands, revenue projections, and affordability impacts. Debt financing is considered for significant capital expenditures where funding is required





beyond long-term lifecycle needs or to facilitate rate transition policies. Debt financing is measured against annual repayment limits to ensure a practical and sustainable funding mix.

#### **1.4.4 Operating Budget Forecast**

The operating budget forecast considers adjustments to the County's base budget reflecting program/service level changes, operating fund impacts associated with infrastructure, and financing for capital needs. The operating expenditures are forecast with inflationary adjustments and growth in service demand, based on fixed and variable cost characteristics. The operating budget forecast ties the capital funding plan and reserve/reserve fund continuity forecast to the rate-based revenue projections. This ensures sufficient funding for both the ongoing annual operation and maintenance of water and wastewater services, as well as the capital cost requirements to ensure service sustainability. Operating revenues are projected to identify the base charge and consumptive rate components net of anticipated operating revenues, such as interdepartmental recoveries, rental fees, and other miscellaneous revenues.

#### **1.4.5 Rate Forecast and Structure**

The rate forecast and structure component of the analysis considers various rate structures to recover the forecast rate-based revenue from the projected customer demands. At this stage in the analysis, the full costs of service are measured against the customer growth and consumption demands to determine full cost recovery rates. The analysis may consider alternative structures for base charge and consumptive components of the rates, consistent with municipal policies/strategies, industry practice, and customer affordability. Providing context to the rate forecast, the results are quantified to measure the impacts on a range of customer types and in relation to other municipalities.



# Chapter 2

## Forecast Growth and Service Demands



## 2. Forecast Growth and Service Demands

### 2.1 Current Service Demands

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In preparing the demands forecast for water and wastewater services, annual water and wastewater billing records for 2017 to 2019 were analyzed. These records detailed the number of customers by type and meter size, and identified their metered water/wastewater consumption, enabling the development of a comprehensive profile of existing customers.

Based on analysis of this information, there were 15,769 water customers and 14,907 wastewater customers in the County in 2019. The majority of the customers on the County's water and wastewater systems were residential. Residential customers accounted for approximately 93% of all customer accounts.

### 2.2 Forecast Service Demands

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Over the next ten years (i.e. to 2030), the number of water and wastewater system customers is anticipated to increase by 1,404. This results in an increase from 15,769 water customers and 14,907 wastewater customers in 2019, to 17,173 water customers and 16,311 wastewater customers by 2030. It is expected that all new development will be connected to both water and wastewater services. Tables 2-1 and 2-2 provide the detailed customer forecast for the period 2020 to 2030 for water and wastewater, respectively.

Billing records from 2019 were used to develop a forecast of water demands for the period 2020 to 2030. Average annual consumption levels by customer type were calculated from 2019 billing records and applied to the County's growth projections to forecast future service demands. For wastewater, the flow estimates are based on each account's water consumption.

Applying the per-customer consumption estimates to the customer forecast identified in Table 2-1 results in an estimated increase in total annual water consumption from 2.89 million cubic metres as of 2019, to 3.08 million cubic metres by 2030, or an annualized increase of 0.6%.



Wastewater charges are collected based on the quantity of water consumed.<sup>1</sup> The number of wastewater customers is lower than the number of water customers due to the presence of private septic systems. The customer and consumption forecasts for wastewater account for this difference, resulting in lower customer counts and consumption volumes. Annual water consumption of wastewater customers is anticipated to increase from 2.68 million cubic metres as of 2019, to 2.87 million cubic metres by 2030, or an annualized increase of 0.6%. Tables 2-3 and 2-4 provide the detailed water consumption forecasts by customer type for water and wastewater customers, respectively.

In addition to regular metered water consumption, there are additional volumes associated with bulk water purchases and disposal of holding tank waste, septic waste, and leachate at wastewater treatment facilities. For the purposes of this study, the forecast volumes within these special categories have been held constant at 2019 levels throughout the forecast period.

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<sup>1</sup> Wastewater flow meters appropriate for use in private residences are currently not available on the market. Furthermore, installing and maintaining separate wastewater flow meters on each property could significantly increase capital and operating costs. For these reasons, most municipalities in Ontario base wastewater charges on metered water consumption.



Table 2-1  
Norfolk County  
Water Customer Forecast

Water Customer Forecast	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	15,769	15,769	15,769	15,769	15,769	15,769	15,769	15,769	15,769	15,769	15,769
New - Low & Med. Res. Growth	69	206	341	476	611	746	875	998	1,121	1,244	1,367
New - High Res. Growth	1	2	3	4	5	6	7	8	9	10	11
New - Non-Res. Growth	2	4	7	10	12	15	18	20	23	25	26
<b>Total</b>	<b>15,841</b>	<b>15,981</b>	<b>16,120</b>	<b>16,259</b>	<b>16,397</b>	<b>16,536</b>	<b>16,669</b>	<b>16,795</b>	<b>16,922</b>	<b>17,048</b>	<b>17,173</b>

Table 2-2  
Norfolk County  
Wastewater Customer Forecast

Wastewater Customer Forecast	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	14,907	14,907	14,907	14,907	14,907	14,907	14,907	14,907	14,907	14,907	14,907
New - Low & Med. Res. Growth	69	206	341	476	611	746	875	998	1,121	1,244	1,367
New - High Res. Growth	1	2	3	4	5	6	7	8	9	10	11
New - Non-Res. Growth	2	4	7	10	12	15	18	20	23	25	26
<b>Total</b>	<b>14,979</b>	<b>15,119</b>	<b>15,258</b>	<b>15,397</b>	<b>15,535</b>	<b>15,674</b>	<b>15,807</b>	<b>15,933</b>	<b>16,060</b>	<b>16,186</b>	<b>16,311</b>



Table 2-3  
Norfolk County  
Water Consumption Forecast (m<sup>3</sup>) – Water Customers

Water Volume Forecast (m <sup>3</sup> )	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing - Residential	1,968,600	1,968,600	1,968,600	1,968,600	1,968,600	1,968,600	1,968,600	1,968,600	1,968,600	1,968,600	1,968,600
Existing - Non-Residential	916,898	916,898	916,898	916,898	916,898	916,898	916,898	916,898	916,898	916,898	916,898
New - Low & Med. Residential	8,853	26,431	43,753	61,074	78,395	95,717	112,268	128,050	143,832	159,613	175,395
New - High Residential	398	795	1,193	1,591	1,989	2,386	2,784	3,182	3,580	3,977	4,375
New - Non-Residential	973	1,946	3,406	4,865	5,838	7,298	8,757	9,730	11,190	12,163	12,649
<b>Total</b>	<b>2,895,722</b>	<b>2,914,671</b>	<b>2,933,850</b>	<b>2,953,028</b>	<b>2,971,720</b>	<b>2,990,899</b>	<b>3,009,308</b>	<b>3,026,460</b>	<b>3,044,099</b>	<b>3,061,252</b>	<b>3,077,918</b>

Table 2-4  
Norfolk County  
Water Consumption Forecast (m<sup>3</sup>) – Wastewater Customers

Wastewater Flows Forecast (m <sup>3</sup> )	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing - Residential	1,853,832	1,853,832	1,853,832	1,853,832	1,853,832	1,853,832	1,853,832	1,853,832	1,853,832	1,853,832	1,853,832
Existing - Non-Residential	823,001	823,001	823,001	823,001	823,001	823,001	823,001	823,001	823,001	823,001	823,001
New - Low & Med. Residential	8,853	26,431	43,753	61,074	78,395	95,717	112,268	128,050	143,832	159,613	175,395
New - High Residential	398	795	1,193	1,591	1,989	2,386	2,784	3,182	3,580	3,977	4,375
New - Non-Residential	973	1,946	3,406	4,865	5,838	7,298	8,757	9,730	11,190	12,163	12,649
<b>Total</b>	<b>2,687,057</b>	<b>2,706,006</b>	<b>2,725,184</b>	<b>2,744,363</b>	<b>2,763,055</b>	<b>2,782,234</b>	<b>2,800,643</b>	<b>2,817,795</b>	<b>2,835,434</b>	<b>2,852,586</b>	<b>2,869,252</b>

Note: Above flows are water flows on which the wastewater billing will be calculated



# Chapter 3

## Capital Infrastructure Needs



## 3. Capital Infrastructure Needs

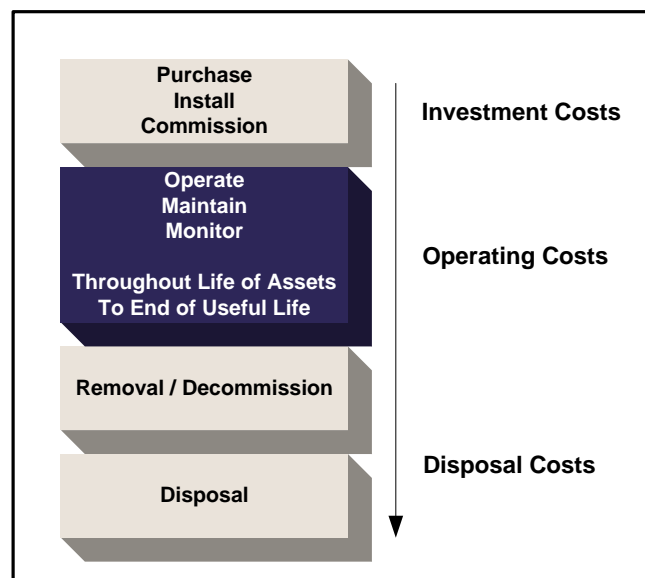
### 3.1 Overview of Lifecycle Costing

#### 3.1.1 Definition

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

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

Figure 3-1  
Lifecycle Costing







### **3.1.2 Financing Costs**

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

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

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

New construction related to growth could produce D.C.s and developer contributions (e.g. works internal to a subdivision which are the responsibility of the developer to construct) to fund a significant portion of projects, where new assets are being acquired to allow growth within the municipality to continue. As well, debentures could be used to fund such works, with the debt charge carrying costs recouped from taxpayers in the future.

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

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

As referred to earlier, growth-related financing methods such as D.C.s and developer contributions could be utilized to finance the growth-related component of the new asset. These revenues are collected (indirectly) from the new homeowner who benefits directly from the installation of this asset. Other financing methods may be used as well



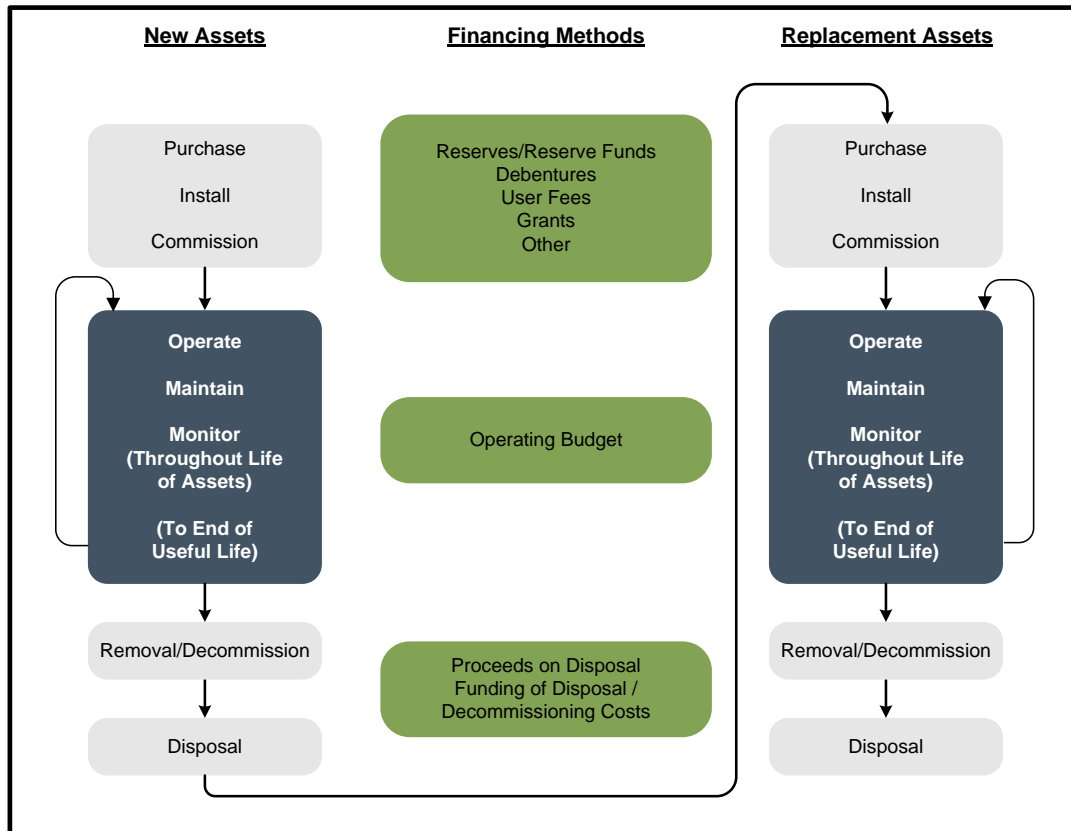
to finance the non-growth-related component of this project: reserves which have been collected from past tax/rate payers, operating budget contributions which are collected from existing tax/rate payers, and debenturing which will be carried by future tax/rate payers. Ongoing costs for monitoring, operating, and maintaining the asset will be charged annually to the existing tax/rate payer.

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

Charging for the cost of using up an asset is the fundamental concept behind amortization methods utilized by the private sector. This concept allows for expending the asset as it is used up in the production process. The tracking of these costs forms part of the product's selling price and hence end users are charged for the asset's amortization. The same concept can be applied in a municipal setting to charge existing users for the asset's use and set those funds aside in a reserve to finance the cost of replacing the asset in the future.



Figure 3-2  
Financing Lifecycle Costs



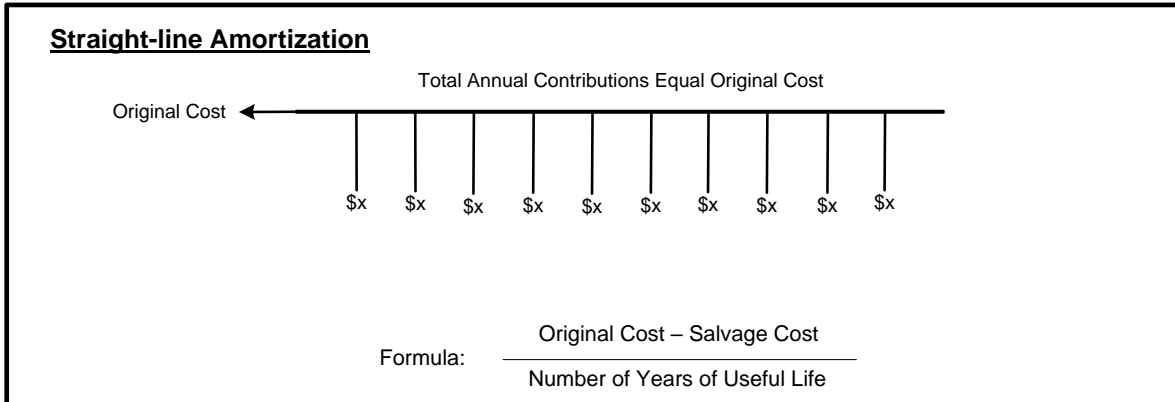
### 3.1.3 Costing Methods

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

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

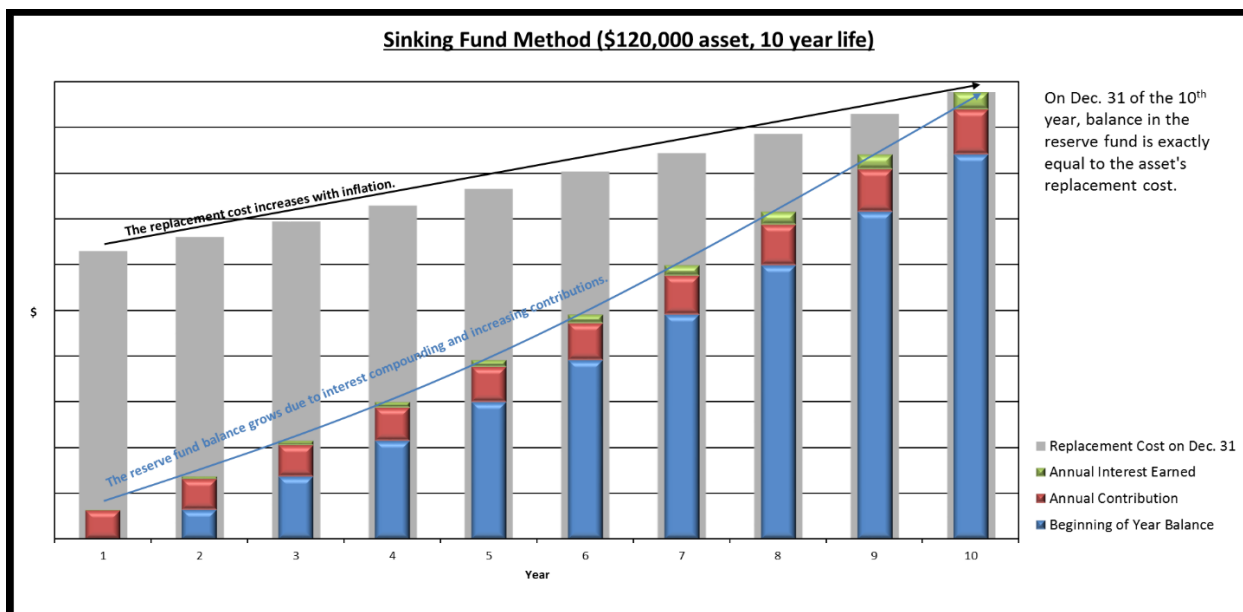


Figure 3-3  
Straight-line Amortization Method



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

Figure 3-4  
Sinking Fund Method





The preferred method used hereinafter is the sinking fund method of lifecycle costing.

### **3.1.4 Asset Inventory**

Detailed water and wastewater capital asset inventory information was obtained from the County's asset management database.

Lifecycle "sinking fund" contribution amounts for each piece of infrastructure have also been included. These calculations determine the level of capital investment to be included in the full cost assessment and rate forecast. Table 3-1 summarizes the current asset replacement value and long-term annual lifecycle replacement needs (2020 \$). It is important to note that the County is considering significant changes to the service delivery model for water services, as further discussed in section 3.2. The new service delivery model that is being considered would result in the removal of existing water treatment plants and wells, and the replacement of this existing infrastructure with centralized water supply and treatment. This alternative service delivery model would also require the emplacement of additional distribution infrastructure, or "interconnects," to facilitate the distribution of water to all serviced areas in the County. In light of this, the information presented in Table 3-1 is based on the estimated value of assets that would be in service by the end of the forecast period (i.e. by the time the service delivery model is fully transitioned to a centralized water supply system). It is expected that the estimates of annual lifecycle costs will be further refined in the coming years through the County's ongoing asset management efforts.



Table 3-1  
Norfolk County  
Summary of Water and Wastewater Infrastructure (2020 \$)

Asset	Replacement Cost (2020\$)	Annual Lifecycle Cost (2020 \$)	% of Replacement Cost
Water			
Facilities	80,447,305	2,190,157	2.7%
Linear	266,720,675	5,643,043	2.1%
Hydrants	13,431,285	286,682	2.1%
Water Meters	2,603,172	151,184	5.8%
<b>Total Water</b>	<b>363,202,436</b>	<b>8,271,066</b>	<b>2.3%</b>
Wastewater			
Facilities	163,946,451	4,711,509	2.9%
Linear	190,553,272	4,148,618	2.2%
<b>Total Wastewater</b>	<b>354,499,723</b>	<b>8,860,126</b>	<b>2.5%</b>
<b>Grand Total</b>	<b>717,702,159</b>	<b>17,131,192</b>	<b>2.4%</b>

## 3.2 Capital Needs Forecast

Ten-year capital forecasts have been developed by County staff to address capital needs across all areas of the water and wastewater systems.

Included in the water capital forecast is the proposed Inter Urban Water Supply program, which includes a sizeable investment in a central water supply infrastructure project and related watermain interconnections.

The total capital forecast—in current dollars—includes approximately \$179.79 million in capital needs, with \$145.05 million of that being related to water services and \$34.74 million to wastewater services. The capital forecast includes lifecycle renewal/replacement needs, major maintenance, and level of service/capacity improvements. It is noted that the capital forecast includes growth-related capital projects that are expected to be funded, to various degrees, from D.C.s. The capital forecast identified hereinafter, however, contains additional projects and updated cost estimates relative to what was included in the County's 2018 D.C. Background Study. Therefore, the County should consider updating the D.C. Background Study to ensure that the D.C.s that are imposed adequately capture the updated growth-related needs.



Additionally, it is noted that through previous capital budgets the County has committed to several capital projects that are currently in the planning/construction phase and will result in expenditures in the near-to-mid-term. These previous commitments have not been included in the capital forecast identified hereinafter and instead the expected expenditures associated with these projects have been deducted against the existing reserve fund balances.

On this basis, the average annual value of the non-growth-related capital program for water is approximately \$8.55 million. This level of expenditure is greater than the long-term water infrastructure needs identified in section 3.1.4, which suggests long-term rate-supported capital needs of \$8.27 million (2020 \$) annually. This suggests that the 10-year forecast of specific infrastructure renewal and replacement needs identified in this study are higher than longer-term capital funding requirements. A significant driver of these relatively high capital needs is the Inter Urban Water Supply program, which represents approximately 55% of the non-growth-related needs over the forecast period.

The average annual value of the non-growth-related capital program for wastewater is approximately \$2.26 million. This level of expenditure is lower than the long-term infrastructure needs identified in section 3.1.4, which suggests long-term rate-supported capital needs of \$8.86 million (2020 \$) annually. This suggests that longer-term capital funding requirements are higher than the 10-year forecast of specific infrastructure renewal and replacement needs identified in this study.

The listing of water and wastewater capital needs, summarized by asset category, is presented in Tables 3-2 and 3-3, respectively. For rate determination purposes, the capital needs forecast has been indexed by 3.5% annually. This is generally reflective of the average annual capital cost inflation witnessed in the Statistics Canada Building Construction Price Index over the past 20 years.



**Table 3-2  
Norfolk County  
Water Capital Budget Forecast (Uninflated \$)**

Description	Total	Preliminary Budget 2021	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
Linear Reconstruction	22,708,512	5,471,000	2,793,237	1,920,232	2,438,853	1,828,286	2,082,200	1,828,749	1,931,966	1,193,795	1,220,195	
Water Equipment Replacements/Upgrades Program	2,842,744	-	332,367	329,529	325,601	321,562	317,424	313,198	308,894	299,208	294,960	
Well Rehabilitation Program	1,908,173	210,000	306,280	190,436	137,997	209,146	128,822	219,645	183,922	189,853	132,072	
Water Reconstruction Program	4,192,073	-	-	-	270,583	3,921,490	-	-	-	-	-	
Water Meter Replacements Program	50,000	50,000	-	-	-	-	-	-	-	-	-	
Supervisory Control & Data Acquisition Replacements Program	2,156,941	260,000	311,111	322,061	296,739	251,847	110,298	252,999	92,747	112,393	146,746	
Water Intake Rehabilitation Program	75,000	75,000	-	-	-	-	-	-	-	-	-	
Other Replacements	5,069,539	275,000	81,159	46,676	-	2,663,999	-	-	2,002,705	-	-	
Proposed Inter Urban Water Supply Program	99,362,554	2,200,000	50,821,256	9,335,107	1,154,487	7,041,253	13,842,039	14,968,412	-	-	-	
Other New / Initiatives	6,525,307	83,000	-	-	-	4,168,980	2,273,328	-	-	-	-	
Other Studies & Assessments	155,396	15,000	14,493	14,003	13,529	46,186	21,049	-	-	31,136	-	
<b>Total Capital Expenditures</b>	<b>145,046,239</b>	<b>8,639,000</b>	<b>54,659,903</b>	<b>12,158,043</b>	<b>4,637,789</b>	<b>20,452,749</b>	<b>18,775,160</b>	<b>17,583,003</b>	<b>4,520,234</b>	<b>1,826,385</b>	<b>1,793,972</b>	

**Table 3-3  
Norfolk County  
Wastewater Capital Budget Forecast (Uninflated \$)**

Description	Total	Preliminary Budget 2021	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital Expenditures</b>											
Linear Reconstruction	12,989,954	1,094,000	1,558,454	1,256,505	1,779,533	1,192,133	1,728,571	1,078,702	1,426,574	1,043,431	832,051
Wastewater Equipment Replacements/Upgrades Program	3,142,744	300,000	332,367	329,529	325,601	321,562	317,424	313,198	308,894	299,208	294,960
Wastewater Reconstruction Program	80,000	80,000	-	-	-	-	-	-	-	-	-
Water Meter Replacements Program	50,000	50,000	-	-	-	-	-	-	-	-	-
Supervisory Control & Data Acquisition Replacements Program	1,209,127	174,000	81,159	65,346	193,918	101,087	80,829	190,359	97,463	78,219	146,746
Other Replacements	2,731,580	1,185,000	986,473	560,106	-	-	-	-	-	-	-
Other New / Initiatives	14,345,589	1,556,000	-	-	225,486	1,558,139	-	-	-	-	11,005,965
Other Studies & Assessments	190,396	50,000	14,493	14,003	13,529	46,186	21,049	-	-	31,136	-
<b>Total Capital Expenditures</b>	<b>34,739,390</b>	<b>4,489,000</b>	<b>2,972,947</b>	<b>2,225,490</b>	<b>2,538,067</b>	<b>3,219,108</b>	<b>2,147,874</b>	<b>1,582,259</b>	<b>1,832,931</b>	<b>1,451,995</b>	<b>12,279,722</b>





# Chapter 4

## Capital Cost Financing Options



## 4. Capital Cost Financing Options

Historically, the powers that municipalities have had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past number of years, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 130 providing for natural person powers for fees and charges by-laws); while others appear to restrict them (Bill 98 in 1997 providing amendments to the *Development Charges Act*).

The most recent *Municipal Act* came into force on January 1, 2003, with significant amendments in 2006 through the *Municipal Statute Law Amendment Act*. Part XII of the Act and O. Reg. 584/06 govern a municipality's ability to impose fees and charges. This Act provides municipalities with broadly defined powers and provides the ability to impose fees for both operating and capital purposes. Under s. 484 of the *Municipal Act, 2001*, the *Local Improvement Act* was repealed with the in-force date of the *Municipal Act* (January 1, 2003). The municipal powers granted under the *Local Improvement Act* now fall under the jurisdiction of the *Municipal Act*.

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

<b>Recovery Methods</b>	<b>Section Reference</b>
<i>Development Charges Act, 1997</i>	4.1
<i>Municipal Act, 2001</i>	
○ Fees and Charges	4.2
○ Local Improvements	
Grant Funding	4.3
Reserves/Reserve Funds	4.4
Debenture Financing	4.5



## 4.1 Development Charges Act, 1997

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The *Development Charges Act* received Royal Assent on December 8, 1997, replacing the previous Act, which had been in-force since November 23, 1989.

The Province's stated intentions were to "create new construction jobs and make home ownership more affordable" by reducing the charges and to "make municipal Council decisions more accountable and more cost effective." The basis for this Act is to allow municipalities to recover the growth-related capital cost of infrastructure necessary to accommodate new growth within the municipality. The *Development Charges Act, 1997* as amended, provides for limitations and ceilings on services that can be included in the charges.

The County imposes D.C.s on new development and the capital funding plan identifies D.C.s as a source of funding for anticipated capital needs. For water services \$8.03 million, and for wastewater services \$1.34 million, have been identified as funded from D.C.s over the forecast period. In addition to providing funding for future capital projects, D.C. revenues are also utilized to offset growth-related debt servicing costs related to previously completed projects and existing committed projects.

As mentioned in section 3.2, the capital forecast identified in this rate study contains additional projects and updated cost estimates relative to what was included in the County's 2018 D.C. Background Study. It is recommended that the County undertakes an update of the 2018 D.C. Background Study to ensure sufficient funds are collected for growth-related projects.

## 4.2 Municipal Act

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The *Municipal Act, 2001*, came into force on January 1, 2003. Part XII Fees and Charges, gives municipalities the statutory authority to recover the costs of services, including capital costs, through by-law. Municipalities have used these types of charges to recover infrastructure costs associated with the extension of municipal services to private service users, to recover capital improvement costs from existing developments, and to recover growth-related costs of service extensions. These by-laws are typically used where D.C.s would not be applicable (e.g. recovery from existing developments)



or where existing and growth-related cost recovery would be simplified under the administration of one by-law.

