



Water and Wastewater Financial Plan – Rate Analysis Study

City of Barrie

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Table of Contents

	Page
Executive Summary	i
1. Introduction.....	1-1
1.1 Background.....	1-1
1.2 Study Process.....	1-3
1.3 Regulatory Changes in Ontario.....	1-3
1.4 Sustainable Water and Sewage Systems Act.....	1-4
1.5 Financial Plans Regulation	1-6
1.6 Water Opportunities Act, 2010.....	1-8
1.7 Infrastructure for Jobs and Prosperity Act, 2015 (I.J.P.A.)	1-9
1.8 Forecast Growth and Servicing Requirements	1-11
2. Capital Infrastructure Needs.....	2-1
2.1 Capital Forecast.....	2-1
3. Lifecycle Costing.....	3-1
3.1 Overview of Lifecycle Costing.....	3-1
3.1.1 Definition.....	3-1
3.1.2 Financing Costs	3-1
3.1.3 Costing Methods	3-4
3.2 Impact on Budgets.....	3-6
4. Capital Cost Financing Options	4-1
4.1 Summary of Capital Cost Financing Alternatives.....	4-1
4.2 Development Charges Act, 1997	4-2
4.3 Municipal Act	4-4
4.4 Grant Funding Availability	4-6
4.5 Existing Reserves/Reserve Funds.....	4-8
4.6 Debenture Financing.....	4-8
4.7 Recommended Capital Financing Approach.....	4-9
5. Overview of Expenditures and Revenues	5-1



Table of Contents (Cont'd)

	Page
5.1 Water Operating Expenditures.....	5-1
5.2 Water Operating Revenues	5-1
5.3 Wastewater Operating Expenditures	5-5
5.4 Wastewater Operating Revenues	5-5
6. Pricing Structures	6-1
6.1 Introduction	6-1
6.2 Alternative Pricing Structures.....	6-2
6.3 Assessment of Alternative Pricing Structures	6-4
6.4 Rate Structures in Ontario	6-9
6.5 Recommended Rate Structures.....	6-10
7. Analysis of Water and Wastewater Rates and Policy Matters	7-1
7.1 Introduction	7-1
7.2 Water Rates.....	7-1
7.3 Wastewater Rates	7-2
7.4 Forecast of Combined Water and Wastewater Impact for the Average Residential Customer	7-3
7.5 Summary of Water and Wastewater Volume Rate Forecasts	7-5
8. Recommendations	8-1
Appendix A Detailed Water Rate Calculations.....	A-1
Appendix B Detailed Wastewater Rate Calculations	B-1



List of Acronyms and Abbreviations

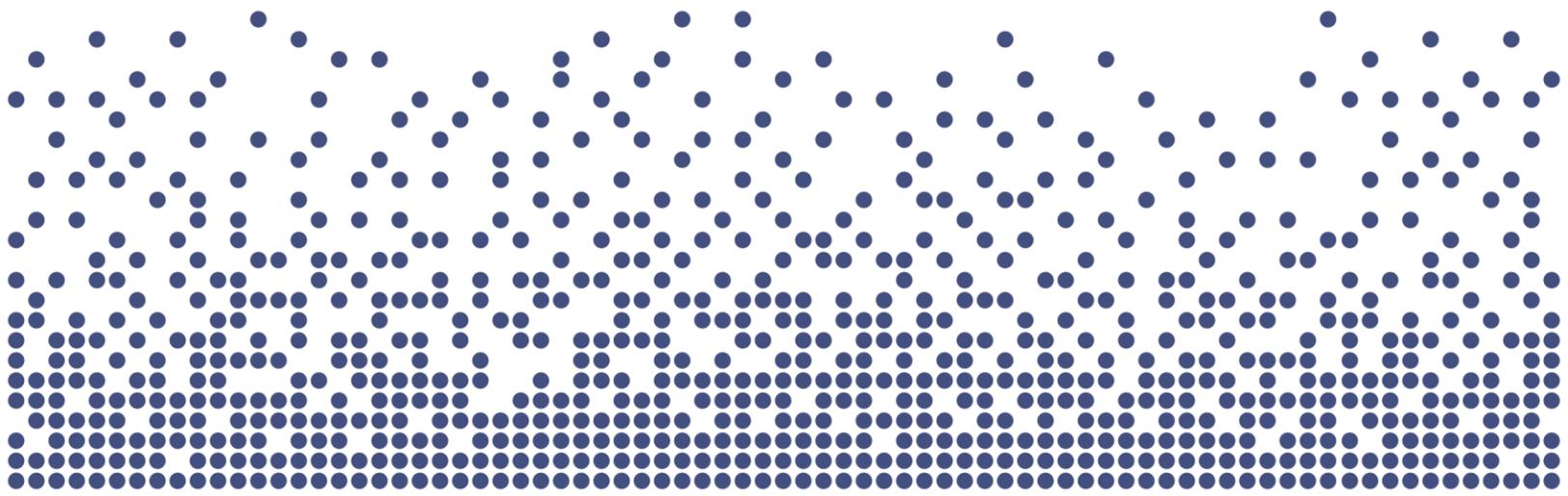
Acronym	Full Description of Acronym
A.M.O.	Association of Municipalities of Ontario
cu.m.	Cubic metres
C.W.W.F.	Clean Water and Wastewater Fund
D.C.A.	Development Charges Act, 1997
F.I.R.	Financial Information Return
I.J.P.A.	Infrastructure for Jobs and Prosperity Act, 2015
I.O.	Infrastructure Ontario
L.P.A.T.	Local Planning Appeal Tribunal
M.O.E.	Ministry of Environment
O.C.I.F.	Ontario Community Infrastructure Fund
O.M.B.	Ontario Municipal Board
O.Reg.	Ontario Regulation
O.S.I.F.A.	Ontario Strategic Infrastructure Financing Authority
P.S.A.B.	Public Sector Accounting Board
P.T.I.F.	Public Transit Infrastructure Fund



List of Acronyms and Abbreviations (Cont'd)

S.W.S.S.A. Sustainable Water and Sewage Systems Act, 2002

S.W.T.P. Surface Water Treatment Plant



Executive Summary



Executive Summary

The City of Barrie retained Watson & Associates Economists Ltd. (Watson) to undertake a water and wastewater financial plan including a rate analysis. This study aims to provide an analysis for current capital and operating forecasts, costing for lifecycle cost requirements (asset management), current volumes and customer profiles. The results of this analysis provides a forecast of both water and wastewater fixed charges and volume rates for both residential and non-residential customers within the City of Barrie. The rate analysis contained herein continues to provide fiscally responsible practices that are in line with current provincial legislation at a level of rate increases that are reasonable.

The analysis presented herein provides the following:

- The 2021 to 2030 capital spending program for water and wastewater is \$218.04 million and \$620.29 million (inflated), respectively;
- Annual operating expenditures for 2021 to 2024 are based on the City's estimates in their operating forecasts. For 2025 to 2030, costs are assumed to increase by 2% per annum for most expenditures; expenditures related to hydro, chemicals and other materials have been increased at 5% per annum. Expenditures have also been assumed throughout the forecast period, for both water and wastewater, to account for the addition of staff to meet the needs of a growing system.
- The present rate structures for water and wastewater are as follows, and are continued throughout the forecast period:
 - Fixed Charge:
 - Residential customers: constant fixed charge for all customers
 - Non-residential customers: varied fixed charge based on meter size
 - Volume Charge:
 - Residential customers: four-tier increasing block volumetric rate;
 - Non-residential customers: two-tier increasing block volumetric rate;
- For water, the fixed charge revenue accounts for 36% of water revenues and the volume charge revenue accounts for 64% of water revenues. This ratio has been maintained over the forecast period.



- For wastewater, the fixed charge revenue accounts for 37% of wastewater revenues and the volume charge revenue accounts for 63% of wastewater revenues. This ratio has been maintained over the forecast period to 2028, after which there is a slight shift in the ratio to 36% fixed charge/64% volume charges, similar to water.
- Existing residential and non-residential water customers within the City of Barrie total 42,231 and 2,727, respectively.
- Existing residential and non-residential wastewater customers total 41,781 and 2,699, respectively.
- Anticipated customer growth is as follows:
 - Salem and Hewitt's Secondary Plan Areas: anticipated to add 9,511 additional water and wastewater customers by 2030; and
 - Former City Municipal Boundary Areas: anticipated to add 8,920 additional water and wastewater customers by 2030.

Through the ongoing work being undertaken for the City's water and wastewater Asset Management Plans, it has been identified that there is a backlog of capital works that need to be addressed as well as additional replacement needs over the forecast period. For water, the backlog of works, in addition to the replacement needs from 2022 to 2030, is approximately \$121.86 million (uninflated). The replacement needs for the wastewater system include approximately \$192.29 million (uninflated) of backlog needs as well as the forecasted works for 2022 to 2030. In order to account for these needs that are required to maintain the existing system, additional asset replacement works have been included in the capital forecast for both water and wastewater.

Based on the above information, the following annual rate increases are anticipated for the fixed charge and volume rates: the needs for both water and wastewater are sizable over the forecast period. Hence, rate increases for the water system have been calculated with an initial 3% increase to the fixed and volume charges for 2022, and then annual 4% increases to both charges thereafter. For wastewater, the needs are more significant, and as such, the fixed and volume charges have been calculated with a 5% annual increase to both the fixed and volume charges. The combined impact for water and wastewater customers is equal to an annual increase of 4.2% in 2022 and 4.6% annually thereafter. This increase is for the total water and wastewater bill for a residential customer with annual volumes of 180 cu.m.



Table ES-1 and ES-2 summarize the recommended water and wastewater rates and average annual residential bill (assuming an annual volume of 180 cu.m.), respectively, based on the analysis provided herein over the forecast period. Note that with an annual residential volume of 180 cu.m., all volume would fall into Block 1.



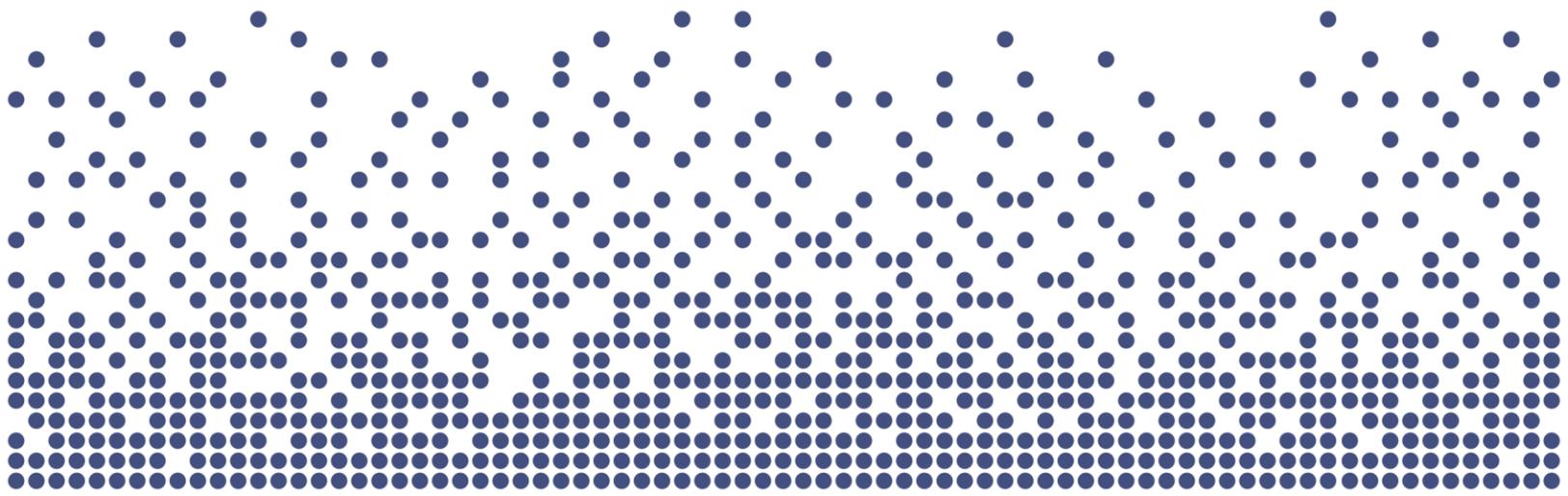
Table ES-1
City of Barrie
Water Services
Average Annual Residential Water Bill (Based on an annual usage of 180 cu.m.)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Fixed Charge	\$14.02	\$14.44	\$15.01	\$15.61	\$16.24	\$16.89	\$17.56	\$18.27	\$19.00	\$19.76
Volume Rate:										
<i>Block 1 Rate (0-15 cu.m. per month)</i>	\$1.11	\$1.14	\$1.18	\$1.23	\$1.28	\$1.33	\$1.39	\$1.44	\$1.50	\$1.56
<i>Block 2 Rate (16-30 cu.m. per month)</i>	\$2.21	\$2.28	\$2.37	\$2.46	\$2.56	\$2.67	\$2.77	\$2.88	\$3.00	\$3.12
<i>Block 3 Rate (31-45 cu.m. per month)</i>	\$3.32	\$3.42	\$3.55	\$3.70	\$3.85	\$4.00	\$4.16	\$4.33	\$4.50	\$4.68
<i>Block 4 Rate (>45 cu.m. per month)</i>	\$4.43	\$4.56	\$4.74	\$4.93	\$5.13	\$5.33	\$5.55	\$5.77	\$6.00	\$6.24
Annual Fixed Charge Bill	\$168.18	\$173.23	\$180.15	\$187.36	\$194.86	\$202.65	\$210.76	\$219.19	\$227.95	\$237.07
<i>Block 1 Volume (0-15 cu.m. per month)</i>	180	180	180	180	180	180	180	180	180	180
Annual Volume Bill	\$199.12	\$205.09	\$213.29	\$221.82	\$230.70	\$239.93	\$249.52	\$259.50	\$269.88	\$280.68
Total Annual Bill	\$367.30	\$378.31	\$393.45	\$409.19	\$425.55	\$442.57	\$460.28	\$478.69	\$497.84	\$517.75
% Increase - Fixed Charge		3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
% Increase - Volume Rate		3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
% Increase - Total Annual Bill		3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%



Table ES-2
City of Barrie
Wastewater Services
Average Annual Residential Wastewater Bill (Based on an annual usage of 180 cu.m.)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Fixed Charge	\$18.96	\$19.91	\$20.90	\$21.95	\$23.05	\$24.20	\$25.41	\$26.68	\$28.01	\$29.41
Volume Rate:										
<i>Block 1 Rate (0-15 cu.m. per month)</i>	\$1.60	\$1.68	\$1.76	\$1.85	\$1.94	\$2.04	\$2.14	\$2.25	\$2.36	\$2.48
<i>Block 2 Rate (16-30 cu.m. per month)</i>	\$2.72	\$2.85	\$2.99	\$3.14	\$3.30	\$3.47	\$3.64	\$3.82	\$4.01	\$4.21
<i>Block 3 Rate (31-45 cu.m. per month)</i>	\$2.72	\$2.85	\$2.99	\$3.14	\$3.30	\$3.47	\$3.64	\$3.82	\$4.01	\$4.21
<i>Block 4 Rate (>45 cu.m. per month)</i>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Fixed Charge Bill	\$227.52	\$238.90	\$250.84	\$263.38	\$276.55	\$290.38	\$304.90	\$320.14	\$336.15	\$352.96
<i>Block 1 Volume (0-15 cu.m. per month)</i>	180	180	180	180	180	180	180	180	180	180
Annual Volume Bill	\$287.53	\$301.91	\$317.00	\$332.85	\$349.50	\$366.97	\$385.32	\$404.59	\$424.82	\$446.06
Total Annual Bill	\$515.05	\$540.80	\$567.84	\$596.24	\$626.05	\$657.35	\$690.22	\$724.73	\$760.97	\$799.01
% Increase - Fixed Charge		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
% Increase - Volume Rate		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
% Increase - Total Annual Bill		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%



Report



Chapter 1

Introduction



1. Introduction

1.1 Background

The City of Barrie currently services 42,231 residential and 2,727 non-residential metered water customers. In addition, the City also services 41,781 residential and 2,699 non-residential metered wastewater customers.

The City's water system consists of a Surface Water Treatment Plant (S.W.T.P.), a low lift pumping station, 12 groundwater wells, 3 in-ground storage facilities, 7 booster stations, and 3 elevated storage towers. Water is distributed through approximately 3,800 hydrants and approximately 644 kilometers of watermains ranging in sizes from 32 mm to 1,200 mm.

The wastewater system consists of a wastewater treatment facility, a biosolids facility, six major pumping stations, approximately 550 kilometers of sanitary sewers, and associated maintenance holes. The current treatment process at the facility includes preliminary treatment (grit and screenings removal), primary clarification, secondary treatment using high purity oxygen reactors (also called the UNOX system), secondary clarification, tertiary nitrifying rotating biological contactors, flash mixing tanks and a sand filtration system with automatic backwash. This is followed by ultraviolet disinfection. The treated effluent from the wastewater treatment facility is discharged to Kempenfelt Bay which is connected to the larger Lake Simcoe.

The City imposes a monthly fixed charge for water and wastewater services. This fixed rate is constant for all residential customers but varies for non-residential customers based on meter size. In addition to the fixed charge, an increasing block volumetric rate is applied to all volumes. For water and wastewater there are four blocks for residential customers, and two blocks for non-residential customers. For wastewater, residential customers are imposed the same volumetric rate for blocks two and three; and are not charge for volumes that fall into block four. Table 1-1 provides the existing rates currently in effect.



Table 1-1
City of Barrie
Water and Wastewater Rates – 2021

2021 - Water Billing Rates	
Fixed Charge (Monthly)	
Residential	14.02
Non-Residential:	
13-19 mm	14.02
25-32 mm	35.05
38 mm	70.11
50 mm	112.17
75 mm	245.37
100 mm	420.66
150 mm	876.36
200 mm	1121.73
250 mm	1612.51
300mm	1612.51
Volume Charge	

Increasing Residential (Monthly m ³)		
\$	1.1062	Block 1 per m ³ (0-15 m ³)
\$	2.2125	Block 2 per m ³ (16-30 m ³)
\$	3.3187	Block 3 per m ³ (31-45 m ³)
\$	4.4250	Block 4 per m ³ (>45 m ³)
Increasing Non-Residential (Monthly m ³)		
\$	1.1062	Block 1 per m ³ (0-15 m ³)
\$	1.6594	Block 2 per m ³ (>15 m ³)

2021 - Wastewater Billing Rates	
Fixed Charge (Monthly)	
Residential	18.96
Non-Residential:	
13-19 mm	18.96
25-32 mm	47.40
38 mm	94.81
50 mm	151.70
75 mm	331.82
100 mm	568.96
150 mm	1185.05
200 mm	1516.86
250 mm	2180.49
300mm	2180.49
Volume Charge	

Increasing Residential (Monthly m ³)		
\$	1.5974	Block 1 per m ³ (0-15 m ³)
\$	2.7156	Block 2 per m ³ (16-30 m ³)
\$	2.7156	Block 3 per m ³ (31-45 m ³)
\$	-	Block 4 per m ³ (>45 m ³)
Increasing Non-Residential (Monthly m ³)		
\$	1.5213	Block 1 per m ³ (0-15 m ³)
\$	2.2822	Block 2 per m ³ (>15 m ³)

Since the Walkerton Crisis, the Province has continued to make legislative changes for municipal water and wastewater systems. Noted below are the historic changes along with pending legislation anticipated to be implemented in the future. Watson & Associates Economists Ltd. (Watson) was retained by the City of Barrie to assist in addressing these changes in a proactive manner as they relate to the water and wastewater systems. The assessment provided herein addresses changes recommended to the water and wastewater rates based on the most current information and forecasts the implications over the next ten-year period.



1.2 Study Process

The objectives of the study and the steps involved in carrying out this assignment are summarized below:

- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications;
- Identify potential methods of cost recovery from the capital needs listing. These recovery methods may include other statutory authorities (e.g. *Development Charges Act, 1997* (D.C.A.), *Municipal Act*, etc.) as an offset to recovery through the water and wastewater rates;
- Identify existing operating costs by component and estimate future operating costs over the next ten years. This assessment identifies fixed and variable costs in order to project those costs sensitive to changes to the existing infrastructure inventory, as well as costs which may increase commensurate with growth; and
- Provide staff and Committee/Council the findings to assist in gaining approval of the rates for future years.

1.3 Regulatory Changes in Ontario

Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario. These changes arise as a result of the Walkerton Commission and the 93 recommendations made by the Walkerton Inquiry Part II report. Areas of recommendation include:

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

The legislation which would have most impacted municipal water and wastewater rates was the *Sustainable Water and Sewage Systems Act* (S.W.S.S.A.) which would have



required municipalities to implement full cost pricing. The legislation was enacted in 2002, however, it had not been implemented pending the approval of its regulations. The Act was repealed as of January 1, 2013. It is expected that the provisions of the *Water Opportunities Act* will implement the fundamental requirements of S.W.S.S.A. Furthermore, on December 27, 2017, O.Reg. 588/17 was released under the *Infrastructure for Jobs and Prosperity Act, 2015* (I.J.P.A.), which outlines the requirements for asset management for municipalities. The results of the asset management review under this Act will need to be considered in light of the recent investments undertaken by the City and the capital spending plan provided herein. The following sections describe these various resulting changes.

1.4 Sustainable Water and Sewage Systems Act

As noted earlier, the S.W.S.S.A. was passed on December 13, 2002. The intent of the Act was to introduce the requirement for municipalities to undertake an assessment of the “full cost” of providing their water and wastewater services. It is noted, however, that this Act has been repealed. To provide broader context and understanding to other legislation discussed herein, a description of the Act is provided below.

