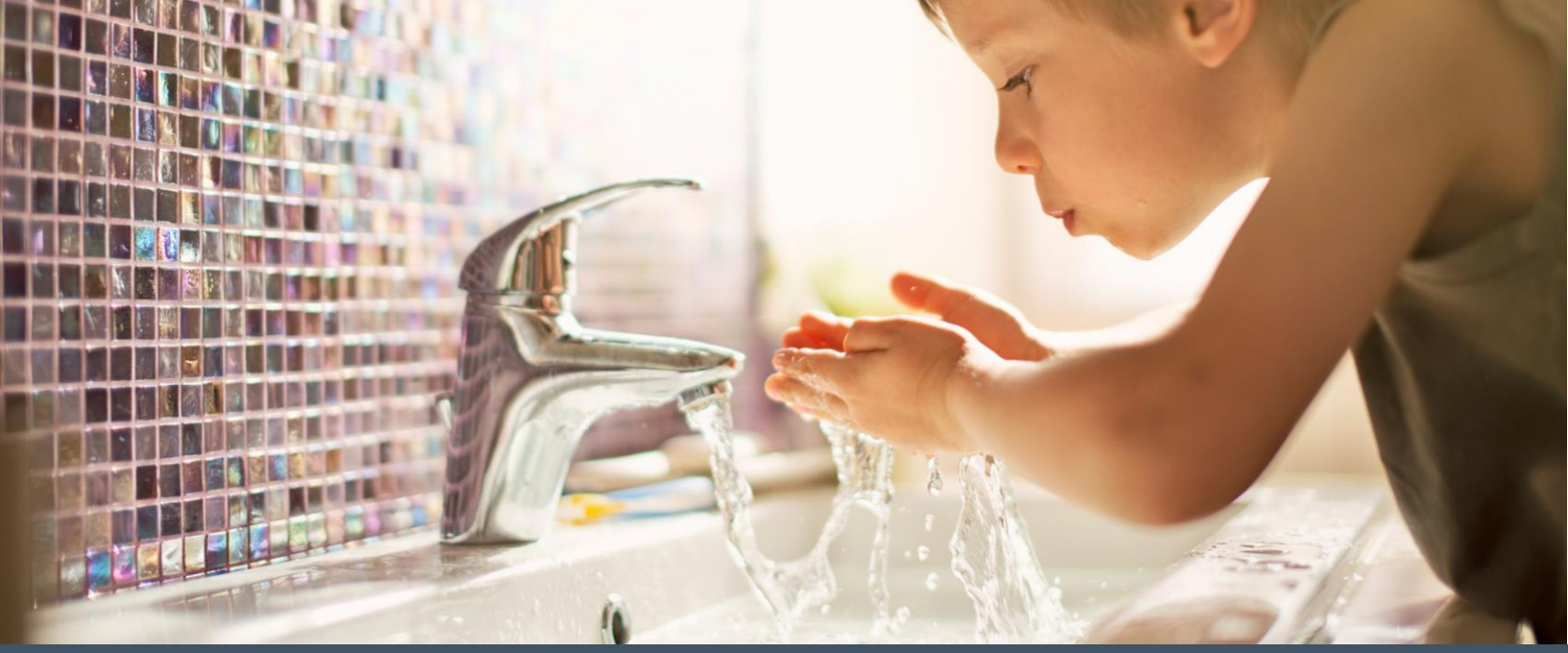

Water and Wastewater Rate Study

Town of Minto

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List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
D.C.	Development Charges
G.I.S.	Geographic Information System
L.P.A.T.	Local Planning Appeals Tribunal
M.P.A.C.	Municipal Property Assessment Corporation
O.Reg.	Ontario Regulation
P.S.A.B.	Public Sector Accounting Board
S.D.W.A.	Safe Drinking Water Act

Report

Chapter 1
Introduction

1. Introduction

1.1 Background

The Town of Minto has a present population of approximately 9,000 people and contains approximately 3,400 households. There are approximately 2,948 water customers and 2,840 wastewater customers[1] using the municipal systems.

Metered customers are charged a monthly base charge that varies based on meter size and a consumptive rate for both water and wastewater. The Town imposes a decreasing block rate structure (i.e. a consumptive rate that decreases with consumption within defined thresholds per bi-monthly billing cycle) for consumption. For unmetered customers, the Town imposes a flat rate monthly. Furthermore, an additional charge is imposed on a per unit basis for properties with multiple units on a shared meter. Billing is on a bi-monthly basis. The water and wastewater rates currently imposed are summarized below in Table 1-1.

[1] Reflects the number of customers who pay a monthly base charge i.e. metered, unmetered (flat rate), and multiple unit properties.

Table 1-1
Town of Minto
2021 Water and Wastewater Rates

Water Billing Rates		
Base Charge		
¾"	$	23.00
1"	$	25.00
1 ½"	$	29.00
2"	$	34.00
3"	$	36.50
4" +	$	44.00
Volume Charge (per m^3)		
0-250m^3	$	2.49
250 - 500m^3	$	1.79
501-3,000m^3	$	1.53
3,000m^3+	$	0.50
Unmetered/Flat Rate (per month)		
Unmetered/Flat Rate	$	58.30
Multiple Units Rate (per unit)		
Multiple Units	$	7.50

Wastewater Billing Rates		
Base Charge		
¾"	$	23.00
1"	$	25.00
1 ½"	$	29.00
2"	$	34.00
3"	$	36.50
4" +	$	44.00
Volume Charge (per m^3)		
0-250m^3	$	3.15
250 - 500m^3	$	2.30
501-3,000m^3	$	1.95
3,000m^3+	$	0.52
Volume Charge (per m^3)		
Unmetered/Flat Rate	$	66.70
Multiple Units Rate (per unit)		
Multiple Units	$	7.50

1.2 Study Process

The Town retained Watson & Associates Economists Ltd. (Watson) to undertake a water and wastewater rate study and prepare a Water Financial Plan in accordance with Ontario Regulation (O.Reg.) 453/07. This current study is an update to the Town's 2015 Water and Wastewater Rate Study (2015 Rate Study) and 2016 Water & Wastewater Consumption and Rate Update. 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 Town's 2020 Development Charges (D.C.) Background Study report and adjusted to reflect the actual historical growth experienced in recent years;
- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications;

- Build a capital program that blends lifecycle needs arising from the Town's Asset Management Plan with specific needs identified by Town staff, and the Town's 2020 D.C. Background Study
- Identify potential methods of cost recovery for the capital needs listing. These recovery methods may include other statutory authorities (e.g. *Development Charges Act, 1997* (D.C.A.), *Municipal Act*, etc.) as an offset to recovery through the water and wastewater rates;
- Forecast annual operating costs and rate-based funding requirements;
- Provide an impact assessment on the rate payers;
- Develop an equitable long-term water and wastewater rate forecast;
- Present findings to staff and Council for their consideration; and
- Prepare a water financial plan that satisfies the requirements of O. Reg. 453/07.

In approaching this study, the following analysis in 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

Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario. These changes arose as a result of 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 the 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 licence each water system.

1.3.3 Financial Plans Regulation

On August 16, 2007, the Ministry of Environment introduced 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. can be updated if there are significant changes to budgets) but will need to be undertaken at a minimum every five years.
- The plans generally require the forecasting of capital, operating and reserve fund positions, 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. However, many of the prescriptive requirements 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 Bill 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:

- 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.

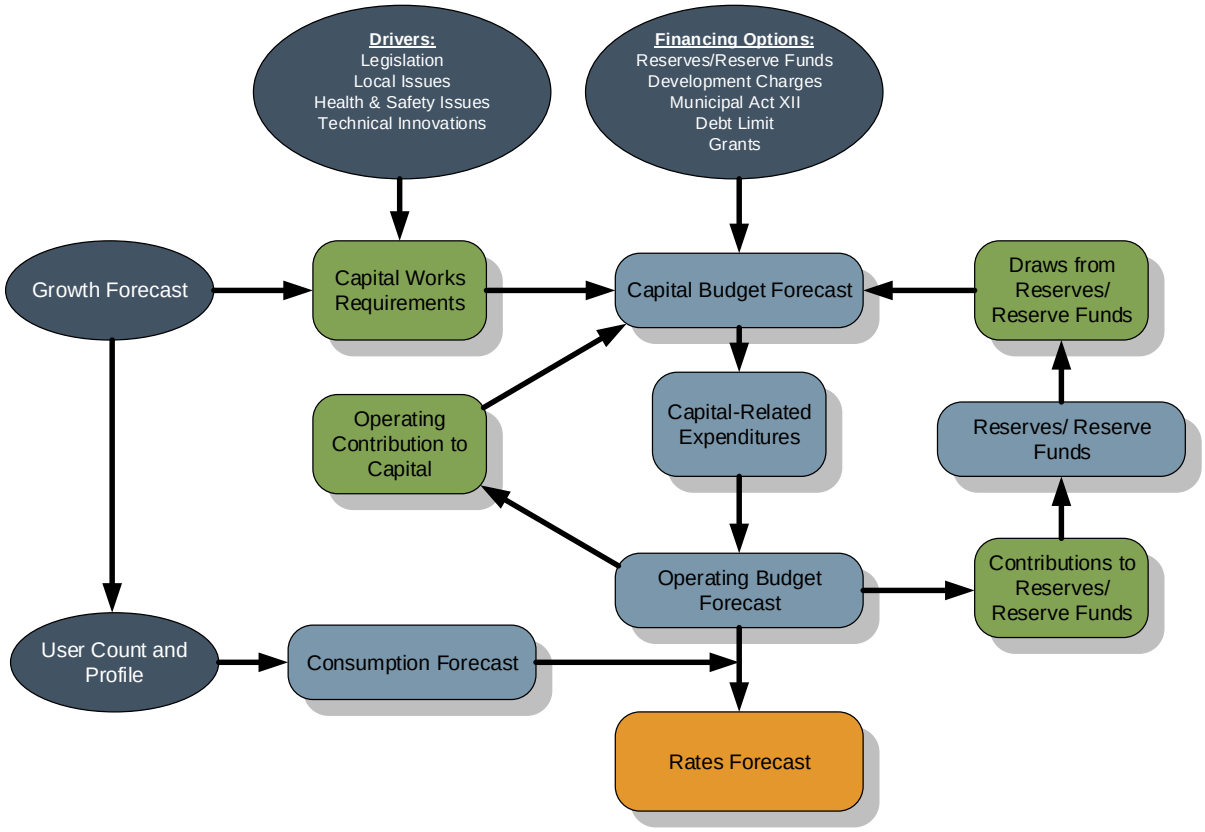
Regulations will prescribe:

- Timing;
- Contents of the plans;
- Identifying what portions of the plan 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 5 major elements:

1.4.1 Customer Demands and Consumption Forecast

As noted in Section 1.1, the Town employs a rate structure consisting of a monthly base charge and consumptive rate. The base charge is imposed based on meter size with higher charges imposed for larger meters, generally reflective of higher average consumption and greater capital infrastructure demands. The consumptive rate is imposed at a decreasing rate based on consumption.

This first step in the analysis is important as it produces the current revenue by source and assumptions for forecasting purposes. The base charge revenues are forecast with customer growth. The customer profile forecast is modeled with consideration of the growth forecast identified in the Town's 2020 D.C. Background Study and historical growth witnessed from 2016-2019.

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 class drawn from 2019 billing records. Consistent with the customer forecast, the water consumption forecast used to determine the wastewater consumptive rates is adjusted to reflect differences in the number of customers with wastewater services.

1.4.2 Capital Needs Forecast

The capital needs forecast is developed to measure program/service level adjustments, lifecycle requirements, and growth-related needs. The Town's Asset Management Plan, and Capital Budget and Forecast provided the base capital forecast. Included in the capital forecast are the growth-related needs identified in the Town's 2020 D.C. Background 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 development charges 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 the Town's debt policies and 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 Town'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.

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

The Town provided Watson with historical water consumption records for the period 2016-2019. This information was analyzed to develop a forecast of Town's water and wastewater customers, and associated water demands for the period 2021-2030. The profile of existing customers is summarized in Table 2-1.

Table 2-1
Town of Minto
2020 Customer Profile

Description	Water	Wastewater
Metered		
¾"	2,244	2,178
1"	46	39
1 ½"	21	20
2"	21	20
3"	4	3
4" +	-	-
Total Metered Customers	**2,336**	**2,260**
Non-Metered		
Flat Rate Customers	3	4
Multiple Units		
Number of Units	609	576
Total Customers	**2,948**	**2,840**

From 2016 to 2019, the Town's water and wastewater customer base grew by approximately 32 customers annually, on average. This historical rate of growth was applied to the existing customer base to develop a 10-year forecast of water and wastewater customers. It is noted that this produces a more conservative growth forecast relative to the projections identified in the Town's 2020 D.C. Background Study for the urban service area. However, through discussions with Town staff it was determined that a more conservative estimate is appropriate for developing the financial plan and rate forecast.

In total, the number of metered water system customers is anticipated to increase by 352 residential customers over the forecast period to 2030. This results in an increase from 2,352 metered customers in 2020 to 2,672 in 2030 for the municipal water system. The growth forecast estimates are based on historical growth on the water system witnessed between 2016-2019

It is anticipated that all new water customers will also have municipal wastewater services. As a result, the number of wastewater customers will increase from 2,276 metered customers in 2020 to 2,596 by 2030. Table 2-1 provides the Town water and wastewater customer growth forecast for the period 2020-2030.

Table 2-1
Town of Minto
Water and Wastewater Customer Forecast (2020-2030)

Water Customer Forecast	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	2,336	2,336	2,336	2,336	2,336	2,336	2,336	2,336	2,336	2,336	2,336
New - Growth	16	48	80	112	144	176	208	240	272	304	336
Total	**2,352**	**2,384**	**2,416**	**2,448**	**2,480**	**2,512**	**2,544**	**2,576**	**2,608**	**2,640**	**2,672**

Wastewater Customer Forecast	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260
New - Growth	16	48	80	112	144	176	208	240	272	304	336
Total	**2,276**	**2,308**	**2,340**	**2,372**	**2,404**	**2,436**	**2,468**	**2,500**	**2,532**	**2,564**	**2,596**

2.2 Forecast Service Demands

As previously mentioned, the Town's historical billing records for 2016-2019 were analysed to identify the consumption patterns since the Town implemented the current rate structure in 2015. Based on a review of those data and discussions with staff, it was determined that 2019 consumption levels were more reflective of the anticipated consumption of new customers connecting to the systems.

The average annual consumption levels by customer type were applied to the Town's growth projections for the urban service area to forecast future service demands.

Total water consumption by the Town's 2,336 metered customers was estimated to be 562,111m^3 in 2020. Annual consumption by new residential customers was estimated to be 137m^3 per customer based on the 2019 consumption. In addition, a provision for

additional consumption within the non-residential sector has been built into the forecast. It is estimated that the additional consumption within the non-residential sector would be occurring in the third and fourth consumption blocks.