The County does not recover capital costs through fees imposed under the *Municipal Act*.

### 4.3 Grant Funding Availability

Grant funding (including Gas Tax and other federal/provincial grants) of \$8.62 million for water and \$19,000 for wastewater has been identified. Table 4-1 summarizes the total anticipated grant funding available for water and wastewater capital projects included in the capital forecast.

Table 4-1  
Norfolk County  
Anticipated Grant Funding

Description	Total Grant Funding
<b>Water</b>	
New Lakeshore Rd - Watermain Upgrade/2nd Feed to Tower, Pt Dover (Phase 1)	114,000
New Lakeshore Rd - Watermain Upgrade/2nd Feed to Tower, Pt Dover (Phase 2)	484,000
Harbour St-St. Andrew St to St. George St, Pt Dover	19,000
Pt Rowan to St. Williams Transmission Watermain Replacement – Phase 2	4,800,000
Watermain Interconnection - Simcoe to Waterford	3,200,000
<b>Total Water</b>	<b>8,617,000</b>
<b>Wastewater</b>	
Harbour St-St. Andrew St to St. George St, Pt Dover	19,000
<b>Total Wastewater</b>	<b>19,000</b>
<b>Total</b>	<b>8,636,000</b>

To the extent that the County is successful in securing additional grant funding for future infrastructure needs and the financial impacts are material, the rate forecast may be revisited.

### 4.4 Existing Reserves/Reserve Funds

The County has established reserves and reserve funds for water and wastewater capital costs. These reserves have been used in the capital funding forecast for rate-based needs. D.C. reserve funds for water and wastewater have been utilized for growth-related capital purposes. The following table summarizes the water and



wastewater reserves/reserve funds utilized in this analysis and the respective projected December 31, 2020 closing balances.<sup>1</sup>

Table 4-2  
Norfolk County  
Water and Wastewater Projected Reserve/Reserve Fund Balances

Reserve/Reserve Fund	Estimated 2020 Closing Balance
<b>Water</b>	
Water Capital Replacement Reserve Fund	9,413,885
Development Charges Reserve Fund	2,443,100
<b>Total Water</b>	<b>11,856,985</b>
<b>Wastewater</b>	
Wastewater Capital Replacement Reserve Fund	(1,220,616)
Development Charges Reserve Fund	(1,787,500)
<b>Total Wastewater</b>	<b>(3,008,116)</b>

## 4.5 Debenture Financing

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

The Ministry of Municipal Affairs and Housing regulates the level of debt incurred by Ontario municipalities through its powers established under the *Municipal Act*. O. Reg. 403/02 provides the current rules respecting municipal debt and financial obligations. Through the rules established under these regulations, a municipality's debt capacity is capped at a level where no more than 25% of the municipality's own-purpose revenue may be allotted for servicing the debt (i.e. debt charges).

The County has outstanding external debt for water services. As of 2021, annual water debt servicing costs (principal and interest) for non-growth-related and growth-related debt total approximately \$639,900 and \$71,800, respectively. Furthermore, the County

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<sup>1</sup> It is noted that the reserve fund balances identified in Table 4-2 are net of expected expenditures related to previously committed projects. In other words, what is shown are the "uncommitted" reserve fund balances that are available to offset future capital needs.



has prior water capital commitments that are expected to result in additional debt servicing costs over the forecast period. These non-growth-related and growth-related debenture repayments are anticipated to total approximately \$1.24 million and \$73,100 by 2030, respectively.

The County also has outstanding external debt with respect to wastewater services. As of 2021, annual debt servicing costs (principal and interest) for non-growth-related and growth-related debt total approximately \$2.03 million and \$785,900, respectively. Furthermore, the County has prior wastewater capital commitments that are expected to result in additional debt servicing costs over the forecast period. These non-growth-related and growth-related debenture repayments are anticipated to total approximately \$1.24 million and \$73,100 by 2030, respectively.

The capital forecast proposes growth-related and non-growth-related debt financing for both the water and wastewater systems. In regard to the water system, non-growth-related debentures of \$54.00 million and growth-related debentures of \$51.60 million have been proposed throughout the forecast period, with the growth-related debenture principal and interest payments being funded from D.C.s. Additionally, non-growth-related debentures of \$1.50 million and growth-related debentures of \$15.00 million have been proposed throughout the forecast period for the wastewater system.

## **4.6 Recommended Approach**

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The following table summarizes the recommended capital funding sources supporting the capital needs forecast, for consideration by the County.



Table 4-3  
Norfolk County  
2021 to 2030 Water and Wastewater Capital Funding Program (Inflated \$)

Description	Water	Wastewater
Gas Tax Funds	\$ 3,698,000	\$ -
Other Provincial/Federal Grants	\$ 4,919,000	\$ 19,000
Development Charges Reserve Fund	\$ 8,031,000	\$ 1,336,000
Non-Growth-Related Debenture Requirements	\$ 51,600,000	\$ 1,500,000
Growth-Related Debenture Requirements	\$ 54,000,000	\$ 15,000,000
Operating Contributions	\$ 11,400	\$ 91,600
Reserves/Reserve Funds (non-D.C.)	\$ 39,102,600	\$ 23,987,400
<b>Total Capital Funding</b>	<b>\$ 161,362,000</b>	<b>\$ 41,934,000</b>

Tables 4-4 and 4-5 provide for the full capital expenditure and funding program by year for water and wastewater services, respectively. These capital funding plans are provided in inflated dollars.



Table 4-4  
Norfolk County  
Water Service Capital Budget Forecast (Inflated \$)

Description	Total	Preliminary Budget 2021	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital Expenditures</b>											
Linear Reconstruction	25,635,000	5,471,000	2,891,000	2,057,000	2,704,000	2,098,000	2,473,000	2,248,000	2,458,000	1,572,000	1,663,000
Water Equipment Replacements/Upgrades Program	3,378,000	-	344,000	353,000	361,000	369,000	377,000	385,000	393,000	394,000	402,000
Well Rehabilitation Program	2,211,000	210,000	317,000	204,000	153,000	240,000	153,000	270,000	234,000	250,000	180,000
Water Reconstruction Program	4,800,000	-	-	-	300,000	4,500,000	-	-	-	-	-
Water Meter Replacements Program	50,000	50,000	-	-	-	-	-	-	-	-	-
Supervisory Control & Data Acquisition Replacements Program	2,453,000	260,000	322,000	345,000	329,000	289,000	131,000	311,000	118,000	148,000	200,000
Water Intake Rehabilitation Program	75,000	75,000	-	-	-	-	-	-	-	-	-
Other Replacements	6,014,000	275,000	84,000	50,000	-	3,057,000	-	-	2,548,000	-	-
Proposed Inter Urban Water Supply Program	109,000,000	2,200,000	52,600,000	10,000,000	1,280,000	8,080,000	16,440,000	18,400,000	-	-	-
Other New / Initiatives	7,567,000	83,000	-	-	-	4,784,000	2,700,000	-	-	-	-
Other Studies & Assessments	179,000	15,000	15,000	15,000	15,000	53,000	25,000	-	-	41,000	-
<b>Total Capital Expenditures</b>	<b>161,362,000</b>	<b>8,639,000</b>	<b>56,573,000</b>	<b>13,024,000</b>	<b>5,142,000</b>	<b>23,470,000</b>	<b>22,299,000</b>	<b>21,614,000</b>	<b>5,751,000</b>	<b>2,405,000</b>	<b>2,445,000</b>
<b>Capital Financing</b>											
Gas Tax Funds	3,698,000	-	-	114,000	677,750	2,906,250	-	-	-	-	-
Other Provincial/Federal Grants	4,919,000	-	-	-	746,250	4,172,750	-	-	-	-	-
Development Charges Reserve Fund	8,031,000	17,000	163,000	46,000	943,000	6,468,000	139,000	54,000	89,000	72,000	40,000
Non-Growth-Related Debenture Requirements	51,600,000	1,100,000	26,300,000	5,000,000	-	1,510,000	8,490,000	9,200,000	-	-	-
Growth-Related Debenture Requirements	54,000,000	1,100,000	26,300,000	5,000,000	-	1,750,000	10,650,000	9,200,000	-	-	-
Operating Contributions	11,416	11,416	-	-	-	-	-	-	-	-	-
Water Reserve Fund	39,102,584	6,410,584	3,810,000	2,864,000	2,775,000	6,663,000	3,020,000	3,160,000	5,662,000	2,333,000	2,405,000
<b>Total Capital Financing</b>	<b>161,362,000</b>	<b>8,639,000</b>	<b>56,573,000</b>	<b>13,024,000</b>	<b>5,142,000</b>	<b>23,470,000</b>	<b>22,299,000</b>	<b>21,614,000</b>	<b>5,751,000</b>	<b>2,405,000</b>	<b>2,445,000</b>





Table 4-5  
Norfolk County  
Wastewater Service Capital Budget Forecast (Inflated \$)

Description	Total	Preliminary Budget 2021	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
Linear Reconstruction	15,096,000	1,094,000	1,613,000	1,346,000	1,973,000	1,368,000	2,053,000	1,326,000	1,815,000	1,374,000	1,134,000	
Wastewater Equipment Replacements/Upgrades Program	3,678,000	300,000	344,000	353,000	361,000	369,000	377,000	385,000	393,000	394,000	402,000	
Wastewater Reconstruction Program	80,000	80,000	-	-	-	-	-	-	-	-	-	
Water Meter Replacements Program	50,000	50,000	-	-	-	-	-	-	-	-	-	
Supervisory Control & Data Acquisition Replacements Program	1,416,000	174,000	84,000	70,000	215,000	116,000	96,000	234,000	124,000	103,000	200,000	
Other Replacements	2,806,000	1,185,000	1,021,000	600,000	-	-	-	-	-	-	-	
Other New / Initiatives	18,594,000	1,556,000	-	-	250,000	1,788,000	-	-	-	-	15,000,000	
Other Studies & Assessments	214,000	50,000	15,000	15,000	15,000	53,000	25,000	-	-	41,000	-	
<b>Total Capital Expenditures</b>	<b>41,934,000</b>	<b>4,489,000</b>	<b>3,077,000</b>	<b>2,384,000</b>	<b>2,814,000</b>	<b>3,694,000</b>	<b>2,551,000</b>	<b>1,945,000</b>	<b>2,332,000</b>	<b>1,912,000</b>	<b>16,736,000</b>	
<b>Capital Financing</b>												
Gas Tax Funds	-	-	-	-	-	-	-	-	-	-	-	
Other Provincial/Federal Grants	19,000	-	-	-	-	19,000	-	-	-	-	-	
Development Charges Reserve Fund	1,336,000	11,000	140,000	46,000	109,561	660,439	139,000	50,000	77,000	63,000	40,000	
Non-Growth-Related Debenture Requirements	1,500,000	1,500,000	-	-	-	-	-	-	-	-	-	
Growth-Related Debenture Requirements	15,000,000	-	-	-	-	-	-	-	-	-	15,000,000	
Operating Contributions	91,584	91,584	-	-	-	-	-	-	-	-	-	
Wastewater Reserve Fund	23,987,416	2,886,416	2,937,000	2,338,000	2,704,439	3,014,561	2,412,000	1,895,000	2,255,000	1,849,000	1,696,000	
<b>Total Capital Financing</b>	<b>41,934,000</b>	<b>4,489,000</b>	<b>3,077,000</b>	<b>2,384,000</b>	<b>2,814,000</b>	<b>3,694,000</b>	<b>2,551,000</b>	<b>1,945,000</b>	<b>2,332,000</b>	<b>1,912,000</b>	<b>16,736,000</b>	



# Chapter 5

## Net Operating Expenditure Forecast



## 5. Net Operating Expenditure Forecast

Two scenarios were developed in consultation with County staff to provide options for Council's consideration. The scenarios, named Scenario A and Scenario B, are detailed below and will be referenced throughout the remainder of the report.

### Scenario A: Smooth Rate Increases

Scenario A was developed to mitigate immediate customer impacts by gradually increasing rates over the entire forecast period. This scenario would allow the County to gradually increase annual contributions towards capital (i.e. the summation of transfers to capital reserve funds and debt servicing costs) to full lifecycle funding levels, as detailed in section 3.1.4, by the end of the forecast period.

### Scenario B: Two-year Phase-in of Debt Policy

Scenario B was developed to embrace the County's policy of fully funding committed debt obligations in the year that the commitments are made. This scenario considers the significant external debt that would be required to support the first two years of the capital forecast and, although the repayment of this debt would not begin until 2023, the annual debt servicing costs are built into the rate forecast over the first two years (i.e. 2021 and 2022). Under Scenario B rates would increase more gradually after the first two years of the forecast such that the closing water and wastewater capital reserve fund balances in 2030 would match those forecasted under Scenario A. It is noted that this scenario does not achieve full lifecycle funding of capital by 2030. The annual capital funding shortfall relative to Scenario A and relative to the long-run average annual lifecycle funding target would be approximately \$3.09 million in 2030.

### 5.1 Operating Expenditures

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The County provided its preliminary draft 2021 Operating Budget which formed the basis for the water and wastewater services net operating expenditure forecast, which was further refined through discussions with County staff. The operating expenditure estimates were generally inflated at 2% annually, reflecting historical Consumer Price Index (C.P.I.) rates.

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The operating budget forecast generally includes two components – the operating expenditures and capital-related expenditures. The former is based on the County’s projected annual spending for ongoing operations and maintenance, while the latter is based on the capital funding plan decisions (i.e. transfers to reserve funds, debt repayment, and capital fund transfers) presented earlier.

Capital-related annual expenditures in the forecast include annual debt repayments and contributions to reserves and reserve funds to support the forecast and future needs. While operating aspects identified above generally increase with inflation over the period (i.e. 2% annually), the capital-related aspects tend to increase more specifically with the increase in capital funding requirements.

As a result, gross operating expenditures for water services are anticipated to increase from \$6.90 million in 2021, to \$8.25 million by 2030. Similarly, for wastewater services annual gross expenditures are forecast to increase from \$6.27 million in 2021, to \$7.49 million by 2030.

## 5.2 Operating Revenues

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The County has operating revenue sources including interest on accounts, payments-in-lieu, rental revenue, permit revenue, and other miscellaneous revenues that offset some of the annual operating costs. These operating revenues have been forecast over the period with general inflation of 2% annually. Additionally, transfers from D.C. reserve funds to offset the principal and interest payments for growth-related debentures have been included in the operating revenues.

With respect to water services, interdepartmental recoveries from the Fire Department, relating to Fire Protection charges, have been forecast based on the methodology currently employed by the County and detailed in the 2014 Rate Study. This methodology allocates 17% of net water operating expenditures to be recovered through the Fire Protection charge. It is noted that while this rate study embraces the methodology established through the 2014 Rate Study, it is recommended that the County undertakes further work to quantify the share of system capacity that is available for required fire flows. The upcoming design work for the Central Water Supply Infrastructure project would be a good opportunity to rationalize fire flow requirements in relation to total available peak day and peak hour system capacity.



Under Scenario A, the annual operating revenues for water services are forecast to increase from \$2.32 million in 2021, to \$7.79 million by 2030 (\$2.25 million to \$3.67 million when excluding D.C. reserve fund transfers). For wastewater services, annual operating revenues are forecast to increase from \$830,900 in 2021, to \$835,200 in 2030 (\$45,000 to \$53,800 when excluding D.C. reserve fund transfers).

Under Scenario B, the annual operating revenues for water services are forecast to increase from \$2.44 million in 2021, to \$7.44 million by 2030 (\$2.37 million to \$3.32 million when excluding D.C. reserve fund transfers). For wastewater services, annual operating revenues are forecast to increase from \$830,900 in 2021, to \$835,200 in 2030 (\$45,000 to \$53,800 when excluding D.C. reserve fund transfers).

The largest contributors to operating revenues are transfers from the D.C. reserve funds to pay for growth-related debt payments over the forecast period, and the interdepartmental recovery (Fire Protection charge) for water services.

Furthermore, a significant source of revenue is secured from the monthly base charge rate for water and wastewater services. Base charge revenues have been forecast based on the underlying system growth assumptions. The base charges were forecast to increase over the 2021 to 2030 period with the goal of more closely aligning the revenue from these charges with the County's rate-based capital expenditures. In this regard, annual rate-based capital-related expenditures for water currently represent approximately 41% of total annual costs, increasing to 57% by 2030. Meanwhile, for wastewater services, rate-based capital-related expenditures currently represent approximately 53% of total annual costs, increasing to 61% by 2030. Reflecting the fixed costs of service required to sustain water and wastewater operations, the share of base charge revenues relative to total billing revenues has been forecast to increase over the period to ultimately (by 2030) align with the fixed component of costs as described above.

Tables 5-1 to 5-2 and 5-3 to 5-4 provide the water and wastewater operating budget forecasts for Scenarios A and B, respectively. The forecast operating budgets are provided in inflated dollars. Detailed breakdowns of the operating expenditures forecast can be found in Appendix A for water services and in Appendix B for wastewater services.



Table 5-1  
Norfolk County  
Scenario A  
Water Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<u>Salaries &amp; Benefits</u>										
Distributed Salaries and Burden	3,093,084	3,154,900	3,218,000	3,282,400	3,348,100	3,415,000	3,483,300	3,553,000	3,624,000	3,696,500
<u>Materials &amp; Supplies</u>										
Materials & Supplies	192,147	196,000	199,900	203,900	208,000	212,100	216,400	220,700	225,100	229,600
Utilities	480,155	489,800	499,600	509,500	519,700	530,100	540,700	551,500	562,600	573,800
Maintenance & Repairs Supplies	476,003	485,500	495,200	505,100	515,200	525,500	536,100	546,800	557,700	568,900
Licenses & Permits	451	500	500	500	500	500	500	500	500	500
<u>Services</u>										
Rents/Leases	246,300	251,200	256,300	261,400	266,600	271,900	277,400	282,900	288,600	294,400
Professional/Consulting Services	44,401	45,300	46,200	47,100	48,100	49,000	50,000	51,000	52,000	53,100
Advertising/Promotional	1,941	2,000	2,000	2,100	2,100	2,100	2,200	2,200	2,300	2,300
Contracted Services	956,420	975,500	995,100	1,015,000	1,035,300	1,056,000	1,077,100	1,098,600	1,120,600	1,143,000
Seminars/Training	35,973	36,700	37,400	38,200	38,900	39,700	40,500	41,300	42,100	43,000
Maintenance & Repairs Services	483,048	492,700	502,600	512,600	522,900	533,300	544,000	554,900	566,000	577,300
<u>Transfer Payments/Grants</u>										
Subsidized/Waived Fees	47,250	48,200	49,200	50,100	51,100	52,200	53,200	54,300	55,400	56,500
<u>Interdepartmental Charges</u>										
Interdepartmental Charges Equipment	401,795	409,800	418,000	426,400	434,900	443,600	452,500	461,500	470,800	480,200
Interdepartmental Charges Accommodation	4,288	4,400	4,500	4,600	4,600	4,700	4,800	4,900	5,000	5,100
Interdepartmental Charges Support Services	388,799	396,600	404,500	412,600	420,800	429,300	437,900	446,600	455,500	464,700
Interdepartmental Charges Printing/Mapping/Design/Signs	600	600	600	600	600	700	700	700	700	700
<u>Financial</u>										
Write Offs/Adjustments	51,800	52,800	53,900	55,000	56,100	57,200	58,300	59,500	60,700	61,900
<b>Sub-Total Operating Costs</b>	<b>6,904,455</b>	<b>7,042,500</b>	<b>7,183,500</b>	<b>7,327,100</b>	<b>7,473,500</b>	<b>7,622,900</b>	<b>7,775,600</b>	<b>7,930,900</b>	<b>8,089,600</b>	<b>8,251,500</b>



Table 5-1 (continued)  
Norfolk County  
Scenario A  
Water Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	51,746	53,904	54,700	55,505	56,330	57,170	58,067	58,974	59,898	60,850
Existing Debt (Interest) - Growth-Related	20,068	19,210	18,317	17,401	16,447	15,463	14,464	13,430	12,364	11,266
Existing Committed Debt (Principal) - Growth-Related	-	36,996	53,606	54,899	56,224	57,580	58,969	60,393	61,851	63,344
Existing Committed Debt (Interest) - Growth-Related	-	9,018	19,458	18,165	16,841	15,485	14,095	12,672	11,214	9,720
New Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,277,073	1,685,801	2,062,185	2,144,673	2,230,460
New Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,235,744	1,610,661	1,911,229	1,828,742	1,742,955
Existing Debt (Principal) - Non-Growth-Related	552,319	374,370	378,903	383,453	388,150	287,560	290,660	293,744	296,875	300,188
Existing Debt (Interest) - Non-Growth-Related	87,568	77,073	71,424	65,593	59,422	53,536	49,271	44,726	39,960	34,965
Existing Committed Debt (Principal) - Non-Growth-Related	-	617,242	804,024	823,091	842,614	862,604	883,071	904,028	925,486	947,457
Existing Committed Debt (Interest) - Non-Growth-Related	-	326,352	435,946	416,879	397,356	377,367	356,900	335,943	314,485	292,514
New Non-Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,269,013	1,604,883	1,978,030	2,057,151	2,139,437
New Non-Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,226,144	1,514,984	1,818,788	1,739,667	1,657,381
Transfer to Capital	11,416	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Water's Share of Roads Capital)	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Capital Reserve	4,310,302	4,126,190	2,585,310	2,959,554	3,759,702	4,489,034	4,654,696	4,826,300	5,732,304	6,295,213
<b>Sub-Total Capital-Related</b>	<b>5,488,420</b>	<b>6,266,335</b>	<b>8,927,369</b>	<b>10,045,538</b>	<b>10,853,783</b>	<b>11,726,272</b>	<b>13,309,123</b>	<b>14,843,343</b>	<b>15,758,069</b>	<b>16,329,850</b>
<b>Total Expenditures</b>	<b>12,392,876</b>	<b>13,308,835</b>	<b>16,110,869</b>	<b>17,372,638</b>	<b>18,327,283</b>	<b>19,349,172</b>	<b>21,084,723</b>	<b>22,774,243</b>	<b>23,847,669</b>	<b>24,581,350</b>
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	2,600	2,700	2,700	2,800	2,800	2,900	2,900	3,000	3,000	3,100
Financial Charges/Investment Income	2,000	2,000	2,100	2,100	2,200	2,200	2,300	2,300	2,300	2,400
Other Revenue (Rentals, Leases, Permits, Misc. Charges, etc.)	186,122	189,800	193,600	197,500	201,500	205,500	209,600	213,800	218,100	222,400
Interdepartmental Recoveries	2,062,158	2,195,425	2,337,542	2,488,837	2,650,452	2,801,610	2,962,737	3,134,164	3,315,940	3,439,925
Contributions from Development Charges Reserve Fund	71,815	200,069	2,162,222	2,530,019	2,529,891	2,658,514	3,442,059	4,118,884	4,118,741	4,118,595
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>2,324,694</b>	<b>2,589,994</b>	<b>4,698,164</b>	<b>5,221,256</b>	<b>5,386,843</b>	<b>5,670,724</b>	<b>6,619,596</b>	<b>7,472,148</b>	<b>7,658,081</b>	<b>7,786,421</b>
<b>Water Billing Recovery</b>										
Base Charges	5,013,162	5,388,647	5,791,876	6,224,520	6,689,444	7,186,213	7,716,412	8,285,777	8,896,218	9,363,377
Consumptive Charges	4,779,189	5,051,168	5,338,397	5,640,797	5,961,062	6,194,992	6,435,190	6,685,555	6,944,323	7,070,335
Flat Rates	1,376	1,454	1,537	1,624	1,717	1,799	1,885	1,976	2,072	2,130
Standby Charges	47,085	50,202	53,526	57,069	60,847	64,875	69,170	73,749	78,631	82,193
Bulk Water Charges	227,370	227,370	227,370	227,370	227,370	230,568	242,470	255,039	268,344	276,895
<b>Sub-Total Water Billing Recovery</b>	<b>10,068,182</b>	<b>10,718,841</b>	<b>11,412,705</b>	<b>12,151,381</b>	<b>12,940,441</b>	<b>13,678,448</b>	<b>14,465,127</b>	<b>15,302,095</b>	<b>16,189,588</b>	<b>16,794,930</b>
<b>Total Revenues</b>	<b>12,392,876</b>	<b>13,308,835</b>	<b>16,110,869</b>	<b>17,372,638</b>	<b>18,327,283</b>	<b>19,349,172</b>	<b>21,084,723</b>	<b>22,774,243</b>	<b>23,847,669</b>	<b>24,581,350</b>



Table 5-2  
Norfolk County  
Scenario A  
Wastewater Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<u>Salaries &amp; Benefits</u>										
Distributed Salaries and Burden	628,316	640,900	653,700	666,800	680,100	693,700	707,600	721,700	736,200	750,900
<u>Materials &amp; Supplies</u>										
Materials & Supplies	12,553	12,800	13,100	13,300	13,600	13,900	14,100	14,400	14,700	15,000
Utilities	341,345	348,200	355,100	362,200	369,500	376,900	384,400	392,100	399,900	407,900
Maintenance & Repairs Supplies	14,297	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,800	17,100
Licenses & Permits	549	600	600	600	600	600	600	600	600	700
<u>Services</u>										
Rents/Leases	209,100	213,300	217,500	221,900	226,300	230,900	235,500	240,200	245,000	249,900
Professional/Consulting Services	10,699	10,900	11,100	11,400	11,600	11,800	12,000	12,300	12,500	12,800
Advertising/Promotional	2,359	2,400	2,500	2,500	2,600	2,600	2,700	2,700	2,800	2,800
Contracted Services	4,263,180	4,348,400	4,435,400	4,524,100	4,614,600	4,706,900	4,801,000	4,897,100	4,995,000	5,094,900
Seminars/Training	43,727	44,600	45,500	46,400	47,300	48,300	49,200	50,200	51,200	52,300
Maintenance & Repairs Services	48,752	49,700	50,700	51,700	52,800	53,800	54,900	56,000	57,100	58,300
<u>Transfer Payments/Grants</u>										
Subsidized/Waived Fees	27,750	28,300	28,900	29,400	30,000	30,600	31,300	31,900	32,500	33,200
<u>Interdepartmental Charges</u>										
Interdepartmental Charges Equipment	136,605	139,300	142,100	145,000	147,900	150,800	153,800	156,900	160,100	163,300
Interdepartmental Charges Accommodation	5,212	5,300	5,400	5,500	5,600	5,800	5,900	6,000	6,100	6,200
Interdepartmental Charges Support Services	472,601	482,100	491,700	501,500	511,600	521,800	532,200	542,900	553,700	564,800
<u>Financial</u>										
Write Offs/Adjustments	48,200	49,200	50,100	51,200	52,200	53,200	54,300	55,400	56,500	57,600
<b>Sub-Total Operating Costs</b>	<b>6,265,245</b>	<b>6,390,600</b>	<b>6,518,300</b>	<b>6,648,700</b>	<b>6,781,800</b>	<b>6,917,400</b>	<b>7,055,600</b>	<b>7,196,800</b>	<b>7,340,700</b>	<b>7,487,700</b>