Full costs for water service was defined in subsection 3(7) of the Act and included “...source protection costs, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public and such other costs which may be specified by regulation.” Similar provisions were made for wastewater services in subsection 4(7) with respect to “...collecting, treating or discharging waste water.”

The Act would have required the preparation of two reports for submission to the Ministry of the Environment (or such other member of the Executive Council as may be assigned the administration of this Act under the *Executive Council Act*). The first report was on the “full cost of services” and the second was the “cost recovery plan.” Once these reports were reviewed and approved by the Ministry, the municipality would have been required to implement the plans within a specified time period.

In regard to the **full cost of services** report, the municipality (deemed a regulated entity under the Act) would prepare and approve a report concerning the provision of water and sewage services. This report was to include an inventory of the infrastructure, a management plan providing for the long-term integrity of the systems and would



address the full cost of providing the services (other matters may be specified by the regulations) along with the revenue obtained to provide them. A professional engineer would certify the inventory and management plan portion of the report. The municipality's auditor would be required to provide a written opinion on the report. The report was to be approved by the municipality and then be forwarded to the Ministry along with the engineer's certification and the auditor's opinion. The regulations would stipulate the timing for this report.

The second report was referred to as a **cost recovery plan** and would address how the municipality intended to pay for the full costs of providing the service. The regulations were to specify limitations on what sources of revenue the municipality may use. The regulations may have also provided limits as to the level of increases any customer or class of customer may experience over any period of time. Provision was made for the municipality to implement increases above these limits; however, ministerial approval would be required first. Similar to the first report, the municipal auditor would provide a written opinion on the report prior to Council's adoption, and this opinion must accompany the report when submitted to the Province.

The Act provided the Minister the power to approve or not approve the plans. If the Minister was not satisfied with the report or if a municipality did not submit a plan, the Minister may have a plan prepared. The cost to the Crown for preparing the plan would be recovered from the municipality. As well, the Minister may direct two or more regulated municipalities to prepare a joint plan. This joint plan may be directed at the onset or be directed by the Minister after receiving the individual plans from the municipalities.

The Minister also had the power to order a municipality to generate revenue from a specific revenue source or in a specified manner. The Minister may have also ordered a regulated entity to do or refrain from doing such things as the Minister considered advisable to ensure that the entity pays the full cost of providing the services to the public.

Once the plans were approved and in place, the municipality would be required to submit progress reports. The timing of these reports and the information to be contained therein would be established by the regulations. A municipal auditor's opinion must be provided with the progress report. Municipalities would also revise the plans if they deem the estimate does not reflect the full cost of providing the services, as



a result of a change in circumstances, regulatory or other changes that affect their plan, etc. The municipality would then revise its prior plan, provide an auditor's opinion, and submit the plan to the Minister.

1.5 Financial Plans Regulation

On August 16, 2007, the M.O.E. passed O.Reg 453/07 which requires the preparation of financial plans for water (and wastewater) systems. The M.O.E. has also provided a Financial Plan Guidance Document to assist in preparing the plans. A brief summary of the key elements of the regulation is provided below:

- The financial plan will represent one of the key elements for the municipality to obtain its Drinking Water Licence;
- The financial plans shall be for a period of at least six years, but longer planning horizons are encouraged;
- As the regulation is under the *Safe Drinking Water Act, 2002*, the preparation of the plan is mandatory for water and encouraged for wastewater;
- The plan is considered a living document (i.e. will be updated as annual budgets are prepared) but will need to be undertaken, at a minimum, every five years;
- The plans generally require the forecasting of capital, operating and reserve fund positions, providing detailed inventories, forecasting future users and volume usage and corresponding calculation of rates. In addition, P.S.A.B. information on the system must be provided for each year of the forecast (i.e. total non-financial assets, tangible capital asset acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities and net debt);
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's website. The availability of this information must also be advertised; and
- The financial plans are to be approved by Resolution of the Council or governing body indicating that the drinking water system is financially viable.

In general, the financial principles of the draft regulations follow the intent of S.W.S.S.A. to move municipalities towards financial sustainability. Many of the prescriptive requirements, however, have been removed (e.g. preparation of two separate documents for provincial approval, auditor opinions, engineer certifications, etc.).



A Guideline (“Towards Financially Sustainable Drinking Shores – Water and Wastewater Systems”) had been developed to assist municipalities in understanding the Province’s direction and provided a detailed discussion on possible approaches to sustainability. The Province’s Principles of Financially Sustainable Water and Wastewater Services are provided below:

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

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

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

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

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

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

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

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

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



1.6 Water Opportunities Act, 2010

As noted earlier, since the passage of the *Safe Drinking Water Act, 2002*, continuing changes and refinements to the legislation have been introduced. Some of these Bills have found their way into law, while others have not been approved. Bill 72, the *Water Opportunities Act, 2010*, was introduced into legislation on May 18, 2010 and received Royal Assent on November 29, 2010.

The Act provides for the following elements:

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

With regard to the sustainability plans:

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

The financial plan shall include:

- An asset management plan for the physical infrastructure;
- A financial plan;
- For water, a water conservation plan;
- An assessment of risks that may interfere with the future delivery of the municipal service, including, if required by the regulations, the risks posed by climate change and a plan to deal with those risks; and
- Strategies for maintaining and improving the municipal service, including strategies to ensure the municipal service can satisfy future demand, consider technologies, services and practices that promote the efficient use of water and



reduce negative impacts on Ontario's water resources, and increase co-operation with other municipal service providers.

Performance indicators will be established by service, with the following considerations:

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

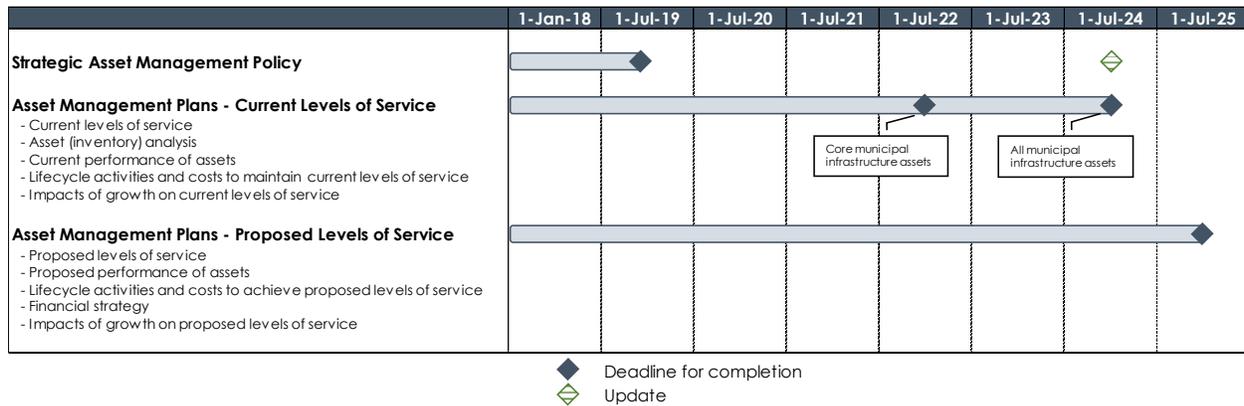
Regulations will prescribe:

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

As noted earlier, it is expected that this Act will implement the principles of the S.W.S.S.A. once all regulations are put in place.

1.7 Infrastructure for Jobs and Prosperity Act, 2015 (I.J.P.A.)

On June 4, 2015, the Province of Ontario passed the I.J.P.A. which, over time, will require municipalities to undertake and implement asset management plans for all infrastructure they own. On December 27, 2017, the Province released Ontario Regulation 588/17 under the I.J.P.A. which has three phases that municipalities must meet:



Note: on March 15, 2021, the Province filed Regulation 193/21 to extend all of the timelines of Regulation 588/17 by one year (reflected in the table above).

Every municipality in Ontario was to have prepared a strategic asset management policy by July 1, 2019. Municipalities will be required to review their strategic asset management policies at least every five years and make updates, as necessary. The subsequent phases are as follows:

- Phase 1 – Asset Management Plan (by July 1, 2022):
 - For core assets, municipalities must have the following:
 - Inventory of assets;
 - Current levels of service measured by standard metrics; and
 - Costs to maintain levels of service.
- Phase 2 – Asset Management Plan (by July 1, 2024):
 - Same steps as Phase 1 but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2025):
 - Builds on Phase 1 and 2 by adding:
 - Proposed levels of service; and
 - Lifecycle management and financial strategy.

In relation to water and wastewater (which is considered a core asset), municipalities will need to have an asset management plan that addresses the related infrastructure by July 1, 2022 (Phase 1). O.Reg. 588/17 specifies that the municipality’s asset management plan must include the following for each asset category:

- The current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at



most the two calendar years prior to the year in which all information required under this section is included in the asset management plan;

- The current performance of each asset category, including:
 - a summary of the assets in the category;
 - the replacement cost of the assets in the category;
 - the average age of the assets in the category, determined by assessing the average age of the components of the assets;
 - the information available on the condition of the assets in the category;
 - a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate; and
- The lifecycle activities that would need to be undertaken to maintain the current levels of service.

The City is currently undertaking its water and wastewater Asset Management Plans. Draft information from these plans have been used for the purposes of assessing lifecycle needs within this study however, refinements may be made prior to completion of those plans. Consideration of the impacts on the capital plan provided herein will need to take place for future budgeting and forecasting purposes.

1.8 Forecast Growth and Servicing Requirements

The City of Barrie services 42,231 metered residential water customers and 41,781 metered residential wastewater customers. In addition, the City also services 2,727 and 2,699 metered non-residential customers with water and wastewater services, respectively. Information on the existing number of customers and existing billable volumes was obtained from the City.

For future water and wastewater customers to be added to the systems, consideration has been given to development potential within the serviced areas of the City over the forecast period. This data was derived from the Municipal Comprehensive Review, Long-Term Urban Land Needs Study, the Development Charges Background Study, as well as through discussions with City staff based on developments currently in various stages of the planning process.

Tables 1-2 and 1-3 provide for the forecast of water and wastewater users and volumes for areas within Barrie that are anticipated to experience additional growth. The



average annual volumes for new residential users have been assumed to be 180 cu.m. annually for low and medium density customers and 130 cu.m. annually for high density customers. These flow assumptions are based on recent historical trends in the consumption of water.

Over the forecast, each new residential user is anticipated to generate half a year's volume in the first year and then a full year's volume in subsequent years. This accounts for customers hooking into the system at various times throughout the year as new homes are occupied. As it is difficult to estimate the amount of volume that new non-residential users may generate, no additional volumes have been assumed for new non-residential customers, thus providing a conservative approach to forecasting future revenues.

It is noted that the growth rate assumed in the forecast is based on the development charges background study with adjustments made based on information from staff related to applications for growth in the planning process. The growth anticipated for the purposes of the rate analysis, has taken a conservative approach to ensure that anticipated revenues from new users is not overstated. Where anticipated growth is set too high, deficits can arise which may result in the City having to issue additional debt to cover capital costs and/or defer capital. Alternatively, if the growth is set too low, the capital needs to service new customers may not be put in place soon enough which could limit the amount of growth allowed to proceed. It is noted that the previous financial plan for the City anticipated a more aggressive growth forecast with the understanding that the Salem & Hewitt's Secondary Plans would begin developing earlier than what has actually taken place. City staff will continue to track actual growth and can adjust the capital program and/or growth assumptions during the annual budget process to ensure that rates are being set to ensure financial sustainability of the water and wastewater systems.



Table 1-2
City of Barrie
2021 to 2030 Water System Forecast

Water Users Forecast - Former City Municipal Boundary Area (Low and Medium Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	276	138	276	276	276	276	276	276	276	276	276
2022	276		138	276	276	276	276	276	276	276	276
2023	277			139	277	277	277	277	277	277	277
2024	352				176	352	352	352	352	352	352
2025	353					177	353	353	353	353	353
2026	354						177	354	354	354	354
2027	354							177	354	354	354
2028	354								177	354	354
2029	354									177	354
2030	354										177
Total	3,304	138	414	691	1,005	1,358	1,711	2,065	2,419	2,773	3,127
cu.m./user	180	180	180	180	180	180	180	180	180	180	180
Annual Flow		24,840	74,473	124,413	180,961	244,501	308,041	371,761	435,481	499,201	562,921

Water Users Forecast - Salem & Hewitts Secondary Plan Area (Low and Medium Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	330	165	330	330	330	330	330	330	330	330	330
2022	287		144	287	287	287	287	287	287	287	287
2023	440			220	440	440	440	440	440	440	440
2024	1,017				509	1,017	1,017	1,017	1,017	1,017	1,017
2025	1,017					509	1,017	1,017	1,017	1,017	1,017
2026	1,017						509	1,017	1,017	1,017	1,017
2027	1,017							509	1,017	1,017	1,017
2028	1,017								509	1,017	1,017
2029	1,018									509	1,018
2030	1,018										509
Total	8,178	165	474	837	1,566	2,583	3,600	4,617	5,634	6,651	7,669
cu.m./user	180	180	180	180	180	180	180	180	180	180	180
Annual Flow		29,700	85,249	150,604	281,857	464,917	647,977	831,037	1,014,097	1,197,157	1,380,397



Table 1-2 (Cont'd)

Water Users Forecast - Former City Municipal Boundary Area (High Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	113	57	113	113	113	113	113	113	113	113	113
2022	114		57	114	114	114	114	114	114	114	114
2023	114			57	114	114	114	114	114	114	114
2024	838				419	838	838	838	838	838	838
2025	838					419	838	838	838	838	838
2026	839						420	839	839	839	839
2027	839							420	839	839	839
2028	839								420	839	839
2029	839									420	839
2030	839										420
Total	6,212	57	170	284	760	1,598	2,437	3,276	4,115	4,954	5,793
cu.m./user	130	130	130	130	130	130	130	130	130	130	130
Annual Flow		7,410	22,134	36,896	98,756	207,696	316,766	425,836	534,906	643,976	753,046

Water Users Forecast - Salem & Hewitts Secondary Plan Area (High Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	135	68	135	135	135	135	135	135	135	135	135
2022	118		59	118	118	118	118	118	118	118	118
2023	181			90	181	181	181	181	181	181	181
2024	216				108	216	216	216	216	216	216
2025	216					108	216	216	216	216	216
2026	216						108	216	216	216	216
2027	217							109	217	217	217
2028	217								109	217	217
2029	217									109	217
2030	217										109
Total	1,950	68	194	343	542	758	974	1,191	1,408	1,625	1,842
cu.m./user	130	130	130	130	130	130	130	130	130	130	130
Annual Flow		8,840	25,271	44,631	70,477	98,557	126,637	154,847	183,057	211,267	239,477



Table 1-2 (Cont'd)

Water Customer Forecast	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing - Residential	42,231	42,231	42,231	42,231	42,231	42,231	42,231	42,231	42,231	42,231
Existing - Non-Residential	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727	2,727
New - Growth - Former City Municipal Boundary Area	195	584	975	1,765	2,956	4,148	5,341	6,534	7,727	8,920
New - Growth - Salem & Hewitts Secondary Plan Area	233	668	1,180	2,108	3,341	4,574	5,808	7,042	8,276	9,511
Total	45,386	46,210	47,113	48,831	51,255	53,680	56,107	58,534	60,961	63,389

Water Volume Forecast - Residential (cu.m.)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1 (0-15 cu.m./month)										
Existing - Residential	6,052,800	6,052,800	6,052,800	6,052,800	6,052,800	6,052,800	6,052,800	6,052,800	6,052,800	6,052,800
New - Former City Municipal Boundary Areas	32,250	96,607	161,309	279,717	452,197	624,807	797,597	970,387	1,143,177	1,315,967
New - Salem & Hewitt's Secondary Plan Areas	38,540	110,520	195,234	352,334	563,474	774,614	985,884	1,197,154	1,408,424	1,619,874
Subtotal Block 1	6,123,590	6,259,927	6,409,343	6,684,850	7,068,470	7,452,220	7,836,280	8,220,340	8,604,400	8,988,640
Block 2 (16-30 cu.m./month)										
Existing - Residential	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	1,498,380	1,498,380	1,498,380							
Block 3 (31-45 cu.m./month)										
Existing - Residential	251,940	251,940	251,940	251,940	251,940	251,940	251,940	251,940	251,940	251,940
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 3	251,940	251,940	251,940							
Block 4 (>45 cu.m./month)										
Existing - Residential	96,900	96,900	96,900	96,900	96,900	96,900	96,900	96,900	96,900	96,900
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 4	96,900	96,900	96,900							
Total	7,970,810	8,107,147	8,256,563	8,532,070	8,915,690	9,299,440	9,683,500	10,067,560	10,451,620	10,835,860



Table 1-2 (Cont'd)

Water Volume Forecast - Non- Residential (cu.m.)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1 (0-15 cu.m./month)										
Existing - Non-Residential	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000
New - Former City Municipal Boundary Areas										
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 1	351,000									
Block 2 (>15 cu.m./month)										
Existing - Non-Residential	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000
New - Former City Municipal Boundary Areas										
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	3,935,000									
Total	4,286,000									



Table 1-3
City of Barrie
2021 to 2030 Wastewater System Forecast

Wastewater Users Forecast - Former City Municipal Boundary Area (Low and Medium Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	276	138	276	276	276	276	276	276	276	276	276
2022	276		138	276	276	276	276	276	276	276	276
2023	277			139	277	277	277	277	277	277	277
2024	352				176	352	352	352	352	352	352
2025	353					177	353	353	353	353	353
2026	354						177	354	354	354	354
2027	354							177	354	354	354
2028	354								177	354	354
2029	354									177	354
2030	354										177
Total	3,304	138	414	691	1,005	1,358	1,711	2,065	2,419	2,773	3,127
cu.m./user	180	180	180	180	180	180	180	180	180	180	180
Annual Flow		24,840	74,473	124,413	180,961	244,501	308,041	371,761	435,481	499,201	562,921

Wastewater Users Forecast - Salem & Hewitts Secondary Plan Area (Low and Medium Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	330	165	330	330	330	330	330	330	330	330	330
2022	287		144	287	287	287	287	287	287	287	287
2023	440			220	440	440	440	440	440	440	440
2024	1,017				509	1,017	1,017	1,017	1,017	1,017	1,017
2025	1,017					509	1,017	1,017	1,017	1,017	1,017
2026	1,017						509	1,017	1,017	1,017	1,017
2027	1,017							509	1,017	1,017	1,017
2028	1,017								509	1,017	1,017
2029	1,018									509	1,018
2030	1,018										509
Total	8,178	165	474	837	1,566	2,583	3,600	4,617	5,634	6,651	7,669
cu.m./user	180	180	180	180	180	180	180	180	180	180	180
Annual Flow		29,700	85,249	150,604	281,857	464,917	647,977	831,037	1,014,097	1,197,157	1,380,397



Table 1-3 (Cont'd)

Wastewater Users Forecast - Former City Municipal Boundary Area (High Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	113	57	113	113	113	113	113	113	113	113	113
2022	114		57	114	114	114	114	114	114	114	114
2023	114			57	114	114	114	114	114	114	114
2024	838				419	838	838	838	838	838	838
2025	838					419	838	838	838	838	838
2026	839						420	839	839	839	839
2027	839							420	839	839	839
2028	839								420	839	839
2029	839									420	839
2030	839										420
Total	6,212	57	170	284	760	1,598	2,437	3,276	4,115	4,954	5,793
cu.m./user	130	130	130	130	130	130	130	130	130	130	130
Annual Flow		7,410	22,134	36,896	98,756	207,696	316,766	425,836	534,906	643,976	753,046

Wastewater Users Forecast - Salem & Hewitts Secondary Plan Area (High Density Residential)

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	135	68	135	135	135	135	135	135	135	135	135
2022	118		59	118	118	118	118	118	118	118	118
2023	181			90	181	181	181	181	181	181	181
2024	216				108	216	216	216	216	216	216
2025	216					108	216	216	216	216	216
2026	216						108	216	216	216	216
2027	217							109	217	217	217
2028	217								109	217	217
2029	217									109	217
2030	217										109
Total	1,950	68	194	343	542	758	974	1,191	1,408	1,625	1,842
cu.m./user	130	130	130	130	130	130	130	130	130	130	130
Annual Flow		8,840	25,271	44,631	70,477	98,557	126,637	154,847	183,057	211,267	239,477



Table 1-3 (Cont'd)

Wastewater Customer Forecast	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing - Residential	41,781	41,781	41,781	41,781	41,781	41,781	41,781	41,781	41,781	41,781
Existing - Non-Residential	2,699	2,699	2,699	2,699	2,699	2,699	2,699	2,699	2,699	2,699
New - Growth - Former City Municipal Boundary Area	195	584	975	1,765	2,956	4,148	5,341	6,534	7,727	8,920
New - Growth - Salem & Hewitts Secondary Plan Area	233	668	1,180	2,108	3,341	4,574	5,808	7,042	8,276	9,511
Total	44,908	45,732	46,635	48,353	50,777	53,202	55,629	58,056	60,483	62,911

Wastewater Flows Forecast (cu.m.) - Residential	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1 (0-15 cu.m./month)										
Existing - Residential	5,962,075	5,962,075	5,962,075	5,962,075	5,962,075	5,962,075	5,962,075	5,962,075	5,962,075	5,962,075
New - Former City Municipal Boundary Areas	32,250	96,607	161,309	279,717	452,197	624,807	797,597	970,387	1,143,177	1,315,967
New - Salem & Hewitt's Secondary Plan Areas	38,540	110,520	195,234	352,334	563,474	774,614	985,884	1,197,154	1,408,424	1,619,874
Subtotal Block 1	6,032,865	6,169,202	6,318,618	6,594,125	6,977,745	7,361,495	7,745,555	8,129,615	8,513,675	8,897,915
Block 2 (16-30 cu.m./month)										
Existing - Residential	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	1,474,271	1,474,271								
Block 3 (31-45 cu.m./month)										
Existing - Residential	245,139	245,139	245,139	245,139	245,139	245,139	245,139	245,139	245,139	245,139
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 3	245,139	245,139								
Block 4 (>45 cu.m./month)										
Existing - Residential	-	-	-	-	-	-	-	-	-	-
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 4	-	-								
Total	7,752,275	7,888,612	8,038,028	8,313,535	8,697,155	9,080,905	9,464,965	9,849,025	10,233,085	10,617,325

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



Table 1-3 (Cont'd)

Wastewater Flows Forecast (cu.m.) - Non-Residential	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1 (0-15 cu.m./month)										
Existing - Non-Residential	351,230	351,230	351,230	351,230	351,230	351,230	351,230	351,230	351,230	351,230
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 1	351,230									
Block 2 (>15 cu.m./month)										
Existing - Non-Residential	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409
New - Former City Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-
New - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-
Subtotal Block 2	3,839,409									
Total	4,190,639									

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



Chapter 2

Capital Infrastructure Needs



2. Capital Infrastructure Needs

2.1 Capital Forecast

Capital forecasts have been provided for the water and wastewater systems and are presented on Tables 2-1 and 2-2 (note: the costs are in uninflated dollars). The basis for these forecasts is the City's 2021 Capital Budgets, Capital Forecasts, works identified in the 2019 Development Charges Background Study required for growth, in addition to asset replacement works identified through the currently ongoing draft water and wastewater Asset Management Plans.