Applying the average volume of usage estimates to new residential customers as well as the estimated incremental consumption by non-residential customers, results in an estimated increase in water consumption from 562,111m^3 currently to 613,541m^3 by 2030 (an average annual increase of 0.9%). Table 2-2 provides the detailed consumption and flow forecast.

Table 2-2
Town of Minto
Water and Wastewater Consumption Forecast (2020-2030)

Water Volume Forecast (m^3)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1											
Existing	403,644	403,644	403,644	403,644	403,644	403,644	403,644	403,644	403,644	403,644	403,644
New	2,192	6,576	10,960	15,344	19,728	24,112	28,496	32,880	37,264	41,648	46,032
Subtotal Block 1	**405,836**	**410,220**	**414,604**	**418,988**	**423,372**	**427,756**	**432,140**	**436,524**	**440,908**	**445,292**	**449,676**
Block 2											
Existing	28,513	28,513	28,513	28,513	28,513	28,513	28,513	28,513	28,513	28,513	28,513
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	**28,513**	**28,513**	**28,513**	**28,513**	**28,513**	**28,513**	**28,513**	**28,513**	**28,513**	**28,513**	**28,513**
Block 3											
Existing	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839
New	-	-	-	-	1,290	1,290	1,290	1,290	1,290	1,290	1,290
Subtotal Block 3	**66,839**	**66,839**	**66,839**	**66,839**	**68,129**	**68,129**	**68,129**	**68,129**	**68,129**	**68,129**	**68,129**
Block 4											
Existing	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923
New	-	-	-	-	6,300	6,300	6,300	6,300	6,300	6,300	6,300
Subtotal Block 4	**60,923**	**60,923**	**60,923**	**60,923**	**67,223**	**67,223**	**67,223**	**67,223**	**67,223**	**67,223**	**67,223**
Total	**562,111**	**566,495**	**570,879**	**575,263**	**587,237**	**591,621**	**596,005**	**600,389**	**604,773**	**609,157**	**613,541**

Wastewater Flows Forecast (m^3)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1											
Existing	386,473	386,473	386,473	386,473	386,473	386,473	386,473	386,473	386,473	386,473	386,473
New	2,192	6,576	10,960	15,344	19,728	24,112	28,496	32,880	37,264	41,648	46,032
Subtotal Block 1	**388,665**	**393,049**	**397,433**	**401,817**	**406,201**	**410,585**	**414,969**	**419,353**	**423,737**	**428,121**	**432,505**
Block 2											
Existing	27,647	27,647	27,647	27,647	27,647	27,647	27,647	27,647	27,647	27,647	27,647
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	**27,647**	**27,647**	**27,647**	**27,647**	**27,647**	**27,647**	**27,647**	**27,647**	**27,647**	**27,647**	**27,647**
Block 3											
Existing	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839	66,839
New	-	-	-	-	1,290	1,290	1,290	1,290	1,290	1,290	1,290
Subtotal Block 3	**66,839**	**66,839**	**66,839**	**66,839**	**68,129**	**68,129**	**68,129**	**68,129**	**68,129**	**68,129**	**68,129**
Block 4											
Existing	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923	60,923
New	-	-	-	-	6,300	6,300	6,300	6,300	6,300	6,300	6,300
Subtotal Block 4	**60,923**	**60,923**	**60,923**	**60,923**	**67,223**	**67,223**	**67,223**	**67,223**	**67,223**	**67,223**	**67,223**
Total	**544,074**	**548,458**	**552,842**	**557,226**	**569,200**	**573,584**	**577,968**	**582,352**	**586,736**	**591,120**	**595,504**

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

Chapter 3
Capital Infrastructure Needs

3. Capital Infrastructure Needs

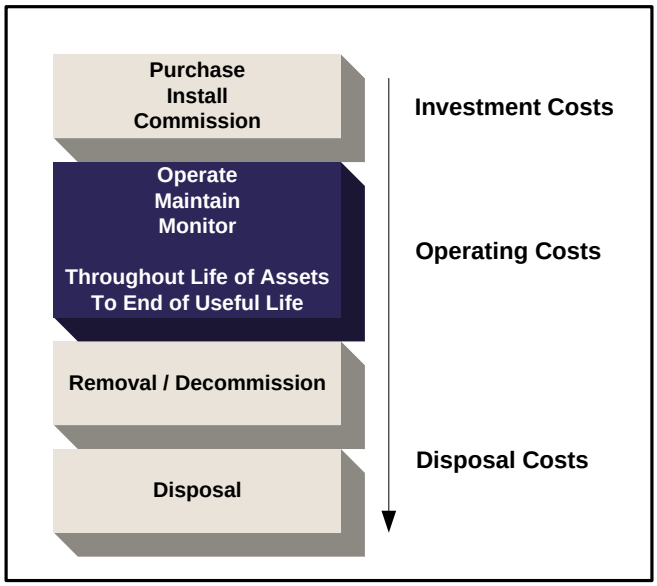
3.1 Overview of Lifecycle Costing

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 which 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 paying for that service. Operating costs which reflect the cost of the service for that year are charged directly to all existing tax/rate payers who have received the benefit. Operating costs are normally charged through the tax base or user rates.

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

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

However, capital construction to replace existing infrastructure 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.

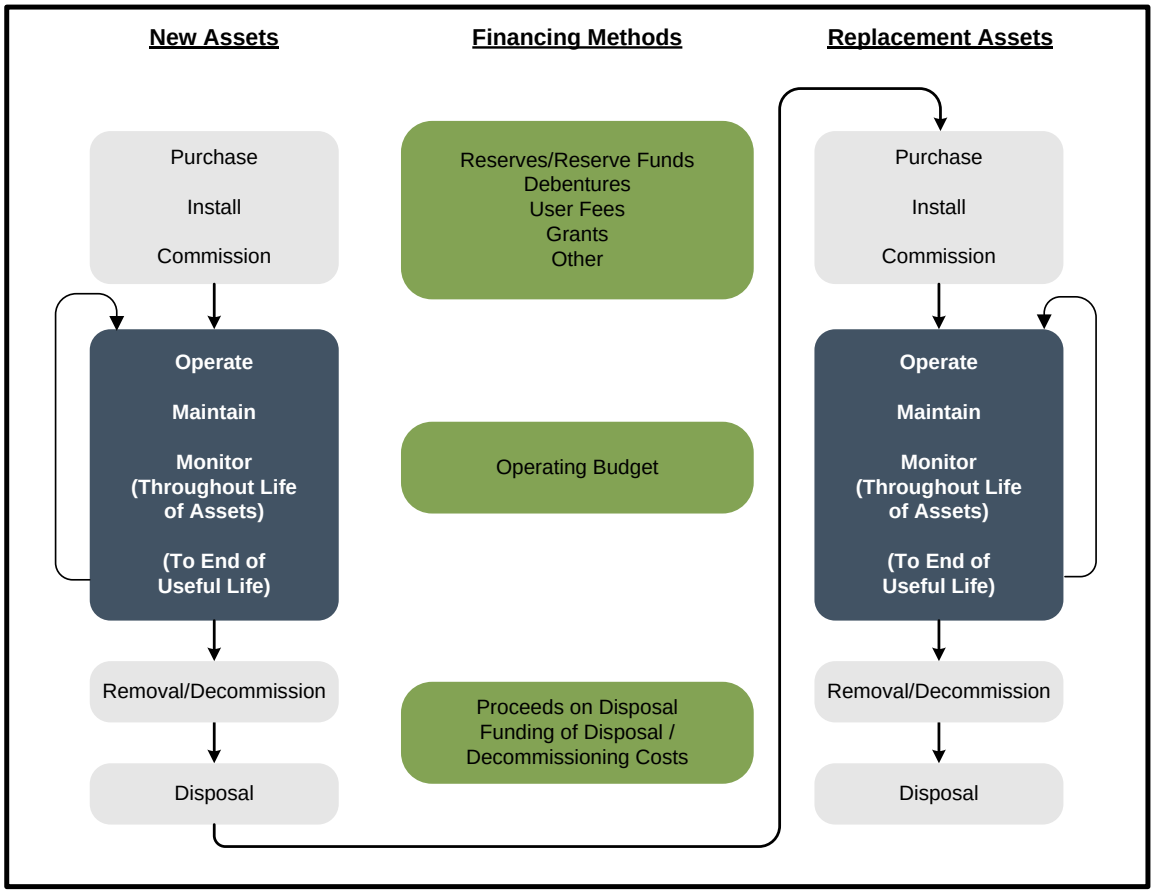
As referred to earlier, growth-related financing methods such as D.C.s and developer contributions could be utilized to finance the growth-related component of the new asset. These revenues are collected (indirectly) from the new homeowner who benefits

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 debt financing 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 debt financing and, possibly, a contribution from the operating budget should be used to fund this work.

Charging for the cost of using up of 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 Asset Inventory

Detailed water and wastewater capital asset inventory information was obtained from the Town's 2019 Asset Management Plan. The information from the 2019 Asset Management Plan, specific needs identified by staff and system operators, 2020 Capital Budget and Forecast (2021-2030), and the 2020 D.C. Background Study were used to develop the ten-year capital forecast. Lifecycle contribution amounts for each service were identified in the Town's 2019 Asset Management Plan. This lifecycle contribution determines 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$).

Table 3-1
Town of Minto
Summary of Water and Wastewater Infrastructure 2020$

Water

Asset	Replacement Cost	Annual Lifecycle Cost
Hydrants	$ 1,745,448	
SCADA	$ 517,173	
Water Equipment	$ 25,622	
Watermains	$ 25,548,631	$ 860,000
Water Meters	$ 982,578	
Water Tower (3)	$ 6,560,908	
Water Wells and Pumps	$ 6,351,344	
Total	**$ 41,731,704**	

Wastewater

Asset	Replacement Cost	Annual Lifecycle Cost
Clifford Sanitary Facility	$ 6,890,700	
Clifford Sanitary Mains	$ 4,481,744	
Harriston Sanitary Facility	$ 5,723,046	
Harriston Sanitary Mains	$ 7,603,347	
Palmerston Sanitary Facility	$ 9,013,025	
Palmerston Sanitary Mains	$ 8,807,395	
Sanitary Equipment	$ 172,527	$ 1,405,000
Sanitary Forcemains	$ 780,008	
Sanitary Lift Stations	$ 26,439	
Sanitary Manholes	$ 3,434,900	
Sanitary Pumping Stations	$ 2,665,994	
SCADA	$ 399,376	
Total	**$ 49,998,500**	

For water and wastewater rates to achieve lifecycle sustainability, the capital-related funding requirements for water services should provide $860,000 annually and wastewater services $1.4 million annually (in 2020$). The capital funding plan seeks to achieve these targets by 2030 (inflated $). This allows for increases in capital funding to be transitioned into the rate base gradually over time. This transition can be achieved gradually where annual capital spending is below long-term lifecycle funding targets, or where sufficient debt capacity exists to soften the annual funding obligations where annual spending is higher than average long-term lifecycle funding targets. Where municipalities have annual capital spending requirements over the 10-year forecast period greater than long-term lifecycle funding targets, or where municipalities

may have limited debt capacity to mitigate funding requirements associated with higher annual capital spending levels, rate increases in the near term may be more considerable.

3.2 Capital Needs Forecast and Funding Plan

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

The total capital forecast includes approximately $48.81 million in capital needs for water ($12.09 million) and wastewater ($36.72 million) services, in current (2020) dollars. The capital forecast includes lifecycle renewal/replacement needs, major maintenance, and level of service/capacity improvements.

On this basis, the average annual value of the non-growth-related capital program for water and wastewater is approximately $2.85 million (2020$). This level of expenditures is higher than the average annual lifecycle needs identified in Section 3.1.4, which suggest long-term rate supported capital needs of $2.27 million (2020$) annually. This suggests that longer-term capital funding requirements are lower 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 system is presented in Tables 3-2 and 3-3, respectively. For rate determination purposes, the capital needs forecast has been indexed by 3.4% annually. This is generally reflective of the historical annual capital cost inflation witnessed in the Statistics Canada Building Construction Price Index over the past 20 years.

Table 3-2
Town of Minto
Water Capital Budget Forecast (Uninflated $)

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Clifford												
Allan Street Watermain to well 1		85,000	85,000									
Park Street Servicing		25,000				25,000						
Video Log-Wells #1,3,4	60,000	60,000							60,000			
Clifford Tower Inspection		40,000	20,000					20,000				
Clifford Water Tower Exterior Painting		350,000				350,000						
Clifford Water Tower Interior Painting		150,000				150,000						
Clifford SCADA Panels												
Clifford Arsenic Treatment		100,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Harriston												
Arthur St E C/L	50,000											
Arthur St W C/L		50,000	50,000									
Lawrence St Recon (Metzger)	115,000											
Tower Inspection & Repairs	60,000	40,000					20,000					20,000
Harriston Water Tower Exterior Painting		350,000					350,000					
Harriston Water Tower Interior Painting		150,000					150,000					
Harriston - Video Log - Wells #1 & 3		120,000	40,000		20,000					40,000		20,000
Harriston SCADA												
Palmerston												
Henry Street	120,000											
Industrial Minto Road Servicing	125,000											
Main Street		1,165,000		5,000	10,000			100,000	1,050,000			
Water Tower Inspection	10,000	40,000					20,000					20,000
Palmerston - Watertower - Exterior Painting		350,000	350,000									
Palmerston - Watertower - Interior Painting		150,000	150,000									
White's Road incl Private Water Line	25,000	385,000	40,000	345,000								
Palmerston SCADA												
Palmerston - Video Log - Wells #1 & 2		80,000	40,000							40,000		
Rural												
Minto Pines Insp & Column Pipe		40,000		40,000								
Minto Pines Well # 2		90,000	40,000	20,000	30,000							
Minto Pines - Pumphouse upgrades												

Table 3-2 (continued)
Town of Minto
Water Capital Budget Forecast (Uninflated $)

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
General												
Asset Management CityWide	10,000	50,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Equipment	10,000	100,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
5 yr replace Pick-ups 2015	50,000	400,000			100,000	50,000	50,000			100,000	50,000	50,000
7 yr replace Service Truck		75,000		37,500							37,500	
Vacuum Trucks		250,000					250,000					
SCADA Sewer & Water Urban Areas	110,000	450,000	110,000	110,000	110,000	60,000	10,000	10,000	10,000	10,000	10,000	10,000
Capital Watermain Replacement		2,971,564	300,000	300,000	300,000	300,000	300,000	300,000	300,000	271,564	300,000	300,000
Water Meter General	20,000	200,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Pumps, Valves, etc		150,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Engineering	15,000	150,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Growth Related:												
Clifford												
Allan St W - Limits (Development)		62,000								62,000		
Queen St Ann to Minto (Thiessen)		110,000					110,000					
Harriston												
John St Oversizing		1,850,000										1,850,000
King St N (Dev)		92,000				92,000						
Queen St N (Dev)		92,000				92,000						
Webb St Extension		286,000						286,000				
Future Development		125,000						125,000				
Palmerston												
Palmerston - Queen St S (Growth Share)		28,436								28,436		
White's Road - Royal Terrace - Water		234,000		234,000								
Heinmiller Oversizing		309,000				309,000						
Henry Lane Loop		240,000				240,000						
Studies												
Servicing Strategy	19,675	15,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Water/Wastewater Rate Study	15,000	30,000					15,000					15,000
Total Capital Expenditures	**780,000**	**12,090,000**	**1,300,000**	**1,166,500**	**645,000**	**1,743,000**	**1,335,000**	**916,000**	**1,495,000**	**627,000**	**472,500**	**2,345,000**