Table 5-2 (continued)  
Norfolk County  
Scenario A  
Wastewater Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	596,398	639,471	647,404	643,080	651,005	659,106	668,477	677,921	687,578	697,760
Existing Debt (Interest) - Growth-Related	189,466	179,777	169,353	158,608	147,391	135,571	123,599	110,893	97,581	83,643
Existing Committed Debt (Principal) - Growth-Related	-	-	-	-	-	-	-	-	-	-
Existing Committed Debt (Interest) - Growth-Related	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth-Related	1,376,363	1,395,239	1,427,112	1,371,706	1,402,830	1,434,835	1,468,692	1,503,385	1,539,058	1,550,146
Existing Debt (Interest) - Non-Growth-Related	653,806	620,022	585,986	551,478	517,494	482,260	446,144	408,619	369,772	329,724
Existing Committed Debt (Principal) - Non-Growth-Related	-	-	1,294,745	1,333,612	1,373,646	1,414,883	1,457,358	1,501,109	1,546,175	1,592,594
Existing Committed Debt (Interest) - Non-Growth-Related	-	-	1,371,326	1,332,459	1,292,425	1,251,188	1,208,713	1,164,962	1,119,896	1,073,477
New Non-Growth-Related Debt (Principal)	-	50,373	52,388	54,483	56,662	58,929	61,286	63,737	66,287	68,938
New Non-Growth-Related Debt (Interest)	-	60,000	57,985	55,890	53,710	51,444	49,087	46,635	44,086	41,434
Transfer to Capital	91,584	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Wastewater's Share of Roads Capital)	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Capital Reserve	4,908,194	5,161,835	2,885,644	3,464,368	4,042,912	4,777,412	5,554,538	6,387,436	7,276,425	7,841,765
<b>Sub-Total Capital-Related</b>	<b>8,217,811</b>	<b>8,516,717</b>	<b>8,910,143</b>	<b>9,392,284</b>	<b>9,973,175</b>	<b>10,709,429</b>	<b>11,490,595</b>	<b>12,326,497</b>	<b>13,217,859</b>	<b>13,759,882</b>
<b>Total Expenditures</b>	<b>14,483,056</b>	<b>14,907,317</b>	<b>15,428,443</b>	<b>16,040,984</b>	<b>16,754,975</b>	<b>17,626,829</b>	<b>18,546,195</b>	<b>19,523,297</b>	<b>20,558,559</b>	<b>21,247,582</b>
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	7,400	7,500	7,700	7,900	8,000	8,200	8,300	8,500	8,700	8,800
Other Revenue (Permits, Misc. Charges, etc.)	37,626	38,400	39,100	39,900	40,700	41,500	42,400	43,200	44,100	45,000
Contributions from Development Charges Reserve Fund	785,864	819,248	816,757	801,689	798,395	794,678	792,077	788,814	785,159	781,403
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>830,891</b>	<b>865,148</b>	<b>863,557</b>	<b>849,489</b>	<b>847,095</b>	<b>844,378</b>	<b>842,777</b>	<b>840,514</b>	<b>837,959</b>	<b>835,203</b>
<b>Wastewater Billing Recovery</b>										
Base Charges	6,502,194	6,981,737	7,496,090	8,047,258	8,638,863	9,269,972	9,942,415	10,663,666	11,435,926	12,022,285
Consumptive Charges	5,926,439	6,108,990	6,296,851	6,489,030	6,687,938	6,905,774	7,127,220	7,356,757	7,592,097	7,679,759
Flat Rates	117,450	122,314	127,427	132,804	138,462	144,579	151,017	157,796	164,937	169,077
Standby Charges	43,091	45,870	48,829	51,979	55,331	58,900	62,699	66,743	71,048	74,148
Holding Tank/Septic Disposal Charges	187,770	191,911	196,142	200,467	204,888	213,321	222,230	231,623	241,553	247,118
Leachate Disposal Charges	875,220	591,348	399,547	269,957	182,398	189,905	197,837	206,198	215,039	219,992
<b>Sub-Total Wastewater Billing Recovery</b>	<b>13,652,165</b>	<b>14,042,169</b>	<b>14,564,887</b>	<b>15,191,495</b>	<b>15,907,880</b>	<b>16,782,451</b>	<b>17,703,418</b>	<b>18,682,783</b>	<b>19,720,600</b>	<b>20,412,379</b>
<b>Total Revenues</b>	<b>14,483,056</b>	<b>14,907,317</b>	<b>15,428,443</b>	<b>16,040,984</b>	<b>16,754,975</b>	<b>17,626,829</b>	<b>18,546,195</b>	<b>19,523,297</b>	<b>20,558,559</b>	<b>21,247,582</b>



Table 5-3  
Norfolk County  
Scenario B  
Water Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<u>Salaries &amp; Benefits</u>										
Distributed Salaries and Burden	3,093,084	3,154,900	3,218,000	3,282,400	3,348,100	3,415,000	3,483,300	3,553,000	3,624,000	3,696,500
<u>Materials &amp; Supplies</u>										
Materials & Supplies	192,147	196,000	199,900	203,900	208,000	212,100	216,400	220,700	225,100	229,600
Utilities	480,155	489,800	499,600	509,500	519,700	530,100	540,700	551,500	562,600	573,800
Maintenance & Repairs Supplies	476,003	485,500	495,200	505,100	515,200	525,500	536,100	546,800	557,700	568,900
Licenses & Permits	451	500	500	500	500	500	500	500	500	500
<u>Services</u>										
Rents/Leases	246,300	251,200	256,300	261,400	266,600	271,900	277,400	282,900	288,600	294,400
Professional/Consulting Services	44,401	45,300	46,200	47,100	48,100	49,000	50,000	51,000	52,000	53,100
Advertising/Promotional	1,941	2,000	2,000	2,100	2,100	2,100	2,200	2,200	2,300	2,300
Contracted Services	956,420	975,500	995,100	1,015,000	1,035,300	1,056,000	1,077,100	1,098,600	1,120,600	1,143,000
Seminars/Training	35,973	36,700	37,400	38,200	38,900	39,700	40,500	41,300	42,100	43,000
Maintenance & Repairs Services	483,048	492,700	502,600	512,600	522,900	533,300	544,000	554,900	566,000	577,300
<u>Transfer Payments/Grants</u>										
Subsidized/Waived Fees	47,250	48,200	49,200	50,100	51,100	52,200	53,200	54,300	55,400	56,500
<u>Interdepartmental Charges</u>										
Interdepartmental Charges Equipment	401,795	409,800	418,000	426,400	434,900	443,600	452,500	461,500	470,800	480,200
Interdepartmental Charges Accommodation	4,288	4,400	4,500	4,600	4,600	4,700	4,800	4,900	5,000	5,100
Interdepartmental Charges Support Services	388,799	396,600	404,500	412,600	420,800	429,300	437,900	446,600	455,500	464,700
Interdepartmental Charges Printing/Mapping/Design/Signs	600	600	600	600	600	700	700	700	700	700
<u>Financial</u>										
Write Offs/Adjustments	51,800	52,800	53,900	55,000	56,100	57,200	58,300	59,500	60,700	61,900
<b>Sub-Total Operating Costs</b>	<b>6,904,455</b>	<b>7,042,500</b>	<b>7,183,500</b>	<b>7,327,100</b>	<b>7,473,500</b>	<b>7,622,900</b>	<b>7,775,600</b>	<b>7,930,900</b>	<b>8,089,600</b>	<b>8,251,500</b>



Table 5-3 (continued)  
Norfolk County  
Scenario B  
Water Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	51,746	53,904	54,700	55,505	56,330	57,170	58,067	58,974	59,898	60,850
Existing Debt (Interest) - Growth-Related	20,068	19,210	18,317	17,401	16,447	15,463	14,464	13,430	12,364	11,266
Existing Committed Debt (Principal) - Growth-Related	-	36,996	53,606	54,899	56,224	57,580	58,969	60,393	61,851	63,344
Existing Committed Debt (Interest) - Growth-Related	-	9,018	19,458	18,165	16,841	15,485	14,095	12,672	11,214	9,720
New Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,277,073	1,685,801	2,062,185	2,144,673	2,230,460
New Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,235,744	1,610,661	1,911,229	1,828,742	1,742,955
Existing Debt (Principal) - Non-Growth-Related	552,319	374,370	378,903	383,453	388,150	287,560	290,660	293,744	296,875	300,188
Existing Debt (Interest) - Non-Growth-Related	87,568	77,073	71,424	65,593	59,422	53,536	49,271	44,726	39,960	34,965
Existing Committed Debt (Principal) - Non-Growth-Related	-	617,242	804,024	823,091	842,614	862,604	883,071	904,028	925,486	947,457
Existing Committed Debt (Interest) - Non-Growth-Related	-	326,352	435,946	416,879	397,356	377,367	356,900	335,943	314,485	292,514
New Non-Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,269,013	1,604,883	1,978,030	2,057,151	2,139,437
New Non-Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,226,144	1,514,984	1,818,788	1,739,667	1,657,381
Transfer to Capital	11,416	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Water's Share of Roads Capital)	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Capital Reserve	5,000,449	6,023,393	4,038,134	3,922,337	4,183,627	4,441,315	4,080,628	3,677,675	3,957,366	4,243,202
<b>Sub-Total Capital-Related</b>	<b>6,178,567</b>	<b>8,163,538</b>	<b>10,380,194</b>	<b>11,008,321</b>	<b>11,277,708</b>	<b>11,678,553</b>	<b>12,735,055</b>	<b>13,694,718</b>	<b>13,983,131</b>	<b>14,277,839</b>
<b>Total Expenditures</b>	<b>13,083,022</b>	<b>15,206,038</b>	<b>17,563,694</b>	<b>18,335,421</b>	<b>18,751,208</b>	<b>19,301,453</b>	<b>20,510,655</b>	<b>21,625,618</b>	<b>22,072,731</b>	<b>22,529,339</b>
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	2,600	2,700	2,700	2,800	2,800	2,900	2,900	3,000	3,000	3,100
Financial Charges/Investment Income	2,000	2,000	2,100	2,100	2,200	2,200	2,300	2,300	2,300	2,400
Other Revenue (Rentals, Leases, Permits, Misc. Charges, etc.)	186,122	189,800	193,600	197,500	201,500	205,500	209,600	213,800	218,100	222,400
Interdepartmental Recoveries	2,179,483	2,517,950	2,584,522	2,652,510	2,722,519	2,793,498	2,865,145	2,938,898	3,014,200	3,091,083
Contributions from Development Charges Reserve Fund	71,815	200,069	2,162,222	2,530,019	2,529,891	2,658,514	3,442,059	4,118,884	4,118,741	4,118,595
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>2,442,019</b>	<b>2,912,518</b>	<b>4,945,144</b>	<b>5,384,929</b>	<b>5,458,910</b>	<b>5,662,612</b>	<b>6,522,004</b>	<b>7,276,882</b>	<b>7,356,342</b>	<b>7,437,579</b>
<b>Water Billing Recovery</b>										
Base Charges	5,216,302	5,988,990	6,183,400	6,383,276	6,588,235	6,796,035	7,007,246	7,225,063	7,448,867	7,678,811
Consumptive Charges	5,151,336	6,024,140	6,153,380	6,284,032	6,416,942	6,549,741	6,682,263	6,818,338	6,955,844	7,094,780
Flat Rates	1,461	1,683	1,715	1,747	1,779	1,812	1,845	1,879	1,914	1,949
Standby Charges	48,993	55,795	57,144	58,525	59,927	61,353	62,813	64,308	65,839	67,406
Bulk Water Charges	222,912	222,912	222,912	222,912	225,415	229,901	234,483	239,149	243,925	248,815
<b>Sub-Total Water Billing Recovery</b>	<b>10,641,004</b>	<b>12,293,520</b>	<b>12,618,550</b>	<b>12,950,492</b>	<b>13,292,298</b>	<b>13,638,841</b>	<b>13,988,651</b>	<b>14,348,737</b>	<b>14,716,389</b>	<b>15,091,760</b>
<b>Total Revenues</b>	<b>13,083,022</b>	<b>15,206,038</b>	<b>17,563,694</b>	<b>18,335,421</b>	<b>18,751,208</b>	<b>19,301,453</b>	<b>20,510,655</b>	<b>21,625,618</b>	<b>22,072,731</b>	<b>22,529,339</b>



Table 5-4  
Norfolk County  
Scenario B  
Wastewater Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<u>Salaries &amp; Benefits</u>										
Distributed Salaries and Burden	628,316	640,900	653,700	666,800	680,100	693,700	707,600	721,700	736,200	750,900
<u>Materials &amp; Supplies</u>										
Materials & Supplies	12,553	12,800	13,100	13,300	13,600	13,900	14,100	14,400	14,700	15,000
Utilities	341,345	348,200	355,100	362,200	369,500	376,900	384,400	392,100	399,900	407,900
Maintenance & Repairs Supplies	14,297	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,800	17,100
Licenses & Permits	549	600	600	600	600	600	600	600	600	700
<u>Services</u>										
Rents/Leases	209,100	213,300	217,500	221,900	226,300	230,900	235,500	240,200	245,000	249,900
Professional/Consulting Services	10,699	10,900	11,100	11,400	11,600	11,800	12,000	12,300	12,500	12,800
Advertising/Promotional	2,359	2,400	2,500	2,500	2,600	2,600	2,700	2,700	2,800	2,800
Contracted Services	4,263,180	4,348,400	4,435,400	4,524,100	4,614,600	4,706,900	4,801,000	4,897,100	4,995,000	5,094,900
Seminars/Training	43,727	44,600	45,500	46,400	47,300	48,300	49,200	50,200	51,200	52,300
Maintenance & Repairs Services	48,752	49,700	50,700	51,700	52,800	53,800	54,900	56,000	57,100	58,300
<u>Transfer Payments/Grants</u>										
Subsidized/Waived Fees	27,750	28,300	28,900	29,400	30,000	30,600	31,300	31,900	32,500	33,200
<u>Interdepartmental Charges</u>										
Interdepartmental Charges Equipment	136,605	139,300	142,100	145,000	147,900	150,800	153,800	156,900	160,100	163,300
Interdepartmental Charges Accommodation	5,212	5,300	5,400	5,500	5,600	5,800	5,900	6,000	6,100	6,200
Interdepartmental Charges Support Services	472,601	482,100	491,700	501,500	511,600	521,800	532,200	542,900	553,700	564,800
<u>Financial</u>										
Write Offs/Adjustments	48,200	49,200	50,100	51,200	52,200	53,200	54,300	55,400	56,500	57,600
<b>Sub-Total Operating Costs</b>	<b>6,265,245</b>	<b>6,390,600</b>	<b>6,518,300</b>	<b>6,648,700</b>	<b>6,781,800</b>	<b>6,917,400</b>	<b>7,055,600</b>	<b>7,196,800</b>	<b>7,340,700</b>	<b>7,487,700</b>



Table 5-4 (continued)  
Norfolk County  
Scenario B  
Wastewater Service Operating Budget Forecast (Inflated \$)

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	596,398	639,471	647,404	643,080	651,005	659,106	668,477	677,921	687,578	697,760
Existing Debt (Interest) - Growth-Related	189,466	179,777	169,353	158,608	147,391	135,571	123,599	110,893	97,581	83,643
Existing Committed Debt (Principal) - Growth-Related	-	-	-	-	-	-	-	-	-	-
Existing Committed Debt (Interest) - Growth-Related	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth-Related	1,376,363	1,395,239	1,427,112	1,371,706	1,402,830	1,434,835	1,468,692	1,503,385	1,539,058	1,550,146
Existing Debt (Interest) - Non-Growth-Related	653,806	620,022	585,986	551,478	517,494	482,260	446,144	408,619	369,772	329,724
Existing Committed Debt (Principal) - Non-Growth-Related	-	-	1,294,745	1,333,612	1,373,646	1,414,883	1,457,358	1,501,109	1,546,175	1,592,594
Existing Committed Debt (Interest) - Non-Growth-Related	-	-	1,371,326	1,332,459	1,292,425	1,251,188	1,208,713	1,164,962	1,119,896	1,073,477
New Non-Growth-Related Debt (Principal)	-	50,373	52,388	54,483	56,662	58,929	61,286	63,737	66,287	68,938
New Non-Growth-Related Debt (Interest)	-	60,000	57,985	55,890	53,710	51,444	49,087	46,635	44,086	41,434
Transfer to Capital	91,584	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Wastewater's Share of Roads Capital)	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Capital Reserve	5,178,386	6,116,907	3,653,864	4,020,802	4,361,685	4,808,854	5,268,091	5,750,108	6,252,526	6,800,991
<b>Sub-Total Capital-Related</b>	<b>8,488,003</b>	<b>9,471,789</b>	<b>9,678,363</b>	<b>9,948,718</b>	<b>10,291,948</b>	<b>10,740,870</b>	<b>11,204,148</b>	<b>11,689,170</b>	<b>12,193,959</b>	<b>12,719,108</b>
<b>Total Expenditures</b>	<b>14,753,248</b>	<b>15,862,389</b>	<b>16,196,663</b>	<b>16,597,418</b>	<b>17,073,748</b>	<b>17,658,270</b>	<b>18,259,748</b>	<b>18,885,970</b>	<b>19,534,659</b>	<b>20,206,808</b>
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	7,400	7,500	7,700	7,900	8,000	8,200	8,300	8,500	8,700	8,800
Other Revenue (Permits, Misc. Charges, etc.)	37,626	38,400	39,100	39,900	40,700	41,500	42,400	43,200	44,100	45,000
Contributions from Development Charges Reserve Fund	785,864	819,248	816,757	801,689	798,395	794,678	792,077	788,814	785,159	781,403
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>830,891</b>	<b>865,148</b>	<b>863,557</b>	<b>849,489</b>	<b>847,095</b>	<b>844,378</b>	<b>842,777</b>	<b>840,514</b>	<b>837,959</b>	<b>835,203</b>
<b>Wastewater Billing Recovery</b>										
Base Charges	6,707,059	7,577,187	7,944,346	8,328,180	8,730,469	9,148,256	9,581,435	10,035,154	10,509,152	11,004,298
Consumptive Charges	6,002,394	6,462,036	6,607,859	6,755,454	6,907,236	7,060,153	7,212,927	7,369,999	7,528,916	7,689,677
Flat Rates	119,913	130,882	134,325	137,877	141,543	145,326	149,231	153,262	157,423	161,719
Standby Charges	44,449	49,783	51,749	53,793	55,918	58,127	60,423	62,809	65,290	67,869
Holding Tank/Septic Disposal Charges	185,218	190,464	195,858	201,405	207,110	212,689	218,468	224,434	230,617	237,029
Leachate Disposal Charges	863,324	586,890	398,969	271,220	184,376	189,343	194,488	199,798	205,302	211,011
<b>Sub-Total Wastewater Billing Recovery</b>	<b>13,922,357</b>	<b>14,997,241</b>	<b>15,333,106</b>	<b>15,747,929</b>	<b>16,226,652</b>	<b>16,813,893</b>	<b>17,416,972</b>	<b>18,045,456</b>	<b>18,696,700</b>	<b>19,371,605</b>
<b>Total Revenues</b>	<b>14,753,248</b>	<b>15,862,389</b>	<b>16,196,663</b>	<b>16,597,418</b>	<b>17,073,748</b>	<b>17,658,270</b>	<b>18,259,748</b>	<b>18,885,970</b>	<b>19,534,659</b>	<b>20,206,808</b>



# Chapter 6

## Forecast Water and Wastewater Rates



## 6. Forecast Water and Wastewater Rates

To summarize the analysis undertaken thus far, Chapter 3 reviewed capital-related issues for all customers within the water and wastewater systems and responds to the lifecycle needs of the County. Chapter 4 provided a review of capital financing options of which internal sources (i.e. reserve fund transfers) and external sources (i.e. debt) will be the predominant basis for financing future capital needs. Chapter 5 established the 10-year operating forecast of expenditures for the County's water and wastewater systems. This chapter presents the calculated rates over the next 10-year period. These calculations are based on the net operating expenditures identified in Chapter 5, divided by the volumes forecast provided in section 2.2.

### 6.1 Water Rates

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The calculated rate forecasts are provided to address full costs of the municipal systems, including annual operating and capital expenditures from both a lifecycle and growth-related perspective.

To achieve the full cost recovery identified above, water base charge rates would be required to increase by:

- Scenario A
  - 2021: 2.0%
  - 2022-2029: 6.6% annually
  - 2030: 4.5%
- Scenario B
  - 2021: 13.2%
  - 2022: 13.9%
  - 2023-2030: 2.4% annually

These increases would provide the County with greater revenue certainty as they would allow for a greater share of capital-related expenditures to be funded through a more consistent revenue source (i.e. base charge revenues). Furthermore, under Scenario A the consumptive rate would be required to increase by 7.1% in 2021, 5.0% annually for the next four years of the forecast (i.e. 2022-2025), followed by 3.3% annually from 2026-2029, and finally increase by 1.3% in 2030. With respect to consumptive rates



under Scenario B, annual increases of 15.4% in 2021, 16.2% in 2022, and roughly 1.4-1.5% annually thereafter have been identified in the forecast.

The bulk water rates have been designed to recover an appropriate share of total costs, based on the share of total consumption demand related to bulk water sales. The cost allocation between bulk water customers and regular metered customers would be consistent with their respective water demands by 2026 under Scenario A, and by 2025 under Scenario B. In the interim, bulk water rates have been increased by 2.0% under Scenario A and held constant at current levels under Scenario B.

The resultant rate forecasts for Scenarios A and B are presented below in Table 6-1 and Table 6-2, respectively. The detailed financial forecast and rate calculations for water services are provided in Appendix A to this report.





Table 6-1  
Norfolk County  
Scenario A  
Water Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 1.640	\$ 1.722	\$ 1.808	\$ 1.898	\$ 1.993	\$ 2.059	\$ 2.126	\$ 2.196	\$ 2.268	\$ 2.297
Annual Increase (%)	7.1%	5.0%	5.0%	5.0%	5.0%	3.3%	3.3%	3.3%	3.3%	1.3%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 24.52	\$ 26.15	\$ 27.88	\$ 29.72	\$ 31.69	\$ 33.79	\$ 36.03	\$ 38.41	\$ 40.95	\$ 42.81
25 mm	\$ 40.67	\$ 43.37	\$ 46.24	\$ 49.30	\$ 52.56	\$ 56.04	\$ 59.75	\$ 63.71	\$ 67.92	\$ 71.00
40 mm	\$ 68.09	\$ 72.60	\$ 77.40	\$ 82.53	\$ 87.99	\$ 93.82	\$ 100.03	\$ 106.65	\$ 113.71	\$ 118.86
50 mm	\$ 171.86	\$ 183.24	\$ 195.37	\$ 208.30	\$ 222.09	\$ 236.79	\$ 252.47	\$ 269.18	\$ 287.00	\$ 300.00
75 mm	\$ 198.26	\$ 211.38	\$ 225.37	\$ 240.29	\$ 256.20	\$ 273.16	\$ 291.24	\$ 310.52	\$ 331.08	\$ 346.08
100 mm	\$ 388.20	\$ 413.90	\$ 441.30	\$ 470.52	\$ 501.66	\$ 534.87	\$ 570.28	\$ 608.04	\$ 648.29	\$ 677.65
150 mm	\$ 697.18	\$ 743.33	\$ 792.54	\$ 845.01	\$ 900.95	\$ 960.59	\$ 1,024.18	\$ 1,091.98	\$ 1,164.27	\$ 1,217.00
Annual Increase (%)	8.8%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	4.5%
<b>Special Charges</b>										
Water Bulk Rate (per m <sup>3</sup> )	\$ 4.41	\$ 4.41	\$ 4.41	\$ 4.41	\$ 4.41	\$ 4.47	\$ 4.70	\$ 4.94	\$ 5.20	\$ 5.37
Annual Increase (%)	2.0%	0.0%	0.0%	0.0%	0.0%	1.4%	5.2%	5.2%	5.2%	3.2%



Table 6-2  
Norfolk County  
Scenario B  
Water Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 1.767	\$ 2.053	\$ 2.084	\$ 2.115	\$ 2.145	\$ 2.176	\$ 2.208	\$ 2.240	\$ 2.272	\$ 2.305
Annual Increase (%)	15.4%	16.2%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 25.52	\$ 29.06	\$ 29.76	\$ 30.48	\$ 31.21	\$ 31.95	\$ 32.72	\$ 33.49	\$ 34.29	\$ 35.11
25 mm	\$ 42.32	\$ 48.20	\$ 49.36	\$ 50.56	\$ 51.77	\$ 53.00	\$ 54.26	\$ 55.55	\$ 56.87	\$ 58.23
40 mm	\$ 70.85	\$ 80.69	\$ 82.64	\$ 84.63	\$ 86.66	\$ 88.72	\$ 90.83	\$ 93.00	\$ 95.21	\$ 97.47
50 mm	\$ 178.83	\$ 203.65	\$ 208.58	\$ 213.62	\$ 218.73	\$ 223.94	\$ 229.27	\$ 234.72	\$ 240.31	\$ 246.03
75 mm	\$ 206.29	\$ 234.93	\$ 240.61	\$ 246.42	\$ 252.32	\$ 258.33	\$ 264.48	\$ 270.77	\$ 277.22	\$ 283.81
100 mm	\$ 403.93	\$ 460.01	\$ 471.13	\$ 482.52	\$ 494.07	\$ 505.83	\$ 517.87	\$ 530.20	\$ 542.82	\$ 555.74
150 mm	\$ 725.43	\$ 826.15	\$ 846.12	\$ 866.56	\$ 887.32	\$ 908.43	\$ 930.05	\$ 952.19	\$ 974.85	\$ 998.05
Annual Increase (%)	13.2%	13.9%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
<b>Special Charges</b>										
Water Bulk Rate (per m <sup>3</sup> )	\$ 4.32	\$ 4.32	\$ 4.32	\$ 4.32	\$ 4.37	\$ 4.46	\$ 4.54	\$ 4.63	\$ 4.73	\$ 4.82
Annual Increase (%)	0.0%	0.0%	0.0%	0.0%	1.1%	2.0%	2.0%	2.0%	2.0%	2.0%



## 6.2 Wastewater Rates

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The calculated rate forecasts are provided to address full costs of the municipal systems, including annual operating and capital expenditures from both a lifecycle and growth-related perspective.

To achieve the full cost recovery identified above, wastewater base charge rates would be required to increase by:

- Scenario A
  - 2021: 8.6%
  - 2022-2029: 6.5% annually
  - 2030: 4.4%
- Scenario B
  - 2021-2022: 12.0% annually
  - 2023-2030: 4.0% annually

These increases would provide the County with greater revenue certainty as they would allow for a greater share of capital-related expenditures to be funded through a more consistent revenue source (i.e. base charge revenues). Furthermore, under Scenario A the consumptive rate would be required to increase by 5.5% in 2021, 2.4% annually from 2022-2025, 2.6% annually from 2026-2029, and by 0.6% in 2030. With respect to consumptive rates under Scenario B, annual increases of 6.9% for the first two years and approximately 1.5% annually thereafter have been forecast.

The hauled waste charges (i.e. Holding Tank Disposal, Septic Waste Disposal, and Leachate Disposal) have been designed to recover costs based on their estimated share of loading on the wastewater treatment system, and only that share of capital funding that is related to infrastructure required for the disposal and treatment of hauled waste. Based on direction provided by County staff, the rates for the Holding Tank Disposal and Septic Waste Disposal have been combined into one rate. To calculate the relative share of loading on the treatment system, County staff provided estimates which indicated that, per unit of volume, holding tank waste is two times stronger than regular sewage, septic waste is ten times stronger than regular sewage, and that leachate is equivalent to regular sewage. Furthermore, to address the issue of underreporting of true Septic Waste Disposal volumes relative to Holding Tank Disposal volumes, it was assumed that of the combined volumes 30% are likely Septic Waste



Disposal. Based on the rate forecast, the cost allocation between hauled waste customers and regular metered customers would be consistent with their respective service demands by 2026 under both scenarios.

The resultant rate forecast is presented in Table 6-2 below. The detailed financial forecast and rate calculations for wastewater services are provided in Appendix B to this report.