A summary of the capital works related to the water and wastewater services is provided in Tables 2-1 and 2-2, respectfully.



Table 2-1
City of Barrie
2021 to 2030 Water Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
Capital Expenditures		
000030 - Orchard Drive ROW Replacement - St. Vincent to End	35,000	2024
000030 - Orchard Drive ROW Replacement - St. Vincent to End	195,000	2026-2027
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	313,900	2030
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	382,800	2027-2029
000106 - Mary Street ROW Replacement - Ross to Dunlop	405,000	2029
000106 - Mary Street ROW Replacement - Ross to Dunlop	65,000	2023
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	1,245,500	2026-2027
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	190,000	2023-2024
000141 - Jean and Tyndale Sanitary Servicing Installation	125,000	2028
000141 - Jean and Tyndale Sanitary Servicing Installation	800,000	2030
000203 - Surface Water Treatment Plant Facility Renewal Assessment	240,000	2024-2025, 2027
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction	178,000	2024-2025
000725 - NRP- HNS Grove B2 Neighbourhood Reconstruction	98,000	2030
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)	2,859,400	2022-2028
001014 - SWTP-Garage Floor Structural Rehabilitation and Prevention	1,550,000	2022-2023
001016 - SWTP Control System Upgrade	5,597,000	2021-2023
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	973,368	2021-2022
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	195,000	2022
EN1150 - Big Bay Point Road Booster Station VFD Upgrade	175,000	2021-2022
EN1152 - Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	645,000	2021-2023
EN1167 - Dunlop Street East Corridor Improvements - Toronto to Mulcaster	10,298	2021
EN1169 - Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	197,303	2021



Table 2-1 (Cont'd)

Description	Total 2021-2030	Years Undertaken
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	2,185,400	2021-2023
EN1178 - Interim Watermain Replacement Pilot Program	512,985	2021
EN1189 - Watermain Cathodic Protection Program	4,960,000	2021-2025
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	967,120	2021-2024
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	1,088,402	2021, 2026-2027
EN1252 - PRV Chamber Replacement Program	4,146,430	2021-2024
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement	1,220,500	2026-2027, 2029-2030
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	1,197,000	2021-2023
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction	1,940,000	2025-2027
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	2,659,740	2021-2027
EN1294 - Watermain Renewal Program	4,770,000	2021-2024
EN1305 - Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction	15,935,000	2023-2026
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	1,910,000	2021-2022, 2022-2026
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	754,000	2021, 2023-2024
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	2,380,000	2027-2029
EN1355 - Grove Street East Watermain Replacement and Road Renewal – Duckworth to Fletcher	1,474,200	2021-2023
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction	2,004,000	2023-2024, 2028-2030
EN1395 - Ferndale Drive South Watermain Replacement – Tiffin to Ardagh	100,000	2021
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	769,000	2021, 2023-2024
EN1435 - Alliance Boulevard Expansion - Bell Farm to Bell Farm	167,000	2027, 2029
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction	2,536,000	2024-2030
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	1,638,100	2021-2022, 2024-2026
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St	1,200,000	2024, 2028



Table 2-1 (Cont'd)

Description	Total 2021-2030	Years Undertaken
000472 - Technology Forecasted Needs	1,223,600	2022-2030
CC1000 - ERP Sustainment Program	420,000	2021-2026
EN1429 - Water and Transportation Asset Management Plans - Update	45,000	2021
IT1010 - Network Technology Infrastructure Program	224,000	2021-2024
IT1012 - Server and Storage Technology Infrastructure Program	182,000	2021-2026
Additional Asset Replacement Needs	24,400,000	2027-2030
Carryforwards:		
Watermain Renewal Program	696,900	2021-2023
Air Valve/Main Valve Chamber Condition Assessment and Rehabilitation Program	99,900	2021-2023
Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction	71,100	2021-2023
BAS Component Replacement	34,500	2021-2023
Bayfield Street Water Tower - Repairs and Interior Lining Replacement	531,900	2021-2023
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	545,700	2021-2023
Big Bay Point Road Booster Station VFD Upgrade	75,000	2021-2023
Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	6,300	2021-2023
Citizen Relationship Management (CRM) Solution	51,000	2021-2023
City Hall Customer Contact Centre Renovation	900	2021-2023
CMMS Improvement Project - Cityworks	323,700	2021-2023
Corealis Meters	14,700	2021-2023
Corporate Audio Visual Technology Infrastructure	300	2021-2023
Corporate Communications Infrastructure Program	5,100	2021-2023
Corporate PC Infrastructure Program	10,200	2021-2023
Corporate Printing Infrastructure	2,100	2021-2023
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	195,900	2021-2023
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	28,500	2021-2023
Dunlop Street West ROW Replacement - Eccles to Toronto	98,700	2021-2023
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	259,800	2021-2023
ERP Sustainment Program	179,700	2021-2023
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	27,000	2021-2023



Table 2-1 (Cont'd)

Description	Total 2021-2030	Years Undertaken
Frozen Water Service Repair	554,400	2021-2023
Fuel Tank Repairs 2017	35,100	2021-2023
Gunn Street ROW Replacement - Peel to St. Vincent	23,700	2021-2023
Harvie Road and Big Bay Point Road New Crossing - Highway 400	266,400	2021-2023
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	6,000	2021-2023
Huronvia and Big Bay Point Large Diameter Watermain Condition Assessment	382,200	2021-2023
Interim Watermain Replacement Pilot Program	653,400	2021-2023
Lampman to Anne New Transmission Watermain and Lampman to Leacock ROW Rehabilitation	131,700	2021-2023
Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	225,000	2021-2023
Mapleview Drive East Improvements - Country Lane to Yonge (City)	2,700	2021-2023
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	18,600	2021-2023
Microsoft Office 365 and Windows Enterprise	3,900	2021-2023
Network Technology Infrastructure Program	57,900	2021-2023
NRP- HNS Allandale A Neighbourhood Reconstruction	131,100	2021-2023
NRP- HNS Allandale B Neighbourhood Reconstruction	46,800	2021-2023
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	15,600	2021-2023
NRP- Wellington D1 Neighbourhood Reconstruction	34,200	2021-2023
NRP- Wellington D2 Neighbourhood Reconstruction	86,100	2021-2023
PC Replacements	300	2021-2023
PRV Chamber Replacement Program	485,400	2021-2023
Public Safety Communication Program	1,800	2021-2023
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	15,900	2021-2023
Rodney St-Blake to Kempenfelt	20,100	2021-2023
Ross, Collier, Bayfield Intersection Realignment	4,500	2021-2023
Secondary Plan Area New Bulk Water Filling Station	91,500	2021-2023
Server and Desktop Software Program	300	2021-2023
Server and Storage Technology Infrastructure Program	5,100	2021-2023
South L/fill Leachate Gal Repl	44,100	2021-2023
Sunnidale: Letitia-Wellington Transmission Watermain	1,722,000	2021-2023
TCE Groundwater Monitor Wells	82,200	2021-2023
TCE Plume Mitigation Solution	74,100	2021-2023
Tiffin Street - Ferndale to Anne Street	1,200	2021-2023
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	117,900	2021-2023



Table 2-1 (Cont'd)

Description	Total 2021-2030	Years Undertaken
Water Dispensing Event Trailer	2,400	2021-2023
Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	59,700	2021-2023
Watermain Cathodic Protection Program	1,034,100	2021-2023
Water and Transportation Asset Management Plans - Update	70,200	2021-2023
Watermain Renewal Program	1,020,000	2021-2023
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	77,100	2021-2023
Salem Road New Transmission Watermain and Road Expansion - County Road 27 to Dunn (Developer)	35,400	2021-2023
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	(118,900)	2021
Growth Related:		
Facilities		
000461 - SWTP Optimization	1,041,000	2025
Water Distribution - Salem & Hewitt's Secondary Plan Areas:		
000293 - Huronia Road New Transmission Watermain - Mapleview to Lockhart (City)	5,637,000	2027-2030
000926 - Salem Road Reservoir and Pumping Station	4,024,000	2026-2028
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	491,430	2021
EN1250 - Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	2,760,773	2021
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	86,700	2021, 2022-2023
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	1,246,300	2021-2023, 2025-2026
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	5,125,302	2021, 2024-2026
EN1259 - Big Bay Point New Transmission Watermain and Road Expansion - Prince William to Street N (Developer)	350,844	2023
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	453,100	2021, 2026-2028
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	234,963	2022
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)	3,622,601	2022-2023, 2025-2027
EN1272 - Salem Rd New Watermain, New Trunk Sanitary Sewer and ROW Expansion - Veterans to Saunders (City)	(508,000)	2022, 2026-2028



Table 2-1 (Cont'd)

Description	Total 2021-2030	Years Undertaken
EN1275 - Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	261,000	2021
EN1276 - Salem Road New Transmission Watermain and Road Expansion - County Road 27 to Dunn (Developer)	241,000	2021-2022
EN1278 - Bryne Drive (North) New Road Construction - Harvie Rd to Essa Rd	311,800	2027-2029
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)	266,710	2026-2027
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)	932,300	2023, 2026-2028
Carryforwards		
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain -Big Bay Point to Mplview (City)	600	2021-2023
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	175,800	2021-2023
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	49,800	2021-2023
Mapleview Drive East Improvements - Country Lane to Yonge (City)	2,265,000	2021-2023
McKay Road New Interchange - Highway 400 (City)	56,100	2021-2023
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	35,100	2021-2023
Secondary Plan Area New Bulk Water Filling Station	91,500	2021-2023
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	48,000	2021-2023
Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	2,164,500	2021-2023
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	1,848,600	2021-2023
Mapleview Drive E New Transmisison Watermain - Yonge to Royal Jubilee (Developer)	5,783,700	2021-2023
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	2,660,700	2021-2023
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	2,478,900	2021-2023
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain -Big Bay Point to Mplview (City)	336,900	2021-2023
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	33,900	2021-2023
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	176,100	2021-2023



Table 2-1 (Cont'd)

Description	Total 2021-2030	Years Undertaken
Former Municipal Boundary Areas:	-	
000924 - Fairview Road Right of Way Expansion - Big Bay Point to Little	10,000	2027-2028
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	6,202,000	2021-2023
EN1016 - Tiffin Street - Well 7 to Ferndale	6,736,000	2021-2024
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	1,447,540	2021-2022
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	1,000,000	2021
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	1,218,800	2023-2024
EN1168 - Dyments Creek Culvert Expansion - Bradford St.	424,260	2023-2025
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview	261,000	2028-2029
EN1183 - Ross, Collier, Bayfield Intersection Realignment	171,000	2030
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	183,090	2023-2025
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	364,300	2021-2024
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	1,130,800	2021-2022
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	1,256,245	2021-2026
EN1333 - Huronia Road Right of Way Expansion - Yonge to Herrell	52,000	2030
EN1353 - Essa Road and Anne Street Intersection Reconstruction	747,000	2024-2026
EN1377 - Anne Street Right of Way Expansion - Wellington to Dunlop	452,000	2024-2025, 2028-2029
Z423 - Cundles Road East New Transmission Watermain - St Vincent to Golden Eagle	978,000	2028-2029
Z436 - Huronia Road Right of Way Expansion - Herrell to Big Bay Point	6,000	2028-2029
Z438 - Lakeshore/Hurst Drive ROW Expansion - Tiffin Street to Cox Mill	6,000	2028-2029
Carryforwards		
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	845,100	2021-2023
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	348,300	2021-2023
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	21,600	2021-2023
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	85,500	2021-2023
Harvie Road and Big Bay Point Road New Crossing - Highway 400	26,400	2021-2023
Sunnidale: Letitia-Wellington Transmission Watermain	873,300	2021-2023
Tiffin Street - Ferndale to Anne Street	3,300	2021-2023
Total Water Capital Expenditures	179,898,704	



Table 2-2
City of Barrie
2021 to 2030 Wastewater Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
Capital Expenditures		
000030 - Orchard Drive ROW Replacement - St. Vincent to End	274,000	2024, 2026-2027
000061 - Johnson Street wastewater pump station valve chamber, back up pump and flow meter	225,000	2021
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	765,300	2027-2030
000106 - Mary Street ROW Replacement - Ross to Dunlop	505,000	2023, 2029
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	1,623,000	2023-2024, 2026-2027
000141 - Jean and Tyndale Sanitary Servicing Installation	955,000	2028, 2030
000208 - Waste Water Maintenance Facility Renewal Assessment	64,000	2028-2029
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction	379,200	2024-2025, 2030
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)	2,315,000	2022-2023, 2026-2028
000952 - Mobile Response Technology Replacement	40,000	2022-2023
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	1,383,922	2021-2022
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	195,000	2022
EN1127 - WwTF Biosolids Storage Tank Mixers	6,730,200	2021, 2023-2026
EN1167 - Dunlop Street East Corridor Improvements - Toronto to Mulcaster	2,080	2021
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	2,185,400	2021-2023
EN1184 - Sewer Rehabilitation Program	2,860,000	2021-2029
EN1237 - WwTF Sludge Thickening System Process - Polymer System Replacement	3,073,000	2021-2024
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	1,289,660	2021-2024
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	1,451,203	2021, 2026-2027
EN1243 - WwTF Cogeneration Building Ventilation Upgrades	300,000	2021
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement	1,900,900	2026-2027, 2029-2030
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	1,110,000	2021-2023



Table 2-2 (Cont'd)

Description	Total 2021-2030	Years Undertaken
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction	1,940,000	2025-2027
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	3,544,820	2021-2027
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	1,699,731	2021-2022, 2025-2026
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	993,000	2021, 2023-2024
EN1328 - WwTF Septage/Supernating Dosing Tank Pre-Treatment Upgrade	250,000	2022-2023
EN1330 - WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition Assessment	2,400,000	2021, 2023-2024
EN1335 - WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	100,000	2021
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	2,400,000	2027-2029
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction	2,030,000	2023-2024, 2028-2030
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	1,009,000	2021, 2023-2024
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction	3,563,000	2024-2030
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	1,042,000	2021-2022, 2024-2026
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St	710,000	2024, 2028
Additional Asset Replacement Needs	15,750,000	2022-2030
Carryforwards:		
Automatic Transfer Switch	399,900	2021-2023
BCSC Elec Surge Protect Upgrad	173,700	2021-2023
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	131,100	2021-2023
Biosolids Electrical Protect	49,200	2021-2023
Biosolids Facility Roof Coating Rehabilitation	24,900	2021-2023
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	38,100	2021-2023
Capital Purchase - New Vehicles from Intake Forms	135,000	2021-2023
Citizen Relationship Management (CRM) Solution	51,000	2021-2023
City Hall Customer Contact Centre Renovation	900	2021-2023
CMMS Improvement Project - Cityworks	48,900	2021-2023
Corporate Audio Visual Technology Infrastructure	300	2021-2023



Table 2-2 (Cont'd)

Description	Total 2021-2030	Years Undertaken
Corporate Communications Infrastructure Program	3,300	2021-2023
Corporate PC Infrastructure Program	10,500	2021-2023
Corporate Printing Infrastructure	1,500	2021-2023
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	286,800	2021-2023
Dunlop Street East Corridor Improvements - Toronto to Mulcaster	5,400	2021-2023
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	205,200	2021-2023
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	774,300	2021-2023
ERP Sustainment Program	179,700	2021-2023
eTendering Platform New System	12,000	2021-2023
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	20,100	2021-2023
Grove Street Pumping Station New Sewage Pump	44,700	2021-2023
Gunn Street ROW Replacement - Peel to St. Vincent	27,900	2021-2023
Harvie Road and Big Bay Point Road New Crossing - Highway 400	62,100	2021-2023
Harvie Road ROW Expansion - Essa to Bryne	405,000	2021-2023
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	618,600	2021-2023
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	687,300	2021-2023
Huron Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	45,000	2021-2023
Inlet Wks Screen Install	20,100	2021-2023
Little Lk Sew Pump Station Upg	52,500	2021-2023
Lockhart Rd Trunk San Sew/Pump (City)	21,300	2021-2023
Mapleview Dr E Sewer Watermain	15,000	2021-2023
Mapleview Drive East Improvements - Country Lane to Yonge (City)	544,200	2021-2023
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	118,200	2021-2023
Microsoft Office 365 and Windows Enterprise	2,100	2021-2023
Mobility Technology Program	141	2021-2023
Network Technology Infrastructure Program	31,200	2021-2023
NRP- HNS Allandale A Neighbourhood Reconstruction	130,200	2021-2023
NRP- HNS Allandale B Neighbourhood Reconstruction	43,200	2021-2023
NRP- HNS Brock Park Neighbourhood Reconstruction	111,000	2021-2023
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	14,700	2021-2023



Table 2-2 (Cont'd)

Description	Total 2021-2030	Years Undertaken
NRP- Wellington D1 Neighbourhood Reconstruction	34,800	2021-2023
NRP- Wellington D2 Neighbourhood Reconstruction	96,000	2021-2023
PC Replacements	300	2021-2023
Process Instrumentation	24,900	2021-2023
Public Safety Communication Program	1,800	2021-2023
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	48,900	2021-2023
Ross, Collier, Bayfield Intersection Realignment	8,400	2021-2023
Server and Desktop Software Program	600	2021-2023
Server and Storage Technology Infrastructure Program	2,700	2021-2023
Sewer Rehabilitation Program	366,900	2021-2023
Sophia Creek Culvert Expansion - Grove, 130m East of Davidson	900	2021-2023
South L/fill Leachate Gal Repl	44,100	2021-2023
Sunnidale Road Hwy 400 Crossing Reconstruction (within CAH limits)	656,100	2021-2023
Utilization of Wastewater Collection System as Active Storage	69,600	2021-2023
Waste Water Treatment Facility Administrative Office Fit-Up	33,600	2021-2023
Wastewat- Auto ValvesFlowmeter	132,600	2021-2023
Wastewater Asset Management Plan	95,700	2021-2023
Wastewater Peak Flow Attenuation Facility	475,500	2021-2023
Well Installations for Biosolids Storage Facility Groundwater Monitoring Program	56,700	2021-2023
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	328,500	2021-2023
WwTF Administration Building Retrofit of Laboratory Fume Hood Ventilation Unit - Laboratory Room	24,900	2021-2023
WwTF Alum System Upgrade at Secondary Clarifiers	880,200	2021-2023
WwTF Biosolids Storage Tank Mixers	3,407,400	2021-2023
WwTF Chemical Building Upgrade	25,200	2021-2023
WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition Assessment	300,000	2021-2023
WwTF Cogenerat Engine #2 Rehab	112,500	2021-2023
WwTF Cogeneration Building Ventilation Upgrades	87,900	2021-2023
WwTF Electrical Substation and Transformer Upgrade	856,800	2021-2023
WwTF Feasibility Study - Reuse of Final Effluent	(50,900)	2021
WwTF Filter Beds 1 and 2 Diffuser Upgrade	39,000	2021-2023
WWTF Innovation Center	35,100	2021-2023
WwTF New Advanced Nutrient Removal	2,169,300	2021-2023



Table 2-2 (Cont'd)

Description	Total 2021-2030	Years Undertaken
WwTF New Heat Exchanger - Primary Digester 3	52,200	2021-2023
WwTF Redundant Power Feed to Secondary Effluent Pumps	150,000	2021-2023
WwTF Sand Filter Controls & Instrumentation Replacement	165,000	2021-2023
WWTF Secondary Digester Facade Replacement	101,700	2021-2023
WwTF Selector Tank Mixer Upgrade	600	2021-2023
WwTF Sludge Thickening System Process - Polymer System Replacement	219,600	2021-2023
WwTF Splitter Gallery Concrete and Expansion Joint Repairs	350,100	2021-2023
WwTF Travelling Bridge Frame Renewal - Filters 1 - 4	139,500	2021-2023
WwTF Underground Sludge Transfer Pipe Replacement - Admin Building	1,017,000	2021-2023
WwTF Unox Tank Isolation Gate Replacement	99,900	2021-2023
WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	109,800	2021-2023
WwTF Feasibility Study - Reuse of Final Effluent	55,200	2021-2023
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	92,700	2021-2023
WwTF Biosolids Storage Tank Mixers	2,400,000	2021-2023
Sanitary Servicing - Royal Oak, Bay, Cottage	1,378,500	2021-2023
Co-generation & Biogas Trmt	(2,500)	2021
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	(200,400)	2021
Sanitary Servicing - Royal Oak, Bay, Cottage	44,700	2021-2023
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	15,000	2021-2023
Growth Related:		
Salem & Hewitt's Secondary Plan Areas		
000332 - McKay Pump Station (City)	3,975,000	2027-2030
000458 - Hewitts Pump Station (City)	959,000	2029-2030
EN1137 - Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	5,413,750	2024, 2026
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	830,800	2021
EN1255 - Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	11,856,700	2021, 2024-2027
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	23,722,300	2021, 2023-2026
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	7,192,536	2021-2023
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	2,459,700	2021, 2024-2026