Table 3-3
Town of Minto
Wastewater Capital Budget Forecast (Uninflated $)

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Clifford												
William St-Schwindt		20,000		20,000								
Park Street Reconstruction		100,000				100,000						
Ultrarib Inspection/Lining		200,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Clifford Pump		20,000					10,000					10,000
Harriston												
Arthur St E C/L	55,000	-										
Arthur St W C/L		50,000	50,000									
Lawrence St Recon (Metzger)	120,000	-										
Pumping Station Upgrade & Pump		785,000	35,000		250,000	500,000						
Sewer Plant Roof / Lagoon Roof	30,000	-										
Sludge Removal		265,000	7,500		7,500		250,000					
Palmerston												
Main Street		875,000		5,000	10,000			50,000	810,000			
Palm Sewers - Prospect St	7,500	-										
White's Road - regular	20,000	200,000	10,000	190,000								
Easement Maintenance	35,000	-										
Palmerston Treatment Plant												
Clarifier		1,600,000		100,000	1,500,000							
Administration Complex		2,500,000										2,500,000
Raw Sewage Pumping Station		2,500,000										2,500,000
Effluent Complex		2,000,000										2,000,000
Aeration Tanks		750,000										750,000
General												
Asset Management CityWide	3,500	35,000	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Equipment	5,000	70,000	25,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
5 yr replace Pick Up	50,000	200,000		50,000			50,000		50,000			50,000
7 yr replace Service Truck		75,000		37,500							37,500	
SCADA - Sewer		140,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	50,000
Capital Sewer Main Replacement		2,970,533	300,000	300,000	300,000	300,000	300,000	300,000	300,000	270,533	300,000	300,000
Pumps, Valves, Etc.		125,000	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500
Engineering	35,000	250,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Assimilative Capacity Study (Harriston)		50,000		50,000								

Table 3-3 (continued)
Town of Minto
Wastewater Capital Budget Forecast (Uninflated $)

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Growth Related:												
Clifford												
Allan Street W Limits (Dev)		200,000								200,000		
Queen St Ann to Minto (Thiessen)		125,000					125,000					
Park St. Extension - Ann St to 60m west		102,000				102,000						
Harriston												
King St N (Dev)		90,000				90,000						
Queen St N (Dev)		90,000				90,000						
Future Development		148,000						148,000				
Wastewater Inflow and Infiltration	20,000	400,000	100,000	100,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Harriston Lagoons		1,020,000										1,020,000
John/Lorne St Lift Station		153,000			153,000							
Palmerston												
Henry Street	35,000	-										
Palmerston - Queen St S (Growth Share)		29,467								29,467		
White's Road - Royal Terrace - Sewer		220,000	5,000	215,000								
Henry Lane Loop Development Phase 2		204,000				204,000						
Wastewater Inflow and Infiltration	20,000	525,000	150,000	100,000	100,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Palmerston Industrial Park Lift Station		1,836,000									1,836,000	
Plant Upgrades, Expansion & Clarifier		15,650,000										15,650,000
Studies												
Sub-Watershed Study		102,000	102,000									
Servicing Strategy	19,675	15,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Water/Wastewater Rate Study	15,000	30,000					15,000					15,000
Total Capital Expenditures	**470,675**	**36,720,000**	**857,000**	**1,245,000**	**2,423,000**	**1,513,500**	**877,500**	**625,500**	**1,287,500**	**627,500**	**2,301,000**	**24,962,500**

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 Ontario Regulation 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:

Recovery Methods	Section Reference
Development Charges Act, 1997	4.2
Municipal Act, 2001 o Fees and Charge o Local Improvements	4.3
Grant Funding	4.4
Reserves/Reserve Funds	4.5
Debenture Financing	4.6

4.1 Development Charges Act, 1997

The *Development Charges Act* received royal asset 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 (D.C.A.) provides for limitations and ceilings on services that can be included in the charges.

The Town 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, $1.45 million and for wastewater services $26.37 million has been identified as funded from D.C.s over the forecast period. In addition, developer contributions ($91,000 for water, $128,000 for wastewater) required under the Town's local service policy have also been identified to fund the growth-related needs.

4.2 Municipal Act

The *Municipal Act, 2001*, came into force 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 extension. 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 Town does not recover capital costs through fees imposed under the *Municipal Act*.

4.3 Grant Funding Availability

No grant funding has been shown as an expected funding source over the forecast period. To the extent that the Town 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 Town 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 estimated December 31, 2020 closing balances.

Table 4-1
Town of Minto
Water and Wastewater Projected Reserve/Reserve Fund Balances

Reserve/Reserve Fund	Estimated Balance as at Dec. 31 2020
Water	
Lifecycle Reserve Fund	$ 1,115,003
Development Charges Reserve Fund	$ 219,541
Total Water	**$ 1,334,544**
Wastewater	
Lifecycle Reserve Fund	$ 2,087,472
Development Charges Reserve Fund	$ 1,548,577
Total Wastewater	**$ 3,636,050**

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. Ontario Regulations 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 capital forecast proposes external debt financing for water and wastewater capital in the amounts of $3.68 million and $31.6 million respectively over the forecast period. Of the wastewater debt, $24.84 million is growth-related and will be paid for through development charges. $21.9 million of wastewater debt would relate to the Palmerston Wastewater Treatment Plant expansion, currently projected for 2030. This amount of debt may exceed the Town's annual repayment limit depending on when the debenture is issued. It is recommended that in the coming years the Town review the pace of development and reassess the timing and cashflow/debt capacity implications of the Palmerston Wastewater Treatment Plant expansion. Furthermore, the Town could consider other financing tools such as developer contributions and credits to emplace growth-related capital.

4.6 Recommended Approach

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

Table 4-2
Town of Minto
2021-2030 Water and Wastewater Capital Funding Program (Inflated $)

Description	Water	Wastewater	Total
Provincial/Federal Grants	$ -	$ -	$ -
Developer Contributions	$ 91,000	$ 128,376	$ 219,376
Development Charges Reserve Fund	$ 1,438,915	$ 1,526,688	$ 2,965,603
Non-Growth Related Debenture Requirements	$ 3,680,109	$ 6,790,605	$ 10,470,714
Growth Related Debenture Requirements	$ -	$ 24,838,827	$ 24,838,827
Capital Reserve	$ 9,433,976	$ 15,714,503	$ 25,148,479
Total Capital Funding	**$ 14,644,000**	**$ 48,999,000**	**$ 63,643,000**

Tables 4-3 and 4-4 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 4-3
Town of Minto
Water Service Capital Budget Forecast – Inflated $

Description	Total	Forecast									
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures											
Clifford											
Allan Street Watermain to well 1	88,000	88,000	-	-	-	-	-	-	-	-	-
Park Street Servicing	29,000	-	-	-	29,000	-	-	-	-	-	-
Video Log-Wells #1,3,4	76,000	-	-	-	-	-	-	76,000	-	-	-
Clifford Tower Inspection	45,000	21,000	-	-	-	-	24,000	-	-	-	-
Clifford Water Tower Exterior Painting	401,000	-	-	-	401,000	-	-	-	-	-	-
Clifford Water Tower Interior Painting	172,000	-	-	-	172,000	-	-	-	-	-	-
Clifford Arsenic Treatment	121,000	10,000	11,000	11,000	11,000	12,000	12,000	13,000	13,000	14,000	14,000
Harriston											
Arthur St E C/L		-	-	-	-	-	-	-	-	-	-
Arthur St W C/L	52,000	52,000	-	-	-	-	-	-	-	-	-
Lawrence St Recon (Metzger)		-	-	-	-	-	-	-	-	-	-
Tower Inspection & Repairs	52,000	-	-	-	-	24,000	-	-	-	-	28,000
Harriston Water Tower Exterior Painting	414,000	-	-	-	-	414,000	-	-	-	-	-
Harriston Water Tower Interior Painting	178,000	-	-	-	-	178,000	-	-	-	-	-
Harriston - Video Log - Wells #1 & 3	143,000	41,000	-	22,000	-	-	-	-	52,000	-	28,000
Palmerston											
Henry Street		-	-	-	-	-	-	-	-	-	-
Industrial Minto Road Servicing		-	-	-	-	-	-	-	-	-	-
Main Street	1,468,000	-	5,000	11,000	-	-	122,000	1,330,000	-	-	-
Water Tower Inspection	52,000	-	-	-	-	24,000	-	-	-	-	28,000
Palmerston - Watertower - Exterior Painting	362,000	362,000	-	-	-	-	-	-	-	-	-
Palmerston - Watertower - Interior Painting	155,000	155,000	-	-	-	-	-	-	-	-	-
White's Road incl Private Water Line	410,000	41,000	369,000	-	-	-	-	-	-	-	-
Palmerston - Video Log - Wells #1 & 2	93,000	41,000	-	-	-	-	-	-	52,000	-	-
Rural											
Minto Pines Insp & Column Pipe	43,000	-	43,000	-	-	-	-	-	-	-	-
Minto Pines Well # 2	95,000	41,000	21,000	33,000	-	-	-	-	-	-	-
General											
Asset Management CityWide	61,000	5,000	5,000	6,000	6,000	6,000	6,000	6,000	7,000	7,000	7,000
Equipment	121,000	10,000	11,000	11,000	11,000	12,000	12,000	13,000	13,000	14,000	14,000
5 yr replace Pick-ups 2015	496,000	-	-	111,000	57,000	59,000	-	-	131,000	68,000	70,000
7 yr replace Service Truck	91,000	-	40,000	-	-	-	-	-	-	51,000	-
Vacuum Trucks	296,000	-	-	-	-	296,000	-	-	-	-	-
SCADA Sewer & Water Urban Areas	501,000	114,000	118,000	122,000	69,000	12,000	12,000	13,000	13,000	14,000	14,000
Capital Watermain Replacement	3,591,000	310,000	321,000	332,000	343,000	355,000	367,000	380,000	356,000	407,000	420,000

Table 4-3 (continued)
Town of Minto
Water Service Capital Budget Forecast – Inflated $

Description	Total	Forecast									
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water Meter General	241,000	21,000	21,000	22,000	23,000	24,000	24,000	25,000	26,000	27,000	28,000
Pumps, Valves, etc	182,000	16,000	16,000	17,000	17,000	18,000	18,000	19,000	20,000	20,000	21,000
Engineering	182,000	16,000	16,000	17,000	17,000	18,000	18,000	19,000	20,000	20,000	21,000
Growth Related:											
Clifford											
Allan St W - Limits (Development)	81,000	-	-	-	-	-	-	-	81,000	-	-
Queen St Ann to Minto (Thiessen)	130,000	-	-	-	-	130,000	-	-	-	-	-
Harriston											
John St Oversizing	2,593,000	-	-	-	-	-	-	-	-	-	2,593,000
King St N (Dev)	105,000	-	-	-	105,000	-	-	-	-	-	-
Queen St N (Dev)	105,000	-	-	-	105,000	-	-	-	-	-	-
Webb St Extension	350,000	-	-	-	-	-	350,000	-	-	-	-
Future Development	153,000	-	-	-	-	-	153,000	-	-	-	-
Palmerston											
Palmerston - Queen St S (Growth Share)	37,000	-	-	-	-	-	-	-	37,000	-	-
White's Road - Royal Terrace - Water	250,000	-	250,000	-	-	-	-	-	-	-	-
Heinmiller Oversizing	354,000	-	-	-	354,000	-	-	-	-	-	-
Henry Lane Loop	275,000	-	-	-	275,000	-	-	-	-	-	-
Studies											
Servicing Strategy	20,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Water/Wastewater Rate Study	39,000	-	-	-	-	18,000	-	-	-	-	21,000
Total Capital Expenditures	**14,644,000**	**1,344,000**	**1,247,000**	**715,000**	**1,995,000**	**1,582,000**	**1,118,000**	**1,894,000**	**821,000**	**642,000**	**3,286,000**
Capital Financing											
Provincial/Federal Grants	-										
Developer Contributions	91,000	-	-	-	-	91,000	-	-	-	-	-
Development Charges Reserve Fund	1,438,915	-	62,500	-	463,000	39,000	164,865	-	61,300	-	648,250
Non-Growth Related Debenture Requirements	3,680,109	-	89,906	-	699,175	668,359	84,313	978,088	-	-	1,160,268
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	9,433,976	1,344,000	1,094,594	715,000	832,825	783,641	868,822	915,912	759,700	642,000	1,477,482
Total Capital Financing	**14,644,000**	**1,344,000**	**1,247,000**	**715,000**	**1,995,000**	**1,582,000**	**1,118,000**	**1,894,000**	**821,000**	**642,000**	**3,286,000**

Table 4-4
Town of Minto
Wastewater Service Capital Budget Forecast – Inflated $

Description	Total	Forecast									
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures											
Clifford											
William St-Schwindt	21,000	-	21,000	-	-	-	-	-	-	-	-
Park Street Reconstruction	114,000	-	-	-	114,000	-	-	-	-	-	-
Ultrarib Inspection/Lining	241,000	21,000	21,000	22,000	23,000	24,000	24,000	25,000	26,000	27,000	28,000
Clifford Pump	26,000	-	-	-	-	12,000	-	-	-	-	14,000
Harriston											
Arthur St E C/L		-	-	-	-	-	-	-	-	-	-
Arthur St W C/L	52,000	52,000	-	-	-	-	-	-	-	-	-
Lawrence St Recon (Metzger)		-	-	-	-	-	-	-	-	-	-
Pumping Station Upgrade & Pump	885,000	36,000	-	277,000	572,000	-	-	-	-	-	-
Sewer Plant Roof / Lagoon Roof	-	-	-	-	-	-	-	-	-	-	-
Sludge Removal	312,000	8,000	-	8,000	-	296,000	-	-	-	-	-
	-										
Palmerston	-										
Main Street	1,103,000	-	5,000	11,000	-	-	61,000	1,026,000	-	-	-
Palm Sewers - Prospect St		-	-	-	-	-	-	-	-	-	-
White's Road - regular	213,000	10,000	203,000	-	-	-	-	-	-	-	-
Easement Maintenance	-	-	-	-	-	-	-	-	-	-	-
Palmerston Treatment Plant											
Clarifier	1,767,000	-	107,000	1,660,000	-	-	-	-	-	-	-
Administration Complex	3,504,000	-	-	-	-	-	-	-	-	-	3,504,000
Raw Sewage Pumping Station	3,504,000	-	-	-	-	-	-	-	-	-	3,504,000
Effluent Complex	2,803,000	-	-	-	-	-	-	-	-	-	2,803,000
Aeration Tanks	1,051,000	-	-	-	-	-	-	-	-	-	1,051,000
	-										
General	-										
Asset Management CityWide	43,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	5,000	5,000	5,000
Equipment	82,000	26,000	5,000	6,000	6,000	6,000	6,000	6,000	7,000	7,000	7,000
5 yr replace Pick Up	245,000	-	53,000	-	-	59,000	-	63,000	-	-	70,000
7 yr replace Service Truck	91,000	-	40,000	-	-	-	-	-	-	51,000	-
SCADA - Sewer	177,000	10,000	11,000	11,000	11,000	12,000	12,000	13,000	13,000	14,000	70,000
Capital Sewer Main Replacement	3,589,000	310,000	321,000	332,000	343,000	355,000	367,000	380,000	354,000	407,000	420,000
Pumps, Valves, Etc.	151,000	13,000	13,000	14,000	14,000	15,000	15,000	16,000	16,000	17,000	18,000
Engineering	305,000	26,000	27,000	28,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000
Assimilative Capacity Study (Harriston)	53,000	-	53,000	-	-	-	-	-	-	-	-
Growth Related:											
Clifford											
Allan Street W Limits (Dev)	262,000	-	-	-	-	-	-	-	262,000	-	-
Queen St Ann to Minto (Thiessen)	148,000	-	-	-	-	148,000	-	-	-	-	-
Park St. Extension - Ann St to 60m west	117,000	-	-	-	117,000	-	-	-	-	-	-