Table 6-3  
Norfolk County  
Scenario A  
Wastewater Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 2.190	\$ 2.242	\$ 2.294	\$ 2.348	\$ 2.404	\$ 2.466	\$ 2.529	\$ 2.595	\$ 2.661	\$ 2.677
Annual Increase (%)	5.5%	2.4%	2.4%	2.4%	2.4%	2.6%	2.6%	2.6%	2.6%	0.6%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 33.88	\$ 36.06	\$ 38.39	\$ 40.86	\$ 43.50	\$ 46.31	\$ 49.29	\$ 52.47	\$ 55.86	\$ 58.29
25 mm	\$ 56.19	\$ 59.81	\$ 63.67	\$ 67.78	\$ 72.15	\$ 76.80	\$ 81.76	\$ 87.03	\$ 92.64	\$ 96.69
40 mm	\$ 94.06	\$ 100.13	\$ 106.59	\$ 113.46	\$ 120.78	\$ 128.57	\$ 136.86	\$ 145.69	\$ 155.09	\$ 161.85
50 mm	\$ 237.42	\$ 252.73	\$ 269.03	\$ 286.39	\$ 304.86	\$ 324.52	\$ 345.45	\$ 367.73	\$ 391.45	\$ 408.53
75 mm	\$ 273.87	\$ 291.53	\$ 310.34	\$ 330.35	\$ 351.66	\$ 374.34	\$ 398.49	\$ 424.19	\$ 451.55	\$ 471.25
100 mm	\$ 536.26	\$ 570.85	\$ 607.67	\$ 646.86	\$ 688.59	\$ 733.00	\$ 780.28	\$ 830.61	\$ 884.18	\$ 922.76
150 mm	\$ 963.10	\$ 1,025.22	\$ 1,091.34	\$ 1,161.73	\$ 1,236.67	\$ 1,316.43	\$ 1,401.34	\$ 1,491.73	\$ 1,587.94	\$ 1,657.22
Annual Increase (%)	8.6%	6.5%	6.5%	6.5%	6.5%	6.5%	6.4%	6.5%	6.5%	4.4%
<b>Special Charges</b>										
Holding Tank/Septic Disposal Rate (per m <sup>3</sup> )	\$ 17.00	\$ 17.38	\$ 17.76	\$ 18.15	\$ 18.55	\$ 19.32	\$ 20.12	\$ 20.97	\$ 21.87	\$ 22.38
Leachate Disposal Rate (per m <sup>3</sup> )	\$ 20.23	\$ 13.67	\$ 9.24	\$ 6.24	\$ 4.22	\$ 4.39	\$ 4.57	\$ 4.77	\$ 4.97	\$ 5.09
Annual Percent Increase - Septic Disposal Rate	n/a	2.2%	2.2%	2.2%	2.2%	4.1%	4.2%	4.2%	4.3%	2.3%
Annual Percent Increase - Leachate Disposal Rate	-31.1%	-32.4%	-32.4%	-32.4%	-32.4%	4.1%	4.2%	4.2%	4.3%	2.3%



Table 6-4  
Norfolk County  
Scenario B  
Wastewater Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 2.218	\$ 2.371	\$ 2.408	\$ 2.445	\$ 2.483	\$ 2.521	\$ 2.560	\$ 2.599	\$ 2.639	\$ 2.680
Annual Increase (%)	6.9%	6.9%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 34.94	\$ 39.14	\$ 40.68	\$ 42.29	\$ 43.96	\$ 45.70	\$ 47.50	\$ 49.38	\$ 51.33	\$ 53.36
25 mm	\$ 57.96	\$ 64.92	\$ 67.48	\$ 70.14	\$ 72.92	\$ 75.80	\$ 78.79	\$ 81.90	\$ 85.14	\$ 88.50
40 mm	\$ 97.03	\$ 108.67	\$ 112.96	\$ 117.42	\$ 122.06	\$ 126.88	\$ 131.89	\$ 137.10	\$ 142.52	\$ 148.15
50 mm	\$ 244.90	\$ 274.29	\$ 285.12	\$ 296.38	\$ 308.09	\$ 320.26	\$ 332.91	\$ 346.06	\$ 359.73	\$ 373.94
75 mm	\$ 282.50	\$ 316.40	\$ 328.90	\$ 341.89	\$ 355.39	\$ 369.43	\$ 384.02	\$ 399.19	\$ 414.96	\$ 431.35
100 mm	\$ 553.16	\$ 619.54	\$ 644.01	\$ 669.45	\$ 695.89	\$ 723.38	\$ 751.95	\$ 781.65	\$ 812.53	\$ 844.62
150 mm	\$ 993.44	\$ 1,112.65	\$ 1,156.60	\$ 1,202.29	\$ 1,249.78	\$ 1,299.15	\$ 1,350.46	\$ 1,403.80	\$ 1,459.25	\$ 1,516.90
Annual Increase (%)	12.0%	12.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Special Charges</b>										
Holding Tank/Septic Disposal Rate (per m <sup>3</sup> )	\$ 16.77	\$ 17.25	\$ 17.74	\$ 18.24	\$ 18.76	\$ 19.26	\$ 19.78	\$ 20.32	\$ 20.88	\$ 21.46
Leachate Disposal Rate (per m <sup>3</sup> )	\$ 19.96	\$ 13.57	\$ 9.22	\$ 6.27	\$ 4.26	\$ 4.38	\$ 4.50	\$ 4.62	\$ 4.75	\$ 4.88
Annual Percent Increase - Septic Disposal Rate	n/a	2.8%	2.8%	2.8%	2.8%	2.7%	2.7%	2.7%	2.8%	2.8%
Annual Percent Increase - Leachate Disposal Rate	-32.0%	-32.0%	-32.0%	-32.0%	-32.0%	2.7%	2.7%	2.7%	2.8%	2.8%



## 6.3 Forecast Water and Wastewater Rate Impacts

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Tables 6-5 to 6-7 summarize the impacts of the recommended rates on three types of customers:

- Typical residential customer with a 15 mm meter consuming 128 m<sup>3</sup> per year;
- Typical non-residential customer with a 25 mm meter consuming 490 m<sup>3</sup> per year; and
- Large non-residential customer with a 50 mm meter consuming 13,500 m<sup>3</sup> per year.

At current rates, the annual water and wastewater bill for a typical residential customer would total approximately \$1,107 (i.e. \$467 for water and \$640 for wastewater). Under Scenario A the proposed 2021 annual bill would be approximately \$1,191 (i.e. \$504 for water and \$687 for wastewater). This represents an \$84 (7.6%) increase relative to what the bill would be based on the rates that are currently in effect. The annual water and wastewater bill for a typical residential customer would further increase by approximately 5.1% to 5.4% annually over 2022-2029 and an increase of 3.2% in 2030. Under Scenario B the proposed 2021 annual bill would be approximately \$1,236 (i.e. \$532 for water and \$703 for wastewater). This represents a \$129 (11.7%) increase relative to what the bill would be, based on the rates that are currently in effect. The annual water and wastewater bill for a typical residential customer would further increase by 12.1% in 2021 and then approximately 2.6% annually over the remainder of the forecast period.

A typical non-residential customer could expect an annual water and wastewater bill of approximately \$2,837 (i.e. \$1,199 for water and \$1,638 for wastewater) at current rates. Under Scenario A the proposed 2021 annual bill would be approximately \$3,039 (i.e. \$1,292 for water and \$1,747 for wastewater). This represents a \$202 (7.1%) increase relative to what the bill would be based on the rates that are currently in effect. The annual water and wastewater bill for a typical non-residential customer would further increase by approximately 4.4% to 4.7% annually over 2022-2029 and an increase of 2.5% in 2030. Under Scenario B the proposed 2021 annual bill would be approximately \$3,156 (i.e. \$1,374 for water and \$1,782 for wastewater). This represents a \$320 (11.3%) increase relative to what the bill would be, based on the rates that are currently in effect. The annual water and wastewater bill for a typical non-residential customer



would further increase by 11.7% in 2021 and then approximately 2.2 to 2.3% annually over the remainder of the forecast period.

The annual water and wastewater bill for a hypothetical large non-residential customer would total approximately \$53,201 (i.e. \$22,565 for water and \$30,636 for wastewater) at current rates. Under Scenario A the proposed 2021 annual bill would be approximately \$56,614 (i.e. \$24,198 for water and \$32,415 for wastewater). This represents a \$3,412 (6.4%) increase relative to what the bill would be, based on the rates that are currently in effect. The annual water and wastewater bill for this hypothetical large non-residential customer would further increase by approximately 3.2% to 3.8% annually over 2022-2029 and an increase of 1.3% in 2030. Under Scenario B the proposed 2021 annual bill would be approximately \$58,890 (i.e. \$26,006 for water and \$32,884 for wastewater). This represents a \$5,688 (10.7%) increase relative to what the bill would be, based on the rates that are currently in effect. The annual water and wastewater bill for this hypothetical large non-residential customer would further increase by 11.2% in 2021 and then approximately 1.7% annually over the remainder of the forecast period.





Table 6-5  
Norfolk County  
Annual Water and Wastewater Bill Impact – Average Residential

**Average Residential Annual Bill - 128 m<sup>3</sup> of usage and 15 mm meter**

Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Annual Water &amp; Wastewater Bill</b>											
Scenario A											
Water Bill	\$ 467	\$ 504	\$ 534	\$ 566	\$ 600	\$ 635	\$ 669	\$ 704	\$ 742	\$ 782	\$ 808
Wastewater Bill	\$ 640	\$ 687	\$ 720	\$ 754	\$ 791	\$ 830	\$ 871	\$ 915	\$ 962	\$ 1,011	\$ 1,042
<b>Total Scenario A</b>	<b>\$ 1,107</b>	<b>\$ 1,191</b>	<b>\$ 1,254</b>	<b>\$ 1,320</b>	<b>\$ 1,391</b>	<b>\$ 1,465</b>	<b>\$ 1,540</b>	<b>\$ 1,620</b>	<b>\$ 1,704</b>	<b>\$ 1,793</b>	<b>\$ 1,850</b>
Scenario B											
Water Bill	\$ 467	\$ 532	\$ 612	\$ 624	\$ 636	\$ 649	\$ 662	\$ 675	\$ 689	\$ 702	\$ 716
Wastewater Bill	\$ 640	\$ 703	\$ 773	\$ 796	\$ 820	\$ 845	\$ 871	\$ 898	\$ 925	\$ 954	\$ 983
<b>Total Scenario B</b>	<b>\$ 1,107</b>	<b>\$ 1,236</b>	<b>\$ 1,385</b>	<b>\$ 1,420</b>	<b>\$ 1,457</b>	<b>\$ 1,494</b>	<b>\$ 1,533</b>	<b>\$ 1,573</b>	<b>\$ 1,614</b>	<b>\$ 1,656</b>	<b>\$ 1,700</b>
<b>Annual Increase (\$)</b>											
Scenario A		\$ 84	\$ 63	\$ 66	\$ 70	\$ 74	\$ 75	\$ 79	\$ 84	\$ 89	\$ 57
Scenario B		\$ 129	\$ 149	\$ 36	\$ 37	\$ 38	\$ 39	\$ 40	\$ 41	\$ 42	\$ 44
<b>Annual Increase (%)</b>											
Scenario A		7.6%	5.3%	5.3%	5.3%	5.4%	5.1%	5.2%	5.2%	5.2%	3.2%
Scenario B		11.7%	12.1%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%



Table 6-6  
Norfolk County  
Annual Water and Wastewater Bill Impact – Average Non-Residential

**Average Non-Residential Annual Bill - 490 m<sup>3</sup> of usage and 25 mm meter**

Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Annual Water &amp; Wastewater Bill</b>											
Scenario A											
Water Bill	\$ 1,199	\$ 1,292	\$ 1,364	\$ 1,441	\$ 1,522	\$ 1,607	\$ 1,681	\$ 1,759	\$ 1,841	\$ 1,927	\$ 1,978
Wastewater Bill	\$ 1,638	\$ 1,747	\$ 1,816	\$ 1,888	\$ 1,964	\$ 2,044	\$ 2,130	\$ 2,220	\$ 2,316	\$ 2,416	\$ 2,472
<b>Total Scenario A</b>	<b>\$ 2,837</b>	<b>\$ 3,039</b>	<b>\$ 3,180</b>	<b>\$ 3,329</b>	<b>\$ 3,486</b>	<b>\$ 3,651</b>	<b>\$ 3,811</b>	<b>\$ 3,979</b>	<b>\$ 4,156</b>	<b>\$ 4,342</b>	<b>\$ 4,449</b>
Scenario B											
Water Bill	\$ 1,199	\$ 1,374	\$ 1,584	\$ 1,613	\$ 1,643	\$ 1,672	\$ 1,702	\$ 1,733	\$ 1,764	\$ 1,796	\$ 1,828
Wastewater Bill	\$ 1,638	\$ 1,782	\$ 1,941	\$ 1,990	\$ 2,040	\$ 2,091	\$ 2,145	\$ 2,200	\$ 2,256	\$ 2,315	\$ 2,375
<b>Total Scenario B</b>	<b>\$ 2,837</b>	<b>\$ 3,156</b>	<b>\$ 3,525</b>	<b>\$ 3,603</b>	<b>\$ 3,683</b>	<b>\$ 3,764</b>	<b>\$ 3,847</b>	<b>\$ 3,933</b>	<b>\$ 4,021</b>	<b>\$ 4,111</b>	<b>\$ 4,203</b>
<b>Annual Increase (\$)</b>											
Scenario A		\$ 202	\$ 141	\$ 149	\$ 157	\$ 165	\$ 160	\$ 168	\$ 177	\$ 186	\$ 107
Scenario B		\$ 320	\$ 369	\$ 78	\$ 80	\$ 81	\$ 83	\$ 86	\$ 88	\$ 90	\$ 93
<b>Annual Increase (%)</b>											
Scenario A		7.1%	4.6%	4.7%	4.7%	4.7%	4.4%	4.4%	4.4%	4.5%	2.5%
Scenario B		11.3%	11.7%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.3%



Table 6-7  
Norfolk County  
Annual Water and Wastewater Bill Impact – Large Non-Residential

**Large Non-Residential Annual Bill - 13,500 m<sup>3</sup> of usage and 50 mm meter**

Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Annual Water &amp; Wastewater Bill</b>											
Scenario A											
Water Bill	\$ 22,565	\$ 24,198	\$ 25,442	\$ 26,749	\$ 28,125	\$ 29,572	\$ 30,633	\$ 31,735	\$ 32,879	\$ 34,068	\$ 34,611
Wastewater Bill	\$ 30,636	\$ 32,415	\$ 33,295	\$ 34,204	\$ 35,141	\$ 36,110	\$ 37,182	\$ 38,292	\$ 39,440	\$ 40,627	\$ 41,036
<b>Total Scenario A</b>	<b>\$ 53,201</b>	<b>\$ 56,614</b>	<b>\$ 58,737</b>	<b>\$ 60,953</b>	<b>\$ 63,266</b>	<b>\$ 65,681</b>	<b>\$ 67,815</b>	<b>\$ 70,027</b>	<b>\$ 72,319</b>	<b>\$ 74,696</b>	<b>\$ 75,647</b>
Scenario B											
Water Bill	\$ 22,565	\$ 26,006	\$ 30,164	\$ 30,634	\$ 31,111	\$ 31,589	\$ 32,070	\$ 32,558	\$ 33,055	\$ 33,559	\$ 34,071
Wastewater Bill	\$ 30,636	\$ 32,884	\$ 35,303	\$ 35,927	\$ 36,563	\$ 37,212	\$ 37,875	\$ 38,552	\$ 39,243	\$ 39,948	\$ 40,668
<b>Total Scenario B</b>	<b>\$ 53,201</b>	<b>\$ 58,890</b>	<b>\$ 65,467</b>	<b>\$ 66,560</b>	<b>\$ 67,674</b>	<b>\$ 68,801</b>	<b>\$ 69,945</b>	<b>\$ 71,110</b>	<b>\$ 72,297</b>	<b>\$ 73,506</b>	<b>\$ 74,738</b>
<b>Annual Increase (\$)</b>											
Scenario A		\$ 3,412	\$ 2,123	\$ 2,216	\$ 2,313	\$ 2,415	\$ 2,134	\$ 2,212	\$ 2,292	\$ 2,377	\$ 952
Scenario B		\$ 5,688	\$ 6,577	\$ 1,094	\$ 1,113	\$ 1,128	\$ 1,144	\$ 1,165	\$ 1,187	\$ 1,209	\$ 1,232
<b>Annual Increase (%)</b>											
Scenario A		6.4%	3.8%	3.8%	3.8%	3.8%	3.2%	3.3%	3.3%	3.3%	1.3%
Scenario B		10.7%	11.2%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%



## 6.4 Recommendations

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Based upon the analysis in this report, the following recommendations are provided for Council's consideration:

1. That Council provide for the recovery of all water and wastewater costs through full cost recovery rates and maintain reserve funds for water and wastewater services;
2. That Council decide upon the preferred scenario and approve the relevant 2021 water and wastewater rates as shown in Chapter 6, and direct staff to review the Rate Study in five years;
3. That Council approve the Rate Study; and
4. That Council direct staff to update the Norfolk County Development Charges Background Study in light of the updated capital needs identified through this Rate Study.



# Appendices



# Appendix A

## Water Services



**Table W-1a**  
**Norfolk County**  
**Water Service**  
**Capital Budget Forecast**  
 Uninflated \$

Description	Project #	Total	Preliminary Budget 2021	Forecast								
				2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital Expenditures</b>												
<b>Linear Reconstruction</b>												
St. Andrew St - Chapman to McNab, Pt Dover-Rd Reconstruction	5531715	127,536	-	127,536	-	-	-	-	-	-	-	-
Hazel, Ryerse, Glendon, Swan, Douglas - Watermain, Pt Dover	5531811	1,555,000	1,555,000	-	-	-	-	-	-	-	-	-
Evergreen Hill Rd - Queen St to Norfolk St, Simcoe	5532222	652,174	-	652,174	-	-	-	-	-	-	-	-
Nelson St-Mergl Dr to 400m E of Cumberland St, Pt Dover	5531817	1,800,000	1,800,000	-	-	-	-	-	-	-	-	-
South Drive - John St to Queen St, Simcoe	5531828	491,787	-	491,787	-	-	-	-	-	-	-	-
Maple Blvd, Elm Ave, Kiwanis Ave Watermain Upgrades, Port Dover	5531903	600,000	600,000	-	-	-	-	-	-	-	-	-
Ann Street - Main to East, Delhi	5531906	326,000	326,000	-	-	-	-	-	-	-	-	-
Sunninghill Drive - Inglewood to Ryerse, Port Dover	5531924	869,565	-	869,565	-	-	-	-	-	-	-	-
Tyrell Street - Beckett to King, Simcoe	5531808	469,000	469,000	-	-	-	-	-	-	-	-	-
Bellevue Ave - Foster to Tyrell, Simcoe	5531905	107,000	107,000	-	-	-	-	-	-	-	-	-
Eagle Street - Norfolk Ave to Main St, Delhi	5532007	76,548	-	-	76,548	-	-	-	-	-	-	-
Norfolk Avenue - Western to Eagle, Delhi	5532008	142,827	-	-	142,827	-	-	-	-	-	-	-
Union Street - Queen to Norfolk Street, Simcoe	5532507	459,000	459,000	-	-	-	-	-	-	-	-	-
Colborne St N - Robinson to Windham, Simcoe	5531904	652,174	-	652,174	-	-	-	-	-	-	-	-
Dover Mills Rd - Prospect St to Cockshutt Rd, Pt Dover	5532010	349,133	-	-	349,133	-	-	-	-	-	-	-
Regent Ave - Nelson St. to Greenock St., Port Dover	5532011	242,713	-	-	242,713	-	-	-	-	-	-	-
Wellington Street - Alice St. to Brown St., Waterford	5532017	508,763	-	-	508,763	-	-	-	-	-	-	-
Windham Street - Talbot St to West End, Simcoe	5532025	295,923	-	-	295,923	-	-	-	-	-	-	-
McNab Street - First Ave to West End, Port Dover	5532103	81,175	-	-	-	81,175	-	-	-	-	-	-
Brown Street - Main to Washington, Waterford	5532104	305,759	-	-	305,759	-	-	-	-	-	-	-
Carolyn Boulevard - Dora Dr to Sunset Dr, Simcoe	5532109	210,153	-	-	210,153	-	-	-	-	-	-	-
Sunset Drive - Dora Drive to Holden Ave, Simcoe	5532110	381,522	-	-	381,522	-	-	-	-	-	-	-
East Street - Ann to William, Delhi	5532111	119,056	-	-	119,056	-	-	-	-	-	-	-
Dora Drive - Holden Ave to Sunset Drive, Simcoe	5532112	243,525	-	-	243,525	-	-	-	-	-	-	-
Calvert Crescent - Dora to Carolyn, Simcoe	5532113	201,133	-	-	201,133	-	-	-	-	-	-	-
Sovereign Street - James St to East St, Delhi	5532122	114,547	-	-	114,547	-	-	-	-	-	-	-
Ann Street - James to East, Delhi	5532123	114,547	-	-	114,547	-	-	-	-	-	-	-
New Lakeshore Rd - Watermain Upgrade/2nd Feed to Tower, Pt Dover (Phase 1)	5532207	106,420	-	-	106,420	-	-	-	-	-	-	-
New Lakeshore Rd - Watermain Upgrade/2nd Feed to Tower, Pt Dover (Phase 2)	5532207	667,438	-	-	667,438	-	-	-	-	-	-	-
Hill St - Tyrell to Dead End, Simcoe	5532231	70,000	70,000	-	-	-	-	-	-	-	-	-
Union St - Bellevue to Dead End, Simcoe	5532232	85,000	85,000	-	-	-	-	-	-	-	-	-
Talbot Street - Maple to Windham, Simcoe	5532314	197,904	-	-	197,904	-	-	-	-	-	-	-
Head Street - Maple to Windham, Simcoe	5532107	173,417	-	-	-	173,417	-	-	-	-	-	-
Harris Street - Ridgewood Ave to Adams Ave, Delhi	5532209	272,761	-	-	-	272,761	-	-	-	-	-	-
Metcalfe Street - Maple St to Windham St, Simcoe	5532212	173,417	-	-	-	173,417	-	-	-	-	-	-
Harbour St-St. Andrew St to St. George St, Pt Dover	5532213	112,416	-	-	-	112,416	-	-	-	-	-	-



**Table W-1a**  
**Norfolk County**  
**Water Service**  
**Capital Budget Forecast**  
 Uninflated \$

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
Gilbertson Dr - Queensway to Abandoned Railway, Simcoe	5532214	328,534	-	-	-	-	328,534	-	-	-	-	-	
Queen Street - William St to Sovereign St, Delhi	5532223	61,001	-	-	-	-	61,001	-	-	-	-	-	
Sovereign Street - East St to Queen St, Delhi	5532224	159,474	-	-	-	-	159,474	-	-	-	-	-	
Lasalle Street - Inglewood to Sunninghill, Port Dover	5532305	211,760	-	-	-	-	211,760	-	-	-	-	-	
Talbot Street - Robinson St to Young, Simcoe	5532009	74,094	-	-	-	-	-	74,094	-	-	-	-	
Leamon St - Nichol St. to Thompson Rd., Waterford	5532308	508,552	-	-	-	-	-	508,552	-	-	-	-	
Spydell Street - Harris St. to Connaught Ave., Delhi	5532309	41,257	-	-	-	-	-	41,257	-	-	-	-	
Potts Road - Oakwood to Victoria St, Simcoe	5532310	111,140	-	-	-	-	-	111,140	-	-	-	-	
Homewood Ave - Oakwood to Victoria St, Simcoe	5532311	111,140	-	-	-	-	-	111,140	-	-	-	-	
Ridgewood Cres-Argyle St. to Connaught Ave, Delhi	5532313	92,617	-	-	-	-	-	92,617	-	-	-	-	
Market St-Main to St Andrew Reconstruction Pt Dover	5532429	71,568	-	-	-	-	-	71,568	-	-	-	-	
Park St- Main St to St. Andrew St Pt Dover Reconstruction	5532430	71,568	-	-	-	-	-	71,568	-	-	-	-	
Colborne St N - Windham to Queensway, Simcoe	5532302	122,839	-	-	-	-	-	-	122,839	-	-	-	
Oakwood Avenue - Potts to Victoria, Simcoe	5532415	305,876	-	-	-	-	-	-	305,876	-	-	-	
Aberdeen Ave - Lansdowne to Church St., Delhi	5532416	100,061	-	-	-	-	-	-	100,061	-	-	-	
West Church St - Main to Washington, Waterford	5532417	268,589	-	-	-	-	-	268,589	-	-	-	-	
Adams Avenue - Aberdeen to Delcrest, Delhi	5532420	218,832	-	-	-	-	-	-	218,832	-	-	-	
North Main Street - Colborne to Norfolk, Simcoe	5532421	54,505	-	-	-	-	-	-	54,505	-	-	-	
Park Lane - Colborne to Norfolk, Simcoe	5532422	36,608	-	-	-	-	-	-	36,608	-	-	-	
Scott Dr Watermain - Hwy 6 to John St., Port Dover	5532424	346,462	-	-	-	-	-	45,467	300,995	-	-	-	
Peel Street - Waverly to Wilson, Delhi	5532425	345,738	-	-	-	-	-	-	345,738	-	-	-	
East Church St-Main St to Duncombe Rd, Waterford	5532506	245,677	-	-	-	-	-	-	245,677	-	-	-	
Birch Ave, Prospect to 150 metres Easterly, Pt Dover	5532519	97,620	-	-	-	-	-	-	97,620	-	-	-	
James St - Argyle Ave to Wilson Ave, Delhi	5532525	686,208	-	-	-	-	-	686,208	-	-	-	-	
Church Street - James to Cloet, Delhi	5532306	815,859	-	-	-	-	-	-	-	815,859	-	-	
Simcoe Boulevard - McCall to Wilson, Simcoe	5532511	89,603	-	-	-	-	-	-	-	89,603	-	-	
Nelson Street - Main to St. Patrick St., Port Dover	5532512	129,689	-	-	-	-	-	-	-	129,689	-	-	
Garden Street - Brock to South Dr., Simcoe	5532513	179,206	-	-	-	-	-	-	-	179,206	-	-	
Monclair Cres - Duncombe to Duncombe, Waterford	5532602	323,042	-	-	-	-	-	-	-	323,042	-	-	
South Drive - Oak to Head, Simcoe	5532616	394,567	-	-	-	-	-	-	-	394,567	-	-	
Sylvia Street - Main St to east end, Waterford	5532411	129,100	-	-	-	-	-	-	-	-	129,100	-	
Marshall Avenue - Northern to Adams, Delhi	5532612	295,411	-	-	-	-	-	-	-	-	295,411	-	
Rosseau Drive - Garden to MacKay, Simcoe	5532613	132,138	-	-	-	-	-	-	-	-	132,138	-	
MacKay Avenue - Garden to Queen, Simcoe	5532614	121,506	-	-	-	-	-	-	-	-	121,506	-	
Washington St-Green St to Thompson Rd, Waterford	5532615	243,012	-	-	-	-	-	-	-	-	243,012	-	
Grace St, Glenwood St, Drayton St, Sloan St, Pt Dover	5532705	272,629	-	-	-	-	-	-	-	-	272,629	-	
Queen St - Queensway W to West St, Simcoe	5532706	676,500	-	-	-	-	-	-	-	-	-	676,500	
Talbot St S. - Robinson St to South Dr, Simcoe	5532707	312,569	-	-	-	-	-	-	-	-	-	312,569	
Connaught Ave - Northern Ave to Adams Ave, Delhi	5532801	231,125	-	-	-	-	-	-	-	-	-	231,125	
Argyle Ave Ext-Huggins Ave to Fertilizer Rd, Delhi	5532514	335,505	-	-	-	-	335,505	-	-	-	-	-	