Table 2-2 (Cont'd)

Description	Total 2021-2030	Years Undertaken
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	453,100	2021, 2026-2028
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	75,795	2021
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)	3,622,601	2022-2023, 2025-2027
EN1278 - Bryne Drive (North) New Road Construction - Harvie Rd to Essa Rd	311,800	2027-2029
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)	116,000	2025-2027
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)	1,450,200	2023, 2026-2028
Carryforwards:		
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	254,400	2021-2023
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	1,679,100	2021-2023
County Rd 27 Sanitary Sewer - Holly SPS to Lougheed	350,100	2021-2023
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	48,000	2021-2023
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	855,000	2021-2023
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	3,250,200	2021-2023
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	1,359,900	2021-2023
Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	3,815,100	2021-2023
McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	8,560,800	2021-2023
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	7,095,300	2021-2023
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	462,900	2021-2023
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	189,900	2021-2023
Lockhart Rd Trunk San Sew/Pump (City)	193,800	2021-2023
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	437,700	2021-2023
Sanitary Pump Station 3 Decommissioning (City)	93,600	2021-2023



Table 2-2 (Cont'd)

Description	Total 2021-2030	Years Undertaken
Sanitary Servicing - Royal Oak, Bay, Cottage	78,600	2021-2023
Former Municipal Boundary Areas		
000931 - Wastewater Inflow/Infiltration Reduction Action Plan	4,700,000	2021-2030
001018 - Dunlop Street Bridge Sanitary - Sarjeant Drive to Anne Street	33,108,763	2021-2023, 2025-2028
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	448,000	2021
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	87,555	2021-2022
EN1122 - Little Lk Sew Pump Station Upg	5,502,000	2022-2024
EN1132 - Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	3,298,000	2021-2024
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	1,750,000	2023-2024
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview	600,400	2021, 2027
EN1183 - Ross, Collier, Bayfield Intersection Realignment	25,000	2030
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	366,180	2023-2025
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	364,300	2021-2024
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	125,800	2021-2025
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	1,550,900	2021-2026
EN1353 - Essa Road and Anne Street Intersection Reconstruction	985,000	2024-2026
Carryforwards:		
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	97,500	2021-2023
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	4,200	2021-2023
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	154,800	2021-2023
Wastewater Asset Management Plan	180,300	2021-2023
Facilities		
EN1091 - WwTF New Advanced Nutrient Removal	148,944,150	2021-2030
EN1245 - WwTF Chemical Building Upgrade	1,240,000	2021-2022
EN1297 - WwTF Electrical Substation and Transformer Upgrade	15,644,000	2021-2026



Table 2-2 (Cont'd)

Description	Total 2021-2030	Years Undertaken
EN1390 - Wastewater Peak Flow Attenuation Facility	25,183,000	2021-2024, 2026-2029
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	1,257,400	2021-2022
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	12,988,600	2023-2025
EN1438 - WwTF Digester Capacity Expansion	30,725,000	2021-2029
FC1215 - WWTF Innovation Center	15,000,000	2021-2024
Z162 - WwTF New Cogeneration and Biogas Treatment System	500,000	2021-2023
Carryforwards:		
Wastewater Peak Flow Attenuation Facility	186,000	2021-2023
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	583,800	2021-2023
WwTF Alum System Upgrade at Secondary Clarifiers	474,000	2021-2023
WwTF Digester Capacity Expansion	777,600	2021-2023
WwTF Electrical Substation and Transformer Upgrade	675,000	2021-2023
WWTF Innovation Center	35,100	2021-2023
WwTF New Heat Exchanger - Primary Digester 3	469,800	2021-2023
WwTF Selector Tank Mixer Upgrade	5,100	2021-2023
WwTF Biosolids Storage Tank Mixers	348,000	2021-2023
WwTF New Advanced Nutrient Removal	650,100	2021-2023
Total Wastewater Capital Expenditures	489,358,287	



Chapter 3

Lifecycle Costing



3. Lifecycle Costing

3.1 Overview of Lifecycle Costing

3.1.1 *Definition*

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

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

3.1.2 *Financing Costs*

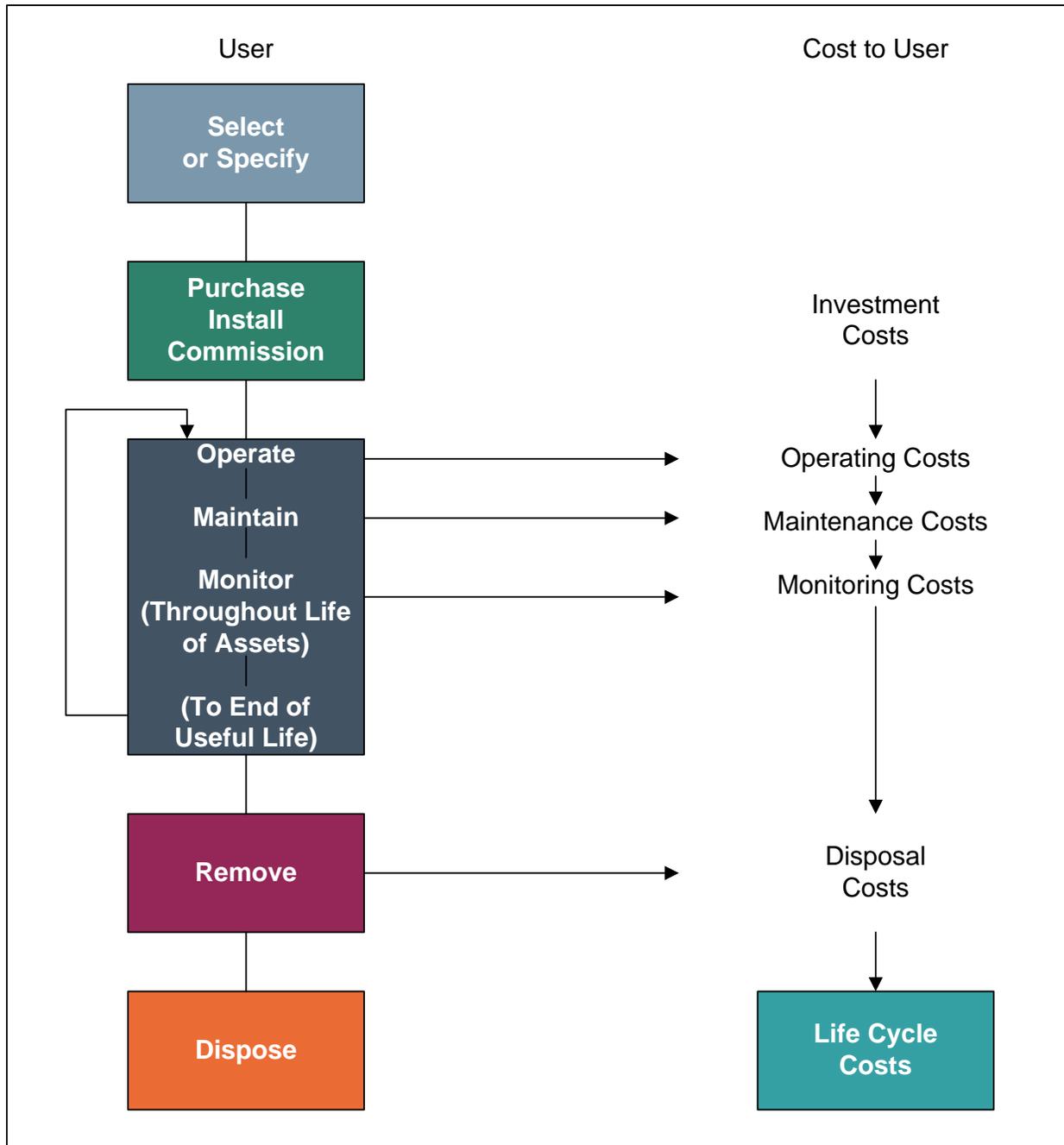
This section will focus on financing mechanisms in place to fund the costs incurred throughout the asset's life.

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

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



Figure 3-1
Lifecycle Costing



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



being acquired to allow growth within the City to continue. As well, debentures could be used to fund such works, with the debt charge carrying costs recouped from taxpayers in the future.

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

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

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

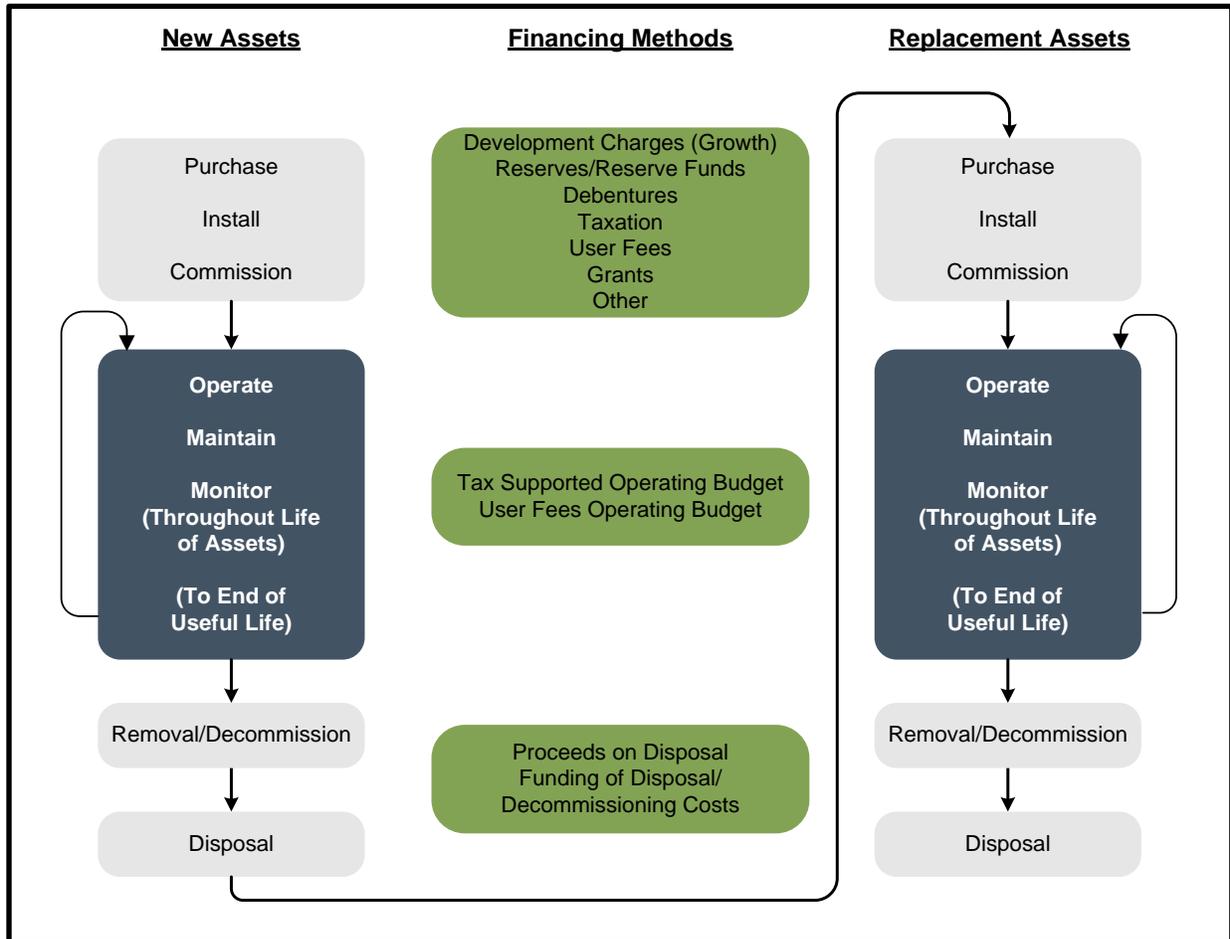
When the asset requires replacement, the sources of financing will be limited to reserves, debentures and contributions from the operating budget. At this point, the question is raised: "If the cost of replacement is to be assessed against the tax/rate payer who benefits from the replacement of the asset,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

Charging for the cost of using up an asset is the fundamental concept behind depreciation methods utilized by the private sector. This concept allows for expending the asset as it is used up in the production process. The tracking of these costs' forms



part of the product's selling price and, hence, end-users are charged for the asset's depreciation. The same concept can be applied in a municipal setting to charge existing users for the asset's use and set those funds aside in a reserve to finance the cost of replacing the asset in the future.

Figure 3-2
Financing Lifecycle Costs



3.1.3 Costing Methods

There are two fundamental methods of calculating the cost of the usage of an asset and for the provision of the revenue required when the time comes to retire and replace it. The first method is the Depreciation Method. This method recognizes the reduction in the value of the asset through wear and tear and aging. There are two commonly used



forms of depreciation: the straight-line method and the reducing balance method (shown graphically in Figure 3-3).

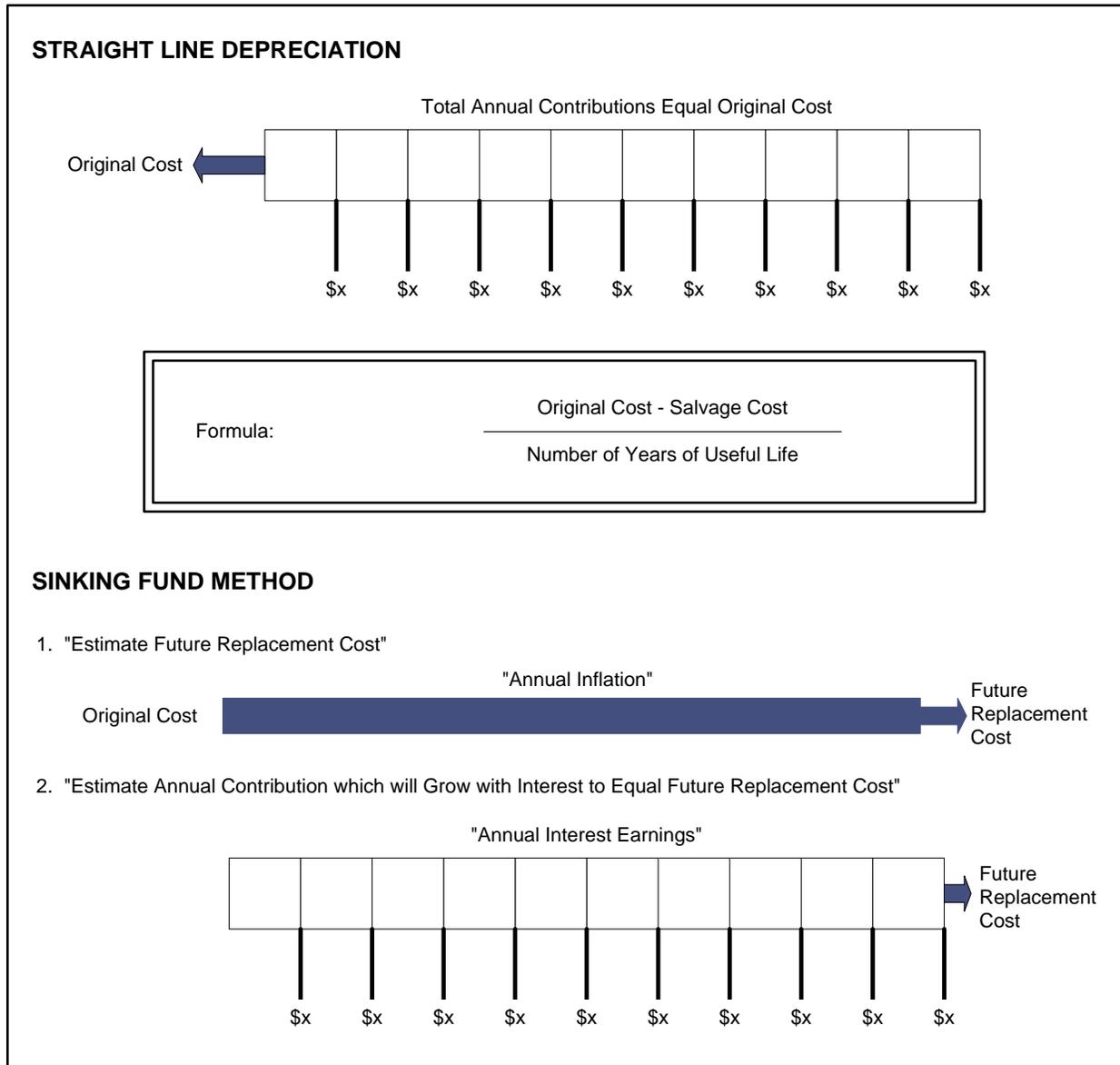
The straight-line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing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

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

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



Figure 3-3



3.2 Impact on Budgets

Detailed water and wastewater systems inventory information was obtained from the City through the ongoing work currently being undertaken for the water and wastewater Asset Management Plans. The age of the water and wastewater systems dates back to the early 1910s. The systems have been expanded throughout the years. The total



value of existing water infrastructure is \$1.19 billion, and the value of existing wastewater infrastructure is \$1.41 billion.

A lifecycle “sinking fund” calculation was undertaken for each piece of infrastructure. These calculations determine the level of investment the City may wish to consider as part of its budgeting practices. This information is summarized in Figure 3-4.

Figure 3-4
City of Barrie
Summary of Water and Wastewater Infrastructure

Area	Total Replacement Value	Suggested amount to be included in 10-year forecast based on estimated life	Amount included in 2021-2030 forecast	Net Replacement for Future Lifecycle	Annual Lifecycle Replacement
Water					
SWTP	268,900,162	40,713,757	} 121,856,104	228,186,405	10,903,195
Other Water Facilities	117,374,845	36,806,196		80,568,649	3,441,597
Meters	12,201,658	9,588,216		2,613,442	206,214
Miscellaneous (Backflow Devices, Yard Hydrants, Bulk Water Filling Stations)	488,697	18,034		470,664	26,708
Valves & Chambers	55,896,178	2,664,361		53,231,817	2,376,031
PRV & Chambers	19,199,787	1,043,632		18,156,154	493,338
Hydrants	47,311,762	2,805,653		44,506,109	1,919,186
Watermains	667,326,626	31,372,673		635,953,953	21,123,716
Total Water	1,188,699,715	125,012,522		121,856,104	1,063,687,193
Wastewater					
Wastewater Facilities	815,906,713	157,291,309	} 192,319,757	658,615,404	26,651,881
Biosolids Facility	121,266,391	6,371,548		114,894,843	3,846,949
Pumping Stations	59,655,965	25,629,572		34,026,393	1,600,291
Maintenance Holes	75,706,686	1,190,732		74,515,954	2,483,972
Sanitary Sewers	338,088,222	2,667,700		335,420,522	9,877,460
Total Wastewater	1,410,623,976	193,150,861	192,319,757	1,217,473,115	44,460,553
Total	2,599,323,691	318,163,383	314,175,862	2,281,160,308	84,950,537

Investment per customer is \$26,440 for water and \$31,714 for wastewater

With respect to lifecycle costing, the following information was taken into consideration:

- approximate age;
- material type;
- main lengths;
- diameter of the mains;
- estimated useful life; and
- estimated replacement costs.

Summaries of both water and wastewater assets are shown on Figures 3-5 and 3-6. These figures show when the assets are coming due and the cost of replacement in 2021 dollars.



It is noted that a portion of the asset replacement needs required for the Wastewater Treatment Facility are being addressed through the Membrane Bioreactor project which is forecasted to take place between 2021-2031.