Table 4-4 (continued)
Town of Minto
Wastewater Service Capital Budget Forecast – Inflated $

Description	Total	Forecast									
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Harriston											
King St N (Dev)	103,000	-	-	-	103,000	-	-	-	-	-	-
Queen St N (Dev)	103,000	-	-	-	103,000	-	-	-	-	-	-
Future Development	181,000	-	-	-	-	-	181,000	-	-	-	-
Wastewater Inflow and Infiltration	462,000	103,000	107,000	28,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000
Harriston Lagoons	1,430,000	-	-	-	-	-	-	-	-	-	1,430,000
John/Lorne St Lift Station	169,000	-	-	169,000	-	-	-	-	-	-	-
Palmerston											
Henry Street		-	-	-	-	-	-	-	-	-	-
Palmerston - Queen St S (Growth Share)	39,000	-	-	-	-	-	-	-	39,000	-	-
White's Road - Royal Terrace - Sewer	235,000	5,000	230,000	-	-	-	-	-	-	-	-
Henry Lane Loop Development Phase 2	233,000	-	-	-	233,000	-	-	-	-	-	-
Wastewater Inflow and Infiltration	597,000	155,000	107,000	111,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000
Palmerston Industrial Park Lift Station	2,488,000	-	-	-	-	-	-	-	-	2,488,000	-
Plant Upgrades, Expansion & Clarifier	21,935,000	-	-	-	-	-	-	-	-	-	21,935,000
Studies	-										
Sub-Watershed Study	106,000	106,000	-	-	-	-	-	-	-	-	-
Servicing Strategy	20,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Water/Wastewater Rate Study	39,000	-	-	-	-	18,000	-	-	-	-	21,000
Total Capital Expenditures	**48,999,000**	**887,000**	**1,330,000**	**2,683,000**	**1,732,000**	**1,041,000**	**765,000**	**1,631,000**	**823,000**	**3,120,000**	**34,987,000**
Capital Financing											
Provincial/Federal Grants	-										
Developer Contributions	128,376	-	-	-	24,776	103,600	-	-	-	-	-
Development Charges Reserve Fund	1,526,688	203,111	335,711	266,194	376,789	78,842	83,536	31,961	150,544	-	-
Non-Growth Related Debenture Requirements	6,790,605	-	-	-	-	-	-	-	-	-	6,790,605
Growth Related Debenture Requirements	24,838,827	-	-	-	-	-	-	-	-	2,148,728	22,690,100
Wastewater Reserve	15,714,503	683,889	994,289	2,416,806	1,330,434	858,558	681,464	1,599,039	672,456	971,272	5,506,296
Total Capital Financing	**48,999,000**	**887,000**	**1,330,000**	**2,683,000**	**1,732,000**	**1,041,000**	**765,000**	**1,631,000**	**823,000**	**3,120,000**	**34,987,000**

Chapter 5
Net Operating Expenditure Forecast

5. Net Operating Expenditure Forecast

5.1 Operating Expenditures

The Town's 2020 Operating Budget formed the basis for the water and wastewater services net operating expenditure forecast, which was further refined through discussions with Town staff. The operating expenditure estimates were generally inflated based on historical Consumer Price Index (C.P.I.) rates or historical annual increases witnessed by the Town.

The operating budget forecast generally includes two components – the operating expenditures and capital-related expenditures. The former is based on the Town'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 the 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 $2.05 million in 2020 to $2.71 million by 2030. Similarly, for wastewater services annual gross operating expenditures are forecast to increase from $2.08 million in 2020 to $3.84 million by 2030.

5.2 Operating Revenues

Transfers from D.C. reserve funds to offset the principal and interest payments for growth-related debentures have been included in the operating revenues. The Town also has other miscellaneous revenues that offset some of the annual operating costs.

Tables 5-1 to 5-2 provide the water and wastewater operating budget forecasts. The operating budget forecasts are presented in inflated dollars.

Table 5-1
Town of Minto
Water Service Operating Budget Forecast – Inflated $

Description	Budget 2020	Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures											
Operating Costs											
Salaries, Wages and Benefits	598,621	616,600	635,100	654,200	673,800	694,000	714,800	736,200	758,300	781,000	804,400
Conferences & Meetings	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Training	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Mileage	500	500	500	500	500	500	500	500	500	500	500
Administrative Oversight	40,000	44,300	49,100	54,400	60,300	66,800	74,000	82,000	90,900	100,800	111,700
Legal Services	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Certifications	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
PSAB Consulting	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Engineering Services	11,000	11,400	11,800	12,200	12,600	13,000	13,400	13,900	14,400	14,900	15,400
DWQMS Financial Plan	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Consulting	18,000	18,600	19,200	19,900	20,600	21,300	22,000	22,800	23,600	24,400	25,200
Internal Auditing - DWQMS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Permits/Accreditation - DWQMS	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500
Professional Memberships	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Annual Insurance Coverage	13,200	13,600	14,000	14,400	14,900	15,400	15,900	16,400	16,900	17,400	18,000
Risk Management	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Annual Property Taxes	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,600	4,800	5,000
Hydro Charges	75,469	75,500	75,500	75,500	75,500	75,500	75,500	75,500	75,500	75,500	75,500
Cleaning Supplies	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
Water Meters	8,500	8,800	9,100	9,400	9,700	10,000	10,300	10,700	11,100	11,500	11,900
Grounds Maintenance	4,900	5,100	5,300	5,500	5,700	5,900	6,100	6,300	6,500	6,700	6,900
Building Maintenance	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Office Expenses	4,000	4,100	4,200	4,300	4,400	4,600	4,800	5,000	5,200	5,400	5,600
Credit Bureau Charges	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Alarm System	14,300	15,900	17,600	19,500	21,600	23,900	26,500	29,400	32,600	36,100	40,000
Publications & Info Received	500	500	500	500	500	500	500	500	500	500	500
Advertising & Promotions	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Telephone & Internet	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Water Testing - Lead	500	500	500	500	500	500	500	500	500	500	500
Supplies	500	500	500	500	500	500	500	500	500	500	500
Bad Debts - Water	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Safety Clothing	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Machine Time Charge	183,000	189,300	195,800	202,500	209,500	216,700	224,100	231,800	239,800	248,000	256,500
Vehicle Expenditures	(203,700)	(210,700)	(217,900)	(225,400)	(233,100)	(241,100)	(249,400)	(258,000)	(266,900)	(276,100)	(285,600)
Pump House Operation	126,100	130,400	134,900	139,500	144,300	149,300	154,400	159,700	165,200	170,900	176,800
Standpipe/Tower	8,150	8,400	8,700	9,000	9,300	9,600	9,900	10,200	10,600	11,000	11,400

Table 5-1 (continued)
Town of Minto
Water Service Operating Budget Forecast – Inflated $

Description	Budget	Forecast									
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Watermain Repairs	42,300	43,800	45,300	46,900	48,500	50,200	51,900	53,700	55,500	57,400	59,400
Hydrants	9,000	9,300	9,600	9,900	10,200	10,600	11,000	11,400	11,800	12,200	12,600
Backflow Prevention Program	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Computer Hardware/Software	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
SCADA Maintenance	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400	6,600	6,800	7,000
Radio/GPS Services & Main.	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Locates	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Fuel & Supplies	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
Repairs & Maintenance	6,800	7,000	7,200	7,400	7,700	8,000	8,300	8,600	8,900	9,200	9,500
Small Tools & Supplies	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Equipment Repairs & Maintenance	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
Safety Equipment	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Special Consulting Services	14,000	14,500	15,000	15,500	16,000	16,500	17,100	17,700	18,300	18,900	19,500
Water Sampling	4,500	4,700	4,900	5,100	5,300	5,500	5,700	5,900	6,100	6,300	6,500
Water Treatment	500	500	500	500	500	500	500	500	500	500	500
Grounds Maintenance - Winter	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Ground Maintenance	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
Sub Total Operating	**1,088,940**	**1,122,600**	**1,157,600**	**1,194,100**	**1,232,400**	**1,272,500**	**1,314,300**	**1,358,400**	**1,404,800**	**1,453,300**	**1,504,300**
Capital-Related											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	215,256	218,143	184,140	185,295	187,180	189,178	97,883	79,780	81,390	35,670	35,790
Existing Debt (Interest) - Non-Growth Related	47,146	41,147	35,078	30,598	26,032	21,447	17,088	14,212	11,750	9,492	8,393
New Non-Growth Related Debt (Principal)		-	-	3,708	3,781	32,689	60,899	65,581	107,215	109,338	111,503
New Non-Growth Related Debt (Interest)		-	-	1,780	1,707	15,476	28,062	28,525	46,593	44,470	42,305
Transfer to Capital Reserve	696,246	588,826	727,569	752,296	794,784	783,641	868,822	915,912	889,322	971,034	1,007,009
Sub Total Capital Related	**958,647**	**848,117**	**946,787**	**973,676**	**1,013,483**	**1,042,430**	**1,072,753**	**1,104,011**	**1,136,269**	**1,170,004**	**1,205,000**
Total Expenditures	**2,047,587**	**1,970,717**	**2,104,387**	**2,167,776**	**2,245,883**	**2,314,930**	**2,387,053**	**2,462,411**	**2,541,069**	**2,623,304**	**2,709,300**
Revenues											
Base Charge	626,964	657,396	704,348	746,997	792,095	839,779	890,191	943,482	999,813	1,059,349	1,122,268
Per Unit Charges	54,810	54,810	57,376	60,061	62,873	65,816	68,897	72,122	75,498	79,032	82,732
Other Revenue	51,575	53,300	55,100	57,000	59,000	61,000	63,100	65,300	67,500	69,800	72,200
Contributions from Development Charges	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund											
Contributions from Reserves / Reserve Funds	189,282	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**922,631**	**765,506**	**816,824**	**864,059**	**913,968**	**966,595**	**1,022,188**	**1,080,904**	**1,142,811**	**1,208,181**	**1,277,200**
Water Billing Recovery - Total	**1,124,956**	**1,205,211**	**1,287,563**	**1,303,717**	**1,331,915**	**1,348,335**	**1,364,865**	**1,381,506**	**1,398,259**	**1,415,123**	**1,432,100**

Table 5-2
Town of Minto
Wastewater Service Operating Budget Forecast – Inflated$

Description	Budget 2020	Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures											
Operating Costs											
Salary, Wages and Benefits	410,455	433,400	457,600	483,100	510,100	538,600	568,700	600,400	633,900	669,300	706,700
Conferences & Meetings	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Training	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000
Mileage	250	300	300	300	300	300	300	300	300	300	300
Administrative Oversight/Allocation	40,000	43,700	47,800	52,300	57,200	62,500	68,300	74,700	81,700	89,300	97,600
Legal Services	500	500	500	500	500	500	500	500	500	500	500
Certifications	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
AMP Consulting	5,000	5,400	5,800	6,200	6,700	7,200	7,700	8,300	8,900	9,600	10,300
Special Consulting Services	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
Professional Memberships	750	800	800	800	800	800	800	800	800	800	800
Cleaning Supplies	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Office Supplies/Expenses	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
ePost Fees	250	300	300	300	300	300	300	300	300	300	300
Computer Software/Hardware	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Publications & Info Received	200	200	200	200	200	200	200	200	200	200	200
Advertising & Promotions	900	900	900	900	900	900	900	900	900	900	900
Telephone Services & Charges	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Supplies	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
Equip Rep & Mtce	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Safety Equipment	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
SANITARY SEWER PUMPS	16,090	16,400	16,700	17,000	17,300	17,600	18,000	18,400	18,800	19,200	19,600
Safety Clothing	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
Vehicles	(123,450)	(125,900)	(128,400)	(131,000)	(133,600)	(136,300)	(139,000)	(141,800)	(144,600)	(147,500)	(150,500)
Hydro/Water/Heat	201,160	219,000	238,400	259,500	282,500	307,500	334,700	364,300	396,500	431,600	469,800
Engineering Services	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500
Annual Insurance Coverage	14,900	15,500	16,200	16,900	17,600	18,300	19,100	19,900	20,700	21,600	22,500
Risk Management	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
Annual Property Taxes	67,450	68,800	70,200	71,600	73,000	74,500	76,000	77,500	79,100	80,700	82,300
Grounds Maintenance	7,000	7,200	7,400	7,600	7,800	8,000	8,200	8,400	8,700	9,000	9,300
Building Maintenance	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200
Alarm System	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
Machine Time Charge	118,700	121,100	123,500	126,000	128,500	131,100	133,700	136,400	139,100	141,900	144,700
LAGOON SYSTEM	167,100	170,400	173,800	177,300	180,800	184,400	188,100	191,900	195,700	199,600	203,600
SANITARY SEWERMAIN Repairs	31,250	31,900	32,500	33,200	33,900	34,600	35,300	36,000	36,700	37,400	38,100
Interest on Deposits	500	500	500	500	500	500	500	500	500	500	500
Washroom Supplies	500	500	500	500	500	500	500	500	500	500	500
Radio/GPS Services & Main.	560	600	600	600	600	600	600	600	600	600	600
Leak Adjustments	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
Sub Total Operating	**1,026,165**	**1,078,900**	**1,134,800**	**1,194,300**	**1,257,700**	**1,325,200**	**1,397,300**	**1,474,200**	**1,556,300**	**1,644,100**	**1,737,700**

Table 5-2 (continued)
Town of Minto
Wastewater Service Operating Budget Forecast – Inflated $

Description	Budget 2020	Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital-Related											
Existing Debt (Principal) - Growth Related											
Existing Debt (Interest) - Growth Related											
New Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	88,611
New Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	42,545
Existing Debt (Principal) - Non-Growth Related	359,199	374,266	250,878	259,619	269,148	68,299	69,733	44,800	46,290	18,210	18,670
Existing Debt (Interest) - Non-Growth Related	68,912	54,765	39,798	30,816	21,404	11,567	9,676	7,679	6,251	6,569	5,973
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	621,977	643,505	924,907	980,479	1,058,578	1,341,657	1,424,698	1,545,970	1,653,584	1,804,071	1,944,357
Sub Total Capital Related	**1,050,089**	**1,072,536**	**1,215,583**	**1,270,915**	**1,349,130**	**1,421,523**	**1,504,107**	**1,598,448**	**1,706,125**	**1,828,850**	**2,100,156**
Total Expenditures	**2,076,254**	**2,151,436**	**2,350,383**	**2,465,215**	**2,606,830**	**2,746,723**	**2,901,407**	**3,072,648**	**3,262,425**	**3,472,950**	**3,837,856**
Revenues											
Base Charge	606,366	635,886	722,562	812,439	913,332	1,026,575	1,153,663	1,296,270	1,456,270	1,635,762	1,837,095
Per Unit Charges	51,840	51,840	57,508	63,797	70,772	78,511	87,096	96,619	107,184	118,903	131,905
Other Revenue			-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	131,156
Contributions from Reserves / Reserve Funds	8,738	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**666,944**	**687,726**	**780,071**	**876,236**	**984,104**	**1,105,086**	**1,240,759**	**1,392,889**	**1,563,454**	**1,754,665**	**2,100,156**
Wastewater Billing Recovery - Total	**1,409,310**	**1,463,710**	**1,570,312**	**1,588,979**	**1,622,726**	**1,641,637**	**1,660,648**	**1,679,759**	**1,698,971**	**1,718,285**	**1,737,700**

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 Town. 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 Town's water and wastewater systems. This chapter presents the calculated rates for the next 10-year period. These calculations are based on the net operating expenditures identified in Chapter 5.