**Table W-1a**  
**Norfolk County**  
**Water Service**  
**Capital Budget Forecast**  
 Uninflated \$

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Water Equipment Replacements/Upgrades Program</b>													
2022 Water Equipment Replacements & Upgrades	5832203	332,367	-	332,367	-	-	-	-	-	-	-	-	-
2023 Water Equipment Replacements & Upgrades	5832305	329,529	-	-	329,529	-	-	-	-	-	-	-	-
2024 Water Equipment Replacements & Upgrades	5832404	325,601	-	-	-	325,601	-	-	-	-	-	-	-
2025 Water Equipment Replacements & Upgrades	5832502	321,562	-	-	-	-	321,562	-	-	-	-	-	-
2026 Water Equipment Replacements & Upgrades	5832603	317,424	-	-	-	-	-	317,424	-	-	-	-	-
2027 Water Equipment Replacements & Upgrades	5832704	313,198	-	-	-	-	-	-	313,198	-	-	-	-
2028 Water Equipment Replacements & Upgrades	5832802	308,894	-	-	-	-	-	-	-	308,894	-	-	-
2029 Water Equipment Replacements & Upgrades	5832901	299,208	-	-	-	-	-	-	-	-	299,208	-	-
2030 Water Equipment Replacements & Upgrades	5833001	294,960	-	-	-	-	-	-	-	-	-	-	294,960
<b>Well Rehabilitation Program</b>													
2021 Well Rehabilitation Program - Simcoe	5832108	210,000	210,000	-	-	-	-	-	-	-	-	-	-
2022 Well Rehabilitation Program - Simcoe	5832206	207,729	-	207,729	-	-	-	-	-	-	-	-	-
2022 Well Rehabilitation Program - Waterford	5832207	98,551	-	98,551	-	-	-	-	-	-	-	-	-
2023 Well Rehabilitation Program - Simcoe	5832309	142,827	-	-	142,827	-	-	-	-	-	-	-	-
2023 Well Rehabilitation Program - Delhi	5832310	47,609	-	-	47,609	-	-	-	-	-	-	-	-
2024 Well Rehabilitation Program - Simcoe	5832406	137,997	-	-	-	137,997	-	-	-	-	-	-	-
2025 Well Rehabilitation Program - Simcoe	5832504	164,703	-	-	-	-	164,703	-	-	-	-	-	-
2025 Well Rehabilitation Program - Delhi	5832508	44,444	-	-	-	-	44,444	-	-	-	-	-	-
2026 Well Rehabilitation Program - Simcoe	5832602	128,822	-	-	-	-	-	128,822	-	-	-	-	-
2027 Well Rehabilitation Program - Simcoe	5832701	132,601	-	-	-	-	-	-	132,601	-	-	-	-
2027 Well Rehabilitation Program - Waterford	5832706	87,045	-	-	-	-	-	-	87,045	-	-	-	-
2028 Well Rehabilitation Program - Simcoe	5832806	143,836	-	-	-	-	-	-	-	143,836	-	-	-
2028 Well Rehabilitation Program - Delhi	5832807	40,086	-	-	-	-	-	-	-	40,086	-	-	-
2029 Well Rehabilitation Program - Delhi	5832903	37,971	-	-	-	-	-	-	-	-	37,971	-	-
2029 Well Rehabilitation Program - Simcoe	5832904	151,882	-	-	-	-	-	-	-	-	-	151,882	-
2030 Well Rehabilitation Program - Simcoe	5833005	132,072	-	-	-	-	-	-	-	-	-	-	132,072
<b>Water Reconstruction Program</b>													
Pt Rowan to St. Williams Transmission Watermain Replacement – Phase 2	5832809	4,192,073	-	-	-	270,583	3,921,490	-	-	-	-	-	-
<b>Water Meter Replacements Program</b>													
Large Meter Replacement Program	5832127	50,000	50,000	-	-	-	-	-	-	-	-	-	-
<b>Supervisory Control &amp; Data Acquisition Replacements Program</b>													
2021 SCADA Replacements - Water	5832104	260,000	260,000	-	-	-	-	-	-	-	-	-	-
2022 SCADA Replacements - Water	5832204	311,111	-	311,111	-	-	-	-	-	-	-	-	-
2023 SCADA Replacements - Water	5832304	322,061	-	-	322,061	-	-	-	-	-	-	-	-
2024 SCADA Replacements - Water	5832403	296,739	-	-	-	296,739	-	-	-	-	-	-	-
2025 SCADA Replacements - Water	5832505	251,847	-	-	-	-	251,847	-	-	-	-	-	-
2026 SCADA Replacements - Water	5832601	110,298	-	-	-	-	-	110,298	-	-	-	-	-
2027 SCADA Replacements - Water	5832702	252,999	-	-	-	-	-	-	252,999	-	-	-	-
2028 SCADA Replacements - Water	5832804	92,747	-	-	-	-	-	-	-	92,747	-	-	-



**Table W-1a**  
**Norfolk County**  
**Water Service**  
**Capital Budget Forecast**  
 Uninflated \$

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
2029 SCADA Replacements - Water	5832905	112,393	-	-	-	-	-	-	-	-	-	112,393	-
2030 SCADA Replacements - Water	5833003	146,746	-	-	-	-	-	-	-	-	-	-	146,746
<b>Water Intake Rehabilitation Program</b>													
Port Dover WTP - Intake Repairs	5832129	75,000	75,000	-	-	-	-	-	-	-	-	-	-
<b>Other Replacements</b>													
Stalker Park & Area Watermain	5831941	10,000	10,000	-	-	-	-	-	-	-	-	-	-
Fuel Tank Replacement at Waterford Water Treatment Plant	5832116	50,000	50,000	-	-	-	-	-	-	-	-	-	-
Replacement of Fall Arrest Equipment at Simcoe Water Tower	5832118	10,000	10,000	-	-	-	-	-	-	-	-	-	-
Port Rowan Tower Mixer Replacement	5832120	160,000	160,000	-	-	-	-	-	-	-	-	-	-
Roof Repairs Cedar St UV Building	5832121	45,000	45,000	-	-	-	-	-	-	-	-	-	-
Doan's Hollow Water Facility Decommissioning	5831806	81,159	-	81,159	-	-	-	-	-	-	-	-	-
Site Planning for Delhi Filter Plant Decommissioning	5832114	46,676	-	-	46,676	-	-	-	-	-	-	-	-
Waterford Elevated Water Storage Tank	5832510	2,663,999	-	-	-	-	2,663,999	-	-	-	-	-	-
Pt Dover Elevated Water Storage Tank Repair/Painting	5832808	2,002,705	-	-	-	-	-	-	-	-	2,002,705	-	-
<b>Proposed Inter Urban Water Supply Program</b>													
Central Water Supply Infrastructure Project	5832131	50,509,179	2,200,000	48,309,179	-	-	-	-	-	-	-	-	-
Watermain Interconnection - Port Dover to Simcoe	5832408	11,847,184	-	2,512,077	9,335,107	-	-	-	-	-	-	-	-
Watermain Interconnection - Simcoe to Waterford	5832606	5,616,271	-	-	-	1,154,487	4,461,784	-	-	-	-	-	-
Watermain Interconnection - Delhi to Simcoe	5832707	12,548,431	-	-	-	-	2,579,469	9,968,962	-	-	-	-	-
Watermain Interconnection - Port Dover to St Williams	5832412	18,841,488	-	-	-	-	-	3,873,077	14,968,412	-	-	-	-
<b>Other New / Initiatives</b>													
GPS Locating Software Program	5832119	6,000	6,000	-	-	-	-	-	-	-	-	-	-
Water Modeling Software	5831839	12,000	12,000	-	-	-	-	-	-	-	-	-	-
Port Rowan Climate Control Unit	5832117	65,000	65,000	-	-	-	-	-	-	-	-	-	-
Port Dover North West Booster Station	5832011	2,534,760	-	-	-	-	261,433	2,273,328	-	-	-	-	-
Simcoe Water Reservoir Capacity Increases	5832209	3,907,547	-	-	-	-	3,907,547	-	-	-	-	-	-
<b>Other Studies &amp; Assessments</b>													
Water & Wastewater Rate Study	4132502	33,115	-	-	-	-	33,115	-	-	-	-	-	-
Water & Wastewater Rate Study	4132901	31,136	-	-	-	-	-	-	-	-	-	31,136	-
ISMP Study - Delhi	5832130	15,000	15,000	-	-	-	-	-	-	-	-	-	-
ISMP Study - Waterford	5832210	14,493	-	14,493	-	-	-	-	-	-	-	-	-
ISMP Study - Port Dover	5832316	14,003	-	-	14,003	-	-	-	-	-	-	-	-
ISMP Study - Simcoe	5832411	13,529	-	-	-	13,529	-	-	-	-	-	-	-
ISMP Study - Port Rowan	5832512	13,072	-	-	-	-	13,072	-	-	-	-	-	-
ISMP Study - Major Update	5832610	21,049	-	-	-	-	-	21,049	-	-	-	-	-
<b>Total Capital Expenditures</b>		<b>145,046,239</b>	<b>8,639,000</b>	<b>54,659,903</b>	<b>12,158,043</b>	<b>4,637,789</b>	<b>20,452,749</b>	<b>18,775,160</b>	<b>17,583,003</b>	<b>4,520,234</b>	<b>1,826,385</b>	<b>1,793,972</b>	



**Table W-A1  
Norfolk County  
Water Service  
Capital Budget Forecast  
Inflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>													
<b>Linear Reconstruction</b>													
St. Andrew St - Chapman to McNab, Pt Dover-Rd Reconstruction	5531715	132,000	-	132,000	-	-	-	-	-	-	-	-	
Hazel, Ryerse, Glendon, Swan, Douglas - Watermain, Pt Dover	5531811	1,555,000	1,555,000	-	-	-	-	-	-	-	-	-	
Evergreen Hill Rd - Queen St to Norfolk St, Simcoe	5532222	675,000	-	675,000	-	-	-	-	-	-	-	-	
Nelson St-Mergl Dr to 400m E of Cumberland St, Pt Dover	5531817	1,800,000	1,800,000	-	-	-	-	-	-	-	-	-	
South Drive - John St to Queen St, Simcoe	5531828	509,000	-	509,000	-	-	-	-	-	-	-	-	
Maple Blvd, Elm Ave, Kiwanis Ave Watermain Upgrades, Port Dover	5531903	600,000	600,000	-	-	-	-	-	-	-	-	-	
Ann Street - Main to East, Delhi	5531906	326,000	326,000	-	-	-	-	-	-	-	-	-	
Sunninghill Drive - Inglewood to Ryerse, Port Dover	5531924	900,000	-	900,000	-	-	-	-	-	-	-	-	
Tyrell Street - Beckett to King, Simcoe	5531808	469,000	469,000	-	-	-	-	-	-	-	-	-	
Bellevue Ave - Foster to Tyrell, Simcoe	5531905	107,000	107,000	-	-	-	-	-	-	-	-	-	
Eagle Street - Norfolk Ave to Main St, Delhi	5532007	82,000	-	-	82,000	-	-	-	-	-	-	-	
Norfolk Avenue - Western to Eagle, Delhi	5532008	153,000	-	-	153,000	-	-	-	-	-	-	-	
Union Street - Queen to Norfolk Street, Simcoe	5532507	459,000	459,000	-	-	-	-	-	-	-	-	-	
Colborne St N - Robinson to Windham, Simcoe	5531904	675,000	-	675,000	-	-	-	-	-	-	-	-	
Dover Mills Rd - Prospect St to Cockshutt Rd, Pt Dover	5532010	374,000	-	-	374,000	-	-	-	-	-	-	-	
Regent Ave - Nelson St. to Greenock St., Port Dover	5532011	260,000	-	-	260,000	-	-	-	-	-	-	-	
Wellington Street - Alice St. to Brown St., Waterford	5532017	545,000	-	-	545,000	-	-	-	-	-	-	-	
Windham Street - Talbot St to West End, Simcoe	5532025	317,000	-	-	317,000	-	-	-	-	-	-	-	
McNab Street - First Ave to West End, Port Dover	5532103	90,000	-	-	90,000	-	-	-	-	-	-	-	
Brown Street - Main to Washington, Waterford	5532104	339,000	-	-	339,000	-	-	-	-	-	-	-	
Carolyn Boulevard - Dora Dr to Sunset Dr, Simcoe	5532109	233,000	-	-	233,000	-	-	-	-	-	-	-	
Sunset Drive - Dora Drive to Holden Ave, Simcoe	5532110	423,000	-	-	423,000	-	-	-	-	-	-	-	
East Street - Ann to William, Delhi	5532111	132,000	-	-	132,000	-	-	-	-	-	-	-	
Dora Drive - Holden Ave to Sunset Drive, Simcoe	5532112	270,000	-	-	270,000	-	-	-	-	-	-	-	
Calvert Crescent - Dora to Carolyn, Simcoe	5532113	223,000	-	-	223,000	-	-	-	-	-	-	-	
Sovereign Street - James St to East St, Delhi	5532122	127,000	-	-	127,000	-	-	-	-	-	-	-	
Ann Street - James to East, Delhi	5532123	127,000	-	-	127,000	-	-	-	-	-	-	-	
New Lakeshore Rd - Watermain Upgrade/2nd Feed to Tower, Pt Dover (Phase 1)	5532207	114,000	-	-	114,000	-	-	-	-	-	-	-	
New Lakeshore Rd - Watermain Upgrade/2nd Feed to Tower, Pt Dover (Phase 2)	5532207	740,000	-	-	740,000	-	-	-	-	-	-	-	
Hill St - Tyrell to Dead End, Simcoe	5532231	70,000	70,000	-	-	-	-	-	-	-	-	-	
Union St - Bellevue to Dead End, Simcoe	5532232	85,000	85,000	-	-	-	-	-	-	-	-	-	
Talbot Street - Maple to Windham, Simcoe	5532314	212,000	-	-	212,000	-	-	-	-	-	-	-	
Head Street - Maple to Windham, Simcoe	5532107	199,000	-	-	-	199,000	-	-	-	-	-	-	
Harris Street - Ridgewood Ave to Adams Ave, Delhi	5532209	313,000	-	-	-	313,000	-	-	-	-	-	-	



**Table W-A1  
Norfolk County  
Water Service  
Capital Budget Forecast  
Inflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
Metcalf Street - Maple St to Windham St, Simcoe	5532212	199,000	-	-	-	-	199,000	-	-	-	-	-	-
Harbour St-St. Andrew St to St. George St, Pt Dover	5532213	129,000	-	-	-	-	129,000	-	-	-	-	-	-
Gilbertson Dr - Queensway to Abandoned Railway, Simcoe	5532214	377,000	-	-	-	-	377,000	-	-	-	-	-	-
Queen Street - William St to Sovereign St, Delhi	5532223	70,000	-	-	-	-	70,000	-	-	-	-	-	-
Sovereign Street - East St to Queen St, Delhi	5532224	183,000	-	-	-	-	183,000	-	-	-	-	-	-
Lasalle Street - Inglewood to Sunninghill, Port Dover	5532305	243,000	-	-	-	-	243,000	-	-	-	-	-	-
Talbot Street - Robinson St to Young, Simcoe	5532009	88,000	-	-	-	-	-	88,000	-	-	-	-	-
Leamon St - Nichol St. to Thompson Rd., Waterford	5532308	604,000	-	-	-	-	-	604,000	-	-	-	-	-
Spydell Street - Harris St. to Connaught Ave., Delhi	5532309	49,000	-	-	-	-	-	49,000	-	-	-	-	-
Potts Road - Oakwood to Victoria St, Simcoe	5532310	132,000	-	-	-	-	-	132,000	-	-	-	-	-
Homewood Ave - Oakwood to Victoria St, Simcoe	5532311	132,000	-	-	-	-	-	132,000	-	-	-	-	-
Ridgewood Cres-Argyle St. to Connaught Ave, Delhi	5532313	110,000	-	-	-	-	-	110,000	-	-	-	-	-
Market St-Main to St Andrew Reconstruction Pt Dover	5532429	85,000	-	-	-	-	-	85,000	-	-	-	-	-
Park St- Main St to St. Andrew St Pt Dover Reconstruction	5532430	85,000	-	-	-	-	-	85,000	-	-	-	-	-
Colborne St N - Windham to Queensway, Simcoe	5532302	151,000	-	-	-	-	-	-	151,000	-	-	-	-
Oakwood Avenue - Potts to Victoria, Simcoe	5532415	376,000	-	-	-	-	-	-	376,000	-	-	-	-
Aberdeen Ave - Lansdowne to Church St., Delhi	5532416	123,000	-	-	-	-	-	-	123,000	-	-	-	-
West Church St - Main to Washington, Waterford	5532417	319,000	-	-	-	-	-	319,000	-	-	-	-	-
Adams Avenue - Aberdeen to Delcrest, Delhi	5532420	269,000	-	-	-	-	-	-	269,000	-	-	-	-
North Main Street - Colborne to Norfolk, Simcoe	5532421	67,000	-	-	-	-	-	-	67,000	-	-	-	-
Park Lane - Colborne to Norfolk, Simcoe	5532422	45,000	-	-	-	-	-	-	45,000	-	-	-	-
Scott Dr Watermain - Hwy 6 to John St., Port Dover	5532424	424,000	-	-	-	-	-	54,000	370,000	-	-	-	-
Peel Street - Waverly to Wilson, Delhi	5532425	425,000	-	-	-	-	-	-	425,000	-	-	-	-
East Church St-Main St to Duncombe Rd, Waterford	5532506	302,000	-	-	-	-	-	-	302,000	-	-	-	-
Birch Ave, Prospect to 150 metres Easterly, Pt Dover	5532519	120,000	-	-	-	-	-	-	120,000	-	-	-	-
James St - Argyle Ave to Wilson Ave, Delhi	5532525	815,000	-	-	-	-	-	815,000	-	-	-	-	-
Church Street - James to Cloet, Delhi	5532306	1,038,000	-	-	-	-	-	-	-	1,038,000	-	-	-
Simcoe Boulevard - McCall to Wilson, Simcoe	5532511	114,000	-	-	-	-	-	-	-	114,000	-	-	-
Nelson Street - Main to St. Patrick St., Port Dover	5532512	165,000	-	-	-	-	-	-	-	165,000	-	-	-
Garden Street - Brock to South Dr., Simcoe	5532513	228,000	-	-	-	-	-	-	-	228,000	-	-	-
Monclair Cres - Duncombe to Duncombe, Waterford	5532602	411,000	-	-	-	-	-	-	-	411,000	-	-	-
South Drive - Oak to Head, Simcoe	5532616	502,000	-	-	-	-	-	-	-	502,000	-	-	-
Sylvia Street - Main St to east end, Waterford	5532411	170,000	-	-	-	-	-	-	-	-	170,000	-	-
Marshall Avenue - Northern to Adams, Delhi	5532612	389,000	-	-	-	-	-	-	-	-	389,000	-	-
Rosseau Drive - Garden to MacKay, Simcoe	5532613	174,000	-	-	-	-	-	-	-	-	174,000	-	-
MacKay Avenue - Garden to Queen, Simcoe	5532614	160,000	-	-	-	-	-	-	-	-	160,000	-	-
Washington St-Green St to Thompson Rd, Waterford	5532615	320,000	-	-	-	-	-	-	-	-	320,000	-	-
Grace St, Glenwood St, Drayton St, Sloan St, Pt Dover	5532705	359,000	-	-	-	-	-	-	-	-	359,000	-	-
Queen St - Queensway W to West St, Simcoe	5532706	922,000	-	-	-	-	-	-	-	-	-	922,000	-
Talbot St S. - Robinson St to South Dr, Simcoe	5532707	426,000	-	-	-	-	-	-	-	-	-	-	426,000



**Table W-A1  
Norfolk County  
Water Service  
Capital Budget Forecast  
Inflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
Connaught Ave - Northern Ave to Adams Ave, Delhi	5532801	315,000	-	-	-	-	-	-	-	-	-	-	315,000
Argyle Ave Ext-Huggins Ave to Fertilizer Rd, Delhi	5532514	385,000	-	-	-	-	385,000	-	-	-	-	-	-
<b>Water Equipment Replacements/Upgrades Program</b>													
2022 Water Equipment Replacements & Upgrades	5832203	344,000	-	344,000	-	-	-	-	-	-	-	-	-
2023 Water Equipment Replacements & Upgrades	5832305	353,000	-	-	353,000	-	-	-	-	-	-	-	-
2024 Water Equipment Replacements & Upgrades	5832404	361,000	-	-	-	361,000	-	-	-	-	-	-	-
2025 Water Equipment Replacements & Upgrades	5832502	369,000	-	-	-	-	369,000	-	-	-	-	-	-
2026 Water Equipment Replacements & Upgrades	5832603	377,000	-	-	-	-	-	377,000	-	-	-	-	-
2027 Water Equipment Replacements & Upgrades	5832704	385,000	-	-	-	-	-	-	385,000	-	-	-	-
2028 Water Equipment Replacements & Upgrades	5832802	393,000	-	-	-	-	-	-	-	393,000	-	-	-
2029 Water Equipment Replacements & Upgrades	5832901	394,000	-	-	-	-	-	-	-	-	394,000	-	-
2030 Water Equipment Replacements & Upgrades	5833001	402,000	-	-	-	-	-	-	-	-	-	-	402,000
<b>Well Rehabilitation Program</b>													
2021 Well Rehabilitation Program - Simcoe	5832108	210,000	210,000	-	-	-	-	-	-	-	-	-	-
2022 Well Rehabilitation Program - Simcoe	5832206	215,000	-	215,000	-	-	-	-	-	-	-	-	-
2022 Well Rehabilitation Program - Waterford	5832207	102,000	-	102,000	-	-	-	-	-	-	-	-	-
2023 Well Rehabilitation Program - Simcoe	5832309	153,000	-	-	153,000	-	-	-	-	-	-	-	-
2023 Well Rehabilitation Program - Delhi	5832310	51,000	-	-	51,000	-	-	-	-	-	-	-	-
2024 Well Rehabilitation Program - Simcoe	5832406	153,000	-	-	-	153,000	-	-	-	-	-	-	-
2025 Well Rehabilitation Program - Simcoe	5832504	189,000	-	-	-	-	189,000	-	-	-	-	-	-
2025 Well Rehabilitation Program - Delhi	5832508	51,000	-	-	-	-	51,000	-	-	-	-	-	-
2026 Well Rehabilitation Program - Simcoe	5832602	153,000	-	-	-	-	-	153,000	-	-	-	-	-
2027 Well Rehabilitation Program - Simcoe	5832701	163,000	-	-	-	-	-	-	163,000	-	-	-	-
2027 Well Rehabilitation Program - Waterford	5832706	107,000	-	-	-	-	-	-	107,000	-	-	-	-
2028 Well Rehabilitation Program - Simcoe	5832806	183,000	-	-	-	-	-	-	-	183,000	-	-	-
2028 Well Rehabilitation Program - Delhi	5832807	51,000	-	-	-	-	-	-	-	51,000	-	-	-
2029 Well Rehabilitation Program - Delhi	5832903	50,000	-	-	-	-	-	-	-	-	50,000	-	-
2029 Well Rehabilitation Program - Simcoe	5832904	200,000	-	-	-	-	-	-	-	-	200,000	-	-
2030 Well Rehabilitation Program - Simcoe	5833005	180,000	-	-	-	-	-	-	-	-	-	-	180,000
<b>Water Reconstruction Program</b>													
Pt Rowan to St. Williams Transmission Watermain Replacement – Phase 2	5832809	4,800,000	-	-	-	300,000	4,500,000	-	-	-	-	-	-
<b>Water Meter Replacements Program</b>													
Large Meter Replacement Program	5832127	50,000	50,000	-	-	-	-	-	-	-	-	-	-
<b>Supervisory Control &amp; Data Acquisition Replacements Program</b>													
2021 SCADA Replacements - Water	5832104	260,000	260,000	-	-	-	-	-	-	-	-	-	-
2022 SCADA Replacements - Water	5832204	322,000	-	322,000	-	-	-	-	-	-	-	-	-
2023 SCADA Replacements - Water	5832304	345,000	-	-	345,000	-	-	-	-	-	-	-	-
2024 SCADA Replacements - Water	5832403	329,000	-	-	-	329,000	-	-	-	-	-	-	-
2025 SCADA Replacements - Water	5832505	289,000	-	-	-	-	289,000	-	-	-	-	-	-
2026 SCADA Replacements - Water	5832601	131,000	-	-	-	-	-	131,000	-	-	-	-	-



**Table W-A1  
Norfolk County  
Water Service  
Capital Budget Forecast  
Inflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
2027 SCADA Replacements - Water	5832702	311,000	-	-	-	-	-	-	-	311,000	-	-	-
2028 SCADA Replacements - Water	5832804	118,000	-	-	-	-	-	-	-	-	118,000	-	-
2029 SCADA Replacements - Water	5832905	148,000	-	-	-	-	-	-	-	-	-	148,000	-
2030 SCADA Replacements - Water	5833003	200,000	-	-	-	-	-	-	-	-	-	-	200,000
<b>Water Intake Rehabilitation Program</b>													
Port Dover WTP - Intake Repairs	5832129	75,000	75,000	-	-	-	-	-	-	-	-	-	-
<b>Other Replacements</b>													
Stalker Park & Area Watermain	5831941	10,000	10,000	-	-	-	-	-	-	-	-	-	-
Fuel Tank Replacement at Waterford Water Treatment Plant	5832116	50,000	50,000	-	-	-	-	-	-	-	-	-	-
Replacement of Fall Arrest Equipment at Simcoe Water Tower	5832118	10,000	10,000	-	-	-	-	-	-	-	-	-	-
Port Rowan Tower Mixer Replacement	5832120	160,000	160,000	-	-	-	-	-	-	-	-	-	-
Roof Repairs Cedar St UV Building	5832121	45,000	45,000	-	-	-	-	-	-	-	-	-	-
Doan's Hollow Water Facility Decommissioning	5831806	84,000	-	84,000	-	-	-	-	-	-	-	-	-
Site Planning for Delhi Filter Plant Decommissioning	5832114	50,000	-	-	50,000	-	-	-	-	-	-	-	-
Waterford Elevated Water Storage Tank	5832510	3,057,000	-	-	-	-	3,057,000	-	-	-	-	-	-
Pt Dover Elevated Water Storage Tank Repair/Painting	5832808	2,548,000	-	-	-	-	-	-	-	-	2,548,000	-	-
<b>Proposed Inter Urban Water Supply Program</b>													
Central Water Supply Infrastructure Project	5832131	52,200,000	2,200,000	50,000,000	-	-	-	-	-	-	-	-	-
Watermain Interconnection - Port Dover to Simcoe	5832408	12,600,000	-	2,600,000	10,000,000	-	-	-	-	-	-	-	-
Watermain Interconnection - Simcoe to Waterford	5832606	6,400,000	-	-	-	1,280,000	5,120,000	-	-	-	-	-	-
Watermain Interconnection - Delhi to Simcoe	5832707	14,800,000	-	-	-	-	2,960,000	11,840,000	-	-	-	-	-
Watermain Interconnection - Port Dover to St Williams	5832412	23,000,000	-	-	-	-	-	4,600,000	18,400,000	-	-	-	-
<b>Other New / Initiatives</b>													
GPS Locating Software Program	5832119	6,000	6,000	-	-	-	-	-	-	-	-	-	-
Water Modeling Software	5831839	12,000	12,000	-	-	-	-	-	-	-	-	-	-
Port Rowan Climate Control Unit	5832117	65,000	65,000	-	-	-	-	-	-	-	-	-	-
Port Dover North West Booster Station	5832011	3,000,000	-	-	-	-	300,000	2,700,000	-	-	-	-	-
Simcoe Water Reservoir Capacity Increases	5832209	4,484,000	-	-	-	-	4,484,000	-	-	-	-	-	-
<b>Other Studies &amp; Assessments</b>													
Water & Wastewater Rate Study	4132502	38,000	-	-	-	-	38,000	-	-	-	-	-	-
Water & Wastewater Rate Study	4132901	41,000	-	-	-	-	-	-	-	-	-	41,000	-
ISMP Study - Delhi	5832130	15,000	15,000	-	-	-	-	-	-	-	-	-	-
ISMP Study - Waterford	5832210	15,000	-	15,000	-	-	-	-	-	-	-	-	-
ISMP Study - Port Dover	5832316	15,000	-	-	15,000	-	-	-	-	-	-	-	-
ISMP Study - Simcoe	5832411	15,000	-	-	-	15,000	-	-	-	-	-	-	-
ISMP Study - Port Rowan	5832512	15,000	-	-	-	-	15,000	-	-	-	-	-	-
ISMP Study - Major Update	5832610	25,000	-	-	-	-	-	25,000	-	-	-	-	-
<b>Total Capital Expenditures</b>		<b>159,686,000</b>	<b>8,639,000</b>	<b>56,573,000</b>	<b>13,024,000</b>	<b>5,142,000</b>	<b>23,470,000</b>	<b>22,299,000</b>	<b>21,614,000</b>	<b>5,751,000</b>	<b>2,405,000</b>	<b>2,445,000</b>	



**Table W-A1  
Norfolk County  
Water Service  
Capital Budget Forecast  
Inflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast								
				2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital Financing</b>												
Gas Tax Funds		3,698,000	-	-	114,000	677,750	2,906,250	-	-	-	-	-
Other Provincial/Federal Grants		4,919,000	-	-	-	746,250	4,172,750	-	-	-	-	-
Development Charges Reserve Fund		8,031,000	17,000	163,000	46,000	943,000	6,468,000	139,000	54,000	89,000	72,000	40,000
Non-Growth-Related Debenture Requirements		51,600,000	1,100,000	26,300,000	5,000,000	-	1,510,000	8,490,000	9,200,000	-	-	-
Growth-Related Debenture Requirements		54,000,000	1,100,000	26,300,000	5,000,000	-	1,750,000	10,650,000	9,200,000	-	-	-
Operating Contributions		11,416	11,416	-	-	-	-	-	-	-	-	-
Water Reserve Fund		39,102,584	6,410,584	3,810,000	2,864,000	2,775,000	6,663,000	3,020,000	3,160,000	5,662,000	2,333,000	2,405,000
<b>Total Capital Financing</b>		<b>161,362,000</b>	<b>8,639,000</b>	<b>56,573,000</b>	<b>13,024,000</b>	<b>5,142,000</b>	<b>23,470,000</b>	<b>22,299,000</b>	<b>21,614,000</b>	<b>5,751,000</b>	<b>2,405,000</b>	<b>2,445,000</b>



**Table W-A2**  
**Norfolk County**  
**Water Service**  
**Schedule of Non-Growth Related Debenture Repayments**  
 Inflated \$