Figure 3-5
City of Barrie
Summary of Water Infrastructure Replacement Years (2021 \$)

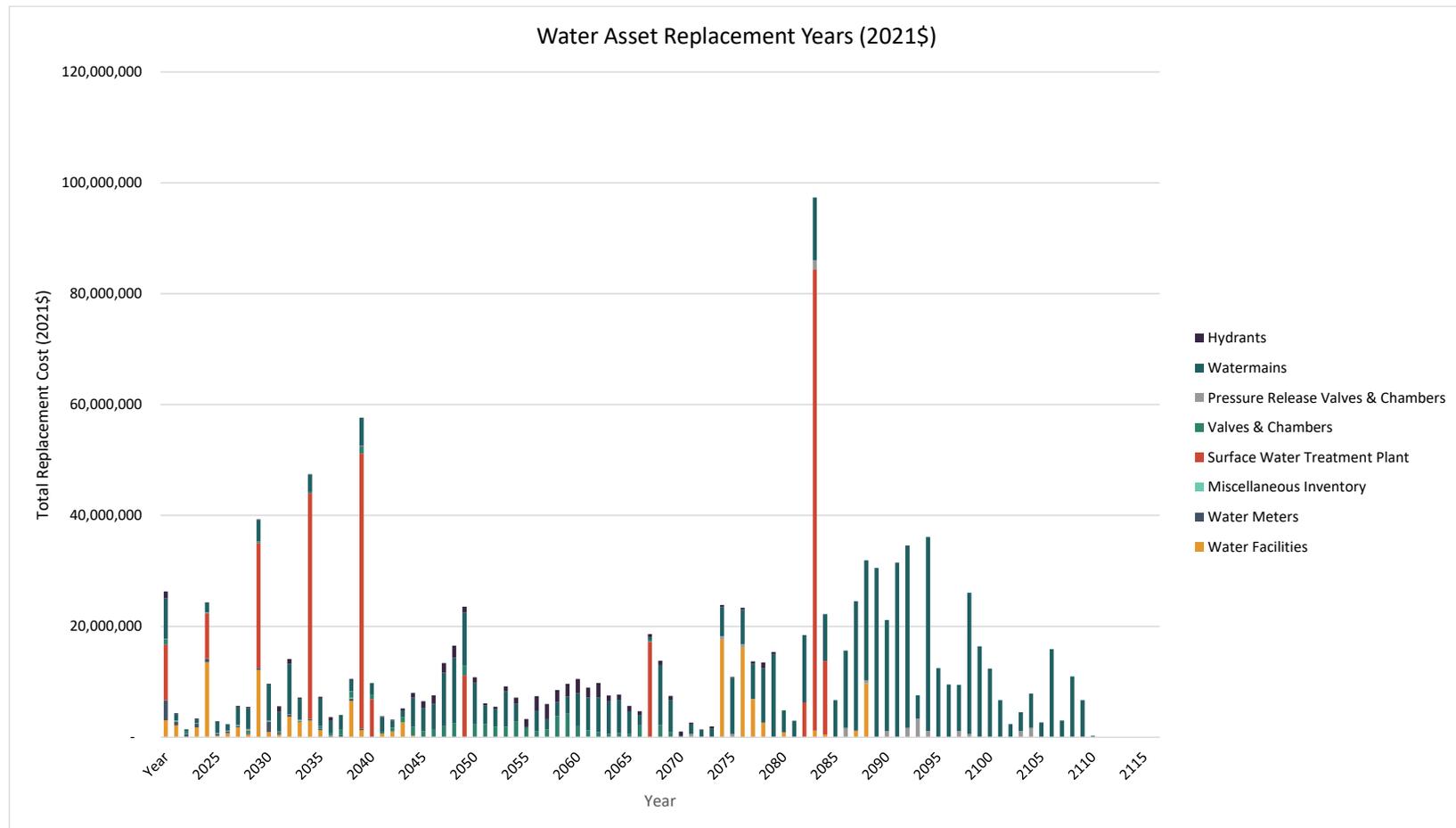
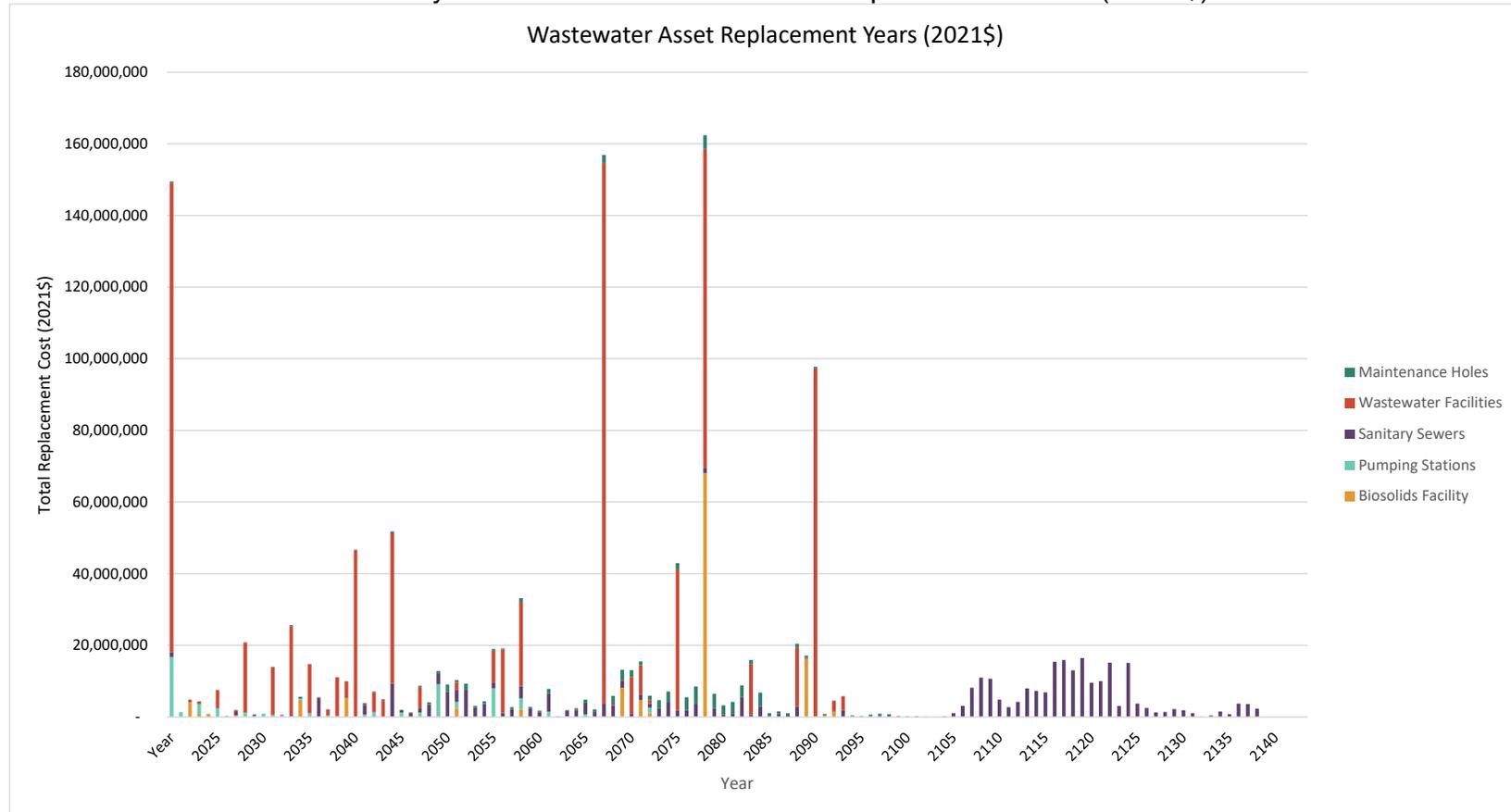




Figure 3-6
City of Barrie
Summary of Wastewater Infrastructure Replacement Years (2021 \$)





Chapter 4

Capital Cost Financing Options



4. Capital Cost Financing Options

4.1 Summary of Capital Cost Financing Alternatives

Historically, the powers that municipalities had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past decade, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 26 introduced in 1996 to provide for expanded powers for imposing fees and charges), while others appear to restrict them (Bill 98 in 1997 providing amendments to the D.C.A. with additional amendments in effect as of 2020 which may further restricts revenues from growth as per Bills 108, 197, and 213).

The Province passed a new *Municipal Act* which came into force on January 1, 2003. Part XII of the Act and O.Reg. 584/06 govern a municipality's ability to impose fees and charges. In contrast to the previous *Municipal Act*, this Act provides municipalities with broadly defined powers and does not differentiate between fees for operating and capital purposes. It is anticipated that the powers to recover capital costs under the previous *Municipal Act* will continue within the new Statutes and Regulations, as indicated by s.9(2) and s.452 of the new *Municipal Act*.

Under s.484 of *Municipal Act, 2001*, the *Local Improvement Act* was repealed with the in-force date of the *Municipal Act* (January 1, 2003). The municipal powers granted under the *Local Improvement Act* now fall under the jurisdiction of the *Municipal Act*. To this end, on December 20, 2002, O.Reg. 390/02 was filed, which allowed for the *Local Improvement Act* to be deemed to remain in force until April 1, 2003. O.Reg. 119/03 was enacted on April 19, 2003, which restored many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

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



Recovery Methods	Section Reference
• <i>Development Charges Act, 1997</i>	4.2
• <i>Municipal Act</i>	4.3
○ Fees and Charges	
○ Sewer and Water Area Charges	
○ Connection Fees	
○ Local Improvements	
• Grant Funding Availability	4.4
• Existing Reserves/Reserve Funds	4.5
• Debenture Financing	4.6

4.2 Development Charges Act, 1997

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

Generally, the Act provided the following changes to the former Act:

- Replace those sections of the 1989 Act that govern municipal development charges;
- Limit services which can be financed from development charges, specifically excluding parkland acquisition, administration buildings, and cultural, entertainment, tourism, solid waste management and hospital facilities;
- Ensure that the level of service used in the calculation of capital costs will not exceed the average level of service over the previous decade. Level of service is to be measured from both a quality and quantity perspective;
- Provide that uncommitted excess capacity available in existing municipal facilities and benefits to existing residents are removed from the calculation of the charge;
- Ensure that the development charge revenues collected by municipalities are spent only on those capital costs identified in the calculation of the development charge;



- Require municipalities to contribute funds (e.g. taxes, user charges or other non-development charge revenues) to the financing of certain projects primarily funded from development charges. The municipal contribution is 10 percent for services such as recreation, parkland development, libraries, etc.;
- Permit (but apparently not require) municipalities to grant developers credits for the direct provision of services identified in the development charge calculation and, when credits are granted, require the municipality to reimburse the developer for the costs the municipality would have incurred if the project had been financed from the development charge reserve fund;
- Set out provisions for front-end financing capital projects (limited to essential services) required to service new development; and
- Set out provisions for appeals and complaints.

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

Most recently, a number of amendments to the D.C.A. were made through the Bill 108 the *More Homes, More Choice Act, 2019*, Bill 138 the *Plan to Build Ontario Together Act, 2019*, Bill 197 the *COVID-19 Economic Recovery Act, 2020*, and Bill 213 the *Better for People, Smarter for Business Act, 2020*. With respect to water and wastewater, a few changes may impact D.C. revenue collections:

1. Timing of Collection:

- a. D.C. Rate Freeze – For developments proceeding through site plan or zoning by-law amendment, the D.C. rate is frozen at the time the application is submitted. The D.C. remains frozen for two years after the application is approved. Should the D.C. study be updated to increase water and wastewater D.C. rates during this period, the City would not be able to collect for this increase.
- b. D.C. Installment Payments – For rental housing and institutional development D.C.s are paid over 5 years and for non-profit housing, D.C.s are paid over 20 years. This provides a delay in receipt of D.C. revenues which will need to be cash-flowed by the City.



2. Mandatory Exemption (additional units) – For existing dwellings, one additional dwelling unit could be constructed within the existing dwelling. This additional dwelling unit is exempt from D.C.s. With the changes to the Act, one additional dwelling unit may be constructed within a new residential dwelling, which would be exempt from D.C.s. Further, one ancillary dwelling unit may be constructed on the same property as a new unit. This ancillary dwelling would be exempt from D.C.s. As these new additional units are exempt from D.C.s, no D.C. revenue may be collected for these units, however, each additional unit provides additional population which requires capacity in the water and wastewater treatment plants. As a result, consideration for these additional units should be made during the D.C. study process to ensure all capacity available to growth is allocated appropriately.
3. Mandatory Exemption (universities) – A new mandatory exemption has been introduced which exempts the payment of D.C.s for developments of land intended for use by a university that receives operating funds from the Government.

Note that the water and wastewater operating budgets have provided an estimate of anticipated funding required to be recovered from rates due to the D.C. exemptions for residential intensification.

4.3 Municipal Act

Part XII of the *Municipal Act* provides municipalities with broad powers to impose fees and charges via passage of a by-law. These powers, as presented in s.391(1), include imposing fees or charges:

- “for services or activities provided or done by or on behalf of it;
- for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board; and
- for the use of its property including property under its control.”

Restrictions are provided to ensure that the form of the charge is not akin to a poll tax. Any charges not paid under this authority may be added to the tax roll and collected in a like manner. The fees and charges imposed under this part are not appealable to the Local Planning Appeal Tribunal (L.P.A.T., formerly known as the O.M.B.).



Section 221 of the previous *Municipal Act* permitted municipalities to impose charges, by by-law, on owners or occupants of land who would or might derive benefit from the construction of sewage (storm and sanitary) or water works being authorized (in a specific benefit area). For a by-law imposed under this section of the previous Act:

- A variety of different means could be used to establish the rate and recovery of the costs and could be imposed by a number of methods at the discretion of Council (i.e. lot size, frontage, number of benefiting properties, etc.);
- Rates could be imposed with respect to costs of major capital works, even though an immediate benefit was not enjoyed;
- Non-abutting owners could be charged;
- Recovery was authorized against existing works, where a new water or sewer main was added to such works, "notwithstanding that the capital costs of existing works has in whole or in part been paid;"
- Charges on individual parcels could be deferred;
- Exemptions could be established;
- Repayment was secured; and
- LPAT approval was not required.

While under the new *Municipal Act* no provisions are provided specific to the previous s.221, the intent to allow capital cost recovery through fees and charges is embraced within s.391. The new *Municipal Act* also maintains the ability of municipalities to impose capital charges for water and sewer services on landowners not receiving an immediate benefit from the works. Under s.391(2) of the Act, "a fee or charge imposed under subsection (1) for capital costs related to sewage or water services or activities may be imposed on persons not receiving an immediate benefit from the services or activities but who will receive a benefit at some later point in time." Also, capital charges imposed under s.391 are not appealable to the LPAT on the grounds that the charges are "unfair or unjust."

Section 222 of the previous *Municipal Act* permitted municipalities to pass a by-law requiring buildings to connect to the municipality's sewer and water systems, charging the owner for the cost of constructing services from the mains to the property line. Under the new *Municipal Act*, this power still exists under Part II, General Municipal Powers (s.9 (3) b of the *Municipal Act*). Enforcement and penalties for this use of power are contained in s.427 (1) of the *Municipal Act*.



Under the previous *Local Improvement Act*:

- A variety of different types of works could be undertaken, such as watermain, storm and sanitary sewer projects, supply of electrical light or power, bridge construction, sidewalks, road widening and paving;
- Council could pass a by-law for undertaking such work on petition of a majority of benefiting taxpayers, on a 2/3 vote of Council and on sanitary grounds, based on the recommendation of the Minister of Health. The by-law was required to go to the LPAT, which might hold hearings and alter the by-law, particularly if there were objections;
- The entire cost of a work was assessed only upon the lots abutting directly on the work, according to the extent of their respective frontages, using an equal special rate per metre of frontage; and
- As noted, this Act was repealed as of April 1, 2003; however, O.Reg. 119/03 was enacted on April 19, 2003 which restores many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

4.4 Grant Funding Availability

Federal Infrastructure Funding

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

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

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



Phase 2: Next Steps

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

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

Federal Gas Tax

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

Ontario Government

The Province has taken steps to increase municipal infrastructure funding. The Ontario Community Infrastructure Fund (O.C.I.F.) was increased in 2016 with formula-based support growing to \$200 million, and application funding growing to \$100 million annually by 2018/2019. As well, \$15 million annually will go to the new Connecting Links program to help pay for the construction and repair costs of municipal roads that connect communities to provincial highways. This is on top of the Building Ontario Up investment of \$130 billion in public infrastructure over 10 years starting in 2015.

Potential Grant Funding

From time to time, programs are made available by senior levels of government to assist municipalities in funding capital projects subsequent to major economic



downturns (funding for municipalities was available after the U.S. financial crisis in 2008 rippled into Canada). If major grant funding were to be available after COVID-19, the City could revisit the proposed capital forecast and rates provided herein.

4.5 Existing Reserves/Reserve Funds

The City has established reserves and reserve funds for water and wastewater costs. The following table summarizes the water and wastewater reserves utilized in this analysis and their respective balances as of December 31, 2020:

Table 4-1
Water and Wastewater Reserve Balances
as of December 31, 2020

Reserve	Dec. 31 2020
Water	
Water Rate Capital Reserve Fund	19,399,469
Water Rate Stabilization Reserve Fund	3,127,216
Development Charges Reserve Fund - Water Facilities	118,481
Development Charges Reserve Fund - Water Facilities Related Debt	(31,675,579)
Development Charges Reserve Fund - Water Distribution - Former Municipal Boundary Areas	(2,110,447)
Development Charges Reserve Fund - Water Distribution - Salem & Hewitt's Secondary Plan Areas	(12,381,102)
Wastewater	
Wastewater Rate Capital Reserve Fund	55,582,924
Wastewater Rate Stabilization Reserve Fund	2,530,674
Development Charges Reserve Fund - Wastewater Facilities	21,305,493
Development Charges Reserve Fund - Wastewater Facilities Related Debt	(41,529,132)
Development Charges Reserve Fund - Wastewater Collection - Former Municipal Boundary Areas	(3,476,726)
Development Charges Reserve Fund - Wastewater Collection - Salem & Hewitt's Secondary Plan Areas	(11,738,164)

4.6 Debenture Financing

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



The Ministry of Municipal Affairs regulates the level of debt incurred by Ontario municipalities, through its powers established under the *Municipal Act*. Ontario Regulation 403/02 provides the current rules respecting municipal debt and financial obligations. Through the rules established under these regulations, a municipality's debt capacity is capped at a level where no more than 25% of the municipality's own purpose revenue may be allotted for servicing the debt (i.e. debt charges). The City of Barrie's Financial Policy Framework caps debt charges at 20% of own source revenues and estimated to be at 10% in 2021.

As of December 31, 2020, the City's total debt outstanding is \$316 million. Annual debt servicing costs are estimated at \$36 million with 54%, or \$19 million, funded from Development Charges, 38%, or \$13.5 million, from property taxes, and the remainder from wastewater and parking fees.

The analysis provided herein assumes that the City will require additional non-growth-related debt financing for water services of \$21.10 million for works to be undertaken from 2021 to 2025. This additional debt is not included in the City's current debt forecasts but is needed to offset future pressures on the Water Capital Reserve while keeping current water rates reasonably affordable. For wastewater, debt needs are more significant. Growth-related debt financing of \$125.58 million is required throughout the forecast period for works related to treatment facilities. This debt has been forecasted within the City's current capital plan.

4.7 Recommended Capital Financing Approach

Of the various funding alternatives provided in this section, the following are recommended for further consideration by the City of Barrie for the capital expenditures (inflated) provided in Chapter 2:



Table 4-2
City of Barrie
Water and Wastewater Capital Funding Forecast
2021-2030
(Inflated)

Description	Water 2021-2030	Wastewater 2021-2030
Provincial/Federal Grants	-	-
Development Charges Reserve Fund - Facilities	\$1,265,000	\$102,265,813
Development Charges Reserve Fund - Facilities Related Debt	-	-
Development Charges Reserve Fund - Distribution Systems - Former Barrie	\$14,681,765	\$39,029,453
Development Charges Reserve Fund - Distribution Systems - Salem & Hewitt's	\$52,451,913	\$108,865,485
Non-Growth Related Debenture Requirements	\$21,101,600	-
Growth Related Debenture Requirements - Facilities	-	\$125,583,649
Growth Related Debenture Requirements - Facilities Related Debt	-	-
Growth Related Debenture Requirements - Distribution Systems - Former Barrie	-	-
Growth Related Debenture Requirements - Distribution Systems - Salem & Hewitt's	-	-
Operating Contributions	-	-
Rate Stabilization Reserve Fund	-	-
Capital Reserve Fund	\$128,537,118	\$244,546,813
Total Capital Financing	\$218,037,397	\$620,291,213

Note that the City continues to work with the developing landowners to assist in financing and/or constructing growth-related works to minimize the financial impacts and debt capacity to the City. Arrangements are in place with some developing landowners where D.C. credits will be provided to repay the cost of the capital works they are undertaking. For the purposes of this analysis, we have assumed that the capital works will flow through the D.C. reserve funds.

As a result of the capital financing approach recommended above, the following table provides the estimated reserve balances for water and wastewater as of 2030:



Table 4-3
City of Barrie
Projected Reserve/Reserve Fund Balances – 2030

Reserve Fund	Projected Balance (2030)
Water Capital Reserve Fund	\$5,953,521
Water Rate Stabilization Reserve Fund	\$3,812,059
Water DC Reserve Funds	(\$4,837,120)
Total Water Reserve Funds Balance	\$4,928,460
Wastewater Capital Reserve Fund	\$83,538,973
Wastewater Rate Stabilization Reserve Fund	\$3,084,878
Wastewater DC Reserve Funds	(\$96,624,204)
Total Wastewater Reserve Funds Balance	(\$10,000,353)

By 2030, the water capital reserve fund will have a projected balance of approximately \$5.95 million. Additional lifecycle contributions will need to be made to this reserve in order to meet future asset replacement needs beyond the 10-year forecast period.

Although the wastewater capital reserve fund has a projected positive balance of \$83.54 million by 2030, the D.C. reserve funds for wastewater are in a significant deficit. These negative balances will need to be cash flowed through the capital reserve fund in the interim before D.C. revenues are realized. In addition, there are significant asset replacement needs in the 2031-2041 period for wastewater, as exhibited in Figure 3-6. These works will need to be funded through the capital reserve fund balance.

Given the investments in growth-related infrastructure over the next ten years, the D.C. reserve funds remain in an overall deficit position by 2030. The City may address these deficits by continuing to work with developing landowners in order to fund these capital works that are required for growth.

Tables 4-4 and 4-5 provide for the full capital expenditure and funding program by year for water and wastewater, respectively.