6.1 Water and Wastewater Rates

The following subsections identify the water and wastewater rate structure for each option presented in this report. The annual water and wastewater bill impact is also provided for each option, for a cross-section of customers, including small metered residential, average metered residential, average metered non-residential, and large metered non-residential. The detailed calculations of the proposed water and wastewater rate structures are contained in Appendices A and B to this report, respectively.

The recommended rate forecasts were developed to address full costs of the municipal water and wastewater systems, including annual operating and capital expenditures from both a lifecycle and growth-related perspective.

Various rate structure options were developed and discussed with Town staff during the rate analysis process. Four alternative rate options were considered and are discussed and illustrated below. The options are as follows:

- Scenario 1 – Maintain the Town's existing rate structure i.e. declining block consumptive rates (per m^3) with a graduated monthly base charge;
- Scenario 2 – Adjust the ratio between base charges to align with the meter equivalent ratios suggested by the American Water Works Association (A.W.W.A.) and maintain declining block consumptive rates from Scenario 1 (per m^3);

- Scenario 3 – Adjust ratios between monthly base charges per Scenario 2, and calculate a uniform consumptive rate (per m^3) instead of the 4-block declining block rate structure; and
- Scenario 4 – Adjust ratios between monthly base charges per Scenario 2, and calculate consumptive rates based on a 3-block declining block rate structure (i.e. eliminate the 4th consumption block).

6.1.1 Scenario 1 – Maintain Existing Rate Structure

The Town currently imposes a monthly base charge, graduated by meter size to recognize the service capacity utilized by the different sized meters. In addition to the base charge, the Town imposes a consumptive rate based on a declining block rate structure i.e. it provides lower consumptive rates for customers with higher water usage.

The bi-monthly consumption blocks and rates are presented in Table 6-1 below.

Table 6-1
Town of Minto
2021 Consumptive Rates

Consumption Block	Amount of Water Consumed	Cost (per m^3)		
		Water	Wastewater	Total
Block 1	0-250m^3	$ 2.49	$ 3.15	$ 5.64
Block 2	250 - 500m^3	$ 1.79	$ 2.30	$ 4.09
Block 3	501-3,000m^3	$ 1.53	$ 1.95	$ 3.48
Block 4	3,000m^3+	$ 0.50	$ 0.52	$ 1.02

Under this option, the Town would maintain its existing rate structure. To achieve the full cost recovery identified above, water base charge rates would be required to increase by 5% annually over the forecast period i.e. 2022-2030. Furthermore, the consumptive rate would increase by 1% over the same period.

Similarly, wastewater base charge rates would be required to increase by 11% annually over the forecast period to 2030. The consumptive rate would increase by 1% annually from 2022 to 2030. The resultant rate forecast is presented in Table 6-2.

In addition, a bulk water rate (consumptive/volumetric) has been proposed based on the full costs of municipal water. These rates are also shown in Table 6-2.

6.1.2 Scenario 2 – Adjust Base Charges to reflect A.W.W.A. Equivalent Meter Ratio

As part of this study, the share of system capacity used by high volume users was contrasted to the annual revenues received as a share of total revenues. This assessment revealed that the combination of the Town's existing meter equivalent ratios (shown in Table 6-3) and declining block rate structure resulted in a cross subsidy from the low and average volume users to the high-volume users.

One of the objectives of the rate study is to propose an equitable rate structure. To this end, an alternative rate forecast has been developed such that the ratios between base charges are consistent with A.W.W.A. equivalent meter ratios. This adjustment was undertaken to better align the base charge with the capacity needs, which vary by meter size. There would be an initial adjustment to re-align the meter equivalency ratios in 2022, and subsequently the annual increases to the base and consumptive rates under this scenario would be the same as those proposed in Scenario 1. The rate forecast under Scenario 2 is presented in Table 6-4 below.

Table 6-3
Town of Minto
Comparison of Town and A.W.W.A. Equivalent Meter Ratios

Meter Size (in.)	Minto Current	A.W.W.A. Equivalent Meter Ratio
5/8"	1.00	1.00
¾"	1.00	1.10
1"	1.09	1.40
1 ½"	1.27	1.80
2"	1.50	2.90
3"	1.61	11.00
4"	1.95	14.00

6.1.3 Scenario 3 – Uniform Consumptive Rate

The current billing structure provides a partial subsidy to the higher-volume customers. Scenario 3 measures the impacts of a uniform consumptive rate structure which would reduce the subsidy across customer types. From a comparative perspective, uniform/constant rates would allow for all customers to be billed for the full cost of their service demands. In this option, regardless of the amount of consumption, each

customer would pay the same rate for each cubic metre of water consumption. The forecast uniform consumptive rate is presented in Table 6-5.

6.1.4 Scenario 4 – Eliminate Consumption Block 4 from Rate Structure (Recommended)

As a compromise between the current declining block rate structure and the uniform consumptive rate structure considered under Scenario 3, Scenario 4 would eliminate the fourth consumption block. Under this option, the meter equivalency ratios applied to the base charges would be adjusted as provided under Scenario 2. While the Town would maintain a declining block rate for consumption, the fourth consumption block would be eliminated.

After the initial adjustment to re-align the meter equivalency ratios in 2022, base charges would increase by approximately 5% a year from 2023 to 2030. The consumptive rate for water consumed would increase by approximately 0.4% per year over the forecast period 2022-2030. Wastewater base charge rates would increase by 11% annually from 2023 to 2030. The consumptive rate would increase by 0.3% annually from 2022 to 2030. The resultant rate forecasts and annual increases are presented in Table 6-6.

The detailed financial forecast and rate calculations for water services are provided in Appendix A to this report. Similarly, the detailed financial forecast and rate calculations for wastewater services are provided in Appendix B.

Table 6-2
Town of Minto
Scenario 1 - Water and Wastewater Rate Forecast

Water

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 23.00	$ 24.08	$ 25.20	$ 26.38	$ 27.62	$ 28.91	$ 30.26	$ 31.68	$ 33.16	$ 34.72
1" Meter Size	$ 25.00	$ 26.17	$ 27.40	$ 28.68	$ 30.02	$ 31.43	$ 32.90	$ 34.44	$ 36.05	$ 37.74
1 ½" Meter Size	$ 29.00	$ 30.36	$ 31.78	$ 33.27	$ 34.82	$ 36.45	$ 38.16	$ 39.95	$ 41.82	$ 43.77
2" Meter Size	$ 34.00	$ 35.59	$ 37.26	$ 39.00	$ 40.83	$ 42.74	$ 44.74	$ 46.83	$ 49.03	$ 51.32
3" Meter Size	$ 36.50	$ 38.21	$ 40.00	$ 41.87	$ 43.83	$ 45.88	$ 48.03	$ 50.28	$ 52.63	$ 55.09
4" + Meter Size	$ 44.00	$ 46.06	$ 48.22	$ 50.47	$ 52.84	$ 55.31	$ 57.90	$ 60.61	$ 63.44	$ 66.41
Per Unit Charge	$ 7.50	$ 7.85	$ 8.22	$ 8.60	$ 9.01	$ 9.43	$ 9.87	$ 10.33	$ 10.81	$ 11.32
Annual Percentage Change		**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**

Consumptive Rate: Declining Block Rates ($/m³)										
Declining Block Structure										
Block 1	$ 2.49	$ 2.52	$ 2.54	$ 2.57	$ 2.59	$ 2.62	$ 2.64	$ 2.67	$ 2.70	$ 2.73
Block 2	$ 1.79	$ 1.81	$ 1.83	$ 1.84	$ 1.86	$ 1.88	$ 1.90	$ 1.92	$ 1.94	$ 1.96
Block 3	$ 1.53	$ 1.55	$ 1.56	$ 1.58	$ 1.59	$ 1.61	$ 1.62	$ 1.64	$ 1.66	$ 1.67
Block 4	$ 0.50	$ 0.51	$ 0.51	$ 0.52	$ 0.52	$ 0.53	$ 0.53	$ 0.54	$ 0.54	$ 0.55
Annual Percentage Change		**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**

Bulk Water Rate (per m³)	**$ 3.00**	**$ 3.49**	**$ 3.58**	**$ 3.64**	**$ 3.74**	**$ 3.84**	**$ 3.95**	**$ 4.06**	**$ 4.18**	**$ 4.30**
Annual Percentage Change		**16%**	**3%**	**2%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**

Unmetered/Flat Rate (per month)	**$ 58.30**	**$ 63.09**	**$ 64.61**	**$ 66.19**	**$ 67.83**	**$ 69.52**	**$ 71.29**	**$ 73.12**	**$ 75.02**	**$ 76.99**
Annual Percentage Change		**8%**	**2%**	**2%**	**2%**	**3%**	**3%**	**3%**	**3%**	**3%**

Wastewater

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 23.00	$ 25.51	$ 28.30	$ 31.40	$ 34.83	$ 38.64	$ 42.87	$ 47.55	$ 52.75	$ 58.52
1" Meter Size	$ 25.00	$ 27.73	$ 30.77	$ 34.13	$ 37.86	$ 42.00	$ 46.59	$ 51.69	$ 57.34	$ 63.61
1 ½" Meter Size	$ 29.00	$ 32.17	$ 35.69	$ 39.59	$ 43.92	$ 48.72	$ 54.05	$ 59.96	$ 66.52	$ 73.79
2" Meter Size	$ 34.00	$ 37.72	$ 41.84	$ 46.42	$ 51.49	$ 57.12	$ 63.37	$ 70.30	$ 77.98	$ 86.51
3" Meter Size	$ 36.50	$ 40.49	$ 44.92	$ 49.83	$ 55.28	$ 61.32	$ 68.03	$ 75.47	$ 83.72	$ 92.87
4" + Meter Size	$ 44.00	$ 48.81	$ 54.15	$ 60.07	$ 66.64	$ 73.92	$ 82.01	$ 90.97	$ 100.92	$ 111.96
Per Unit Charge	$ 7.50	$ 8.32	$ 9.23	$ 10.24	$ 11.36	$ 12.60	$ 13.98	$ 15.51	$ 17.20	$ 19.08
Annual Percentage Change		**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**

Consumptive Rate: Declining Block Rates ($/m³)										
Declining Block Structure										
Block 1	$ 3.15	$ 3.18	$ 3.21	$ 3.24	$ 3.27	$ 3.30	$ 3.34	$ 3.37	$ 3.40	$ 3.43
Block 2	$ 2.30	$ 2.32	$ 2.34	$ 2.37	$ 2.39	$ 2.41	$ 2.44	$ 2.46	$ 2.48	$ 2.51
Block 3	$ 1.95	$ 1.97	$ 1.99	$ 2.01	$ 2.03	$ 2.05	$ 2.07	$ 2.09	$ 2.11	$ 2.13
Block 4	$ 0.52	$ 0.53	$ 0.53	$ 0.54	$ 0.54	$ 0.55	$ 0.55	$ 0.56	$ 0.56	$ 0.57
Annual Percentage Change		**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**

Flat Rate (Monthly)	**$ 66.70**	**$71.97**	**$75.21**	**$78.76**	**$82.65**	**$86.92**	**$91.61**	**$96.77**	**$102.44**	**$108.69**
Annual Percentage Change		**8%**	**4%**	**5%**	**5%**	**5%**	**5%**	**6%**	**6%**	**6%**

Table 6-4
Town of Minto
Scenario 2 - Water and Wastewater Rate Forecast

Water

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 23.00	$ 23.18	$ 24.27	$ 25.42	$ 26.62	$ 27.88	$ 29.20	$ 30.58	$ 32.02	$ 33.53
1" Meter Size	$ 25.00	$ 32.45	$ 33.98	$ 35.59	$ 37.27	$ 39.03	$ 40.88	$ 42.81	$ 44.83	$ 46.94
1 ½" Meter Size	$ 29.00	$ 41.72	$ 43.69	$ 45.76	$ 47.92	$ 50.18	$ 52.55	$ 55.04	$ 57.64	$ 60.36
2" Meter Size	$ 34.00	$ 67.22	$ 70.39	$ 73.72	$ 77.20	$ 80.85	$ 84.67	$ 88.67	$ 92.86	$ 97.24
3" Meter Size	$ 36.50	$ 254.95	$ 267.01	$ 279.63	$ 292.84	$ 306.68	$ 321.17	$ 336.33	$ 352.22	$ 368.84
4" + Meter Size	$ 44.00	$ 324.49	$ 339.83	$ 355.89	$ 372.71	$ 390.32	$ 408.76	$ 428.06	$ 448.28	$ 469.44
Per Unit Charge	$ 7.50	$ 7.90	$ 8.28	$ 8.67	$ 9.08	$ 9.50	$ 9.95	$ 10.42	$ 10.92	$ 11.43
Annual Percentage Change			**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**