Debenture Year	Principal (Inflated)	Forecast									
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	1,100,000		80,940	80,940	80,940	80,940	80,940	80,940	80,940	80,940	80,940
2022	26,300,000			1,935,200	1,935,200	1,935,200	1,935,200	1,935,200	1,935,200	1,935,200	1,935,200
2023	5,000,000				367,909	367,909	367,909	367,909	367,909	367,909	367,909
2024	-					-	-	-	-	-	-
2025	1,510,000						111,108	111,108	111,108	111,108	111,108
2026	8,490,000							624,709	624,709	624,709	624,709
2027	9,200,000								676,952	676,952	676,952
2028	-									-	-
2029	-										-
2030	-										-
<b>Total Annual Debt Charges</b>	<b>51,600,000</b>	<b>-</b>	<b>80,940</b>	<b>2,016,140</b>	<b>2,384,049</b>	<b>2,384,049</b>	<b>2,495,157</b>	<b>3,119,866</b>	<b>3,796,818</b>	<b>3,796,818</b>	<b>3,796,818</b>

**Table W-A3**  
**Norfolk County**  
**Water Service**  
**Schedule of Growth Related Debenture Repayments**  
 Inflated \$

Debenture Year	Principal (Inflated)	Forecast									
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	1,100,000		80,940	80,940	80,940	80,940	80,940	80,940	80,940	80,940	80,940
2022	26,300,000			1,935,200	1,935,200	1,935,200	1,935,200	1,935,200	1,935,200	1,935,200	1,935,200
2023	5,000,000				367,909	367,909	367,909	367,909	367,909	367,909	367,909
2024	-					-	-	-	-	-	-
2025	1,750,000						128,768	128,768	128,768	128,768	128,768
2026	10,650,000							783,646	783,646	783,646	783,646
2027	9,200,000								676,952	676,952	676,952
2028	-									-	-
2029	-										-
2030	-										-
<b>Total Annual Debt Charges</b>	<b>54,000,000</b>	<b>-</b>	<b>80,940</b>	<b>2,016,140</b>	<b>2,384,049</b>	<b>2,384,049</b>	<b>2,512,817</b>	<b>3,296,462</b>	<b>3,973,415</b>	<b>3,973,415</b>	<b>3,973,415</b>





**Table W-A4**  
**Norfolk County**  
**Water Service**  
**Water Reserves/ Reserve Funds Continuity**  
 Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	9,413,885	7,350,172	7,704,693	7,463,133	7,685,925	4,806,540	6,306,953	7,840,657	7,039,982	10,491,482
Transfer from Operating	4,310,302	4,126,190	2,585,310	2,959,554	3,759,702	4,489,034	4,654,696	4,826,300	5,732,304	6,295,213
Transfer from Operating (Water's Share of Roads Capital)	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Capital	6,410,584	3,810,000	2,864,000	2,775,000	6,663,000	3,020,000	3,160,000	5,662,000	2,333,000	2,405,000
Transfer to Roads Reserve Fund	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>7,313,604</b>	<b>7,666,362</b>	<b>7,426,003</b>	<b>7,647,687</b>	<b>4,782,627</b>	<b>6,275,575</b>	<b>7,801,649</b>	<b>7,004,957</b>	<b>10,439,285</b>	<b>14,381,695</b>
Interest	36,568	38,332	37,130	38,238	23,913	31,378	39,008	35,025	52,196	71,908

**Table W-A5**  
**Norfolk County**  
**Water Service**  
**Water Development Charges Reserve Fund Continuity**  
 Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	2,443,100	3,471,701	4,251,910	3,204,176	903,073	(6,938,593)	(8,628,894)	(11,006,605)	(14,087,976)	(17,180,062)
Development Charge Proceeds	1,100,144	1,122,123	1,144,546	1,167,423	1,190,745	1,150,142	1,173,107	1,196,603	1,184,128	1,207,782
Transfer to Capital	17,000	163,000	46,000	943,000	6,468,000	139,000	54,000	89,000	72,000	40,000
Transfer to Operating	71,815	200,069	2,162,222	2,530,019	2,529,891	2,658,514	3,442,059	4,118,884	4,118,741	4,118,595
<b>Closing Balance</b>	<b>3,454,429</b>	<b>4,230,756</b>	<b>3,188,235</b>	<b>898,580</b>	<b>(6,904,072)</b>	<b>(8,585,965)</b>	<b>(10,951,846)</b>	<b>(14,017,886)</b>	<b>(17,094,589)</b>	<b>(20,130,875)</b>
Interest	17,272	21,154	15,941	4,493	(34,520)	(42,930)	(54,759)	(70,089)	(85,473)	(100,654)
Required from Development Charges	1,117,000	26,463,000	5,046,000	943,000	8,218,000	10,789,000	9,254,000	89,000	72,000	40,000



**Table W-A6  
Norfolk County  
Water Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<u>Salaries &amp; Benefits</u>										
Distributed Salaries and Burden	3,093,084	3,154,900	3,218,000	3,282,400	3,348,100	3,415,000	3,483,300	3,553,000	3,624,000	3,696,500
<u>Materials &amp; Supplies</u>										
Materials & Supplies	192,147	196,000	199,900	203,900	208,000	212,100	216,400	220,700	225,100	229,600
Utilities	480,155	489,800	499,600	509,500	519,700	530,100	540,700	551,500	562,600	573,800
Maintenance & Repairs Supplies	476,003	485,500	495,200	505,100	515,200	525,500	536,100	546,800	557,700	568,900
Licenses & Permits	451	500	500	500	500	500	500	500	500	500
<u>Services</u>										
Rents/Leases	246,300	251,200	256,300	261,400	266,600	271,900	277,400	282,900	288,600	294,400
Professional/Consulting Services	44,401	45,300	46,200	47,100	48,100	49,000	50,000	51,000	52,000	53,100
Advertising/Promotional	1,941	2,000	2,000	2,100	2,100	2,100	2,200	2,200	2,300	2,300
Contracted Services	956,420	975,500	995,100	1,015,000	1,035,300	1,056,000	1,077,100	1,098,600	1,120,600	1,143,000
Seminars/Training	35,973	36,700	37,400	38,200	38,900	39,700	40,500	41,300	42,100	43,000
Maintenance & Repairs Services	483,048	492,700	502,600	512,600	522,900	533,300	544,000	554,900	566,000	577,300
<u>Transfer Payments/Grants</u>										
Subsidized/Waived Fees	47,250	48,200	49,200	50,100	51,100	52,200	53,200	54,300	55,400	56,500
<u>Interdepartmental Charges</u>										
Interdepartmental Charges Equipment	401,795	409,800	418,000	426,400	434,900	443,600	452,500	461,500	470,800	480,200
Interdepartmental Charges Accommodation	4,288	4,400	4,500	4,600	4,600	4,700	4,800	4,900	5,000	5,100
Interdepartmental Charges Support Services	388,799	396,600	404,500	412,600	420,800	429,300	437,900	446,600	455,500	464,700
Interdepartmental Charges Printing/Mapping/Design/Signs	600	600	600	600	600	700	700	700	700	700
<u>Financial</u>										
Write Offs/Adjustments	51,800	52,800	53,900	55,000	56,100	57,200	58,300	59,500	60,700	61,900
<b>Sub-Total Operating Costs</b>	<b>6,904,455</b>	<b>7,042,500</b>	<b>7,183,500</b>	<b>7,327,100</b>	<b>7,473,500</b>	<b>7,622,900</b>	<b>7,775,600</b>	<b>7,930,900</b>	<b>8,089,600</b>	<b>8,251,500</b>



**Table W-A6  
Norfolk County  
Water Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	51,746	53,904	54,700	55,505	56,330	57,170	58,067	58,974	59,898	60,850
Existing Debt (Interest) - Growth-Related	20,068	19,210	18,317	17,401	16,447	15,463	14,464	13,430	12,364	11,266
Existing Committed Debt (Principal) - Growth-Related	-	36,996	53,606	54,899	56,224	57,580	58,969	60,393	61,851	63,344
Existing Committed Debt (Interest) - Growth-Related	-	9,018	19,458	18,165	16,841	15,485	14,095	12,672	11,214	9,720
New Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,277,073	1,685,801	2,062,185	2,144,673	2,230,460
New Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,235,744	1,610,661	1,911,229	1,828,742	1,742,955
Existing Debt (Principal) - Non-Growth-Related	552,319	374,370	378,903	383,453	388,150	287,560	290,660	293,744	296,875	300,188
Existing Debt (Interest) - Non-Growth-Related	87,568	77,073	71,424	65,593	59,422	53,536	49,271	44,726	39,960	34,965
Existing Committed Debt (Principal) - Non-Growth-Related	-	617,242	804,024	823,091	842,614	862,604	883,071	904,028	925,486	947,457
Existing Committed Debt (Interest) - Non-Growth-Related	-	326,352	435,946	416,879	397,356	377,367	356,900	335,943	314,485	292,514
New Non-Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,269,013	1,604,883	1,978,030	2,057,151	2,139,437
New Non-Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,226,144	1,514,984	1,818,788	1,739,667	1,657,381
Transfer to Capital	11,416	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Water's Share of Roads Capital)	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Capital Reserve	4,310,302	4,126,190	2,585,310	2,959,554	3,759,702	4,489,034	4,654,696	4,826,300	5,732,304	6,295,213
<b>Sub-Total Capital-Related</b>	<b>5,488,420</b>	<b>6,266,335</b>	<b>8,927,369</b>	<b>10,045,538</b>	<b>10,853,783</b>	<b>11,726,272</b>	<b>13,309,123</b>	<b>14,843,343</b>	<b>15,758,069</b>	<b>16,329,850</b>
<b>Total Expenditures</b>	<b>12,392,876</b>	<b>13,308,835</b>	<b>16,110,869</b>	<b>17,372,638</b>	<b>18,327,283</b>	<b>19,349,172</b>	<b>21,084,723</b>	<b>22,774,243</b>	<b>23,847,669</b>	<b>24,581,350</b>
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	2,600	2,700	2,700	2,800	2,800	2,900	2,900	3,000	3,000	3,100
Financial Charges/Investment Income	2,000	2,000	2,100	2,100	2,200	2,200	2,300	2,300	2,300	2,400
Other Revenue (Rentals, Leases, Permits, Misc. Charges, etc.)	186,122	189,800	193,600	197,500	201,500	205,500	209,600	213,800	218,100	222,400
Interdepartmental Recoveries	2,062,158	2,195,425	2,337,542	2,488,837	2,650,452	2,801,610	2,962,737	3,134,164	3,315,940	3,439,925
Contributions from Development Charges Reserve Fund	71,815	200,069	2,162,222	2,530,019	2,529,891	2,658,514	3,442,059	4,118,884	4,118,741	4,118,595
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>2,324,694</b>	<b>2,589,994</b>	<b>4,698,164</b>	<b>5,221,256</b>	<b>5,386,843</b>	<b>5,670,724</b>	<b>6,619,596</b>	<b>7,472,148</b>	<b>7,658,081</b>	<b>7,786,421</b>
<b>Water Billing Recovery</b>										
Base Charges	5,013,162	5,388,647	5,791,876	6,224,520	6,689,444	7,186,213	7,716,412	8,285,777	8,896,218	9,363,377
Consumptive Charges	4,779,189	5,051,168	5,338,397	5,640,797	5,961,062	6,194,992	6,435,190	6,685,555	6,944,323	7,070,335
Flat Rates	1,376	1,454	1,537	1,624	1,717	1,799	1,885	1,976	2,072	2,130
Standby Charges	47,085	50,202	53,526	57,069	60,847	64,875	69,170	73,749	78,631	82,193
Bulk Water Charges	227,370	227,370	227,370	227,370	227,370	230,568	242,470	255,039	268,344	276,895
<b>Sub-Total Water Billing Recovery</b>	<b>10,068,182</b>	<b>10,718,841</b>	<b>11,412,705</b>	<b>12,151,381</b>	<b>12,940,441</b>	<b>13,678,448</b>	<b>14,465,127</b>	<b>15,302,095</b>	<b>16,189,588</b>	<b>16,794,930</b>
<b>Total Revenues</b>	<b>12,392,876</b>	<b>13,308,835</b>	<b>16,110,869</b>	<b>17,372,638</b>	<b>18,327,283</b>	<b>19,349,172</b>	<b>21,084,723</b>	<b>22,774,243</b>	<b>23,847,669</b>	<b>24,581,350</b>



**Table W-A7  
Norfolk County  
Water Services  
Water Rate Forecast  
Inflated \$**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 1.640	\$ 1.722	\$ 1.808	\$ 1.898	\$ 1.993	\$ 2.059	\$ 2.126	\$ 2.196	\$ 2.268	\$ 2.297
Annual Increase (%)	7.1%	5.0%	5.0%	5.0%	5.0%	3.3%	3.3%	3.3%	3.3%	1.3%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 24.52	\$ 26.15	\$ 27.88	\$ 29.72	\$ 31.69	\$ 33.79	\$ 36.03	\$ 38.41	\$ 40.95	\$ 42.81
25 mm	\$ 40.67	\$ 43.37	\$ 46.24	\$ 49.30	\$ 52.56	\$ 56.04	\$ 59.75	\$ 63.71	\$ 67.92	\$ 71.00
40 mm	\$ 68.09	\$ 72.60	\$ 77.40	\$ 82.53	\$ 87.99	\$ 93.82	\$ 100.03	\$ 106.65	\$ 113.71	\$ 118.86
50 mm	\$ 171.86	\$ 183.24	\$ 195.37	\$ 208.30	\$ 222.09	\$ 236.79	\$ 252.47	\$ 269.18	\$ 287.00	\$ 300.00
75 mm	\$ 198.26	\$ 211.38	\$ 225.37	\$ 240.29	\$ 256.20	\$ 273.16	\$ 291.24	\$ 310.52	\$ 331.08	\$ 346.08
100 mm	\$ 388.20	\$ 413.90	\$ 441.30	\$ 470.52	\$ 501.66	\$ 534.87	\$ 570.28	\$ 608.04	\$ 648.29	\$ 677.65
150 mm	\$ 697.18	\$ 743.33	\$ 792.54	\$ 845.01	\$ 900.95	\$ 960.59	\$ 1,024.18	\$ 1,091.98	\$ 1,164.27	\$ 1,217.00
Annual Increase (%)	8.8%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	4.5%
<b>Special Charges</b>										
Water Bulk Rate (per m <sup>3</sup> )	\$ 4.41	\$ 4.41	\$ 4.41	\$ 4.41	\$ 4.41	\$ 4.47	\$ 4.70	\$ 4.94	\$ 5.20	\$ 5.37
Annual Increase (%)	2.0%	0.0%	0.0%	0.0%	0.0%	1.4%	5.2%	5.2%	5.2%	3.2%



**Table W-B4**  
**Norfolk County**  
**Water Service**  
**Water Reserves/ Reserve Funds Continuity**  
 Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	9,413,885	8,043,769	10,308,448	11,539,996	12,750,769	10,322,753	11,802,788	12,787,034	10,856,722	12,543,493
Transfer from Operating	5,000,449	6,023,393	4,038,134	3,922,337	4,183,627	4,441,315	4,080,628	3,677,675	3,957,366	4,243,202
Transfer from Operating (Water's Share of Roads Capital)	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Capital	6,410,584	3,810,000	2,864,000	2,775,000	6,663,000	3,020,000	3,160,000	5,662,000	2,333,000	2,405,000
Transfer to Roads Reserve Fund	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>8,003,751</b>	<b>10,257,162</b>	<b>11,482,583</b>	<b>12,687,333</b>	<b>10,271,396</b>	<b>11,744,068</b>	<b>12,723,416</b>	<b>10,802,709</b>	<b>12,481,088</b>	<b>14,381,695</b>
Interest	40,019	51,286	57,413	63,437	51,357	58,720	63,617	54,014	62,405	71,908

**Table W-B5**  
**Norfolk County**  
**Water Service**  
**Water Development Charges Reserve Fund Continuity**  
 Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	2,443,100	3,471,701	4,251,910	3,204,176	903,073	(6,938,593)	(8,628,894)	(11,006,605)	(14,087,976)	(17,180,062)
Development Charge Proceeds	1,100,144	1,122,123	1,144,546	1,167,423	1,190,745	1,150,142	1,173,107	1,196,603	1,184,128	1,207,782
Transfer to Capital	17,000	163,000	46,000	943,000	6,468,000	139,000	54,000	89,000	72,000	40,000
Transfer to Operating	71,815	200,069	2,162,222	2,530,019	2,529,891	2,658,514	3,442,059	4,118,884	4,118,741	4,118,595
<b>Closing Balance</b>	<b>3,454,429</b>	<b>4,230,756</b>	<b>3,188,235</b>	<b>898,580</b>	<b>(6,904,072)</b>	<b>(8,585,965)</b>	<b>(10,951,846)</b>	<b>(14,017,886)</b>	<b>(17,094,589)</b>	<b>(20,130,875)</b>
Interest	17,272	21,154	15,941	4,493	(34,520)	(42,930)	(54,759)	(70,089)	(85,473)	(100,654)
Required from Development Charges	1,117,000	26,463,000	5,046,000	943,000	8,218,000	10,789,000	9,254,000	89,000	72,000	40,000



**Table W-B6  
Norfolk County  
Water Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<u>Salaries &amp; Benefits</u>										
Distributed Salaries and Burden	3,093,084	3,154,900	3,218,000	3,282,400	3,348,100	3,415,000	3,483,300	3,553,000	3,624,000	3,696,500
<u>Materials &amp; Supplies</u>										
Materials & Supplies	192,147	196,000	199,900	203,900	208,000	212,100	216,400	220,700	225,100	229,600
Utilities	480,155	489,800	499,600	509,500	519,700	530,100	540,700	551,500	562,600	573,800
Maintenance & Repairs Supplies	476,003	485,500	495,200	505,100	515,200	525,500	536,100	546,800	557,700	568,900
Licenses & Permits	451	500	500	500	500	500	500	500	500	500
<u>Services</u>										
Rents/Leases	246,300	251,200	256,300	261,400	266,600	271,900	277,400	282,900	288,600	294,400
Professional/Consulting Services	44,401	45,300	46,200	47,100	48,100	49,000	50,000	51,000	52,000	53,100
Advertising/Promotional	1,941	2,000	2,000	2,100	2,100	2,100	2,200	2,200	2,300	2,300
Contracted Services	956,420	975,500	995,100	1,015,000	1,035,300	1,056,000	1,077,100	1,098,600	1,120,600	1,143,000
Seminars/Training	35,973	36,700	37,400	38,200	38,900	39,700	40,500	41,300	42,100	43,000
Maintenance & Repairs Services	483,048	492,700	502,600	512,600	522,900	533,300	544,000	554,900	566,000	577,300
<u>Transfer Payments/Grants</u>										
Subsidized/Waived Fees	47,250	48,200	49,200	50,100	51,100	52,200	53,200	54,300	55,400	56,500
<u>Interdepartmental Charges</u>										
Interdepartmental Charges Equipment	401,795	409,800	418,000	426,400	434,900	443,600	452,500	461,500	470,800	480,200
Interdepartmental Charges Accommodation	4,288	4,400	4,500	4,600	4,600	4,700	4,800	4,900	5,000	5,100
Interdepartmental Charges Support Services	388,799	396,600	404,500	412,600	420,800	429,300	437,900	446,600	455,500	464,700
Interdepartmental Charges Printing/Mapping/Design/Signs	600	600	600	600	600	700	700	700	700	700
<u>Financial</u>										
Write Offs/Adjustments	51,800	52,800	53,900	55,000	56,100	57,200	58,300	59,500	60,700	61,900
<b>Sub-Total Operating Costs</b>	<b>6,904,455</b>	<b>7,042,500</b>	<b>7,183,500</b>	<b>7,327,100</b>	<b>7,473,500</b>	<b>7,622,900</b>	<b>7,775,600</b>	<b>7,930,900</b>	<b>8,089,600</b>	<b>8,251,500</b>



**Table W-B6  
Norfolk County  
Water Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	51,746	53,904	54,700	55,505	56,330	57,170	58,067	58,974	59,898	60,850
Existing Debt (Interest) - Growth-Related	20,068	19,210	18,317	17,401	16,447	15,463	14,464	13,430	12,364	11,266
Existing Committed Debt (Principal) - Growth-Related	-	36,996	53,606	54,899	56,224	57,580	58,969	60,393	61,851	63,344
Existing Committed Debt (Interest) - Growth-Related	-	9,018	19,458	18,165	16,841	15,485	14,095	12,672	11,214	9,720
New Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,277,073	1,685,801	2,062,185	2,144,673	2,230,460
New Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,235,744	1,610,661	1,911,229	1,828,742	1,742,955
Existing Debt (Principal) - Non-Growth-Related	552,319	374,370	378,903	383,453	388,150	287,560	290,660	293,744	296,875	300,188
Existing Debt (Interest) - Non-Growth-Related	87,568	77,073	71,424	65,593	59,422	53,536	49,271	44,726	39,960	34,965
Existing Committed Debt (Principal) - Non-Growth-Related	-	617,242	804,024	823,091	842,614	862,604	883,071	904,028	925,486	947,457
Existing Committed Debt (Interest) - Non-Growth-Related	-	326,352	435,946	416,879	397,356	377,367	356,900	335,943	314,485	292,514
New Non-Growth-Related Debt (Principal)	-	36,940	921,618	1,126,391	1,171,447	1,269,013	1,604,883	1,978,030	2,057,151	2,139,437
New Non-Growth-Related Debt (Interest)	-	44,000	1,094,522	1,257,658	1,212,602	1,226,144	1,514,984	1,818,788	1,739,667	1,657,381
Transfer to Capital	11,416	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Water's Share of Roads Capital)	455,000	464,100	473,400	482,900	492,600	502,500	512,600	522,900	533,400	544,100
Transfer to Capital Reserve	5,000,449	6,023,393	4,038,134	3,922,337	4,183,627	4,441,315	4,080,628	3,677,675	3,957,366	4,243,202
<b>Sub-Total Capital-Related</b>	<b>6,178,567</b>	<b>8,163,538</b>	<b>10,380,194</b>	<b>11,008,321</b>	<b>11,277,708</b>	<b>11,678,553</b>	<b>12,735,055</b>	<b>13,694,718</b>	<b>13,983,131</b>	<b>14,277,839</b>
<b>Total Expenditures</b>	<b>13,083,022</b>	<b>15,206,038</b>	<b>17,563,694</b>	<b>18,335,421</b>	<b>18,751,208</b>	<b>19,301,453</b>	<b>20,510,655</b>	<b>21,625,618</b>	<b>22,072,731</b>	<b>22,529,339</b>
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	2,600	2,700	2,700	2,800	2,800	2,900	2,900	3,000	3,000	3,100
Financial Charges/Investment Income	2,000	2,000	2,100	2,100	2,200	2,200	2,300	2,300	2,300	2,400
Other Revenue (Rentals, Leases, Permits, Misc. Charges, etc.)	186,122	189,800	193,600	197,500	201,500	205,500	209,600	213,800	218,100	222,400
Interdepartmental Recoveries	2,179,483	2,517,950	2,584,522	2,652,510	2,722,519	2,793,498	2,865,145	2,938,898	3,014,200	3,091,083
Contributions from Development Charges Reserve Fund	71,815	200,069	2,162,222	2,530,019	2,529,891	2,658,514	3,442,059	4,118,884	4,118,741	4,118,595
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>2,442,019</b>	<b>2,912,518</b>	<b>4,945,144</b>	<b>5,384,929</b>	<b>5,458,910</b>	<b>5,662,612</b>	<b>6,522,004</b>	<b>7,276,882</b>	<b>7,356,342</b>	<b>7,437,579</b>
<b>Water Billing Recovery</b>										
Base Charges	5,216,302	5,988,990	6,183,400	6,383,276	6,588,235	6,796,035	7,007,246	7,225,063	7,448,867	7,678,811
Consumptive Charges	5,151,336	6,024,140	6,153,380	6,284,032	6,416,942	6,549,741	6,682,263	6,818,338	6,955,844	7,094,780
Flat Rates	1,461	1,683	1,715	1,747	1,779	1,812	1,845	1,879	1,914	1,949
Standby Charges	48,993	55,795	57,144	58,525	59,927	61,353	62,813	64,308	65,839	67,406
Bulk Water Charges	222,912	222,912	222,912	222,912	225,415	229,901	234,483	239,149	243,925	248,815
<b>Sub-Total Water Billing Recovery</b>	<b>10,641,004</b>	<b>12,293,520</b>	<b>12,618,550</b>	<b>12,950,492</b>	<b>13,292,298</b>	<b>13,638,841</b>	<b>13,988,651</b>	<b>14,348,737</b>	<b>14,716,389</b>	<b>15,091,760</b>
<b>Total Revenues</b>	<b>13,083,022</b>	<b>15,206,038</b>	<b>17,563,694</b>	<b>18,335,421</b>	<b>18,751,208</b>	<b>19,301,453</b>	<b>20,510,655</b>	<b>21,625,618</b>	<b>22,072,731</b>	<b>22,529,339</b>



**Table W-B7  
Norfolk County  
Water Services  
Water Rate Forecast  
Inflated \$**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 1.767	\$ 2.053	\$ 2.084	\$ 2.115	\$ 2.145	\$ 2.176	\$ 2.208	\$ 2.240	\$ 2.272	\$ 2.305
Annual Increase (%)	15.4%	16.2%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 25.52	\$ 29.06	\$ 29.76	\$ 30.48	\$ 31.21	\$ 31.95	\$ 32.72	\$ 33.49	\$ 34.29	\$ 35.11
25 mm	\$ 42.32	\$ 48.20	\$ 49.36	\$ 50.56	\$ 51.77	\$ 53.00	\$ 54.26	\$ 55.55	\$ 56.87	\$ 58.23
40 mm	\$ 70.85	\$ 80.69	\$ 82.64	\$ 84.63	\$ 86.66	\$ 88.72	\$ 90.83	\$ 93.00	\$ 95.21	\$ 97.47
50 mm	\$ 178.83	\$ 203.65	\$ 208.58	\$ 213.62	\$ 218.73	\$ 223.94	\$ 229.27	\$ 234.72	\$ 240.31	\$ 246.03
75 mm	\$ 206.29	\$ 234.93	\$ 240.61	\$ 246.42	\$ 252.32	\$ 258.33	\$ 264.48	\$ 270.77	\$ 277.22	\$ 283.81
100 mm	\$ 403.93	\$ 460.01	\$ 471.13	\$ 482.52	\$ 494.07	\$ 505.83	\$ 517.87	\$ 530.20	\$ 542.82	\$ 555.74
150 mm	\$ 725.43	\$ 826.15	\$ 846.12	\$ 866.56	\$ 887.32	\$ 908.43	\$ 930.05	\$ 952.19	\$ 974.85	\$ 998.05
Annual Increase (%)	13.2%	13.9%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
<b>Special Charges</b>										
Water Bulk Rate (per m <sup>3</sup> )	\$ 4.32	\$ 4.32	\$ 4.32	\$ 4.32	\$ 4.37	\$ 4.46	\$ 4.54	\$ 4.63	\$ 4.73	\$ 4.82
Annual Increase (%)	0.0%	0.0%	0.0%	0.0%	1.1%	2.0%	2.0%	2.0%	2.0%	2.0%