**Table 4-4
City of Barrie
Capital Budget Forecast – Water (inflated \$)**

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Capital Expenditures												
000030 - Orchard Drive ROW Replacement - St. Vincent to End	-	41,000	-	-	41,000	-	-	-	-	-	-	-
000030 - Orchard Drive ROW Replacement - St. Vincent to End	-	250,000	-	-	-	-	224,000	26,000	-	-	-	-
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	-	487,000	-	-	-	-	-	-	-	-	-	487,000
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	-	546,000	-	-	-	-	-	128,000	135,000	283,000	-	-
000106 - Mary Street ROW Replacement - Ross to Dunlop	-	598,000	-	-	-	-	-	-	-	-	598,000	-
000106 - Mary Street ROW Replacement - Ross to Dunlop	-	72,000	-	72,000	-	-	-	-	-	-	-	-
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	-	1,637,000	-	-	-	-	637,000	1,000,000	-	-	-	-
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	-	215,000	-	105,000	110,000	-	-	-	-	-	-	-
000141 - Jean and Tyndale Sanitary Servicing Installation	-	176,000	-	-	-	-	-	-	176,000	-	-	-
000141 - Jean and Tyndale Sanitary Servicing Installation	-	1,241,000	-	-	-	-	-	-	-	-	-	1,241,000
000203 - Surface Water Treatment Plant Facility Renewal Assessment	-	290,000	-	-	145,000	91,000	-	54,000	-	-	-	-
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction	-	211,000	-	-	124,000	87,000	-	-	-	-	-	-
000725 - NRP- HNS Grove B2 Neighbourhood Reconstruction	-	152,000	-	-	-	-	-	-	-	-	-	152,000
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)	-	3,687,000	99,000	10,000	-	835,000	1,201,000	921,000	621,000	-	-	-
001014 - SWTP-Garage Floor Structural Rehabilitation and Prevention	-	1,693,000	315,000	1,378,000	-	-	-	-	-	-	-	-
001016 - SWTP Control System Upgrade	902,100	5,059,000	2,335,000	2,724,000	-	-	-	-	-	-	-	-
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	182,246	831,000	831,000	-	-	-	-	-	-	-	-	-
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	-	205,000	205,000	-	-	-	-	-	-	-	-	-
EN1150 - Big Bay Point Road Booster Station VFD Upgrade	75,000	105,000	105,000	-	-	-	-	-	-	-	-	-
EN1152 - Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	225,000	451,000	236,000	215,000	-	-	-	-	-	-	-	-
EN1167 - Dunlop Street East Corridor Improvements - Toronto to Mulcaster	10,298	-	-	-	-	-	-	-	-	-	-	-
EN1169 - Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	197,303	-	-	-	-	-	-	-	-	-	-	-
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	218,540	2,117,000	1,033,000	1,084,000	-	-	-	-	-	-	-	-
EN1178 - Interim Watermain Replacement Pilot Program	512,985	-	-	-	-	-	-	-	-	-	-	-
EN1189 - Watermain Cathodic Protection Program	1,000,000	4,478,000	1,050,000	1,103,000	1,158,000	1,167,000	-	-	-	-	-	-
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	29,000	1,057,000	30,000	501,000	526,000	-	-	-	-	-	-	-
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	28,202	1,387,000	-	-	-	-	677,000	710,000	-	-	-	-
EN1252 - PRV Chamber Replacement Program	813,215	3,761,000	144,000	1,655,000	1,962,000	-	-	-	-	-	-	-
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement	-	1,846,000	-	-	-	-	30,000	50,000	-	686,000	1,080,000	-
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	40,000	1,237,000	788,000	449,000	-	-	-	-	-	-	-	-



Table 4-4 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction	-	2,479,000	-	-	-	778,000	830,000	871,000	-	-	-
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	43,500	3,249,000	46,000	48,000	732,000	769,000	807,000	847,000	-	-	-
EN1294 - Watermain Renewal Program	1,713,000	3,411,000	305,000	1,948,000	1,158,000	-	-	-	-	-	-
EN1305 - Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction	-	18,738,000	-	3,514,000	7,379,000	5,811,000	2,034,000	-	-	-	-
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	60,000	2,186,000	641,000	-	-	754,000	791,000	-	-	-	-
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	42,000	804,000	-	392,000	412,000	-	-	-	-	-	-
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	-	3,382,000	-	-	-	-	-	670,000	1,323,000	1,389,000	-
EN1355 - Grove Street East Watermain Replacement and Road Renewal - Duckworth to Fletcher	144,000	1,460,000	131,000	1,329,000	-	-	-	-	-	-	-
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction	-	3,001,000	-	30,000	31,000	-	-	-	549,000	576,000	1,815,000
EN1395 - Ferndale Drive South Watermain Replacement - Tiffin to Ardagh	100,000	-	-	-	-	-	-	-	-	-	-
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	61,000	800,000	-	390,000	410,000	-	-	-	-	-	-
EN1435 - Alliance Boulevard Expansion - Bell Farm to Bell Farm	-	245,000	-	-	-	-	-	23,000	-	222,000	-
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction	-	3,640,000	-	-	35,000	55,000	-	659,000	1,038,000	1,090,000	763,000
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	62,000	1,906,000	65,000	-	584,000	613,000	644,000	-	-	-	-
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St	-	1,655,000	-	-	156,000	-	-	-	1,499,000	-	-
000472 - Technology Forecasted Needs	-	1,610,000	100,000	126,000	145,000	152,000	160,000	183,000	214,000	247,000	283,000
CC1000 - ERP Sustainment Program	70,000	406,000	74,000	77,000	81,000	85,000	89,000	-	-	-	-
EN1429 - Water and Transportation Asset Management Plans - Update	45,000	-	-	-	-	-	-	-	-	-	-
IT1010 - Network Technology Infrastructure Program	56,000	186,000	59,000	62,000	65,000	-	-	-	-	-	-
IT1012 - Server and Storage Technology Infrastructure Program	30,000	176,000	32,000	33,000	37,000	36,000	38,000	-	-	-	-
Additional Asset Replacement Needs	-	35,558,000	-	-	-	-	-	6,700,000	7,036,000	10,342,000	11,480,000
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-
Watermain Renewal Program	232,300	500,000	244,000	256,000	-	-	-	-	-	-	-
Air Valve/Main Valve Chamber Condition Assessment and Rehabilitation Program	33,300	72,000	35,000	37,000	-	-	-	-	-	-	-
Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction	23,700	51,000	25,000	26,000	-	-	-	-	-	-	-
BAS Component Replacement	11,500	25,000	12,000	13,000	-	-	-	-	-	-	-
Bayfield Street Water Tower - Repairs and Interior Lining Replacement	177,300	381,000	186,000	195,000	-	-	-	-	-	-	-
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	181,900	392,000	191,000	201,000	-	-	-	-	-	-	-
Big Bay Point Road Booster Station VFD Upgrade	25,000	54,000	26,000	28,000	-	-	-	-	-	-	-
Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	2,100	4,000	2,000	2,000	-	-	-	-	-	-	-
Citizen Relationship Management (CRM) Solution	17,000	37,000	18,000	19,000	-	-	-	-	-	-	-
City Hall Customer Contact Centre Renovation	300	-	-	-	-	-	-	-	-	-	-
CMMS Improvement Project - Cityworks	107,900	232,000	113,000	119,000	-	-	-	-	-	-	-
Corealis Meters	4,900	10,000	5,000	5,000	-	-	-	-	-	-	-
Corporate Audio Visual Technology Infrastructure	100	-	-	-	-	-	-	-	-	-	-



Table 4-4 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Corporate Communications Infrastructure Program	1,700	4,000	2,000	2,000	-	-	-	-	-	-	-	
Corporate PC Infrastructure Program	3,400	8,000	4,000	4,000	-	-	-	-	-	-	-	
Corporate Printing Infrastructure	700	2,000	1,000	1,000	-	-	-	-	-	-	-	
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	65,300	141,000	69,000	72,000	-	-	-	-	-	-	-	
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	9,500	20,000	10,000	10,000	-	-	-	-	-	-	-	
Dunlop Street West ROW Replacement - Eccles to Toronto	32,900	71,000	35,000	36,000	-	-	-	-	-	-	-	
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	86,600	186,000	91,000	95,000	-	-	-	-	-	-	-	
ERP Sustainment Program	59,900	129,000	63,000	66,000	-	-	-	-	-	-	-	
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	9,000	19,000	9,000	10,000	-	-	-	-	-	-	-	
Frozen Water Service Repair	184,800	398,000	194,000	204,000	-	-	-	-	-	-	-	
Fuel Tank Repairs 2017	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-	
Gunn Street ROW Replacement - Peel to St. Vincent	7,900	17,000	8,000	9,000	-	-	-	-	-	-	-	
Harvie Road and Big Bay Point Road New Crossing - Highway 400	88,800	191,000	93,000	98,000	-	-	-	-	-	-	-	
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	2,000	4,000	2,000	2,000	-	-	-	-	-	-	-	
Huronian and Big Bay Point Large Diameter Watermain Condition Assessment	127,400	274,000	134,000	140,000	-	-	-	-	-	-	-	
Interim Watermain Replacement Pilot Program	217,800	469,000	229,000	240,000	-	-	-	-	-	-	-	
Lampman to Anne New Transmission Watermain and Lampman to Leacock ROW Rehabilitation	43,900	94,000	46,000	48,000	-	-	-	-	-	-	-	
Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	75,000	162,000	79,000	83,000	-	-	-	-	-	-	-	
Mapleview Drive East Improvements - Country Lane to Yonge (City)	900	2,000	1,000	1,000	-	-	-	-	-	-	-	
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	6,200	14,000	7,000	7,000	-	-	-	-	-	-	-	
Microsoft Office 365 and Windows Enterprise	1,300	2,000	1,000	1,000	-	-	-	-	-	-	-	
Network Technology Infrastructure Program	19,300	41,000	20,000	21,000	-	-	-	-	-	-	-	
NRP- HNS Allandale A Neighbourhood Reconstruction	43,700	94,000	46,000	48,000	-	-	-	-	-	-	-	
NRP- HNS Allandale B Neighbourhood Reconstruction	15,600	33,000	16,000	17,000	-	-	-	-	-	-	-	
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	5,200	11,000	5,000	6,000	-	-	-	-	-	-	-	
NRP- Wellington D1 Neighbourhood Reconstruction	11,400	25,000	12,000	13,000	-	-	-	-	-	-	-	
NRP- Wellington D2 Neighbourhood Reconstruction	28,700	62,000	30,000	32,000	-	-	-	-	-	-	-	
PC Replacements	100	-	-	-	-	-	-	-	-	-	-	
PRV Chamber Replacement Program	161,800	348,000	170,000	178,000	-	-	-	-	-	-	-	
Public Safety Communication Program	600	2,000	1,000	1,000	-	-	-	-	-	-	-	
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	5,300	12,000	6,000	6,000	-	-	-	-	-	-	-	
Rodney St-Blake to Kempenfelt	6,700	14,000	7,000	7,000	-	-	-	-	-	-	-	
Ross, Collier, Bayfield Intersection Realignment	1,500	4,000	2,000	2,000	-	-	-	-	-	-	-	
Secondary Plan Area New Bulk Water Filling Station	30,500	66,000	32,000	34,000	-	-	-	-	-	-	-	
Server and Desktop Software Program	100	-	-	-	-	-	-	-	-	-	-	
Server and Storage Technology Infrastructure Program	1,700	4,000	2,000	2,000	-	-	-	-	-	-	-	
South L/ill Leachate Gal Repl	14,700	31,000	15,000	16,000	-	-	-	-	-	-	-	



Table 4-4 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Sunnidale: Letitia-Wellington Transmission Watermain	574,000	1,236,000	603,000	633,000	-	-	-	-	-	-	-
TCE Groundwater Monitor Wells	27,400	59,000	29,000	30,000	-	-	-	-	-	-	-
TCE Plume Mitigation Solution	24,700	53,000	26,000	27,000	-	-	-	-	-	-	-
Tiffin Street - Ferndale to Anne Street	400	-	-	-	-	-	-	-	-	-	-
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	39,300	84,000	41,000	43,000	-	-	-	-	-	-	-
Water Dispensing Event Trailer	800	2,000	1,000	1,000	-	-	-	-	-	-	-
Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	19,900	43,000	21,000	22,000	-	-	-	-	-	-	-
Watermain Cathodic Protection Program	344,700	742,000	362,000	380,000	-	-	-	-	-	-	-
Water and Transportation Asset Management Plans - Update	23,400	51,000	25,000	26,000	-	-	-	-	-	-	-
Watermain Renewal Program	340,000	732,000	357,000	375,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	25,700	55,000	27,000	28,000	-	-	-	-	-	-	-
Salem Road New Transmission Watermain and Road Expansion - County Road 27 to Dunn (Developer)	11,800	25,000	12,000	13,000	-	-	-	-	-	-	-
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	(118,900)	-	-	-	-	-	-	-	-	-	-
Growth Related:	-	-	-	-	-	-	-	-	-	-	-
Facilities	-	-	-	-	-	-	-	-	-	-	-
000461 - SWTP Optimization	-	1,265,000	-	-	-	1,265,000	-	-	-	-	-
Water Distribution - Salem & Hewitt's Secondary Plan Areas:	-	-	-	-	-	-	-	-	-	-	-
000293 - Huronia Road New Transmission Watermain - Mapleview to Lockhart (City)	-	8,630,000	-	-	-	-	-	66,000	715,000	626,000	7,223,000
000926 - Salem Road Reservoir and Pumping Station	-	5,491,000	-	-	-	-	477,000	2,446,000	2,568,000	-	-
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	491,430	-	-	-	-	-	-	-	-	-	-
EN1250 - Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	2,760,773	-	-	-	-	-	-	-	-	-	-
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	(560,800)	748,000	-	39,000	709,000	-	-	-	-	-	-
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	72,400	1,447,000	14,000	101,000	-	650,000	682,000	-	-	-	-
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	255,600	6,001,000	-	-	804,000	2,644,000	2,553,000	-	-	-	-
EN1259 - Big Bay Point New Transmission Watermain and Road Expansion - Prince William to Street N (Developer)	-	387,000	-	387,000	-	-	-	-	-	-	-
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	16,600	600,000	-	-	-	-	26,000	223,000	351,000	-	-
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	-	247,000	247,000	-	-	-	-	-	-	-	-
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)	-	4,596,000	70,000	107,000	-	1,402,000	1,472,000	1,545,000	-	-	-
EN1272 - Salem Rd New Watermain, New Trunk Sanitary Sewer and ROW Expansion - Veterans to Saunders (City)	-	(358,000)	(1,120,000)	-	-	-	71,000	337,000	354,000	-	-
EN1275 - Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	261,000	-	-	-	-	-	-	-	-	-	-
EN1276 - Salem Road New Transmission Watermain and Road Expansion County Road 27 to Dunn (Developer)	15,000	237,000	237,000	-	-	-	-	-	-	-	-
EN1278 - Bryne Drive (North) New Road Construction - Harvie Rd to Essa Rd	-	443,000	-	-	-	-	-	84,000	175,000	184,000	-
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)	-	355,000	-	-	-	-	44,000	311,000	-	-	-



Table 4-4 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)	-	1,276,000	-	20,000	-	-	77,000	458,000	721,000	-	-	
Carryforwards	-	-	-	-	-	-	-	-	-	-	-	
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain - Big Bay Point to Mplview (City)	200	-	-	-	-	-	-	-	-	-	-	
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	58,600	127,000	62,000	65,000	-	-	-	-	-	-	-	
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	16,600	35,000	17,000	18,000	-	-	-	-	-	-	-	
Mapleview Drive East Improvements - Country Lane to Yonge (City)	755,000	1,625,000	793,000	832,000	-	-	-	-	-	-	-	
McKay Road New Interchange - Highway 400 (City)	18,700	41,000	20,000	21,000	-	-	-	-	-	-	-	
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-	
Secondary Plan Area New Bulk Water Filling Station	30,500	66,000	32,000	34,000	-	-	-	-	-	-	-	
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	16,000	35,000	17,000	18,000	-	-	-	-	-	-	-	
Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	721,500	1,553,000	758,000	795,000	-	-	-	-	-	-	-	
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	616,200	1,326,000	647,000	679,000	-	-	-	-	-	-	-	
Mapleview Drive E New Transmisison Watermain - Yonge to Royal Jubilee (Developer)	1,927,900	4,150,000	2,024,000	2,126,000	-	-	-	-	-	-	-	
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	886,900	1,909,000	931,000	978,000	-	-	-	-	-	-	-	
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	826,300	1,779,000	868,000	911,000	-	-	-	-	-	-	-	
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain - Big Bay Point to Mplview (City)	112,300	242,000	118,000	124,000	-	-	-	-	-	-	-	
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	11,300	24,000	12,000	12,000	-	-	-	-	-	-	-	
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	58,700	127,000	62,000	65,000	-	-	-	-	-	-	-	
Former Municipal Boundary Areas:	-	-	-	-	-	-	-	-	-	-	-	
000924 - Fairview Road Right of Way Expansion - Big Bay Point to Little	-	14,000	-	-	-	-	-	7,000	7,000	-	-	
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	1,351,550	5,198,000	2,993,000	2,205,000	-	-	-	-	-	-	-	
EN1016 - Tiffin Street - Well 7 to Ferndale	342,000	6,921,000	2,835,000	3,816,000	270,000	-	-	-	-	-	-	
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	434,250	1,064,000	1,064,000	-	-	-	-	-	-	-	-	
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	1,000,000	-	-	-	-	-	-	-	-	-	-	
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	-	1,405,000	-	122,000	1,283,000	-	-	-	-	-	-	
EN1168 - Dyments Creek Culvert Expansion - Bradford St.	-	488,000	-	180,000	191,000	117,000	-	-	-	-	-	
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview	-	378,000	-	-	-	-	-	-	147,000	231,000	-	
EN1183 - Ross, Collier, Bayfield Intersection Realignment	-	265,000	-	-	-	-	-	-	-	-	265,000	
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	-	212,000	-	81,000	64,000	67,000	-	-	-	-	-	
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	48,100	351,000	66,000	139,000	146,000	-	-	-	-	-	-	
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	466,060	698,000	698,000	-	-	-	-	-	-	-	-	



Table 4-4 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	122,045	1,346,000	24,000	60,000	599,000	525,000	138,000	-	-	-	-
EN1333 - Huronia Road Right of Way Expansion - Yonge to Herrell	-	81,000	-	-	-	-	-	-	-	-	81,000
EN1353 - Essa Road and Anne Street Intersection Reconstruction	-	929,000	-	-	29,000	439,000	461,000	-	-	-	-
EN1377 - Anne Street Right of Way Expansion - Wellington to Dunlop	-	638,000	-	-	30,000	32,000	-	-	281,000	295,000	-
Z423 - Cundles Road East New Transmission Watermain - St Vincent to Golden Eagle	-	1,428,000	-	-	-	-	-	-	345,000	1,083,000	-
Z436 - Huronia Road Right of Way Expansion - Herrell to Big Bay Point	-	8,000	-	-	-	-	-	-	4,000	4,000	-
Z438 - Lakeshore/Hurst Drive ROW Expansion - Tiffin Street to Cox Mill	-	8,000	-	-	-	-	-	-	4,000	4,000	-
Carryforwards											
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	281,700	607,000	296,000	311,000	-	-	-	-	-	-	-
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	116,100	250,000	122,000	128,000	-	-	-	-	-	-	-
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	7,200	16,000	8,000	8,000	-	-	-	-	-	-	-
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	28,500	61,000	30,000	31,000	-	-	-	-	-	-	-
Harvie Road and Big Bay Point Road New Crossing - Highway 400	8,800	19,000	9,000	10,000	-	-	-	-	-	-	-
Sunnidale: Letitia-Wellington Transmission Watermain	291,100	627,000	306,000	321,000	-	-	-	-	-	-	-
Tiffin Street - Ferndale to Anne Street	1,100	2,000	1,000	1,000	-	-	-	-	-	-	-
Total Capital Expenditures	24,053,397	193,984,000	26,712,000	36,007,000	19,416,000	18,374,000	14,163,000	18,319,000	18,263,000	17,860,000	24,870,000
Capital Financing											
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Facilities	-	1,265,000	-	-	-	1,265,000	-	-	-	-	-
Development Charges Reserve Fund - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Distribution Systems - Former Barrie	2,550,495	12,131,270	4,872,060	3,730,140	1,220,640	612,360	358,990	4,550	403,960	761,970	166,600
Development Charges Reserve Fund - Distribution Systems - Salem & Hewitt's	9,377,913	43,074,000	5,821,000	7,345,000	1,513,000	4,696,000	5,398,100	5,436,550	4,831,350	810,000	7,223,000
Non-Growth Related Debenture Requirements	258,600	20,843,000	-	10,364,000	8,179,000	2,300,000	-	-	-	-	-
Growth Related Debenture Requirements - Facilities	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Distribution Systems - Former Barrie	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Distribution Systems - Salem & Hewitt's	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-
Water Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Water Rate Capital Reserve Fund	11,866,388	116,670,730	16,018,940	14,567,860	8,503,360	9,500,640	8,405,910	12,877,900	13,027,690	16,288,030	17,480,400
Total Capital Financing	24,053,397	193,984,000	26,712,000	36,007,000	19,416,000	18,374,000	14,163,000	18,319,000	18,263,000	17,860,000	24,870,000