Consumptive Rate: Declining Block Rates ($/m³)										
Declining Block Structure										
Block 1	$ 2.49	$ 2.52	$ 2.54	$ 2.57	$ 2.59	$ 2.62	$ 2.64	$ 2.67	$ 2.70	$ 2.73
Block 2	$ 1.79	$ 1.81	$ 1.83	$ 1.84	$ 1.86	$ 1.88	$ 1.90	$ 1.92	$ 1.94	$ 1.96
Block 3	$ 1.53	$ 1.55	$ 1.56	$ 1.58	$ 1.59	$ 1.61	$ 1.62	$ 1.64	$ 1.66	$ 1.67
Block 4	$ 0.50	$ 0.51	$ 0.51	$ 0.52	$ 0.52	$ 0.53	$ 0.53	$ 0.54	$ 0.54	$ 0.55
Annual Percentage Change		**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**

Wastewater

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 23.00	$ 23.74	$ 26.35	$ 29.26	$ 32.49	$ 36.07	$ 40.04	$ 44.46	$ 49.35	$ 54.79
1" Meter Size	$ 25.00	$ 33.23	$ 36.90	$ 40.96	$ 45.48	$ 50.50	$ 56.06	$ 62.24	$ 69.10	$ 76.71
1 ½" Meter Size	$ 29.00	$ 42.72	$ 47.44	$ 52.67	$ 58.48	$ 64.92	$ 72.08	$ 80.02	$ 88.84	$ 98.62
2" Meter Size	$ 34.00	$ 68.83	$ 76.43	$ 84.86	$ 94.21	$ 104.60	$ 116.13	$ 128.92	$ 143.13	$ 158.89
3" Meter Size	$ 36.50	$ 261.10	$ 289.89	$ 321.87	$ 357.35	$ 396.75	$ 440.48	$ 489.02	$ 542.90	$ 602.70
4" + Meter Size	$ 44.00	$ 332.30	$ 368.96	$ 409.65	$ 454.81	$ 504.95	$ 560.61	$ 622.38	$ 690.96	$ 767.07
Per Unit Charge	$ 7.50	$ 8.09	$ 8.98	$ 9.98	$ 11.08	$ 12.30	$ 13.65	$ 15.16	$ 16.83	$ 18.68
Annual Percentage Change			**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**

Consumptive Rate: Declining Block Rates ($/m³)										
Block 1	$ 3.15	$ 3.18	$ 3.21	$ 3.24	$ 3.27	$ 3.30	$ 3.34	$ 3.37	$ 3.40	$ 3.43
Block 2	$ 2.30	$ 2.32	$ 2.34	$ 2.37	$ 2.39	$ 2.41	$ 2.44	$ 2.46	$ 2.48	$ 2.51
Block 3	$ 1.95	$ 1.97	$ 1.99	$ 2.01	$ 2.03	$ 2.05	$ 2.07	$ 2.09	$ 2.11	$ 2.13
Block 4	$ 0.52	$ 0.53	$ 0.53	$ 0.54	$ 0.54	$ 0.55	$ 0.55	$ 0.56	$ 0.56	$ 0.57
Annual Percentage Change		**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**

Table 6-5
Town of Minto
Scenario 3 - Water and Wastewater Uniform Consumptive Rate Forecast

Water

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge Same Base Charge Forecast as Scenario 2										

Uniform Consumptive Rate ($/m³)	**$ 2.13**	**$ 2.15**	**$ 2.18**	**$ 2.18**	**$ 2.21**	**$ 2.23**	**$ 2.26**	**$ 2.28**	**$ 2.31**	**$ 2.33**
Annual Percentage Change		**1%**	**1%**	**0%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**

Wastewater

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge Forecast Same as Scenario 2										
Uniform Consumptive Rate ($/m³)	**$ 2.67**	**$ 2.70**	**$ 2.73**	**$ 2.73**	**$ 2.76**	**$ 2.79**	**$ 2.82**	**$ 2.85**	**$ 2.89**	**$ 2.92**
Annual Percentage Change		**1%**	**1%**	**0%**	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**

Table 6-6
Town of Minto
Scenario 4 - Water and Wastewater Rate Forecast

Water

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 23.00	$ 23.18	$ 24.27	$ 25.42	$ 26.62	$ 27.88	$ 29.20	$ 30.58	$ 32.02	$ 33.53
1" Meter Size	$ 25.00	$ 32.45	$ 33.98	$ 35.59	$ 37.27	$ 39.03	$ 40.88	$ 42.81	$ 44.83	$ 46.94
1 ½" Meter Size	$ 29.00	$ 41.72	$ 43.69	$ 45.76	$ 47.92	$ 50.18	$ 52.55	$ 55.04	$ 57.64	$ 60.36
2" Meter Size	$ 34.00	$ 67.22	$ 70.39	$ 73.72	$ 77.20	$ 80.85	$ 84.67	$ 88.67	$ 92.86	$ 97.24
3" Meter Size	$ 36.50	$ 254.95	$ 267.01	$ 279.63	$ 292.84	$ 306.68	$ 321.17	$ 336.33	$ 352.22	$ 368.84
4" + Meter Size	$ 44.00	$ 324.49	$ 339.83	$ 355.89	$ 372.71	$ 390.32	$ 408.76	$ 428.06	$ 448.28	$ 469.44
Per Unit Charge	$ 7.50	$ 7.90	$ 8.28	$ 8.67	$ 9.08	$ 9.50	$ 9.95	$ 10.42	$ 10.92	$ 11.43
Annual Percentage Change			**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**

Consumptive Rate: Declining Block Rates ($/m^3)										
Declining Block Structure										
Block 1	$ 2.49	$ 2.50	$ 2.51	$ 2.52	$ 2.53	$ 2.54	$ 2.55	$ 2.56	$ 2.57	$ 2.58
Block 2	$ 1.79	$ 1.80	$ 1.80	$ 1.81	$ 1.82	$ 1.83	$ 1.83	$ 1.84	$ 1.85	$ 1.86
Block 3	$ 1.53	$ 1.54	$ 1.54	$ 1.55	$ 1.55	$ 1.56	$ 1.57	$ 1.57	$ 1.58	$ 1.59
Block 4	$ 0.50									
Annual Percentage Change		**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**

Wastewater

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 23.00	$ 23.74	$ 26.35	$ 29.26	$ 32.49	$ 36.07	$ 40.04	$ 44.46	$ 49.35	$ 54.79
1" Meter Size	$ 25.00	$ 33.23	$ 36.90	$ 40.96	$ 45.48	$ 50.50	$ 56.06	$ 62.24	$ 69.10	$ 76.71
1 ½" Meter Size	$ 29.00	$ 42.72	$ 47.44	$ 52.67	$ 58.48	$ 64.92	$ 72.08	$ 80.02	$ 88.84	$ 98.62
2" Meter Size	$ 34.00	$ 68.83	$ 76.43	$ 84.86	$ 94.21	$ 104.60	$ 116.13	$ 128.92	$ 143.13	$ 158.89
3" Meter Size	$ 36.50	$ 261.10	$ 289.89	$ 321.87	$ 357.35	$ 396.75	$ 440.48	$ 489.02	$ 542.90	$ 602.70
4" + Meter Size	$ 44.00	$ 332.30	$ 368.96	$ 409.65	$ 454.81	$ 504.95	$ 560.61	$ 622.38	$ 690.96	$ 767.07
Per Unit Charge	$ 7.50	$ 8.09	$ 8.98	$ 9.98	$ 11.08	$ 12.30	$ 13.65	$ 15.16	$ 16.83	$ 18.68
Annual Percentage Change			**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**

Consumptive Rate: Declining Block Rates ($/m^3)										
Block 1	$ 3.15	$ 3.16	$ 3.17	$ 3.18	$ 3.19	$ 3.20	$ 3.21	$ 3.22	$ 3.23	$ 3.24
Block 2	$ 2.30	$ 2.31	$ 2.31	$ 2.32	$ 2.33	$ 2.34	$ 2.34	$ 2.35	$ 2.36	$ 2.36
Block 3	$ 1.95	$ 1.96	$ 1.96	$ 1.97	$ 1.97	$ 1.98	$ 1.99	$ 1.99	$ 2.00	$ 2.00
Block 4	$ 0.52									
Annual Percentage Change		**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**

6.2 Forecast Water and Wastewater Rate Impacts

Table 6-7 summarizes the annual bill impacts of the calculated rates under each scenario, for five types of customers:

- Small metered (⅝" or ¾" meter) residential customer consuming 81m^3 per year;
- Average metered (⅝" or ¾" meter) residential customer consuming 137m^3 per year;
- Average metered (1 ½" meter) non-residential customer consuming 1,058m^3 per year; and
- Large metered (3" meter) non-residential customer consuming 94,477m^3 per year.

Table 6-7
Town of Minto
Annual Water and Wastewater Bill Impact

Description	Current Rates (2021)	Scenario 1 - Year 1 (2022)	Scenario 2 - Year 1 (2022)	Scenario 3 - Year 1 (2022)	Scenario 4 - Year 1 (2022)
Small Residential (81m^3)					
Water	$ 478	$ 493	$ 482	$ 452	$ 481
Wastewater	$ 531	$ 564	$ 542	$ 503	$ 541
Total	**$ 1,009**	**$ 1,056**	**$ 1,024**	**$ 956**	**$ 1,021**
Increase Over Current Bill ($)		**$ 48**	**$ 15**	**$ (53)**	**$ 13**
Increase Over Current Bill (%)		**5%**	**2%**	**-5%**	**1%**
Average Residential (137m^3)					
Water	$ 617	$ 633	$ 623	$ 573	$ 621
Wastewater	$ 708	$ 742	$ 721	$ 655	$ 718
Total	**$ 1,325**	**$ 1,375**	**$ 1,343**	**$ 1,227**	**$ 1,338**
Increase Over Current Bill ($)		**$ 51**	**$ 19**	**$ (97)**	**$ 14**
Increase Over Current Bill (%)		**4%**	**1%**	**-7%**	**1%**
Average Non-Residential (1,058m^3)					
Water	$ 2,982	$ 3,025	$ 3,161	$ 2,777	$ 3,145
Wastewater	$ 3,680	$ 3,751	$ 3,877	$ 3,367	$ 3,855
Total	**$ 6,663**	**$ 6,776**	**$ 7,039**	**$ 6,144**	**$ 7,001**
Increase Over Current Bill ($)		**$ 113**	**$ 376**	**$ (518)**	**$ 338**
Increase Over Current Bill (%)		**2%**	**6%**	**-8%**	**5%**
Larger Non-Residential (94,477m^3)					
Water	$ 86,261	$ 87,146	$ 89,747	$ 206,348	$ 151,912
Wastewater	$ 102,696	$ 103,731	$ 106,378	$ 258,068	$ 192,649
Total	**$ 188,957**	**$ 190,877**	**$ 196,125**	**$ 464,416**	**$ 344,561**
Increase Over Current Bill ($)		**$ 1,920**	**$ 7,168**	**$ 275,459**	**$ 155,604**
Increase Over Current Bill (%)		**1%**	**4%**	**146%**	**82%**

6.3 Recommendations

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 approve the 2021 water and wastewater rates as shown in Chapter 6 under Scenario 4, and direct staff to review the Rate Study in five years; and

3. That Council approve the Rate Study and Water Financial Plan provided under separate cover and direct staff to submit the Plan and Council resolutions approving the Plan to the Province to maintain the Town's Municipal Drinking Water Licence.

Appendix A
Water Services

Table A-1
Town of Minto
Water Service
Capital Budget Forecast - Scenario 4 (Recommended)
Inflated $

Prj. No.	Description	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Capital Expenditures											
	Clifford											
1.	Allan Street Watermain to well 1	88,000	88,000	-	-	-	-	-	-	-	-	-
2.	Park Street Servicing	29,000	-	-	-	29,000	-	-	-	-	-	-
3.	Video Log-Wells #1,3,4	76,000	-	-	-	-	-	-	76,000	-	-	-
4.	Clifford Tower Inspection	45,000	21,000	-	-	-	-	24,000	-	-	-	-
5.	Clifford Water Tower Exterior Painting	401,000	-	-	-	401,000	-	-	-	-	-	-
6.	Clifford Water Tower Interior Painting	172,000	-	-	-	172,000	-	-	-	-	-	-
7.	Clifford Arsenic Treatment	121,000	10,000	11,000	11,000	11,000	12,000	12,000	13,000	13,000	14,000	14,000
	Harriston											
8.	Arthur St E C/L		-	-	-	-	-	-	-	-	-	-
9.	Arthur St W C/L	52,000	52,000	-	-	-	-	-	-	-	-	-
10.	Lawrence St Recon (Metzger)		-	-	-	-	-	-	-	-	-	-
11.	Tower Inspection & Repairs	52,000	-	-	-	-	24,000	-	-	-	-	28,000
12.	Harriston Water Tower Exterior Painting	414,000	-	-	-	-	414,000	-	-	-	-	-
13.	Harriston Water Tower Interior Painting	178,000	-	-	-	-	178,000	-	-	-	-	-
14.	Harriston - Video Log - Wells #1 & 3	143,000	41,000	-	22,000	-	-	-	-	52,000	-	28,000
	Palmerston											
15.	Henry Street		-	-	-	-	-	-	-	-	-	-
16.	Industrial Minto Road Servicing		-	-	-	-	-	-	-	-	-	-
17.	Main Street	1,468,000	-	5,000	11,000	-	-	122,000	1,330,000	-	-	-
18.	Water Tower Inspection	52,000	-	-	-	-	24,000	-	-	-	-	28,000
19.	Palmerston - Watertower - Exterior Painting	362,000	362,000	-	-	-	-	-	-	-	-	-
20.	Palmerston - Watertower - Interior Painting	155,000	155,000	-	-	-	-	-	-	-	-	-
21.	White's Road incl Private Water Line	410,000	41,000	369,000	-	-	-	-	-	-	-	-
22.	Palmerston - Video Log - Wells #1 & 2	93,000	41,000	-	-	-	-	-	-	52,000	-	-
	Rural											
23.	Minto Pines Insp & Column Pipe	43,000	-	43,000	-	-	-	-	-	-	-	-
24.	Minto Pines Well # 2	95,000	41,000	21,000	33,000	-	-	-	-	-	-	-
	General											
25.	Asset Management CityWide	61,000	5,000	5,000	6,000	6,000	6,000	6,000	6,000	7,000	7,000	7,000
26.	Equipment	121,000	10,000	11,000	11,000	11,000	12,000	12,000	13,000	13,000	14,000	14,000
27.	5 yr replace Pick-ups 2015	496,000	-	-	111,000	57,000	59,000	-	-	131,000	68,000	70,000
28.	7 yr replace Service Truck	91,000	-	40,000	-	-	-	-	-	-	51,000	-
29.	Vacuum Trucks	296,000	-	-	-	-	296,000	-	-	-	-	-
30.	SCADA Sewer & Water Urban Areas	501,000	114,000	118,000	122,000	69,000	12,000	12,000	13,000	13,000	14,000	14,000
31.	Capital Watermain Replacement	3,591,000	310,000	321,000	332,000	343,000	355,000	367,000	380,000	356,000	407,000	420,000
32.	Water Meter General	241,000	21,000	21,000	22,000	23,000	24,000	24,000	25,000	26,000	27,000	28,000
33.	Pumps, Valves, etc	182,000	16,000	16,000	17,000	17,000	18,000	18,000	19,000	20,000	20,000	21,000
34.	Engineering	182,000	16,000	16,000	17,000	17,000	18,000	18,000	19,000	20,000	20,000	21,000