# Appendix B

## Wastewater Services



**Table WW-1a  
Norfolk County  
Wastewater Service  
Capital Budget Forecast  
Uninflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>													
<b>Linear Reconstruction</b>													
St. Andrew St - Chapman to McNab, Pt Dover-Rd Reconstruction	5531715	147,826	-	147,826	-	-	-	-	-	-	-	-	
Evergreen Hill Rd - Queen St to Norfolk St, Simcoe	5532222	551,691	-	551,691	-	-	-	-	-	-	-	-	
South Drive - John St to Queen St, Simcoe	5531828	377,778	-	377,778	-	-	-	-	-	-	-	-	
Ann Street - Main to East, Delhi	5531906	234,000	234,000	-	-	-	-	-	-	-	-	-	
Tyrell Street - Beckett to King, Simcoe	5531808	336,000	336,000	-	-	-	-	-	-	-	-	-	
Bellevue Ave - Foster to Tyrell, Simcoe	5531905	82,000	82,000	-	-	-	-	-	-	-	-	-	
Eagle Street - Norfolk Ave to Main St, Delhi	5532007	56,944	-	-	56,944	-	-	-	-	-	-	-	
Norfolk Avenue - Western to Eagle, Delhi	5532008	99,886	-	-	99,886	-	-	-	-	-	-	-	
Union Street - Queen to Norfolk Street, Simcoe	5532507	357,000	357,000	-	-	-	-	-	-	-	-	-	
Colborne St N - Robinson to Windham, Simcoe	5531904	481,159	-	481,159	-	-	-	-	-	-	-	-	
Dover Mills Rd - Prospect St to Cocksbutt Rd, Pt Dover	5532010	140,960	-	-	140,960	-	-	-	-	-	-	-	
Regent Ave - Nelson St. to Greenock St., Port Dover	5532011	174,567	-	-	174,567	-	-	-	-	-	-	-	
Wellington Street - Alice St. to Brown St., Waterford	5532017	363,136	-	-	363,136	-	-	-	-	-	-	-	
Windham Street - Talbot St to West End, Simcoe	5532025	211,907	-	-	211,907	-	-	-	-	-	-	-	
McNab Street - First Ave to West End, Port Dover	5532103	143,409	-	-	-	143,409	-	-	-	-	-	-	
Brown Street - Main to Washington, Waterford	5532104	219,172	-	-	-	219,172	-	-	-	-	-	-	
Carolyn Boulevard - Dora Dr to Sunset Dr, Simcoe	5532109	147,919	-	-	-	147,919	-	-	-	-	-	-	
Sunset Drive - Dora Drive to Holden Ave, Simcoe	5532110	272,387	-	-	-	272,387	-	-	-	-	-	-	
East Street - Ann to William, Delhi	5532111	85,685	-	-	-	85,685	-	-	-	-	-	-	
Dora Drive - Holden Ave to Sunset Drive, Simcoe	5532112	171,369	-	-	-	171,369	-	-	-	-	-	-	
Calvert Crescent - Dora to Carolyn, Simcoe	5532113	147,919	-	-	-	147,919	-	-	-	-	-	-	
Sovereign Street - James St to East St, Delhi	5532122	81,175	-	-	-	81,175	-	-	-	-	-	-	
Ann Street - James to East, Delhi	5532123	81,175	-	-	-	81,175	-	-	-	-	-	-	
Deer Park Road - Sanitary Sewer at SPS, Waterford	5532210	335,360	-	-	48,543	286,818	-	-	-	-	-	-	
Old Main St - Old Main St to Main St - WW, Wtfd	5532211	164,911	-	-	22,404	142,507	-	-	-	-	-	-	
Hill St - Tyrell to Dead End, Simcoe	5532231	50,000	50,000	-	-	-	-	-	-	-	-	-	
Union St - Bellevue to Dead End, Simcoe	5532232	35,000	35,000	-	-	-	-	-	-	-	-	-	
Talbot Street - Maple to Windham, Simcoe	5532314	138,160	-	-	138,160	-	-	-	-	-	-	-	
Head Street - Maple to Windham, Simcoe	5532107	131,588	-	-	-	-	131,588	-	-	-	-	-	
Harris Street - Ridgewood Ave to Adams Ave, Delhi	5532209	206,532	-	-	-	-	206,532	-	-	-	-	-	
Metcalfe Street - Maple St to Windham St, Simcoe	5532212	131,588	-	-	-	-	131,588	-	-	-	-	-	
Harbour St-St. Andrew St to St. George St, Pt Dover	5532213	117,645	-	-	-	-	117,645	-	-	-	-	-	
Gilbertson Dr - Queensway to Abandoned Railway, Simcoe	5532214	244,004	-	-	-	-	244,004	-	-	-	-	-	
Queen Street - William St to Sovereign St, Delhi	5532223	47,058	-	-	-	-	47,058	-	-	-	-	-	
Sovereign Street - East St to Queen St, Delhi	5532224	122,002	-	-	-	-	122,002	-	-	-	-	-	
Talbot Street - Robinson St to Young, Simcoe	5532009	55,570	-	-	-	-	-	55,570	-	-	-	-	
Leamon St - Nichol St. to Thompson Rd., Waterford	5532308	393,201	-	-	-	-	-	393,201	-	-	-	-	
Spydell Street - Harris St. to Connaught Ave., Delhi	5532309	37,047	-	-	-	-	-	37,047	-	-	-	-	
Potts Road - Oakwood to Victoria St, Simcoe	5532310	83,355	-	-	-	-	-	83,355	-	-	-	-	
Homewood Ave - Oakwood to Victoria St, Simcoe	5532311	83,355	-	-	-	-	-	83,355	-	-	-	-	
Ridgewood Cres-Argyle St. to Connaught Ave, Delhi	5532313	69,042	-	-	-	-	-	69,042	-	-	-	-	



**Table WW-1a  
Norfolk County  
Wastewater Service  
Capital Budget Forecast  
Uninflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
Market St-Main to St Andrew Reconstruction Pt Dover	5532429	58,938	-	-	-	-	-	58,938	-	-	-	-	
Park St- Main St to St. Andrew St Pt Dover Reconstruction	5532430	58,938	-	-	-	-	-	58,938	-	-	-	-	
Colborne St N - Windham to Queensway, Simcoe	5532302	91,926	-	-	-	-	-	-	91,926	-	-	-	
Oakwood Avenue - Potts to Victoria, Simcoe	5532415	229,407	-	-	-	-	-	-	229,407	-	-	-	
Aberdeen Ave - Lansdowne to Church St., Delhi	5532416	73,215	-	-	-	-	-	-	73,215	-	-	-	
West Church St - Main to Washington, Waterford	5532417	202,916	-	-	-	-	-	202,916	-	-	-	-	
Adams Avenue - Aberdeen to Delcrest, Delhi	5532420	164,327	-	-	-	-	-	-	164,327	-	-	-	
North Main Street - Colborne to Norfolk, Simcoe	5532421	45,556	-	-	-	-	-	-	45,556	-	-	-	
Park Lane - Colborne to Norfolk, Simcoe	5532422	27,659	-	-	-	-	-	-	27,659	-	-	-	
Peel Street - Waverly to Wilson, Delhi	5532425	264,388	-	-	-	-	-	-	264,388	-	-	-	
East Church St-Main St to Duncombe Rd, Waterford	5532506	182,224	-	-	-	-	-	-	182,224	-	-	-	
James St - Argyle Ave to Wilson Ave, Delhi	5532525	686,208	-	-	-	-	-	686,208	-	-	-	-	
Church Street - James to Cloet, Delhi	5532306	583,205	-	-	-	-	-	-	-	583,205	-	-	
Simcoe Boulevard - McCall to Wilson, Simcoe	5532511	67,595	-	-	-	-	-	-	-	67,595	-	-	
Nelson Street - Main to St. Patrick St., Port Dover	5532512	98,249	-	-	-	-	-	-	-	98,249	-	-	
Garden Street - Brock to South Dr., Simcoe	5532513	134,404	-	-	-	-	-	-	-	134,404	-	-	
Monclair Cres - Duncombe to Duncombe, Waterford	5532602	246,801	-	-	-	-	-	-	-	246,801	-	-	
South Drive - Oak to Head, Simcoe	5532616	296,319	-	-	-	-	-	-	-	296,319	-	-	
Sylvia Street - Main St to east end, Waterford	5532411	145,807	-	-	-	-	-	-	-	-	145,807	-	
Marshall Avenue - Northern to Adams, Delhi	5532612	220,989	-	-	-	-	-	-	-	-	220,989	-	
Rosseau Drive - Garden to MacKay, Simcoe	5532613	99,483	-	-	-	-	-	-	-	-	99,483	-	
MacKay Avenue - Garden to Queen, Simcoe	5532614	92,648	-	-	-	-	-	-	-	-	92,648	-	
Washington St-Green St to Thompson Rd, Waterford	5532615	185,296	-	-	-	-	-	-	-	-	185,296	-	
Grace St, Glenwood St, Drayton St, Sloan St, Pt Dover	5532705	299,208	-	-	-	-	-	-	-	-	299,208	-	
Queen St - Queensway W to West St, Simcoe	5532706	349,990	-	-	-	-	-	-	-	-	-	349,990	
Talbot St S. - Robinson St to South Dr, Simcoe	5532707	283,954	-	-	-	-	-	-	-	-	-	283,954	
Connaught Ave - Northern Ave to Adams Ave, Delhi	5532801	198,107	-	-	-	-	-	-	-	-	-	198,107	
Argyle Ave Ext-Huggins Ave to Fertilizer Rd, Delhi	5532514	191,717	-	-	-	-	191,717	-	-	-	-	-	
<b>Wastewater Equipment Replacements/Upgrades Program</b>													
Sludge Storage Tank Coating - Port Dover	5832122	300,000	300,000	-	-	-	-	-	-	-	-	-	
2022 Wastewater Equip Replacements & Upgrades	5832201	332,367	-	332,367	-	-	-	-	-	-	-	-	
2023 Wastewater Equip Replacements & Upgrades	5832302	329,529	-	-	329,529	-	-	-	-	-	-	-	
2024 Wastewater Equip Replacements & Upgrades	5832402	325,601	-	-	-	325,601	-	-	-	-	-	-	
2025 Wastewater Equip Replacements & Upgrades	5832503	321,562	-	-	-	-	321,562	-	-	-	-	-	
2026 Wastewater Equip Replacements & Upgrades	5832604	317,424	-	-	-	-	-	317,424	-	-	-	-	
2027 Wastewater Equip Replacements & Upgrades	5832705	313,198	-	-	-	-	-	-	313,198	-	-	-	
2028 Wastewater Equip Replacements & Upgrades	5832803	308,894	-	-	-	-	-	-	-	308,894	-	-	
2029 Wastewater Equip Replacements & Upgrades	5832902	299,208	-	-	-	-	-	-	-	-	299,208	-	
2030 Wastewater Equip Replacements & Upgrades	5833002	294,960	-	-	-	-	-	-	-	-	-	294,960	
<b>Wastewater Reconstruction Program</b>													
Sewer Lateral Replacement - Simcoe	5832128	80,000	80,000	-	-	-	-	-	-	-	-	-	
<b>Water Meter Replacements Program</b>													
Large Meter Replacement Program	5832127	50,000	50,000	-	-	-	-	-	-	-	-	-	



**Table WW-1a  
Norfolk County  
Wastewater Service  
Capital Budget Forecast  
Uninflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast									
				2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Supervisory Control &amp; Data Acquisition Replacements Program</b>													
2021 SCADA Replacements - Wastewater	5832101	174,000	174,000	-	-	-	-	-	-	-	-	-	-
2022 SCADA Replacements - Wastewater	5832202	81,159	-	81,159	-	-	-	-	-	-	-	-	-
2023 SCADA Replacements - Wastewater	5832301	65,346	-	-	65,346	-	-	-	-	-	-	-	-
2024 SCADA Replacements - Wastewater	5832401	193,918	-	-	-	193,918	-	-	-	-	-	-	-
2025 SCADA Replacements - Wastewater	5832506	101,087	-	-	-	-	101,087	-	-	-	-	-	-
2026 SCADA Replacements - Wastewater	5832605	80,829	-	-	-	-	-	80,829	-	-	-	-	-
2027 SCADA Replacements - Wastewater	5832703	190,359	-	-	-	-	-	-	190,359	-	-	-	-
2028 SCADA Replacements - Wastewater	5832805	97,463	-	-	-	-	-	-	-	97,463	-	-	-
2029 SCADA Replacements - Wastewater	5832906	78,219	-	-	-	-	-	-	-	-	78,219	-	-
2030 SCADA Replacements - Wastewater	5833004	146,746	-	-	-	-	-	-	-	-	-	-	146,746
<b>Other Replacements</b>													
Lynn River Forcemain Crossing	5831719	1,000,000	1,000,000	-	-	-	-	-	-	-	-	-	-
Hillside Drive Pumping Station Upgrades	5831943	1,136,473	150,000	986,473	-	-	-	-	-	-	-	-	-
Port Rowan Sludge Pump Replacement	5832123	35,000	35,000	-	-	-	-	-	-	-	-	-	-
Port Rowan WWTP - Membrane Filter	5832003	560,106	-	-	560,106	-	-	-	-	-	-	-	-
<b>Other New / Initiatives</b>													
GPS Locating Software Program	5832119	6,000	6,000	-	-	-	-	-	-	-	-	-	-
Port Dover Wastewater Outfall	5832115	1,500,000	1,500,000	-	-	-	-	-	-	-	-	-	-
Sewer Sampling Equipment	5832124	10,000	10,000	-	-	-	-	-	-	-	-	-	-
New Van for Environmental Service Technologist	5832126	40,000	40,000	-	-	-	-	-	-	-	-	-	-
Simcoe WWTP Filtration Building Replacement	5832111	1,783,624	-	-	-	225,486	1,558,139	-	-	-	-	-	-
Port Dover WWTP - Capacity Upgrades	5832315	11,005,965	-	-	-	-	-	-	-	-	-	-	11,005,965
<b>Other Studies &amp; Assessments</b>													
Backflow Prevention Study	5832125	35,000	35,000	-	-	-	-	-	-	-	-	-	-
Water & Wastewater Rate Study	4132502	33,115	-	-	-	-	33,115	-	-	-	-	-	-
Water & Wastewater Rate Study	4132901	31,136	-	-	-	-	-	-	-	-	-	31,136	-
ISMP Study - Delhi	5832130	15,000	15,000	-	-	-	-	-	-	-	-	-	-
ISMP Study - Waterford	5832210	14,493	-	14,493	-	-	-	-	-	-	-	-	-
ISMP Study - Port Dover	5832316	14,003	-	-	14,003	-	-	-	-	-	-	-	-
ISMP Study - Simcoe	5832411	13,529	-	-	-	13,529	-	-	-	-	-	-	-
ISMP Study - Port Rowan	5832512	13,072	-	-	-	-	13,072	-	-	-	-	-	-
ISMP Study - Major Update	5832610	21,049	-	-	-	-	-	21,049	-	-	-	-	-
<b>Total Capital Expenditures</b>		<b>34,739,390</b>	<b>4,489,000</b>	<b>2,972,947</b>	<b>2,225,490</b>	<b>2,538,067</b>	<b>3,219,108</b>	<b>2,147,874</b>	<b>1,582,259</b>	<b>1,832,931</b>	<b>1,451,995</b>	<b>12,279,722</b>	



**Table WW-A1  
Norfolk County  
Wastewater Service  
Capital Budget Forecast  
Inflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast								
				2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital Expenditures</b>												
<b>Linear Reconstruction</b>												
St. Andrew St - Chapman to McNab, Pt Dover-Rd Reconstruction	5531715	153,000	-	153,000	-	-	-	-	-	-	-	-
Evergreen Hill Rd - Queen St to Norfolk St, Simcoe	5532222	571,000	-	571,000	-	-	-	-	-	-	-	-
South Drive - John St to Queen St, Simcoe	5531828	391,000	-	391,000	-	-	-	-	-	-	-	-
Ann Street - Main to East, Delhi	5531906	234,000	234,000	-	-	-	-	-	-	-	-	-
Tyrell Street - Beckett to King, Simcoe	5531808	336,000	336,000	-	-	-	-	-	-	-	-	-
Bellevue Ave - Foster to Tyrell, Simcoe	5531905	82,000	82,000	-	-	-	-	-	-	-	-	-
Eagle Street - Norfolk Ave to Main St, Delhi	5532007	61,000	-	-	61,000	-	-	-	-	-	-	-
Norfolk Avenue - Western to Eagle, Delhi	5532008	107,000	-	-	107,000	-	-	-	-	-	-	-
Union Street - Queen to Norfolk Street, Simcoe	5532507	357,000	357,000	-	-	-	-	-	-	-	-	-
Colborne St N - Robinson to Windham, Simcoe	5531904	498,000	-	498,000	-	-	-	-	-	-	-	-
Dover Mills Rd - Prospect St to Cocks hutt Rd, Pt Dover	5532010	151,000	-	-	151,000	-	-	-	-	-	-	-
Regent Ave - Nelson St. to Greenock St., Port Dover	5532011	187,000	-	-	187,000	-	-	-	-	-	-	-
Wellington Street - Alice St. to Brown St., Waterford	5532017	389,000	-	-	389,000	-	-	-	-	-	-	-
Windham Street - Talbot St to West End, Simcoe	5532025	227,000	-	-	227,000	-	-	-	-	-	-	-
McNab Street - First Ave to West End, Port Dover	5532103	159,000	-	-	-	159,000	-	-	-	-	-	-
Brown Street - Main to Washington, Waterford	5532104	243,000	-	-	243,000	-	-	-	-	-	-	-
Carolyn Boulevard - Dora Dr to Sunset Dr, Simcoe	5532109	164,000	-	-	164,000	-	-	-	-	-	-	-
Sunset Drive - Dora Drive to Holden Ave, Simcoe	5532110	302,000	-	-	302,000	-	-	-	-	-	-	-
East Street - Ann to William, Delhi	5532111	95,000	-	-	95,000	-	-	-	-	-	-	-
Dora Drive - Holden Ave to Sunset Drive, Simcoe	5532112	190,000	-	-	190,000	-	-	-	-	-	-	-
Calvert Crescent - Dora to Carolyn, Simcoe	5532113	164,000	-	-	164,000	-	-	-	-	-	-	-
Sovereign Street - James St to East St, Delhi	5532122	90,000	-	-	90,000	-	-	-	-	-	-	-
Ann Street - James to East, Delhi	5532123	90,000	-	-	90,000	-	-	-	-	-	-	-
Deer Park Road - Sanitary Sewer at SPS, Waterford	5532210	370,000	-	-	52,000	318,000	-	-	-	-	-	-
Old Main St - Old Main St to Main St - WW, Wtfd	5532211	182,000	-	-	24,000	158,000	-	-	-	-	-	-
Hill St - Tyrell to Dead End, Simcoe	5532231	50,000	50,000	-	-	-	-	-	-	-	-	-
Union St - Bellevue to Dead End, Simcoe	5532232	35,000	35,000	-	-	-	-	-	-	-	-	-
Talbot Street - Maple to Windham, Simcoe	5532314	148,000	-	-	148,000	-	-	-	-	-	-	-
Head Street - Maple to Windham, Simcoe	5532107	151,000	-	-	-	151,000	-	-	-	-	-	-
Harris Street - Ridgewood Ave to Adams Ave, Delhi	5532209	237,000	-	-	-	237,000	-	-	-	-	-	-
Metcalfe Street - Maple St to Windham St, Simcoe	5532212	151,000	-	-	-	151,000	-	-	-	-	-	-
Harbour St-St. Andrew St to St. George St, Pt Dover	5532213	135,000	-	-	-	135,000	-	-	-	-	-	-
Gilbertson Dr - Queensway to Abandoned Railway, Simcoe	5532214	280,000	-	-	-	280,000	-	-	-	-	-	-
Queen Street - William St to Sovereign St, Delhi	5532223	54,000	-	-	-	54,000	-	-	-	-	-	-
Sovereign Street - East St to Queen St, Delhi	5532224	140,000	-	-	-	140,000	-	-	-	-	-	-
Talbot Street - Robinson St to Young, Simcoe	5532009	66,000	-	-	-	-	66,000	-	-	-	-	-
Leamon St - Nichol St. to Thompson Rd., Waterford	5532308	467,000	-	-	-	-	467,000	-	-	-	-	-
Spydell Street - Harris St. to Connaught Ave., Delhi	5532309	44,000	-	-	-	-	44,000	-	-	-	-	-
Potts Road - Oakwood to Victoria St, Simcoe	5532310	99,000	-	-	-	-	99,000	-	-	-	-	-
Homewood Ave - Oakwood to Victoria St, Simcoe	5532311	99,000	-	-	-	-	99,000	-	-	-	-	-



**Table WW-A1  
Norfolk County  
Wastewater Service  
Capital Budget Forecast  
Inflated \$**

Description	Project #	Total	Preliminary Budget 2021	Forecast								
				2022	2023	2024	2025	2026	2027	2028	2029	2030
Ridgewood Cres-Argyle St. to Connaught Ave, Delhi	5532313	82,000	-	-	-	-	-	82,000	-	-	-	-
Market St-Main to St Andrew Reconstruction Pt Dover	5532429	70,000	-	-	-	-	-	70,000	-	-	-	-
Park St- Main St to St. Andrew St Pt Dover Reconstruction	5532430	70,000	-	-	-	-	-	70,000	-	-	-	-
Colborne St N - Windham to Queensway, Simcoe	5532302	113,000	-	-	-	-	-	-	113,000	-	-	-
Oakwood Avenue - Potts to Victoria, Simcoe	5532415	282,000	-	-	-	-	-	-	282,000	-	-	-
Aberdeen Ave - Lansdowne to Church St., Delhi	5532416	90,000	-	-	-	-	-	-	90,000	-	-	-
West Church St - Main to Washington, Waterford	5532417	241,000	-	-	-	-	-	241,000	-	-	-	-
Adams Avenue - Aberdeen to Delcrest, Delhi	5532420	202,000	-	-	-	-	-	-	202,000	-	-	-
North Main Street - Colborne to Norfolk, Simcoe	5532421	56,000	-	-	-	-	-	-	56,000	-	-	-
Park Lane - Colborne to Norfolk, Simcoe	5532422	34,000	-	-	-	-	-	-	34,000	-	-	-
Peel Street - Waverly to Wilson, Delhi	5532425	325,000	-	-	-	-	-	-	325,000	-	-	-
East Church St-Main St to Duncombe Rd, Waterford	5532506	224,000	-	-	-	-	-	-	224,000	-	-	-
James St - Argyle Ave to Wilson Ave, Delhi	5532525	815,000	-	-	-	-	-	815,000	-	-	-	-
Church Street - James to Cloet, Delhi	5532306	742,000	-	-	-	-	-	-	-	742,000	-	-
Simcoe Boulevard - McCall to Wilson, Simcoe	5532511	86,000	-	-	-	-	-	-	-	86,000	-	-
Nelson Street - Main to St. Patrick St., Port Dover	5532512	125,000	-	-	-	-	-	-	-	125,000	-	-
Garden Street - Brock to South Dr., Simcoe	5532513	171,000	-	-	-	-	-	-	-	171,000	-	-
Monclair Cres - Duncombe to Duncombe, Waterford	5532602	314,000	-	-	-	-	-	-	-	314,000	-	-
South Drive - Oak to Head, Simcoe	5532616	377,000	-	-	-	-	-	-	-	377,000	-	-
Sylvia Street - Main St to east end, Waterford	5532411	192,000	-	-	-	-	-	-	-	-	192,000	-
Marshall Avenue - Northern to Adams, Delhi	5532612	291,000	-	-	-	-	-	-	-	-	291,000	-
Rosseau Drive - Garden to MacKay, Simcoe	5532613	131,000	-	-	-	-	-	-	-	-	131,000	-
MacKay Avenue - Garden to Queen, Simcoe	5532614	122,000	-	-	-	-	-	-	-	-	122,000	-
Washington St-Green St to Thompson Rd, Waterford	5532615	244,000	-	-	-	-	-	-	-	-	244,000	-
Grace St, Glenwood St, Drayton St, Sloan St, Pt Dover	5532705	394,000	-	-	-	-	-	-	-	-	394,000	-
Queen St - Queensway W to West St, Simcoe	5532706	477,000	-	-	-	-	-	-	-	-	-	477,000
Talbot St S. - Robinson St to South Dr, Simcoe	5532707	387,000	-	-	-	-	-	-	-	-	-	387,000
Connaught Ave - Northern Ave to Adams Ave, Delhi	5532801	270,000	-	-	-	-	-	-	-	-	-	270,000
Argyle Ave Ext-Huggins Ave to Fertilizer Rd, Delhi	5532514	220,000	-	-	-	-	220,000	-	-	-	-	-
<b>Wastewater Equipment Replacements/Upgrades Program</b>												
Sludge Storage Tank Coating - Port Dover	5832122	300,000	300,000	-	-	-	-	-	-	-	-	-
2022 Wastewater Equip Replacements & Upgrades	5832201	344,000	-	344,000	-	-	-	-	-	-	-	-
2023 Wastewater Equip Replacements & Upgrades	5832302	353,000	-	-	353,000	-	-	-	-	-	-	-
2024 Wastewater Equip Replacements & Upgrades	5832402	361,000	-	-	-	361,000	-	-	-	-	-	-
2025 Wastewater Equip Replacements & Upgrades	5832503	369,000	-	-	-	-	369,000	-	-	-	-	-
2026 Wastewater Equip Replacements & Upgrades	5832604	377,000	-	-	-	-	-	377,000	-	-	-	-
2027 Wastewater Equip Replacements & Upgrades	5832705	385,000	-	-	-	-	-	-	385,000	-	-	-
2028 Wastewater Equip Replacements & Upgrades	5832803	393,000	-	-	-	-	-	-	-	393,000	-	-
2029 Wastewater Equip Replacements & Upgrades	5832902	394,000	-	-	-	-	-	-	-	-	394,000	-
2030 Wastewater Equip Replacements & Upgrades	5833002	402,000	-	-	-	-	-	-	-	-	-	402,000
<b>Wastewater Reconstruction Program</b>												
Sewer Lateral Replacement - Simcoe	5832128	80,000	80,000	-	-	-	-	-	-	-	-	-



**Table WW-A1**  
**Norfolk County**  
**Wastewater Service**  
**Capital Budget Forecast**  
 Inflated \$

Description	Total	Preliminary Budget 2021	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Water Meter Replacements Program</b>												
Large Meter Replacement Program	50,000	50,000	-	-	-	-	-	-	-	-	-	-
<b>Supervisory Control &amp; Data Acquisition Replacements Program</b>												
2021 SCADA Replacements - Wastewater	174,000	174,000	-	-	-	-	-	-	-	-	-	-
2022 SCADA Replacements - Wastewater	84,000	-	84,000	-	-	-	-	-	-	-	-	-
2023 SCADA Replacements - Wastewater	70,000	-	-	70,000	-	-	-	-	-	-	-	-
2024 SCADA Replacements - Wastewater	215,000	-	-	-	215,000	-	-	-	-	-	-	-
2025 SCADA Replacements - Wastewater	116,000	-	-	-	-	116,000	-	-	-	-	-	-
2026 SCADA Replacements - Wastewater	96,000	-	-	-	-	-	96,000	-	-	-	-	-
2027 SCADA Replacements - Wastewater	234,000	-	-	-	-	-	-	234,000	-	-	-	-
2028 SCADA Replacements - Wastewater	124,000	-	-	-	-	-	-	-	124,000	-	-	-
2029 SCADA Replacements - Wastewater	103,000	-	-	-	-	-	-	-	-	103,000	-	-
2030 SCADA Replacements - Wastewater	200,000	-	-	-	-	-	-	-	-	-	-	200,000
<b>Other Replacements</b>												
Lynn River Forcemain Crossing	1,000,000	1,000,000	-	-	-	-	-	-	-	-	-	-
Hillside Drive Pumping Station Upgrades	1,171,000	150,000	1,021,000	-	-	-	-	-	-	-	-	-
Port Rowan Sludge Pump Replacement	35,000	35,000	-	-	-	-	-	-	-	-	-	-
Port Rowan WWTP - Membrane Filter	600,000	-	-	600,000	-	-	-	-	-	-	-	-
<b>Other New / Initiatives</b>												
GPS Locating Software Program	6,000	6,000	-	-	-	-	-	-	-	-	-	-
Port Dover Wastewater Outfall	1,500,000	1,500,000	-	-	-	-	-	-	-	-	-	-
Sewer Sampling Equipment	10,000	10,000	-	-	-	-	-	-	-	-	-	-
New Van for Environmental Service Technologist	40,000	40,000	-	-	-	-	-	-	-	-	-	-
Simcoe WWTP Filtration Building Replacement	2,038,000	-	-	-	250,000	1,788,000	-	-	-	-	-	-
Port Dover WWTP - Capacity Upgrades	15,000,000	-	-	-	-	-	-	-	-	-	-	15,000,000
<b>Other Studies &amp; Assessments</b>												
Backflow Prevention Study	35,000	35,000	-	-	-	-	-	-	-	-	-	-
Water & Wastewater Rate Study	38,000	-	-	-	-	38,000	-	-	-	-	-	-
Water & Wastewater Rate Study	41,000	-	-	-	-	-	-	-	-	41,000	-	-
ISMP Study - Delhi	15,000	15,000	-	-	-	-	-	-	-	-	-	-
ISMP Study - Waterford	15,000	-	15,000	-	-	-	-	-	-	-	-	-
ISMP Study - Port Dover	15,000	-	-	15,000	-	-	-	-	-	-	-	-
ISMP Study - Simcoe	15,000	-	-	-	15,000	-	-	-	-	-	-	-
ISMP Study - Port Rowan	15,000	-	-	-	-	15,000	-	-	-	-	-	-
ISMP Study - Major Update	25,000	-	-	-	-	-	25,000	-	-	-	-	-
<b>Total Capital Expenditures</b>	<b>41,934,000</b>	<b>4,489,000</b>	<b>3,077,000</b>	<b>2,384,000</b>	<b>2,814,000</b>	<b>3,694,000</b>	<b>2,551,000</b>	<b>1,945,000</b>	<b>2,332,000</b>	<b>1,912,000</b>	<b>16,736,000</b>	