**Table 4-5
City of Barrie
Capital Budget Forecast – Wastewater (inflated \$)**

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Capital Expenditures												
000030 - Orchard Drive ROW Replacement - St. Vincent to End	-	345,000	-	-	57,000	-	258,000	30,000	-	-	-	-
000061 - Johnson Street wastewater pump station valve chamber, back up pump and flow meter	225,000	-	-	-	-	-	-	-	-	-	-	-
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	-	1,135,000	-	-	-	-	-	142,000	149,000	312,000	532,000	-
000106 - Mary Street ROW Replacement - Ross to Dunlop	-	720,000	-	77,000	-	-	-	-	-	643,000	-	-
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	-	2,094,000	-	119,000	124,000	-	719,000	1,132,000	-	-	-	-
000141 - Jean and Tyndale Sanitary Servicing Installation	-	1,464,000	-	-	-	-	-	-	176,000	-	1,288,000	-
000208 - Waste Water Maintenance Facility Renewal Assessment	-	92,000	-	-	-	-	-	-	45,000	47,000	-	-
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction	-	511,000	-	-	144,000	101,000	-	-	-	-	266,000	-
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)	-	3,039,000	101,000	106,000	-	-	1,085,000	875,000	872,000	-	-	-
000952 - Mobile Response Technology Replacement	-	43,000	21,000	22,000	-	-	-	-	-	-	-	-
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	227,948	1,214,000	1,214,000	-	-	-	-	-	-	-	-	-
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	-	205,000	205,000	-	-	-	-	-	-	-	-	-
EN1127 - WwTF Biosolids Storage Tank Mixers	(2,599,400)	11,169,000	-	1,745,000	2,989,000	3,139,000	3,296,000	-	-	-	-	-
EN1167 - Dunlop Street East Corridor Improvements - Toronto to Mulcaster	2,080	-	-	-	-	-	-	-	-	-	-	-
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	218,540	2,117,000	1,033,000	1,084,000	-	-	-	-	-	-	-	-
EN1184 - Sewer Rehabilitation Program	320,000	3,178,000	336,000	353,000	370,000	389,000	408,000	429,000	450,000	443,000	-	-
EN1237 - WwTF Sludge Thickening System Process - Polymer System Replacement	91,000	3,409,000	105,000	655,000	2,649,000	-	-	-	-	-	-	-
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	38,750	1,411,000	41,000	668,000	702,000	-	-	-	-	-	-	-
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	37,603	1,849,000	-	-	-	-	902,000	947,000	-	-	-	-
EN1243 - WwTF Cogeneration Building Ventilation Upgrades	300,000	-	-	-	-	-	-	-	-	-	-	-
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement	-	2,868,000	-	-	-	-	59,000	100,000	-	1,052,000	1,657,000	-
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	35,000	1,143,000	840,000	303,000	-	-	-	-	-	-	-	-
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction	-	2,479,000	-	-	-	778,000	830,000	871,000	-	-	-	-
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	57,500	4,330,000	60,000	63,000	976,000	1,025,000	1,076,000	1,130,000	-	-	-	-
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	54,731	1,950,000	530,000	-	-	693,000	727,000	-	-	-	-	-
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	45,000	1,072,000	-	523,000	549,000	-	-	-	-	-	-	-
EN1328 - WwTF Septage/Supernating Dosing Tank Pre-Treatment Upgrade	-	270,000	105,000	165,000	-	-	-	-	-	-	-	-
EN1330 - WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition Assessment	100,000	2,586,000	-	1,521,000	1,065,000	-	-	-	-	-	-	-
EN1335 - WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	100,000	-	-	-	-	-	-	-	-	-	-	-
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	-	3,411,000	-	-	-	-	-	670,000	1,337,000	1,404,000	-	-
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction	-	3,040,000	-	30,000	31,000	-	-	-	556,000	584,000	1,839,000	-
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	65,000	1,066,000	-	520,000	546,000	-	-	-	-	-	-	-
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction	-	5,125,000	-	-	35,000	55,000	-	935,000	1,472,000	1,546,000	1,082,000	-
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	62,000	1,182,000	65,000	-	354,000	372,000	391,000	-	-	-	-	-
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St	-	979,000	-	-	93,000	-	-	-	886,000	-	-	-



Table 4-5 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Additional Asset Replacement Needs	-	22,017,000	263,000	551,000	868,000	1,216,000	1,914,000	2,680,000	3,518,000	4,802,000	6,205,000
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-
Automatic Transfer Switch	133,300	287,000	140,000	147,000	-	-	-	-	-	-	-
BCSC Elec Surge Protect Upgrad	57,900	125,000	61,000	64,000	-	-	-	-	-	-	-
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	43,700	94,000	46,000	48,000	-	-	-	-	-	-	-
Biosolids Electrical Protect	16,400	35,000	17,000	18,000	-	-	-	-	-	-	-
Biosolids Facility Roof Coating Rehabilitation	8,300	18,000	9,000	9,000	-	-	-	-	-	-	-
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	12,700	27,000	13,000	14,000	-	-	-	-	-	-	-
Capital Purchase - New Vehicles from Intake Forms	45,000	97,000	47,000	50,000	-	-	-	-	-	-	-
Citizen Relationship Management (CRM) Solution	17,000	37,000	18,000	19,000	-	-	-	-	-	-	-
City Hall Customer Contact Centre Renovation	300	-	-	-	-	-	-	-	-	-	-
CMMS Improvement Project - Cityworks	16,300	35,000	17,000	18,000	-	-	-	-	-	-	-
Corporate Audio Visual Technology Infrastructure	100	-	-	-	-	-	-	-	-	-	-
Corporate Communications Infrastructure Program	1,100	2,000	1,000	1,000	-	-	-	-	-	-	-
Corporate PC Infrastructure Program	3,500	8,000	4,000	4,000	-	-	-	-	-	-	-
Corporate Printing Infrastructure	500	2,000	1,000	1,000	-	-	-	-	-	-	-
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	95,600	205,000	100,000	105,000	-	-	-	-	-	-	-
Dunlop Street East Corridor Improvements - Toronto to Mulcaster	1,800	4,000	2,000	2,000	-	-	-	-	-	-	-
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	68,400	147,000	72,000	75,000	-	-	-	-	-	-	-
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	258,100	556,000	271,000	285,000	-	-	-	-	-	-	-
ERP Sustainment Program	59,900	129,000	63,000	66,000	-	-	-	-	-	-	-
eTendering Platform New System	4,000	8,000	4,000	4,000	-	-	-	-	-	-	-
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	6,700	14,000	7,000	7,000	-	-	-	-	-	-	-
Grove Street Pumping Station New Sewage Pump	14,900	32,000	16,000	16,000	-	-	-	-	-	-	-
Gunn Street ROW Replacement - Peel to St. Vincent	9,300	20,000	10,000	10,000	-	-	-	-	-	-	-
Harvie Road and Big Bay Point Road New Crossing - Highway 400	20,700	45,000	22,000	23,000	-	-	-	-	-	-	-
Harvie Road ROW Expansion - Essa to Bryne	135,000	291,000	142,000	149,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	206,200	444,000	217,000	227,000	-	-	-	-	-	-	-
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	229,100	494,000	241,000	253,000	-	-	-	-	-	-	-
Huron Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	15,000	33,000	16,000	17,000	-	-	-	-	-	-	-
Inlet Wks Screen Install	6,700	14,000	7,000	7,000	-	-	-	-	-	-	-
Little Lk Sew Pump Station Upg	17,500	37,000	18,000	19,000	-	-	-	-	-	-	-
Lockhart Rd Trunk San Sew/Pump (City)	7,100	15,000	7,000	8,000	-	-	-	-	-	-	-
Mapleview Dr E Sewer Watermain	5,000	11,000	5,000	6,000	-	-	-	-	-	-	-
Mapleview Drive East Improvements - Country Lane to Yonge (City)	181,400	390,000	190,000	200,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	39,400	84,000	41,000	43,000	-	-	-	-	-	-	-
Microsoft Office 365 and Windows Enterprise	700	2,000	1,000	1,000	-	-	-	-	-	-	-
Mobility Technology Program	47	-	-	-	-	-	-	-	-	-	-
Network Technology Infrastructure Program	10,400	22,000	11,000	11,000	-	-	-	-	-	-	-
NRP- HNS Allandale A Neighbourhood Reconstruction	43,400	94,000	46,000	48,000	-	-	-	-	-	-	-
NRP- HNS Allandale B Neighbourhood Reconstruction	14,400	31,000	15,000	16,000	-	-	-	-	-	-	-
NRP- HNS Brock Park Neighbourhood Reconstruction	37,000	80,000	39,000	41,000	-	-	-	-	-	-	-
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	4,900	10,000	5,000	5,000	-	-	-	-	-	-	-
NRP- Wellington D1 Neighbourhood Reconstruction	11,600	25,000	12,000	13,000	-	-	-	-	-	-	-
NRP- Wellington D2 Neighbourhood Reconstruction	32,000	69,000	34,000	35,000	-	-	-	-	-	-	-



Table 4-5 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
PC Replacements	100	-	-	-	-	-	-	-	-	-	-
Process Instrumentation	8,300	18,000	9,000	9,000	-	-	-	-	-	-	-
Public Safety Communication Program	600	2,000	1,000	1,000	-	-	-	-	-	-	-
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	16,300	35,000	17,000	18,000	-	-	-	-	-	-	-
Ross, Collier, Bayfield Intersection Realignment	2,800	6,000	3,000	3,000	-	-	-	-	-	-	-
Server and Desktop Software Program	200	-	-	-	-	-	-	-	-	-	-
Server and Storage Technology Infrastructure Program	900	2,000	1,000	1,000	-	-	-	-	-	-	-
Sewer Rehabilitation Program	122,300	263,000	128,000	135,000	-	-	-	-	-	-	-
Sophia Creek Culvert Expansion - Grove, 130m East of Davidson	300	-	-	-	-	-	-	-	-	-	-
South L/ill Leachate Gal Repl	14,700	31,000	15,000	16,000	-	-	-	-	-	-	-
Sunnidale Road Hwy 400 Crossing Reconstruction (within CAH limits)	218,700	471,000	230,000	241,000	-	-	-	-	-	-	-
Utilization of Wastewater Collection System as Active Storage	23,200	50,000	24,000	26,000	-	-	-	-	-	-	-
Waste Water Treatment Facility Administrative Office Fit-Up	11,200	24,000	12,000	12,000	-	-	-	-	-	-	-
Wastewat- Auto ValvesFlowmeter	44,200	95,000	46,000	49,000	-	-	-	-	-	-	-
Wastewater Asset Management Plan	31,900	68,000	33,000	35,000	-	-	-	-	-	-	-
Wastewater Peak Flow Attenuation Facility	158,500	341,000	166,000	175,000	-	-	-	-	-	-	-
Well Installations for Biosolids Storage Facility Groundwater Monitoring Program	18,900	41,000	20,000	21,000	-	-	-	-	-	-	-
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	109,500	236,000	115,000	121,000	-	-	-	-	-	-	-
WwTF Administration Building Retrofit of Laboratory Fume Hood Ventilation Unit - Laboratory Room	8,300	18,000	9,000	9,000	-	-	-	-	-	-	-
WwTF Alum System Upgrade at Secondary Clarifiers	293,400	631,000	308,000	323,000	-	-	-	-	-	-	-
WwTF Biosolids Storage Tank Mixers	1,135,800	2,445,000	1,193,000	1,252,000	-	-	-	-	-	-	-
WwTF Chemical Building Upgrade	8,400	18,000	9,000	9,000	-	-	-	-	-	-	-
WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition Assessment	100,000	215,000	105,000	110,000	-	-	-	-	-	-	-
WwTF Cogenerat Engine #2 Rehab	37,500	80,000	39,000	41,000	-	-	-	-	-	-	-
WwTF Cogeneration Building Ventilation Upgrades	29,300	63,000	31,000	32,000	-	-	-	-	-	-	-
WwTF Electrical Substation and Transformer Upgrade	285,600	615,000	300,000	315,000	-	-	-	-	-	-	-
WwTF Feasibility Study - Reuse of Final Effluent	(50,900)	-	-	-	-	-	-	-	-	-	-
WwTF Filter Beds 1 and 2 Diffuser Upgrade	13,000	28,000	14,000	14,000	-	-	-	-	-	-	-
WwTF Innovation Center	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-
WwTF New Advanced Nutrient Removal	723,100	1,556,000	759,000	797,000	-	-	-	-	-	-	-
WwTF New Heat Exchanger - Primary Digester 3	17,400	37,000	18,000	19,000	-	-	-	-	-	-	-
WwTF Redundant Power Feed to Secondary Effluent Pumps	50,000	108,000	53,000	55,000	-	-	-	-	-	-	-
WwTF Sand Filter Controls & Instrumentation Replacement	55,000	119,000	58,000	61,000	-	-	-	-	-	-	-
WwTF Secondary Digester Facade Replacement	33,900	73,000	36,000	37,000	-	-	-	-	-	-	-
WwTF Selector Tank Mxer Upgrade	200	-	-	-	-	-	-	-	-	-	-
WwTF Sludge Thickening System Process - Polymer System Replacement	73,200	158,000	77,000	81,000	-	-	-	-	-	-	-
WwTF Splitter Gallery Concrete and Expansion Joint Repairs	116,700	252,000	123,000	129,000	-	-	-	-	-	-	-
WwTF Travelling Bridge Frame Renewal - Filters 1 - 4	46,500	100,000	49,000	51,000	-	-	-	-	-	-	-
WwTF Underground Sludge Transfer Pipe Replacement - Admin Building	339,000	730,000	356,000	374,000	-	-	-	-	-	-	-
WwTF Unox Tank Isolation Gate Replacement	33,300	72,000	35,000	37,000	-	-	-	-	-	-	-
WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	36,600	78,000	38,000	40,000	-	-	-	-	-	-	-
WwTF Feasibility Study - Reuse of Final Effluent	18,400	39,000	19,000	20,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	30,900	66,000	32,000	34,000	-	-	-	-	-	-	-
WwTF Biosolids Storage Tank Mixers	800,000	1,722,000	840,000	882,000	-	-	-	-	-	-	-
Sanitary Servicing - Royal Oak, Bay, Cottage	459,500	989,000	482,000	507,000	-	-	-	-	-	-	-
Co-generation & Biogas Trmt	(2,500)	-	-	-	-	-	-	-	-	-	-
Mapleview Drive West Sanitary Forcmain Twinning and Pumping Station 5 Upgrades & Expansion (City)	(200,400)	-	-	-	-	-	-	-	-	-	-



Table 4-5 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Sanitary Servicing - Royal Oak, Bay, Cottage	14,900	32,000	16,000	16,000	-	-	-	-	-	-	-
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	5,000	11,000	5,000	6,000	-	-	-	-	-	-	-
Growth Related:	-	-	-	-	-	-	-	-	-	-	-
Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-	-
000332 - McKay Pump Station (City)	-	5,995,000	-	-	-	-	-	118,000	892,000	1,232,000	3,753,000
000458 - Hewitts Pump Station (City)	-	1,481,000	-	-	-	-	-	-	-	134,000	1,347,000
EN1137 - Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	-	6,588,000	-	-	3,131,000	-	3,457,000	-	-	-	-
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	830,800	-	-	-	-	-	-	-	-	-	-
EN1255 - Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	(1,321,400)	16,434,000	-	-	3,051,000	4,805,000	5,046,000	3,532,000	-	-	-
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	(8,000,000)	38,747,000	-	1,900,000	6,946,000	14,586,000	15,315,000	-	-	-	-
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	1,398,200	6,177,000	4,231,000	1,946,000	-	-	-	-	-	-	-
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	135,800	2,873,000	-	-	254,000	1,343,000	1,276,000	-	-	-	-
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	16,600	600,000	-	-	-	-	26,000	223,000	351,000	-	-
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	75,795	-	-	-	-	-	-	-	-	-	-
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)	-	4,596,000	70,000	107,000	-	1,402,000	1,472,000	1,545,000	-	-	-
EN1278 - Byrne Drive (North) New Road Construction - Harvie Rd to Essa Rd	-	443,000	-	-	-	-	-	84,000	175,000	184,000	-
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)	-	151,000	-	-	-	15,000	66,000	70,000	-	-	-
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)	-	1,984,000	-	31,000	-	-	119,000	712,000	1,122,000	-	-
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	84,800	182,000	89,000	93,000	-	-	-	-	-	-	-
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	559,700	1,205,000	588,000	617,000	-	-	-	-	-	-	-
County Rd 27 Sanitary Sewer - Holly SPS to Lougheed	116,700	252,000	123,000	129,000	-	-	-	-	-	-	-
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	16,000	35,000	17,000	18,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	285,000	613,000	299,000	314,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	1,083,400	2,332,000	1,138,000	1,194,000	-	-	-	-	-	-	-
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	453,300	976,000	476,000	500,000	-	-	-	-	-	-	-
Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	1,271,700	2,737,000	1,335,000	1,402,000	-	-	-	-	-	-	-
McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	2,853,600	6,142,000	2,996,000	3,146,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	2,365,100	5,091,000	2,483,000	2,608,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	154,300	332,000	162,000	170,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	63,300	136,000	66,000	70,000	-	-	-	-	-	-	-
Lockhart Rd Trunk San Sew/Pump (City)	64,600	139,000	68,000	71,000	-	-	-	-	-	-	-



Table 4-5 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	145,900	314,000	153,000	161,000	-	-	-	-	-	-	-
Sanitary Pump Station 3 Decommissioning (City)	31,200	67,000	33,000	34,000	-	-	-	-	-	-	-
Sanitary Servicing - Royal Oak, Bay, Cottage	26,200	57,000	28,000	29,000	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-
Former Municipal Boundary Areas											
000931 - Wastewater Inflow/Infiltration Reduction Action Plan	200,000	5,790,000	525,000	551,000	579,000	608,000	638,000	670,000	704,000	739,000	776,000
001018 - Dunlop Street Bridge Sanitary - Sarjeant Drive to Anne Street	1,208,069	41,897,000	1,050,000	1,103,000	-	3,460,000	11,510,000	12,085,000	12,689,000	-	-
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	448,000	-	-	-	-	-	-	-	-	-	-
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	56,250	33,000	33,000	-	-	-	-	-	-	-	-
EN1122 - Little Lk Sew Pump Station Upg	-	6,205,000	527,000	2,205,000	3,473,000	-	-	-	-	-	-
EN1132 - Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	167,500	3,483,000	710,000	1,353,000	1,420,000	-	-	-	-	-	-
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	-	1,978,000	-	965,000	1,013,000	-	-	-	-	-	-
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview	35,700	757,000	-	-	-	-	-	757,000	-	-	-
EN1183 - Ross, Collier, Bayfield Intersection Realignment	-	39,000	-	-	-	-	-	-	-	-	39,000
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	-	422,000	-	161,000	127,000	134,000	-	-	-	-	-
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	48,100	351,000	66,000	139,000	146,000	-	-	-	-	-	-
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	125,800	-	-	-	-	-	-	-	-	-	-
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	107,400	1,711,000	30,000	76,000	762,000	668,000	175,000	-	-	-	-
EN1353 - Essa Road and Anne Street Intersection Reconstruction	-	1,225,000	-	-	24,000	586,000	615,000	-	-	-	-
Carryforwards:											
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	32,500	70,000	34,000	36,000	-	-	-	-	-	-	-
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	1,400	3,000	1,000	2,000	-	-	-	-	-	-	-
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	51,600	111,000	54,000	57,000	-	-	-	-	-	-	-
Wastewater Asset Management Plan	60,100	129,000	63,000	66,000	-	-	-	-	-	-	-
Facilities											
EN1091 - WwTF New Advanced Nutrient Removal	2,500,000	199,997,000	7,375,000	5,163,000	12,422,000	16,748,000	17,585,000	18,465,000	38,775,000	40,714,000	42,750,000
EN1245 - WwTF Chemical Building Upgrade	364,000	920,000	920,000	-	-	-	-	-	-	-	-
EN1297 - WwTF Electrical Substation and Transformer Upgrade	570,000	17,877,000	630,000	3,271,000	4,293,000	5,409,000	4,274,000	-	-	-	-
EN1390 - Wastewater Peak Flow Attenuation Facility	473,200	33,203,000	1,414,000	1,113,000	232,000	-	2,827,000	11,875,000	12,469,000	3,273,000	-
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	600,000	690,000	690,000	-	-	-	-	-	-	-	-
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	-	15,384,000	-	3,309,000	4,336,000	4,552,000	3,187,000	-	-	-	-
EN1438 - WwTF Digester Capacity Expansion	500,000	39,769,000	1,166,000	808,000	732,000	3,373,000	10,625,000	11,156,000	7,809,000	4,100,000	-
FC1215 - WWTF Innovation Center	1,000,000	15,230,000	6,300,000	6,615,000	2,315,000	-	-	-	-	-	-
Z162 - WwTF New Cogeneration and Biogas Treatment System	80,000	452,000	231,000	221,000	-	-	-	-	-	-	-
Carryforwards:											
Wastewater Peak Flow Attenuation Facility	62,000	133,000	65,000	68,000	-	-	-	-	-	-	-
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	194,600	419,000	204,000	215,000	-	-	-	-	-	-	-
WwTF Alum System Upgrade at Secondary Clarifiers	158,000	340,000	166,000	174,000	-	-	-	-	-	-	-
WwTF Digester Capacity Expansion	259,200	558,000	272,000	286,000	-	-	-	-	-	-	-
WwTF Electrical Substation and Transformer Upgrade	225,000	484,000	236,000	248,000	-	-	-	-	-	-	-
WWTF Innovation Center	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-



Table 4-5 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
WwTF New Heat Exchanger - Primary Digester 3	156,600	337,000	164,000	173,000	-	-	-	-	-	-	-	-
WwTF Selector Tank Mxer Upgrade	1,700	4,000	2,000	2,000	-	-	-	-	-	-	-	-
WwTF Biosolids Storage Tank Mixers	116,000	250,000	122,000	128,000	-	-	-	-	-	-	-	-
WwTF New Advanced Nutrient Removal	216,700	467,000	228,000	239,000	-	-	-	-	-	-	-	-
Total Capital Expenditures	19,320,213	600,971,000	50,388,000	60,017,000	56,808,000	65,457,000	89,878,000	71,233,000	84,447,000	61,209,000	61,534,000	
Capital Financing												
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Facilities	3,549,167	98,716,646	7,940,897	11,559,077	9,812,578	11,953,482	18,301,475	16,649,572	14,233,366	6,819,618	1,446,582	
Development Charges Reserve Fund - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Wastewater Collection - Former Municipal Boundary Areas	1,529,163	37,500,290	1,704,060	3,303,900	3,334,960	3,238,880	8,230,840	8,468,860	8,550,570	317,770	350,450	
Development Charges Reserve Fund - Wastewater Collection - Salem & Hewitt's Secondary Plan Areas	2,696,485	106,169,000	14,355,000	14,540,000	13,382,000	22,151,000	26,754,900	6,094,450	2,241,650	1,550,000	5,100,000	
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Facilities	1,848,105	123,735,544	5,692,443	4,412,613	7,529,742	10,151,998	10,659,355	11,192,778	23,503,924	24,679,272	25,913,418	
Growth Related Debenture Requirements - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Wastewater Collection - Former Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Wastewater Collection - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Rate Capital Reserve Fund	9,697,293	234,849,520	20,695,600	26,201,410	22,748,720	17,961,640	25,931,430	28,827,340	35,917,490	27,842,340	28,723,550	
Total Capital Financing	19,320,213	600,971,000	50,388,000	60,017,000	56,808,000	65,457,000	89,878,000	71,233,000	84,447,000	61,209,000	61,534,000	



Chapter 5

Overview of Expenditures and Revenues



5. Overview of Expenditures and Revenues

5.1 Water Operating Expenditures

In this report, the forecast water budget figures for 2021 to 2024 are based on the operating forecasts provided by staff. The forecast for the remaining years (2025-2030) has been inflated from 2024 estimates. The costs for each component of the operating budget have been reviewed with staff to establish forecast inflationary adjustments. Most of the expenditures have been assumed to increase at a rate of 2.0% annually. Operating expenditures that involve hydro and chemicals have been inflated by 5.0% annually. It is anticipated that an additional full-time staff member will be required for water services in 2022. The salaries and benefits for this staff member have been incorporated into the forecast, based on current salary levels for a similar position. Note that annual contributions have been provided to the capital reserves in order to minimize the need for additional debt to finance the capital program. Also included are any debenture expenditures and contributions to reserve funds.