Table A-1 (cont'd)
Town of Minto
Water Service
Capital Budget Forecast - Scenario 4 (Recommended)
Inflated $

Prj. No.	Description	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Growth Related:											
	Clifford											
35.	Allan St W - Limits (Development)	81,000	-	-	-	-	-	-	-	81,000	-	-
36.	Queen St Ann to Minto (Thiessen)	130,000	-	-	-	-	130,000	-	-	-	-	-
	Harriston											
37.	John St Oversizing	2,593,000	-	-	-	-	-	-	-	-	-	2,593,000
38.	King St N (Dev)	105,000	-	-	-	105,000	-	-	-	-	-	-
39.	Queen St N (Dev)	105,000	-	-	-	105,000	-	-	-	-	-	-
40.	Webb St Extension	350,000	-	-	-	-	-	350,000	-	-	-	-
41.	Future Development	153,000	-	-	-	-	-	153,000	-	-	-	-
	Palmerston											
42.	Palmerston - Queen St S (Growth Share)	37,000	-	-	-	-	-	-	-	37,000	-	-
43.	White's Road - Royal Terrace - Water	250,000	-	250,000	-	-	-	-	-	-	-	-
44.	Heinmiller Oversizing	354,000	-	-	-	354,000	-	-	-	-	-	-
45.	Henry Lane Loop	275,000	-	-	-	275,000	-	-	-	-	-	-
	Studies											
46.	Servicing Strategy	20,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
47.	Water/Wastewater Rate Study	39,000	-	-	-	-	18,000	-	-	-	-	21,000
	Total Capital Expenditures	**14,644,000**	**1,344,000**	**1,247,000**	**715,000**	**1,995,000**	**1,582,000**	**1,118,000**	**1,894,000**	**821,000**	**642,000**	**3,286,000**
	Capital Financing											
	Provincial/Federal Grants	-										
	Developer Contributions	91,000	-	-	-	-	91,000	-	-	-	-	-
	Development Charges Reserve Fund	1,438,915	-	62,500	-	463,000	39,000	164,865	-	61,300	-	648,250
	Non-Growth Related Debenture Requirements	3,680,109	-	89,906	-	699,175	668,359	84,313	978,088	-	-	1,160,268
	Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
	Water Reserve	9,433,976	1,344,000	1,094,594	715,000	832,825	783,641	868,822	915,912	759,700	642,000	1,477,482
	Total Capital Financing	**14,644,000**	**1,344,000**	**1,247,000**	**715,000**	**1,995,000**	**1,582,000**	**1,118,000**	**1,894,000**	**821,000**	**642,000**	**3,286,000**

Table A-2
Town of Minto
Water Service
Schedule of Non-Growth Related Debenture Repayments - Scenario 4 (Recommended)
Inflated $

Debenture Year	Principal (Inflated)	Forecast									
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	-		-	-	-	-	-	-	-	-	-
2022	89,906			5,488	5,488	5,488	5,488	5,488	5,488	5,488	5,488
2023	-				-	-	-	-	-	-	-
2024	699,175					42,677	42,677	42,677	42,677	42,677	42,677
2025	668,359						40,796	40,796	40,796	40,796	40,796
2026	84,313							5,146	5,146	5,146	5,146
2027	978,088								59,701	59,701	59,701
2028	-									-	-
2029	-										-
2030	1,160,268										
Total Annual Debt Charges	**3,680,109**	-	-	5,488	5,488	48,164	88,960	94,107	153,808	153,808	153,808

Table A-3
Town of Minto
Water Service
Schedule of Growth Related Debenture Repayments - Scenario 4 (Recommended)
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	-										
Total Annual Debt Charges	**-**	-	-	-	-	-	-	-	-	-	-

Table A-4
Town of Minto
Water Service
Water Reserves/ Reserve Funds Continuity - Scenario 4 (Recommended)
Inflated $

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	1,115,003	367,026	-	38,042	-	-	-	-	132,214	470,473
Transfer from Operating	588,826	727,569	752,296	794,784	783,641	868,822	915,912	889,322	971,034	1,007,009
Transfer to Capital	1,344,000	1,094,594	715,000	832,825	783,641	868,822	915,912	759,700	642,000	1,477,482
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**359,829**	**-**	**37,296**	**-**	**-**	**-**	**-**	**129,622**	**461,248**	**-**
Interest	7,197	-	746	-	-	-	-	2,592	9,225	-

Table A-5
Town of Minto
Water Service
Water Development Charges Reserve Fund Continuity - Scenario 4 (Recommended)
Inflated $

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	219,541	263,903	246,767	294,460	(127,675)	(124,266)	(247,608)	(203,633)	(219,628)	(171,682)
Development Charge Proceeds	39,188	40,525	41,919	43,368	44,846	46,379	47,967	49,612	51,312	53,068
Transfer to Capital	-	62,500	-	463,000	39,000	164,865	-	61,300	-	648,250
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**258,729**	**241,929**	**288,686**	**(125,172)**	**(121,829)**	**(242,752)**	**(199,640)**	**(215,321)**	**(168,316)**	**(766,865)**
Interest	5,175	4,839	5,774	(2,503)	(2,437)	(4,855)	(3,993)	(4,306)	(3,366)	(15,337)
Required from Development Charges	-	62,500	-	463,000	39,000	164,865	-	61,300	-	648,250

Table A-6
Town of Minto
Water Services
Operating Budget Forecast - Scenario 4 (Recommended)
Inflated $

Description	Forecast									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures										
Operating Costs										
Salaries, Wages and Benefits	616,600	635,100	654,200	673,800	694,000	714,800	736,200	758,300	781,000	804,400
Conferences & Meetings	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Training	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Mileage	500	500	500	500	500	500	500	500	500	500
Administrative Oversight	44,300	49,100	54,400	60,300	66,800	74,000	82,000	90,900	100,800	111,700
Legal Services	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Certifications	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
PSAB Consulting	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Engineering Services	11,400	11,800	12,200	12,600	13,000	13,400	13,900	14,400	14,900	15,400
DWQMS Financial Plan	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Consulting	18,600	19,200	19,900	20,600	21,300	22,000	22,800	23,600	24,400	25,200
Internal Auditing - DWQMS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Permits/Accreditation - DWQMS	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500
Professional Memberships	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Annual Insurance Coverage	13,600	14,000	14,400	14,900	15,400	15,900	16,400	16,900	17,400	18,000
Risk Management	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Annual Property Taxes	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,600	4,800	5,000
Hydro Charges	75,500	75,500	75,500	75,500	75,500	75,500	75,500	75,500	75,500	75,500
Cleaning Supplies	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
Water Meters	8,800	9,100	9,400	9,700	10,000	10,300	10,700	11,100	11,500	11,900
Grounds Maintenance	5,100	5,300	5,500	5,700	5,900	6,100	6,300	6,500	6,700	6,900
Building Maintenance	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Office Expenses	4,100	4,200	4,300	4,400	4,600	4,800	5,000	5,200	5,400	5,600
Credit Bureau Charges	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Alarm System	15,900	17,600	19,500	21,600	23,900	26,500	29,400	32,600	36,100	40,000
Publications & Info Received	500	500	500	500	500	500	500	500	500	500
Advertising & Promotions	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Telephone & Internet	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Water Testing - Lead	500	500	500	500	500	500	500	500	500	500
Supplies	500	500	500	500	500	500	500	500	500	500
Bad Debts - Water	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Safety Clothing	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Machine Time Charge	189,300	195,800	202,500	209,500	216,700	224,100	231,800	239,800	248,000	256,500
Vehicle Expenditures	(210,700)	(217,900)	(225,400)	(233,100)	(241,100)	(249,400)	(258,000)	(266,900)	(276,100)	(285,600)
Pump House Operation	130,400	134,900	139,500	144,300	149,300	154,400	159,700	165,200	170,900	176,800
Standpipe/Tower	8,400	8,700	9,000	9,300	9,600	9,900	10,200	10,600	11,000	11,400
Watermain Repairs	43,800	45,300	46,900	48,500	50,200	51,900	53,700	55,500	57,400	59,400

Table A-6 (cont'd)
Town of Minto
Water Services
Operating Budget Forecast - Scenario 4 (Recommended)
Inflated $

Description	Forecast									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Hydrants	9,300	9,600	9,900	10,200	10,600	11,000	11,400	11,800	12,200	12,600
Backflow Prevention Program	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Computer Hardware/Software	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
SCADA Maintenance	5,200	5,400	5,600	5,800	6,000	6,200	6,400	6,600	6,800	7,000
Radio/GPS Services & Main.	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Locates	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
Fuel & Supplies	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
Repairs & Maintenance	7,000	7,200	7,400	7,700	8,000	8,300	8,600	8,900	9,200	9,500
Small Tools & Supplies	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Equipment Repairs & Maintenance	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
Safety Equipment	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Special Consulting Services	14,500	15,000	15,500	16,000	16,500	17,100	17,700	18,300	18,900	19,500
Water Sampling	4,700	4,900	5,100	5,300	5,500	5,700	5,900	6,100	6,300	6,500
Water Treatment	500	500	500	500	500	500	500	500	500	500
Grounds Maintenance - Winter	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Ground Maintenance	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
Sub Total Operating	**1,122,600**	**1,157,600**	**1,194,100**	**1,232,400**	**1,272,500**	**1,314,300**	**1,358,400**	**1,404,800**	**1,453,300**	**1,504,300**
Capital-Related										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	218,143	184,140	185,295	187,180	189,178	97,883	79,780	81,390	35,670	35,790
Existing Debt (Interest) - Non-Growth Related	41,147	35,078	30,598	26,032	21,447	17,088	14,212	11,750	9,492	8,393
New Non-Growth Related Debt (Principal)	-	-	3,708	3,781	32,689	60,899	65,581	107,215	109,338	111,503
New Non-Growth Related Debt (Interest)	-	-	1,780	1,707	15,476	28,062	28,525	46,593	44,470	42,305
Transfer to Capital Reserve	588,826	727,569	752,296	794,784	783,641	868,822	915,912	889,322	971,034	1,007,009
Sub Total Capital Related	**848,117**	**946,787**	**973,676**	**1,013,483**	**1,042,430**	**1,072,753**	**1,104,011**	**1,136,269**	**1,170,004**	**1,205,000**
Total Expenditures	**1,970,717**	**2,104,387**	**2,167,776**	**2,245,883**	**2,314,930**	**2,387,053**	**2,462,411**	**2,541,069**	**2,623,304**	**2,709,300**
Revenues										
Base Charge	657,396	704,348	746,997	792,095	839,779	890,191	943,482	999,813	1,059,349	1,122,268
Per Unit Charges	54,810	57,376	60,061	62,873	65,816	68,897	72,122	75,498	79,032	82,732
Other Revenue	53,300	55,100	57,000	59,000	61,000	63,100	65,300	67,500	69,800	72,200
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**765,506**	**816,824**	**864,059**	**913,968**	**966,595**	**1,022,188**	**1,080,904**	**1,142,811**	**1,208,181**	**1,277,200**
Water Billing Recovery - Total	**1,205,211**	**1,287,563**	**1,303,717**	**1,331,915**	**1,348,335**	**1,364,865**	**1,381,506**	**1,398,259**	**1,415,123**	**1,432,100**

Table A-7
Town of Minto
Water Services
Water Rate Forecast - Scenario 4 (Recommended)
Inflated $

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 21.93	$ 23.18	$ 24.27	$ 25.42	$ 26.62	$ 27.88	$ 29.20	$ 30.58	$ 32.02	$ 33.53
1" Meter Size	$ 30.70	$ 32.45	$ 33.98	$ 35.59	$ 37.27	$ 39.03	$ 40.88	$ 42.81	$ 44.83	$ 46.94
1 ½" Meter Size	$ 39.47	$ 41.72	$ 43.69	$ 45.76	$ 47.92	$ 50.18	$ 52.55	$ 55.04	$ 57.64	$ 60.36
2" Meter Size	$ 63.59	$ 67.22	$ 70.39	$ 73.72	$ 77.20	$ 80.85	$ 84.67	$ 88.67	$ 92.86	$ 97.24
3" Meter Size	$ 241.20	$ 254.95	$ 267.01	$ 279.63	$ 292.84	$ 306.68	$ 321.17	$ 336.33	$ 352.22	$ 368.84
4" + Meter Size	$ 306.98	$ 324.49	$ 339.83	$ 355.89	$ 372.71	$ 390.32	$ 408.76	$ 428.06	$ 448.28	$ 469.44
Per Unit Charge	$ 7.48	$ 7.90	$ 8.28	$ 8.67	$ 9.08	$ 9.50	$ 9.95	$ 10.42	$ 10.92	$ 11.43
Annual Percentage Change		**6%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**

Consumptive Rate: Declining Block Rates ($/m^3)										
Declining Block Structure										
Block 1	$ 2.49	$ 2.50	$ 2.51	$ 2.52	$ 2.53	$ 2.54	$ 2.55	$ 2.56	$ 2.57	$ 2.58
Block 2	$ 1.79	$ 1.80	$ 1.80	$ 1.81	$ 1.82	$ 1.83	$ 1.83	$ 1.84	$ 1.85	$ 1.86
Block 3	$ 1.53	$ 1.54	$ 1.54	$ 1.55	$ 1.55	$ 1.56	$ 1.57	$ 1.57	$ 1.58	$ 1.59
Block 4	$ 0.50									
Annual Percentage Change		**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**	**0.4%**

Appendix B
Wastewater Services

Table B-1
Town of Minto
Wastewater Service
Capital Budget Forecast - Scenario 4 (Recommended)
Inflated $