**Table WW-A1**  
**Norfolk County**  
**Wastewater Service**  
**Capital Budget Forecast**  
 Inflated \$

Description	Total	Preliminary Budget 2021	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital Financing</b>											
Gas Tax Funds	-	-	-	-	-	-	-	-	-	-	-
Other Provincial/Federal Grants	19,000	-	-	-	-	19,000	-	-	-	-	-
Development Charges Reserve Fund	1,336,000	11,000	140,000	46,000	109,561	660,439	139,000	50,000	77,000	63,000	40,000
Non-Growth-Related Debenture Requirements	1,500,000	1,500,000	-	-	-	-	-	-	-	-	-
Growth-Related Debenture Requirements	15,000,000	-	-	-	-	-	-	-	-	-	15,000,000
Operating Contributions	91,584	91,584	-	-	-	-	-	-	-	-	-
Wastewater Reserve Fund	23,987,416	2,886,416	2,937,000	2,338,000	2,704,439	3,014,561	2,412,000	1,895,000	2,255,000	1,849,000	1,696,000
<b>Total Capital Financing</b>	<b>41,934,000</b>	<b>4,489,000</b>	<b>3,077,000</b>	<b>2,384,000</b>	<b>2,814,000</b>	<b>3,694,000</b>	<b>2,551,000</b>	<b>1,945,000</b>	<b>2,332,000</b>	<b>1,912,000</b>	<b>16,736,000</b>





**Table WW-A2**  
**Norfolk County**  
**Wastewater Service**  
**Schedule of Non-Growth Related Debenture Repayments**  
 Inflated \$

Debenture Year	Principal (Inflated)	Forecast										
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
2021	1,500,000		110,373	110,373	110,373	110,373	110,373	110,373	110,373	110,373	110,373	110,373
2022	-			-	-	-	-	-	-	-	-	-
2023	-											
2024	-											
2025	-											
2026	-											
2027	-											
2028	-											
2029	-											
2030	-											
<b>Total Annual Debt Charges</b>	<b>1,500,000</b>	<b>-</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>	<b>110,373</b>

**Table WW-A3**  
**Norfolk County**  
**Wastewater Service**  
**Schedule of Growth Related Debenture Repayments**  
 Inflated \$

Debenture Year	Principal (Inflated)	Forecast										
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
2021	-		-	-	-	-	-	-	-	-	-	-
2022	-			-	-	-	-	-	-	-	-	-
2023	-											
2024	-											
2025	-											
2026	-											
2027	-											
2028	-											
2029	-											
2030	15,000,000											
<b>Total Annual Debt Charges</b>	<b>15,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>



**Table WW-A4**  
**Norfolk County**  
**Wastewater Service**  
**Wastewater Reserves/ Reserve Funds Continuity**  
 Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(1,220,616)	805,168	3,045,152	3,610,761	4,392,543	5,447,999	7,852,478	11,569,576	15,780,521	21,313,987
Transfer from Operating	4,908,194	5,161,835	2,885,644	3,464,368	4,042,912	4,777,412	5,554,538	6,387,436	7,276,425	7,841,765
Transfer from Operating (Wastewater's Share of Roads Capital)	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Capital	2,886,416	2,937,000	2,338,000	2,704,439	3,014,561	2,412,000	1,895,000	2,255,000	1,849,000	1,696,000
Transfer to Roads Reserve Fund	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>801,162</b>	<b>3,030,002</b>	<b>3,592,797</b>	<b>4,370,690</b>	<b>5,420,895</b>	<b>7,813,411</b>	<b>11,512,016</b>	<b>15,702,011</b>	<b>21,207,947</b>	<b>27,459,751</b>
Interest	4,006	15,150	17,964	21,853	27,104	39,067	57,560	78,510	106,040	137,299

**Table WW-A5**  
**Norfolk County**  
**Wastewater Service**  
**Wastewater Development Charges Reserve Fund Continuity**  
 Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(1,787,500)	(1,939,808)	(2,242,912)	(2,437,105)	(2,667,379)	(3,435,207)	(3,703,346)	(3,867,014)	(4,041,325)	(4,206,246)
Development Charge Proceeds	654,207	667,302	680,690	694,246	708,096	683,964	697,647	711,609	704,165	718,262
Transfer to Capital	11,000	140,000	46,000	109,561	660,439	139,000	50,000	77,000	63,000	40,000
Transfer to Operating	785,864	819,248	816,757	801,689	798,395	794,678	792,077	788,814	785,159	781,403
<b>Closing Balance</b>	<b>(1,930,157)</b>	<b>(2,231,754)</b>	<b>(2,424,980)</b>	<b>(2,654,108)</b>	<b>(3,418,117)</b>	<b>(3,684,921)</b>	<b>(3,847,775)</b>	<b>(4,021,219)</b>	<b>(4,185,320)</b>	<b>(4,309,387)</b>
Interest	(9,651)	(11,159)	(12,125)	(13,271)	(17,091)	(18,425)	(19,239)	(20,106)	(20,927)	(21,547)
Required from Development Charges	11,000	140,000	46,000	109,561	660,439	139,000	50,000	77,000	63,000	15,040,000



**Table WW-A6  
Norfolk County  
Wastewater Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<b>Salaries &amp; Benefits</b>										
Distributed Salaries and Burden	628,316	640,900	653,700	666,800	680,100	693,700	707,600	721,700	736,200	750,900
<b>Materials &amp; Supplies</b>										
Materials & Supplies	12,553	12,800	13,100	13,300	13,600	13,900	14,100	14,400	14,700	15,000
Utilities	341,345	348,200	355,100	362,200	369,500	376,900	384,400	392,100	399,900	407,900
Maintenance & Repairs Supplies	14,297	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,800	17,100
Licenses & Permits	549	600	600	600	600	600	600	600	600	700
<b>Services</b>										
Rents/Leases	209,100	213,300	217,500	221,900	226,300	230,900	235,500	240,200	245,000	249,900
Professional/Consulting Services	10,699	10,900	11,100	11,400	11,600	11,800	12,000	12,300	12,500	12,800
Advertising/Promotional	2,359	2,400	2,500	2,500	2,600	2,600	2,700	2,700	2,800	2,800
Contracted Services	4,263,180	4,348,400	4,435,400	4,524,100	4,614,600	4,706,900	4,801,000	4,897,100	4,995,000	5,094,900
Seminars/Training	43,727	44,600	45,500	46,400	47,300	48,300	49,200	50,200	51,200	52,300
Maintenance & Repairs Services	48,752	49,700	50,700	51,700	52,800	53,800	54,900	56,000	57,100	58,300
<b>Transfer Payments/Grants</b>										
Subsidized/Waived Fees	27,750	28,300	28,900	29,400	30,000	30,600	31,300	31,900	32,500	33,200
<b>Interdepartmental Charges</b>										
Interdepartmental Charges Equipment	136,605	139,300	142,100	145,000	147,900	150,800	153,800	156,900	160,100	163,300
Interdepartmental Charges Accommodation	5,212	5,300	5,400	5,500	5,600	5,800	5,900	6,000	6,100	6,200
Interdepartmental Charges Support Services	472,601	482,100	491,700	501,500	511,600	521,800	532,200	542,900	553,700	564,800
<b>Financial</b>										
Write Offs/Adjustments	48,200	49,200	50,100	51,200	52,200	53,200	54,300	55,400	56,500	57,600
<b>Sub-Total Operating Costs</b>	<b>6,265,245</b>	<b>6,390,600</b>	<b>6,518,300</b>	<b>6,648,700</b>	<b>6,781,800</b>	<b>6,917,400</b>	<b>7,055,600</b>	<b>7,196,800</b>	<b>7,340,700</b>	<b>7,487,700</b>
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	596,398	639,471	647,404	643,080	651,005	659,106	668,477	677,921	687,578	697,760
Existing Debt (Interest) - Growth-Related	189,466	179,777	169,353	158,608	147,391	135,571	123,599	110,893	97,581	83,643
Existing Committed Debt (Principal) - Growth-Related	-	-	-	-	-	-	-	-	-	-
Existing Committed Debt (Interest) - Growth-Related	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth-Related	1,376,363	1,395,239	1,427,112	1,371,706	1,402,830	1,434,835	1,468,692	1,503,385	1,539,058	1,550,146
Existing Debt (Interest) - Non-Growth-Related	653,806	620,022	585,986	551,478	517,494	482,260	446,144	408,619	369,772	329,724
Existing Committed Debt (Principal) - Non-Growth-Related	-	-	1,294,745	1,333,612	1,373,646	1,414,883	1,457,358	1,501,109	1,546,175	1,592,594
Existing Committed Debt (Interest) - Non-Growth-Related	-	-	1,371,326	1,332,459	1,292,425	1,251,188	1,208,713	1,164,962	1,119,896	1,073,477
New Non-Growth-Related Debt (Principal)	-	50,373	52,388	54,483	56,662	58,929	61,286	63,737	66,287	68,938
New Non-Growth-Related Debt (Interest)	-	60,000	57,985	55,890	53,710	51,444	49,087	46,635	44,086	41,434
Transfer to Capital	91,584	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Wastewater's Share of Roads Capital)	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Capital Reserve	4,908,194	5,161,835	2,885,644	3,464,368	4,042,912	4,777,412	5,554,538	6,387,436	7,276,425	7,841,765
<b>Sub-Total Capital-Related</b>	<b>8,217,811</b>	<b>8,516,717</b>	<b>8,910,143</b>	<b>9,392,284</b>	<b>9,973,175</b>	<b>10,709,429</b>	<b>11,490,595</b>	<b>12,326,497</b>	<b>13,217,859</b>	<b>13,759,882</b>
<b>Total Expenditures</b>	<b>14,483,056</b>	<b>14,907,317</b>	<b>15,428,443</b>	<b>16,040,984</b>	<b>16,754,975</b>	<b>17,626,829</b>	<b>18,546,195</b>	<b>19,523,297</b>	<b>20,558,559</b>	<b>21,247,582</b>



**Table WW-A6  
Norfolk County  
Wastewater Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	7,400	7,500	7,700	7,900	8,000	8,200	8,300	8,500	8,700	8,800
Other Revenue (Permits, Misc. Charges, etc.)	37,626	38,400	39,100	39,900	40,700	41,500	42,400	43,200	44,100	45,000
Contributions from Development Charges Reserve Fund	785,864	819,248	816,757	801,689	798,395	794,678	792,077	788,814	785,159	781,403
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>830,891</b>	<b>865,148</b>	<b>863,557</b>	<b>849,489</b>	<b>847,095</b>	<b>844,378</b>	<b>842,777</b>	<b>840,514</b>	<b>837,959</b>	<b>835,203</b>
<b>Wastewater Billing Recovery</b>										
Base Charges	6,502,194	6,981,737	7,496,090	8,047,258	8,638,863	9,269,972	9,942,415	10,663,666	11,435,926	12,022,285
Consumptive Charges	5,926,439	6,108,990	6,296,851	6,489,030	6,687,938	6,905,774	7,127,220	7,356,757	7,592,097	7,679,759
Flat Rates	117,450	122,314	127,427	132,804	138,462	144,579	151,017	157,796	164,937	169,077
Standby Charges	43,091	45,870	48,829	51,979	55,331	58,900	62,699	66,743	71,048	74,148
Holding Tank/Septic Disposal Charges	187,770	191,911	196,142	200,467	204,888	213,321	222,230	231,623	241,553	247,118
Leachate Disposal Charges	875,220	591,348	399,547	269,957	182,398	189,905	197,837	206,198	215,039	219,992
<b>Sub-Total Wastewater Billing Recovery</b>	<b>13,652,165</b>	<b>14,042,169</b>	<b>14,564,887</b>	<b>15,191,495</b>	<b>15,907,880</b>	<b>16,782,451</b>	<b>17,703,418</b>	<b>18,682,783</b>	<b>19,720,600</b>	<b>20,412,379</b>
<b>Total Revenues</b>	<b>14,483,056</b>	<b>14,907,317</b>	<b>15,428,443</b>	<b>16,040,984</b>	<b>16,754,975</b>	<b>17,626,829</b>	<b>18,546,195</b>	<b>19,523,297</b>	<b>20,558,559</b>	<b>21,247,582</b>

**Table WW-A7  
Norfolk County  
Wastewater Services  
Wastewater Rate Forecast  
Inflated \$**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 2.190	\$ 2.242	\$ 2.294	\$ 2.348	\$ 2.404	\$ 2.466	\$ 2.529	\$ 2.595	\$ 2.661	\$ 2.677
Annual Increase (%)	5.5%	2.4%	2.4%	2.4%	2.4%	2.6%	2.6%	2.6%	2.6%	0.6%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 33.88	\$ 36.06	\$ 38.39	\$ 40.86	\$ 43.50	\$ 46.31	\$ 49.29	\$ 52.47	\$ 55.86	\$ 58.29
25 mm	\$ 56.19	\$ 59.81	\$ 63.67	\$ 67.78	\$ 72.15	\$ 76.80	\$ 81.76	\$ 87.03	\$ 92.64	\$ 96.69
40 mm	\$ 94.06	\$ 100.13	\$ 106.59	\$ 113.46	\$ 120.78	\$ 128.57	\$ 136.86	\$ 145.69	\$ 155.09	\$ 161.85
50 mm	\$ 237.42	\$ 252.73	\$ 269.03	\$ 286.39	\$ 304.86	\$ 324.52	\$ 345.45	\$ 367.73	\$ 391.45	\$ 408.53
75 mm	\$ 273.87	\$ 291.53	\$ 310.34	\$ 330.35	\$ 351.66	\$ 374.34	\$ 398.49	\$ 424.19	\$ 451.55	\$ 471.25
100 mm	\$ 536.26	\$ 570.85	\$ 607.67	\$ 646.86	\$ 688.59	\$ 733.00	\$ 780.28	\$ 830.61	\$ 884.18	\$ 922.76
150 mm	\$ 963.10	\$ 1,025.22	\$ 1,091.34	\$ 1,161.73	\$ 1,236.67	\$ 1,316.43	\$ 1,401.34	\$ 1,491.73	\$ 1,587.94	\$ 1,657.22
Annual Increase (%)	8.6%	6.5%	6.5%	6.5%	6.5%	6.5%	6.4%	6.5%	6.5%	4.4%
<b>Special Charges</b>										
Holding Tank/Septic Disposal Rate (per m <sup>3</sup> )	\$ 17.00	\$ 17.38	\$ 17.76	\$ 18.15	\$ 18.55	\$ 19.32	\$ 20.12	\$ 20.97	\$ 21.87	\$ 22.38
Leachate Disposal Rate (per m <sup>3</sup> )	\$ 20.23	\$ 13.67	\$ 9.24	\$ 6.24	\$ 4.22	\$ 4.39	\$ 4.57	\$ 4.77	\$ 4.97	\$ 5.09
Annual Percent Increase - Septic Disposal Rate	n/a	2.2%	2.2%	2.2%	2.2%	4.1%	4.2%	4.2%	4.3%	2.3%
Annual Percent Increase - Leachate Disposal Rate	-31.1%	-32.4%	-32.4%	-32.4%	-32.4%	4.1%	4.2%	4.2%	4.3%	2.3%



**Table WW-B4  
Norfolk County  
Wastewater Service  
Wastewater Reserves/ Reserve Funds Continuity  
Inflated \$**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(1,220,616)	1,076,711	4,277,901	5,621,734	6,972,788	8,361,511	10,812,157	14,256,174	17,840,039	22,354,783
Transfer from Operating	5,178,386	6,116,907	3,653,864	4,020,802	4,361,685	4,808,854	5,268,091	5,750,108	6,252,526	6,800,991
Transfer from Operating (Wastewater's Share of Roads Capital)	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Capital	2,886,416	2,937,000	2,338,000	2,704,439	3,014,561	2,412,000	1,895,000	2,255,000	1,849,000	1,696,000
Transfer to Roads Reserve Fund	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>1,071,354</b>	<b>4,256,618</b>	<b>5,593,765</b>	<b>6,938,098</b>	<b>8,319,912</b>	<b>10,758,365</b>	<b>14,185,248</b>	<b>17,751,283</b>	<b>22,243,565</b>	<b>27,459,774</b>
Interest	5,357	21,283	27,969	34,690	41,600	53,792	70,926	88,756	111,218	137,299

**Table WW-B5  
Norfolk County  
Wastewater Service  
Wastewater Development Charges Reserve Fund Continuity  
Inflated \$**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(1,787,500)	(1,939,808)	(2,242,912)	(2,437,105)	(2,667,379)	(3,435,207)	(3,703,346)	(3,867,014)	(4,041,325)	(4,206,246)
Development Charge Proceeds	654,207	667,302	680,690	694,246	708,096	683,964	697,647	711,609	704,165	718,262
Transfer to Capital	11,000	140,000	46,000	109,561	660,439	139,000	50,000	77,000	63,000	40,000
Transfer to Operating	785,864	819,248	816,757	801,689	798,395	794,678	792,077	788,814	785,159	781,403
<b>Closing Balance</b>	<b>(1,930,157)</b>	<b>(2,231,754)</b>	<b>(2,424,980)</b>	<b>(2,654,108)</b>	<b>(3,418,117)</b>	<b>(3,684,921)</b>	<b>(3,847,775)</b>	<b>(4,021,219)</b>	<b>(4,185,320)</b>	<b>(4,309,387)</b>
Interest	(9,651)	(11,159)	(12,125)	(13,271)	(17,091)	(18,425)	(19,239)	(20,106)	(20,927)	(21,547)
Required from Development Charges	11,000	140,000	46,000	109,561	660,439	139,000	50,000	77,000	63,000	15,040,000



**Table WW-B6  
Norfolk County  
Wastewater Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>EXPENDITURES</b>										
<b>Operating Costs</b>										
<b>Salaries &amp; Benefits</b>										
Distributed Salaries and Burden	628,316	640,900	653,700	666,800	680,100	693,700	707,600	721,700	736,200	750,900
<b>Materials &amp; Supplies</b>										
Materials & Supplies	12,553	12,800	13,100	13,300	13,600	13,900	14,100	14,400	14,700	15,000
Utilities	341,345	348,200	355,100	362,200	369,500	376,900	384,400	392,100	399,900	407,900
Maintenance & Repairs Supplies	14,297	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,800	17,100
Licenses & Permits	549	600	600	600	600	600	600	600	600	700
<b>Services</b>										
Rents/Leases	209,100	213,300	217,500	221,900	226,300	230,900	235,500	240,200	245,000	249,900
Professional/Consulting Services	10,699	10,900	11,100	11,400	11,600	11,800	12,000	12,300	12,500	12,800
Advertising/Promotional	2,359	2,400	2,500	2,500	2,600	2,600	2,700	2,700	2,800	2,800
Contracted Services	4,263,180	4,348,400	4,435,400	4,524,100	4,614,600	4,706,900	4,801,000	4,897,100	4,995,000	5,094,900
Seminars/Training	43,727	44,600	45,500	46,400	47,300	48,300	49,200	50,200	51,200	52,300
Maintenance & Repairs Services	48,752	49,700	50,700	51,700	52,800	53,800	54,900	56,000	57,100	58,300
<b>Transfer Payments/Grants</b>										
Subsidized/Waived Fees	27,750	28,300	28,900	29,400	30,000	30,600	31,300	31,900	32,500	33,200
<b>Interdepartmental Charges</b>										
Interdepartmental Charges Equipment	136,605	139,300	142,100	145,000	147,900	150,800	153,800	156,900	160,100	163,300
Interdepartmental Charges Accommodation	5,212	5,300	5,400	5,500	5,600	5,800	5,900	6,000	6,100	6,200
Interdepartmental Charges Support Services	472,601	482,100	491,700	501,500	511,600	521,800	532,200	542,900	553,700	564,800
<b>Financial</b>										
Write Offs/Adjustments	48,200	49,200	50,100	51,200	52,200	53,200	54,300	55,400	56,500	57,600
<b>Sub-Total Operating Costs</b>	<b>6,265,245</b>	<b>6,390,600</b>	<b>6,518,300</b>	<b>6,648,700</b>	<b>6,781,800</b>	<b>6,917,400</b>	<b>7,055,600</b>	<b>7,196,800</b>	<b>7,340,700</b>	<b>7,487,700</b>
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth-Related	596,398	639,471	647,404	643,080	651,005	659,106	668,477	677,921	687,578	697,760
Existing Debt (Interest) - Growth-Related	189,466	179,777	169,353	158,608	147,391	135,571	123,599	110,893	97,581	83,643
Existing Committed Debt (Principal) - Growth-Related	-	-	-	-	-	-	-	-	-	-
Existing Committed Debt (Interest) - Growth-Related	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-
New Growth-Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth-Related	1,376,363	1,395,239	1,427,112	1,371,706	1,402,830	1,434,835	1,468,692	1,503,385	1,539,058	1,550,146
Existing Debt (Interest) - Non-Growth-Related	653,806	620,022	585,986	551,478	517,494	482,260	446,144	408,619	369,772	329,724
Existing Committed Debt (Principal) - Non-Growth-Related	-	-	1,294,745	1,333,612	1,373,646	1,414,883	1,457,358	1,501,109	1,546,175	1,592,594
Existing Committed Debt (Interest) - Non-Growth-Related	-	-	1,371,326	1,332,459	1,292,425	1,251,188	1,208,713	1,164,962	1,119,896	1,073,477
New Non-Growth-Related Debt (Principal)	-	50,373	52,388	54,483	56,662	58,929	61,286	63,737	66,287	68,938
New Non-Growth-Related Debt (Interest)	-	60,000	57,985	55,890	53,710	51,444	49,087	46,635	44,086	41,434
Transfer to Capital	91,584	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve (Wastewater's Share of Roads Capital)	402,000	410,000	418,200	426,600	435,100	443,800	452,700	461,800	471,000	480,400
Transfer to Capital Reserve	5,178,386	6,116,907	3,653,864	4,020,802	4,361,685	4,808,854	5,268,091	5,750,108	6,252,526	6,800,991
<b>Sub-Total Capital-Related</b>	<b>8,488,003</b>	<b>9,471,789</b>	<b>9,678,363</b>	<b>9,948,718</b>	<b>10,291,948</b>	<b>10,740,870</b>	<b>11,204,148</b>	<b>11,689,170</b>	<b>12,193,959</b>	<b>12,719,108</b>
<b>Total Expenditures</b>	<b>14,753,248</b>	<b>15,862,389</b>	<b>16,196,663</b>	<b>16,597,418</b>	<b>17,073,748</b>	<b>17,658,270</b>	<b>18,259,748</b>	<b>18,885,970</b>	<b>19,534,659</b>	<b>20,206,808</b>



**Table WW-B6  
Norfolk County  
Wastewater Services  
Operating Budget Forecast  
Inflated \$**

Description	Preliminary Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>REVENUES</b>										
<b>Operating Revenues</b>										
PIL's-Supplementaries-Local Improvements	7,400	7,500	7,700	7,900	8,000	8,200	8,300	8,500	8,700	8,800
Other Revenue (Permits, Misc. Charges, etc.)	37,626	38,400	39,100	39,900	40,700	41,500	42,400	43,200	44,100	45,000
Contributions from Development Charges Reserve Fund	785,864	819,248	816,757	801,689	798,395	794,678	792,077	788,814	785,159	781,403
Contributions from Reserves/Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Sub-Total Operating Revenues</b>	<b>830,891</b>	<b>865,148</b>	<b>863,557</b>	<b>849,489</b>	<b>847,095</b>	<b>844,378</b>	<b>842,777</b>	<b>840,514</b>	<b>837,959</b>	<b>835,203</b>
<b>Wastewater Billing Recovery</b>										
Base Charges	6,707,059	7,577,187	7,944,346	8,328,180	8,730,469	9,148,256	9,581,435	10,035,154	10,509,152	11,004,298
Consumptive Charges	6,002,394	6,462,036	6,607,859	6,755,454	6,907,236	7,060,153	7,212,927	7,369,999	7,528,916	7,689,677
Flat Rates	119,913	130,882	134,325	137,877	141,543	145,326	149,231	153,262	157,423	161,719
Standby Charges	44,449	49,783	51,749	53,793	55,918	58,127	60,423	62,809	65,290	67,869
Holding Tank/Septic Disposal Charges	185,218	190,464	195,858	201,405	207,110	212,689	218,468	224,434	230,617	237,029
Leachate Disposal Charges	863,324	586,890	398,969	271,220	184,376	189,343	194,488	199,798	205,302	211,011
<b>Sub-Total Wastewater Billing Recovery</b>	<b>13,922,357</b>	<b>14,997,241</b>	<b>15,333,106</b>	<b>15,747,929</b>	<b>16,226,652</b>	<b>16,813,893</b>	<b>17,416,972</b>	<b>18,045,456</b>	<b>18,696,700</b>	<b>19,371,605</b>
<b>Total Revenues</b>	<b>14,753,248</b>	<b>15,862,389</b>	<b>16,196,663</b>	<b>16,597,418</b>	<b>17,073,748</b>	<b>17,658,270</b>	<b>18,259,748</b>	<b>18,885,970</b>	<b>19,534,659</b>	<b>20,206,808</b>

**Table WW-B7  
Norfolk County  
Wastewater Services  
Wastewater Rate Forecast  
Inflated \$**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Consumptive Charges</b>										
Consumptive Rate (\$/m <sup>3</sup> )	\$ 2.218	\$ 2.371	\$ 2.408	\$ 2.445	\$ 2.483	\$ 2.521	\$ 2.560	\$ 2.599	\$ 2.639	\$ 2.680
Annual Increase (%)	6.9%	6.9%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
<b>Monthly Base Charge</b>										
15/19 mm	\$ 34.94	\$ 39.14	\$ 40.68	\$ 42.29	\$ 43.96	\$ 45.70	\$ 47.50	\$ 49.38	\$ 51.33	\$ 53.36
25 mm	\$ 57.96	\$ 64.92	\$ 67.48	\$ 70.14	\$ 72.92	\$ 75.80	\$ 78.79	\$ 81.90	\$ 85.14	\$ 88.50
40 mm	\$ 97.03	\$ 108.67	\$ 112.96	\$ 117.42	\$ 122.06	\$ 126.88	\$ 131.89	\$ 137.10	\$ 142.52	\$ 148.15
50 mm	\$ 244.90	\$ 274.29	\$ 285.12	\$ 296.38	\$ 308.09	\$ 320.26	\$ 332.91	\$ 346.06	\$ 359.73	\$ 373.94
75 mm	\$ 282.50	\$ 316.40	\$ 328.90	\$ 341.89	\$ 355.39	\$ 369.43	\$ 384.02	\$ 399.19	\$ 414.96	\$ 431.35
100 mm	\$ 553.16	\$ 619.54	\$ 644.01	\$ 669.45	\$ 695.89	\$ 723.38	\$ 751.95	\$ 781.65	\$ 812.53	\$ 844.62
150 mm	\$ 993.44	\$ 1,112.65	\$ 1,156.60	\$ 1,202.29	\$ 1,249.78	\$ 1,299.15	\$ 1,350.46	\$ 1,403.80	\$ 1,459.25	\$ 1,516.90
Annual Increase (%)	12.0%	12.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Special Charges</b>										
Holding Tank/Septic Disposal Rate (per m <sup>3</sup> )	\$ 16.77	\$ 17.25	\$ 17.74	\$ 18.24	\$ 18.76	\$ 19.26	\$ 19.78	\$ 20.32	\$ 20.88	\$ 21.46
Leachate Disposal Rate (per m <sup>3</sup> )	\$ 19.96	\$ 13.57	\$ 9.22	\$ 6.27	\$ 4.26	\$ 4.38	\$ 4.50	\$ 4.62	\$ 4.75	\$ 4.88
Annual Percent Increase - Septic Disposal Rate	n/a	2.8%	2.8%	2.8%	2.8%	2.7%	2.7%	2.7%	2.8%	2.8%
Annual Percent Increase - Leachate Disposal Rate	-32.0%	-32.0%	-32.0%	-32.0%	-32.0%	2.7%	2.7%	2.7%	2.8%	2.8%