Prj. No.	Description	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Capital Expenditures											
	Clifford											
1.	William St-Schwindt	21,000	-	21,000	-	-	-	-	-	-	-	-
2.	Park Street Reconstruction	114,000	-	-	-	114,000	-	-	-	-	-	-
3.	Ultrarib Inspection/Lining	241,000	21,000	21,000	22,000	23,000	24,000	24,000	25,000	26,000	27,000	28,000
4.	Clifford Pump	26,000	-	-	-	-	12,000	-	-	-	-	14,000
	Harriston											
5.	Arthur St E C/L		-	-	-	-	-	-	-	-	-	-
6.	Arthur St W C/L	52,000	52,000	-	-	-	-	-	-	-	-	-
7.	Lawrence St Recon (Metzger)		-	-	-	-	-	-	-	-	-	-
8.	Pumping Station Upgrade & Pump	885,000	36,000	-	277,000	572,000	-	-	-	-	-	-
9.	Sewer Plant Roof / Lagoon Roof	-	-	-	-	-	-	-	-	-	-	-
10.	Sludge Removal	312,000	8,000	-	8,000	-	296,000	-	-	-	-	-
		-										
	Palmerston	-										
11.	Main Street	1,103,000	-	5,000	11,000	-	-	61,000	1,026,000	-	-	-
12.	Palm Sewers - Prospect St		-	-	-	-	-	-	-	-	-	-
13.	White's Road - regular	213,000	10,000	203,000	-	-	-	-	-	-	-	-
14.	Easement Maintenance	-	-	-	-	-	-	-	-	-	-	-
15.	Palmerston Treatment Plant											
16.	Clarifier	1,767,000	-	107,000	1,660,000	-	-	-	-	-	-	-
17.	Administration Complex	3,504,000	-	-	-	-	-	-	-	-	-	3,504,000
18.	Raw Sewage Pumping Station	3,504,000	-	-	-	-	-	-	-	-	-	3,504,000
19.	Effluent Complex	2,803,000	-	-	-	-	-	-	-	-	-	2,803,000
20.	Aeration Tanks	1,051,000	-	-	-	-	-	-	-	-	-	1,051,000
		-										
	General	-										
21.	Asset Management CityWide	43,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	5,000	5,000	5,000
22.	Equipment	82,000	26,000	5,000	6,000	6,000	6,000	6,000	6,000	7,000	7,000	7,000
23.	5 yr replace Pick Up	245,000	-	53,000	-	-	59,000	-	63,000	-	-	70,000
24.	7 yr replace Service Truck	91,000	-	40,000	-	-	-	-	-	-	51,000	-
25.	SCADA - Sewer	177,000	10,000	11,000	11,000	11,000	12,000	12,000	13,000	13,000	14,000	70,000
26.	Capital Sewer Main Replacement	3,589,000	310,000	321,000	332,000	343,000	355,000	367,000	380,000	354,000	407,000	420,000
27.	Pumps, Valves, Etc.	151,000	13,000	13,000	14,000	14,000	15,000	15,000	16,000	16,000	17,000	18,000
28.	Engineering	305,000	26,000	27,000	28,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000
29.	Assimilative Capacity Study (Harriston)	53,000	-	53,000	-	-	-	-	-	-	-	-
	Growth Related:											
	Clifford											
30.	Allan Street W Limits (Dev)	262,000	-	-	-	-	-	-	-	262,000	-	-
31.	Queen St Ann to Minto (Thiessen)	148,000	-	-	-	-	148,000	-	-	-	-	-
32.	Park St. Extension - Ann St to 60m west	117,000	-	-	-	117,000	-	-	-	-	-	-

Table B-1
Town of Minto
Wastewater Service
Capital Budget Forecast - Scenario 4 (Recommended)
Inflated $

Prj. No.	Description	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Harriston											
33.	King St N (Dev)	103,000	-	-	-	103,000	-	-	-	-	-	-
34.	Queen St N (Dev)	103,000	-	-	-	103,000	-	-	-	-	-	-
35.	Future Development	181,000	-	-	-	-	-	181,000	-	-	-	-
36.	Wastewater Inflow and Infiltration	462,000	103,000	107,000	28,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000
37.	Harriston Lagoons	1,430,000	-	-	-	-	-	-	-	-	-	1,430,000
38.	John/Lorne St Lift Station	169,000	-	-	169,000	-	-	-	-	-	-	-
	Palmerston											
39.	Henry Street		-	-	-	-	-	-	-	-	-	-
40.	Palmerston - Queen St S (Growth Share)	39,000	-	-	-	-	-	-	-	39,000	-	-
41.	White's Road - Royal Terrace - Sewer	235,000	5,000	230,000	-	-	-	-	-	-	-	-
42.	Henry Lane Loop Development Phase 2	233,000	-	-	-	233,000	-	-	-	-	-	-
43.	Wastewater Inflow and Infiltration	597,000	155,000	107,000	111,000	29,000	30,000	31,000	32,000	33,000	34,000	35,000
44.	Palmerston Industrial Park Lift Station	2,488,000	-	-	-	-	-	-	-	-	2,488,000	-
45.	Plant Upgrades, Expansion & Clarifier	21,935,000	-	-	-	-	-	-	-	-	-	21,935,000
	Studies	-										
46.	Sub-Watershed Study	106,000	106,000	-	-	-	-	-	-	-	-	-
47.	Servicing Strategy	20,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
48.	Water/Wastewater Rate Study	39,000	-	-	-	-	18,000	-	-	-	-	21,000
	Total Capital Expenditures	**48,999,000**	**887,000**	**1,330,000**	**2,683,000**	**1,732,000**	**1,041,000**	**765,000**	**1,631,000**	**823,000**	**3,120,000**	**34,987,000**
	Capital Financing											
	Provincial/Federal Grants	-										
	Developer Contributions	128,376	-	-	-	24,776	103,600	-	-	-	-	-
	Development Charges Reserve Fund	1,526,688	203,111	335,711	266,194	376,789	78,842	83,536	31,961	150,544	-	-
	Non-Growth Related Debenture Requirements	6,790,605	-	-	-	-	-	-	-	-	-	6,790,605
	Growth Related Debenture Requirements	24,838,827	-	-	-	-	-	-	-	-	2,148,728	22,690,100
	Wastewater Reserve	15,714,503	683,889	994,289	2,416,806	1,330,434	858,558	681,464	1,599,039	672,456	971,272	5,506,296
	Total Capital Financing	**48,999,000**	**887,000**	**1,330,000**	**2,683,000**	**1,732,000**	**1,041,000**	**765,000**	**1,631,000**	**823,000**	**3,120,000**	**34,987,000**

Table B-2
Town of Minto
Wastewater Service
Schedule of Non-Growth Related Debenture Repayments - Scenario 4 (Recommended)
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	6,790,605										
Total Annual Debt Charges	**6,790,605**	-	-	-	-	-	-	-	-	-	-

Table B-3
Town of Minto
Wastewater Service
Schedule of Growth Related Debenture Repayments - Scenario 4 (Recommended)
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	2,148,728										131,156
2030	22,690,100										
Total Annual Debt Charges	**24,838,827**	-	-	-	-	-	-	-	-	-	131,156

Table B-4
Town of Minto
Wastewater Service
Wastewater Reserves/ Reserve Funds Continuity - Scenario 4 (Recommended)
Inflated $

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	2,087,472	2,088,030	2,059,021	635,149	370,558	870,731	1,646,244	1,625,038	2,658,290	3,560,910
Transfer from Operating	643,505	924,907	980,479	1,058,578	1,341,657	1,424,698	1,545,970	1,653,584	1,804,071	1,944,357
Transfer to Capital	683,889	994,289	2,416,806	1,330,434	858,558	681,464	1,599,039	672,456	971,272	5,506,296
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	**2,047,088**	**2,018,648**	**622,695**	**363,292**	**853,657**	**1,613,965**	**1,593,174**	**2,606,166**	**3,491,088**	**(1,028)**
Interest	40,942	40,373	12,454	7,266	17,073	32,279	31,863	52,123	69,822	(21)

Table B-5
Town of Minto
Wastewater Service
Wastewater Development Charges Reserve Fund Continuity - Scenario 4 (Recommended)
Inflated $

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	1,548,577	1,491,977	1,303,087	1,185,562	957,286	1,032,899	1,109,927	1,245,964	1,268,799	1,450,848
Development Charge Proceeds	117,256	121,270	125,423	129,743	134,202	138,801	143,567	148,500	153,601	158,869
Transfer to Capital	203,111	335,711	266,194	376,789	78,842	83,536	31,961	150,544		
Transfer to Operating	-	-	-	-	-	-	-	-	-	131,156
Closing Balance	**1,462,723**	**1,277,536**	**1,162,315**	**938,515**	**1,012,646**	**1,088,164**	**1,221,534**	**1,243,921**	**1,422,400**	**1,478,561**
Interest	29,254	25,551	23,246	18,770	20,253	21,763	24,431	24,878	28,448	29,571
Required from Development Charges	203,111	335,711	266,194	376,789	78,842	83,536	31,961	150,544	2,148,728	22,690,100

Table B-6
Town of Minto
Wastewater Services
Operating Budget Forecast - Scenario 4 (Recommended)
Inflated $

Description	Forecast									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures										
Operating Costs										
Salary, Wages and Benefits	433,400	457,600	483,100	510,100	538,600	568,700	600,400	633,900	669,300	706,700
Conferences & Meetings	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Training	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000
Mileage	300	300	300	300	300	300	300	300	300	300
Administrative Oversight/Allocation	43,700	47,800	52,300	57,200	62,500	68,300	74,700	81,700	89,300	97,600
Legal Services	500	500	500	500	500	500	500	500	500	500
Certifications	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
AMP Consulting	5,400	5,800	6,200	6,700	7,200	7,700	8,300	8,900	9,600	10,300
Special Consulting Services	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
Professional Memberships	800	800	800	800	800	800	800	800	800	800
Cleaning Supplies	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Office Supplies/Expenses	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
ePost Fees	300	300	300	300	300	300	300	300	300	300
Computer Software/Hardware	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Publications & Info Received	200	200	200	200	200	200	200	200	200	200
Advertising & Promotions	900	900	900	900	900	900	900	900	900	900
Telephone Services & Charges	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Supplies	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
Equip Rep & Mtce	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Safety Equipment	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
SANITARY SEWER PUMPS	16,400	16,700	17,000	17,300	17,600	18,000	18,400	18,800	19,200	19,600
Safety Clothing	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
Vehicles	(125,900)	(128,400)	(131,000)	(133,600)	(136,300)	(139,000)	(141,800)	(144,600)	(147,500)	(150,500)
Hydro/Water/Heat	219,000	238,400	259,500	282,500	307,500	334,700	364,300	396,500	431,600	469,800
Engineering Services	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400	7,500
Annual Insurance Coverage	15,500	16,200	16,900	17,600	18,300	19,100	19,900	20,700	21,600	22,500
Risk Management	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000
Annual Property Taxes	68,800	70,200	71,600	73,000	74,500	76,000	77,500	79,100	80,700	82,300
Grounds Maintenance	7,200	7,400	7,600	7,800	8,000	8,200	8,400	8,700	9,000	9,300
Building Maintenance	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200
Alarm System	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
Machine Time Charge	121,100	123,500	126,000	128,500	131,100	133,700	136,400	139,100	141,900	144,700
LAGOON SYSTEM	170,400	173,800	177,300	180,800	184,400	188,100	191,900	195,700	199,600	203,600
SANITARY SEWERMAIN Repairs	31,900	32,500	33,200	33,900	34,600	35,300	36,000	36,700	37,400	38,100
Interest on Deposits	500	500	500	500	500	500	500	500	500	500
Washroom Supplies	500	500	500	500	500	500	500	500	500	500
Radio/GPS Services & Main.	600	600	600	600	600	600	600	600	600	600
Leak Adjustments	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
Sub Total Operating	**1,078,900**	**1,134,800**	**1,194,300**	**1,257,700**	**1,325,200**	**1,397,300**	**1,474,200**	**1,556,300**	**1,644,100**	**1,737,700**

Table B-6 (cont'd)
Town of Minto
Wastewater Services
Operating Budget Forecast - Scenario 4 (Recommended)
Inflated $

Description	Forecast									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital-Related										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	88,611
New Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	42,545
Existing Debt (Principal) - Non-Growth Related	374,266	250,878	259,619	269,148	68,299	69,733	44,800	46,290	18,210	18,670
Existing Debt (Interest) - Non-Growth Related	54,765	39,798	30,816	21,404	11,567	9,676	7,679	6,251	6,569	5,973
New Non-Growth Related Debt (Principal)	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)	-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	643,505	924,907	980,479	1,058,578	1,341,657	1,424,698	1,545,970	1,653,584	1,804,071	1,944,357
Sub Total Capital Related	**1,072,536**	**1,215,583**	**1,270,915**	**1,349,130**	**1,421,523**	**1,504,107**	**1,598,448**	**1,706,125**	**1,828,850**	**2,100,156**
Total Expenditures	**2,151,436**	**2,350,383**	**2,465,215**	**2,606,830**	**2,746,723**	**2,901,407**	**3,072,648**	**3,262,425**	**3,472,950**	**3,837,856**
Revenues										
Base Charge	635,886	722,562	812,439	913,332	1,026,575	1,153,663	1,296,270	1,456,270	1,635,762	1,837,095
Per Unit Charges	51,840	57,508	63,797	70,772	78,511	87,096	96,619	107,184	118,903	131,905
Other Revenue		-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	131,156
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**687,726**	**780,071**	**876,236**	**984,104**	**1,105,086**	**1,240,759**	**1,392,889**	**1,563,454**	**1,754,665**	**2,100,156**
Wastewater Billing Recovery - Total	**1,463,710**	**1,570,312**	**1,588,979**	**1,622,726**	**1,641,637**	**1,660,648**	**1,679,759**	**1,698,971**	**1,718,285**	**1,737,700**

Table B-8
Town of Minto
Wastewater Services
Wastewater Rate Forecast - Scenario 4 (Recommended)
Inflated $

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Charge										
¾" Meter Size	$ 23.00	$ 23.74	$ 26.35	$ 29.26	$ 32.49	$ 36.07	$ 40.04	$ 44.46	$ 49.35	$ 54.79
1" Meter Size	$ 25.00	$ 33.23	$ 36.90	$ 40.96	$ 45.48	$ 50.50	$ 56.06	$ 62.24	$ 69.10	$ 76.71
1 ½" Meter Size	$ 29.00	$ 42.72	$ 47.44	$ 52.67	$ 58.48	$ 64.92	$ 72.08	$ 80.02	$ 88.84	$ 98.62
2" Meter Size	$ 34.00	$ 68.83	$ 76.43	$ 84.86	$ 94.21	$ 104.60	$ 116.13	$ 128.92	$ 143.13	$ 158.89
3" Meter Size	$ 36.50	$ 261.10	$ 289.89	$ 321.87	$ 357.35	$ 396.75	$ 440.48	$ 489.02	$ 542.90	$ 602.70
4" + Meter Size	$ 44.00	$ 332.30	$ 368.96	$ 409.65	$ 454.81	$ 504.95	$ 560.61	$ 622.38	$ 690.96	$ 767.07
Per Unit Charge	$ 7.50	$ 8.09	$ 8.98	$ 9.98	$ 11.08	$ 12.30	$ 13.65	$ 15.16	$ 16.83	$ 18.68
Annual Percentage Change			**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**	**11%**
Consumptive Rate: Declining Block Rates ($/m^3)										
Block 1	**3.15**	**3.16**	**3.17**	**3.18**	**3.19**	**3.20**	**3.21**	**3.22**	**3.23**	**3.24**
Block 2	**2.30**	**2.31**	**2.31**	**2.32**	**2.33**	**2.34**	**2.34**	**2.35**	**2.36**	**2.36**
Block 3	**1.95**	**1.96**	**1.96**	**1.97**	**1.97**	**1.98**	**1.99**	**1.99**	**2.00**	**2.00**
Block 4	**0.52**									
Annual Percentage Change		**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**	**0.3%**

Appendix C
Water Financial Plan

Appendix C – Water Financial Plan

Under Separate Cover