As noted in Section 4.2, the water operating budget has provided an estimate of anticipate funding required to be recovered from rates due to the D.C. exemptions for residential intensification. This expenditure is based on an anticipated estimate of 15% of new apartments dwellings being exempt under the new mandatory residential intensification exemption under the D.C.A. The loss of the water component of the D.C. due to exemptions must be funded from other sources.

Further, a new expenditure related to a low-income support grant program has been included beginning in 2022 at an estimated cost of \$300,000. This amount has been inflated at 2% annually over the forecast period.

5.2 Water Operating Revenues

The City has fixed charge revenue and miscellaneous revenue sources to help contribute towards operating expenditures. These miscellaneous revenues, including swimming pool fills, water tapping fees, backflow fees, etc. have been assumed to increase at 2% per year over the forecast period. In addition to these revenue sources, local improvements revenue is included in the forecast to account for repayment to the City for works conducted on behalf of developing landowners. This revenue is based on



the repayment schedule negotiated with the landowners. Table 5-1 provides for the operating budget for the water system.



**Table 5-1
City of Barrie
Operating Budget Forecast – Water (inflated \$)**

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures										
Operating Costs										
400000 - Full-time Salaries	6,051,907	6,206,281	6,346,102	6,463,396	6,592,700	6,724,600	6,859,100	6,996,300	7,136,200	7,278,900
400100 - Full-time Salaries - Casual	290,979	373,346	279,633	221,111	225,500	230,000	234,600	239,300	244,100	249,000
400700 - Full-time Overtime	162,590	165,856	169,173	172,556	176,000	179,500	183,100	186,800	190,500	194,300
401000 - Full-time Salary Recovery	(123,846)	(214,322)	(90,731)	-	-	-	-	-	-	-
401100 - Full-time Fringe Benefits	1,642,068	1,672,108	1,699,210	1,721,943	1,756,400	1,791,500	1,827,300	1,863,800	1,901,100	1,939,100
401200 - Full-time Fringe Benefits - Casual	37,440	44,443	35,883	28,236	28,800	29,400	30,000	30,600	31,200	31,800
433100 - Part-time Salaries - Casual	117,487	123,093	129,314	135,432	138,100	140,900	143,700	146,600	149,500	152,500
433500 - Part-time Fringe Benefits - Casual	15,548	16,336	17,210	18,069	18,400	18,800	19,200	19,600	20,000	20,400
Salaries & Benefits for Additional Staff		86,200	87,900	89,700	91,500	93,300	95,200	97,100	99,000	101,000
500400 - Stationery & Office Supplies	47,643	52,151	53,194	54,257	55,300	56,400	57,500	58,700	59,900	61,100
500500 - Preprinted Forms, Tags & Passes	4,735	3,589	3,661	3,734	3,800	3,900	4,000	4,100	4,200	4,300
500800 - Meetings & Meal Expenses	10,127	10,476	10,686	10,899	11,100	11,300	11,500	11,700	11,900	12,100
501000 - Award & Ceremony Expenses	1,875	1,950	1,989	2,029	2,100	2,100	2,100	2,100	2,100	2,100
501100 - Protective Clothing	24,290	25,494	26,004	26,524	27,100	27,600	28,200	28,800	29,400	30,000
501300 - Clothing Allowance	6,710	6,947	7,086	7,228	7,400	7,500	7,700	7,900	8,100	8,300
501500 - Protective Equipment	27,970	28,867	29,444	30,033	30,600	31,200	31,800	32,400	33,000	33,700
510100 - Chemicals	171,606	172,428	173,267	174,122	182,800	191,900	201,500	211,600	222,200	233,300
520000 - Gasoline	3,798	3,874	3,951	4,030	4,200	4,400	4,600	4,800	5,000	5,300
520100 - Hydro	1,761,153	1,796,376	1,832,304	1,868,950	1,962,400	2,060,500	2,163,500	2,271,700	2,385,300	2,504,600
520200 - Water & Wastewater	96,068	97,989	99,949	101,948	104,000	106,100	108,200	110,400	112,600	114,900
520300 - Natural Gas	125,007	127,507	130,057	132,658	135,300	138,000	140,800	143,600	146,500	149,400
540300 - Small Parts	93,083	96,248	98,051	99,891	101,900	103,900	106,000	108,100	110,300	112,500
540500 - Asphalt	48,000	49,915	50,913	51,931	53,000	54,100	55,200	56,300	57,400	58,500
540900 - Field & Other Supplies	474,227	486,096	494,228	502,502	512,600	522,900	533,400	544,100	555,000	566,100
541400 - Laboratory Supplies	15,240	15,550	15,861	16,178	16,500	16,800	17,100	17,400	17,700	18,100
541600 - Purchases for Resale	102,170	104,213	106,298	108,424	110,600	112,800	115,100	117,400	119,700	122,100
560200 - Minor Capital - General	424,446	437,466	444,714	452,107	461,100	470,300	479,700	489,300	499,100	509,100
570000 - Small Tools	25,447	26,398	26,926	27,464	28,000	28,600	29,200	29,800	30,400	31,000
600000 - Conferences & Trade Show Registration	32,377	35,353	36,060	36,781	37,500	38,300	39,100	39,900	40,700	41,500
600100 - Kilometer Reimbursement	9,359	9,722	9,916	10,114	10,300	10,500	10,700	10,900	11,100	11,300
620000 - Staff Training & Development	132,030	144,128	147,011	149,951	152,900	156,000	159,100	162,300	165,500	168,800
620200 - Memberships & Subscriptions	148,816	160,453	163,652	166,915	170,300	173,700	177,200	180,700	184,300	188,000
640500 - Consultants - General	1,436	1,542	1,573	1,605	1,600	1,600	1,600	1,600	1,600	1,600
660400 - Examination Services	250	255	260	265	300	300	300	300	300	300
661100 - Advertising Services	2,360	2,454	2,503	2,553	2,600	2,700	2,800	2,900	3,000	3,100
661200 - Application & Permit Services	3,784	-	-	-	-	-	-	-	-	-
661400 - Cellular Telephone Services	44,785	45,788	46,353	46,929	47,900	48,900	49,900	50,900	51,900	52,900
661800 - Telephone Services	29,910	30,225	30,390	30,558	31,200	31,800	32,400	33,000	33,700	34,400
670700 - Contracted Services - General	904,635	915,040	926,415	940,018	958,800	978,000	997,600	1,017,600	1,038,000	1,058,800
671900 - Contracted Services - Snow Clearing	118,280	122,998	125,458	127,967	130,500	133,100	135,800	138,500	141,300	144,100
672200 - Contracted Services - Water	9,050	9,411	9,599	9,791	10,000	10,200	10,400	10,600	10,800	11,000
672600 - Contracted Services - Painting	57,000	58,140	59,303	60,489	61,700	62,900	64,200	65,500	66,800	68,100
675100 - Repairs & Maintenance - Building	5,820	6,053	6,174	6,297	6,400	6,500	6,600	6,700	6,800	6,900
675400 - Repairs & Maintenance - Equipment	232,239	234,604	236,224	237,877	242,600	247,500	252,500	257,600	262,800	268,100



Table 5-1 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
676100 - Repairs & Maintenance - Hydrants	101,966	104,005	106,085	108,207	110,400	112,600	114,900	117,200	119,500	121,900
676400 - Repairs & Maintenance - Parking	32,219	32,606	33,001	33,403	34,100	34,800	35,500	36,200	36,900	37,600
700000 - Equipment Rental/Lease	84,633	23,103	25,258	27,056	27,600	28,200	28,800	29,400	30,000	30,600
720400 - Debit & Credit Card Fees	1,315	1,341	1,368	1,395	1,400	1,400	1,400	1,400	1,400	1,400
720800 - Insurance Premium	219,043	223,424	227,892	232,450	237,100	241,800	246,600	251,500	256,500	261,600
721100 - Insurance Settlement	29,260	29,845	30,442	31,051	31,700	32,300	32,900	33,600	34,300	35,000
900500 - Interdepartmental - General	100,000	100,000	132,118	166,236	169,600	173,000	176,500	180,000	183,600	187,300
901000 - Interdepartmental - Fleet	298,690	304,664	310,757	316,972	323,300	329,800	336,400	343,100	350,000	357,000
901599 - Interdepartmental - Property (Automated)	946,770	961,145	976,297	991,654	1,011,500	1,031,700	1,052,300	1,073,300	1,094,800	1,116,700
902000 - Interdepartmental - Corporate Support	5,898,416	5,994,070	6,091,577	6,183,636	6,307,300	6,433,400	6,562,100	6,693,300	6,827,200	6,963,700
903000 - Interdepartmental - Water Rates (Manual)	694,973	697,178	738,592	741,881	756,700	771,800	787,200	802,900	819,000	835,400
903099 - Interdepartmental - Water Rates (Automated)	77,728	78,834	80,400	82,000	83,600	85,300	87,000	88,700	90,500	92,300
Low-Income Support Grant Program	-	300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500
Transfer to Fleet Management Reserve	345,000	345,000	345,000	345,000	345,000	345,000	345,000	345,000	345,000	345,000
Funding of DC Exemptions for Residential Intensification	152,439	141,653	195,881	581,505	593,120	605,430	618,400	630,835	643,484	656,323
Sub Total Operating	22,372,350	23,129,909	23,683,837	24,508,010	25,052,520	25,611,530	26,185,700	26,773,535	27,376,784	27,995,723
Capital-Related										
Existing Debt (Principal) - Growth Related - Facilities Related Debt	1,975,688	2,066,476	2,161,492	2,260,937	2,365,020	2,473,959	2,587,985	2,707,337	2,832,268	2,963,043
Existing Debt (Interest) - Growth Related - Facilities Related Debt	5,941,793	5,851,006	5,755,989	5,656,544	5,552,461	5,443,522	5,329,496	5,210,144	5,085,213	4,954,439
New Non-Growth Related Debt (Principal)	-	9,624	9,913	395,914	712,178	819,140	843,714	869,025	895,096	921,949
New Non-Growth Related Debt (Interest)	-	7,758	7,469	318,092	551,584	599,219	574,645	549,334	523,263	496,410
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Water Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-
Transfer to Water Capital Reserve Fund	7,068,478	7,083,882	7,333,536	6,942,925	7,200,546	7,880,349	8,742,358	9,625,869	10,546,845	11,498,457
Sub Total Capital Related	14,985,959	15,018,745	15,268,400	15,574,412	16,381,790	17,216,190	18,078,198	18,961,709	19,882,685	20,834,298
Total Expenditures	37,358,309	38,148,655	38,952,236	40,082,422	41,434,309	42,827,720	44,263,898	45,735,244	47,259,468	48,830,020
Revenues										
Fixed Charge	10,254,620	10,663,482	11,205,414	11,849,112	12,590,028	13,371,258	14,195,054	15,063,359	15,978,417	16,942,815
810260 - Engineering Fees	36,977	37,717	38,471	39,240	40,000	40,800	41,600	42,400	43,200	44,100
810340 - Hydrant Meter Gate Valves	182,491	186,141	189,864	193,661	197,500	201,500	205,500	209,600	213,800	218,100
810360 - Swimming Pool Fills	17,668	18,021	18,382	18,749	19,100	19,500	19,900	20,300	20,700	21,100
810370 - Water Service Calls	18,738	19,113	19,495	19,885	20,300	20,700	21,100	21,500	21,900	22,300
810380 - Stop & Drain Calls	52,270	53,315	54,382	55,469	56,600	57,700	58,900	60,100	61,300	62,500
810590 - Water Tapping Fees	44,843	45,740	46,655	47,588	48,500	49,500	50,500	51,500	52,500	53,600
810610 - Backflow Fees	219,000	221,000	222,000	223,000	227,500	232,100	236,700	241,400	246,200	251,100
810640 - Water ON/OFF Fees	61,323	62,549	63,800	65,076	66,400	67,700	69,100	70,500	71,900	73,300
810820 - Sundry Revenue	150,406	153,414	156,482	159,612	162,800	166,100	169,400	172,800	176,300	179,800
825000 - Interest and Penalties	80,000	80,000	-	-	-	-	-	-	-	-
Local Improvements Revenue	50,500	8,276	8,276	8,276	8,276	8,276	8,276	-	-	-
Contributions from Development Charges Reserve Fund - Facilities Related Debt	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481
Total Operating Revenue	19,086,317	19,466,249	19,940,702	20,597,150	21,354,485	22,152,615	22,993,511	23,870,941	24,803,698	25,786,196
Water Billing Recovery - Operating	18,271,992	18,682,405	19,011,534	19,485,272	20,079,824	20,675,105	21,270,387	21,864,304	22,455,770	23,043,824
Asset Replacement Needs - Lifecycle Contribution (\$)	-	293,087	900,031	1,562,279	2,301,297	3,112,770	4,001,400	4,972,050	6,029,879	7,180,408
Water Billing Recovery - Total	18,271,992	18,975,492	19,911,565	21,047,551	22,381,121	23,787,874	25,271,788	26,836,353	28,485,649	30,224,232



5.3 Wastewater Operating Expenditures

Similar to water, the wastewater operating expenditures for 2021 to 2024 are based on the City's estimates. Forecasts for 2025 to 2030 have been adjusted over the forecast period by an annual inflationary factor of 2.0%. Operating expenditures that involve hydro and chemicals have been inflated by 5.0% annually. Additional staff members are also anticipated over the forecast period for wastewater services. The incremental salaries and benefits related to these new staff members have been incorporated into the forecast. Also included are contributions to the capital reserve and debt payments.

Similar to water, the wastewater operating budget has provided an estimate of anticipate funding required to be recovered from rates due to the new D.C. exemption for residential intensification. This expenditure is based on an anticipated estimate of 15% of new apartments dwellings being exempt under the new mandatory residential intensification exemption under the D.C.A. The loss of the wastewater component of the D.C. due to exemptions must be funded from other sources.

Further, as with water, a new expenditure related to a low-income support grant program has been included beginning in 2022 at an estimated cost of \$300,000. This amount has been inflated at 2% annually over the forecast period.

5.4 Wastewater Operating Revenues

The operating revenue for the wastewater program comes mainly from the fixed charges along with volumetric revenue. A small amount of revenue is also generated from miscellaneous charges and service charges. These miscellaneous revenue sources are assumed to increase annually by 2% over the forecast period. In addition to these revenue sources, there is also a repayment of local improvements works from the benefiting landowners. This revenue is based on the repayment schedules negotiated with landowners. Table 5-2 outlines the operating budget for the Barrie wastewater systems.



Table 5-2
City of Barrie
Operating Budget Forecast – Wastewater (inflated \$)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures										
Operating Costs										
400000 - Full-time Salaries	3,586,124	3,672,137	3,753,526	3,828,300	3,904,900	3,983,000	4,062,700	4,144,000	4,226,900	4,311,400
400100 - Full-time Salaries - Casual	205,546	208,629	214,678	230,512	235,100	239,800	244,600	249,500	254,500	259,600
400700 - Full-time Overtime	96,064	97,985	99,945	101,944	104,000	106,100	108,200	110,400	112,600	114,900
401000 - Full-time Salary Recovery	(215,196)	(219,500)	(223,890)	(228,368)	(232,900)	(237,600)	(242,400)	(247,200)	(252,100)	(257,100)
401100 - Full-time Fringe Benefits	975,928	992,990	1,009,144	1,023,980	1,044,500	1,065,400	1,086,700	1,108,400	1,130,600	1,153,200
401200 - Full-time Fringe Benefits - Casual	25,719	26,142	26,972	29,144	29,700	30,300	30,900	31,500	32,100	32,700
Salaries & Benefits for Additional Staff			122,700	125,200	711,400	725,600	740,100	754,900	770,000	1,217,900
466500 - Shift Premiums	8,375	8,543	8,713	8,888	9,100	9,300	9,500	9,700	9,900	10,100
500100 - Training Supplies	74	80	81	83	100	100	100	100	100	100
500400 - Stationery & Office Supplies	20,378	21,879	22,317	22,763	23,200	23,700	24,200	24,700	25,200	25,700
500500 - Preprinted Forms, Tags & Passes	28	29	29	30	-	-	-	-	-	-
500800 - Meetings & Meal Expenses	8,329	8,496	8,665	8,839	9,000	9,200	9,400	9,600	9,800	10,000
501100 - Protective Clothing	62,249	63,494	64,764	66,059	67,400	68,700	70,100	71,500	72,900	74,400
501300 - Clothing Allowance	104	106	108	110	100	100	100	100	100	100
501500 - Protective Equipment	59,896	61,094	62,316	63,562	64,800	66,100	67,400	68,700	70,100	71,500
510100 - Chemicals	6,366	6,493	6,623	6,756	7,100	7,500	7,900	8,300	8,700	9,100
510200 - Phosphorus	990,239	1,010,044	1,030,245	1,050,850	1,103,400	1,158,600	1,216,500	1,277,300	1,341,200	1,408,300
510300 - Chlorine	27,396	27,944	28,503	29,073	30,500	32,000	33,600	35,300	37,100	39,000
510400 - Citric Acid	465	474	484	493	500	500	500	500	500	500
510500 - Oxygen	832,197	848,841	865,818	883,134	927,300	973,700	1,022,400	1,073,500	1,127,200	1,183,600
510600 - Filter, Bed, Media	68,465	69,834	71,231	72,656	74,100	75,600	77,100	78,600	80,200	81,800
510700 - Percol	107,992	110,152	112,355	114,602	116,900	119,200	121,600	124,000	126,500	129,000
510800 - Activated Carbon	34,723	35,417	36,126	36,848	37,600	38,400	39,200	40,000	40,800	41,600
520000 - Gasoline	14,586	14,878	15,175	15,479	15,800	16,100	16,400	16,700	17,000	17,300
520100 - Hydro	1,042,119	1,062,961	1,084,221	1,105,905	1,161,200	1,219,300	1,280,300	1,344,300	1,411,500	1,482,100
520200 - Water & Wastewater	137,576	140,328	143,134	145,997	148,900	151,900	154,900	158,000	161,200	164,400
520300 - Natural Gas	48,232	49,197	50,181	51,184	52,200	53,200	54,300	55,400	56,500	57,600
520600 - Propane Gas	12,000	12,240	12,485	12,734	13,000	13,300	13,600	13,900	14,200	14,500
540200 - Cleaning Supplies	2,687	2,741	2,796	2,851	2,900	3,000	3,100	3,200	3,300	3,400
540300 - Small Parts	837,716	854,470	871,560	888,991	906,800	924,900	943,400	962,300	981,500	1,001,100
540900 - Field & Other Supplies	100,696	102,710	104,764	106,860	109,000	111,200	113,400	115,700	118,000	120,400
541400 - Laboratory Supplies	33,500	34,170	34,853	35,550	36,300	37,000	37,700	38,500	39,300	40,100
560200 - Minor Capital - General	9,787	9,983	10,182	10,386	10,600	10,800	11,000	11,200	11,400	11,600
560300 - Minor Capital - Office Furniture & Equipment	7,100	-	-	-	-	-	-	-	-	-
570000 - Small Tools	79,239	80,824	82,440	84,089	85,800	87,500	89,300	91,100	92,900	94,800
600000 - Conferences & Trade Show Registration	35,103	37,689	38,443	39,212	40,000	40,800	41,600	42,400	43,200	44,100
600100 - Kilometer Reimbursement	4,421	4,509	4,599	4,691	4,800	4,900	5,000	5,100	5,200	5,300
620000 - Staff Training & Development	148,310	155,172	158,275	161,400	164,600	167,800	171,000	174,300	177,600	181,000
620200 - Memberships & Subscriptions	15,086	16,198	16,522	16,852	17,200	17,500	17,900	18,300	18,700	19,100
620300 - Tuition Fees	462	471	481	490	500	500	500	500	500	500
640500 - Consultants - General	130,559	140,179	142,982	145,800	148,600	151,400	154,200	157,000	159,800	162,600
660700 - License Services	210	214	218	223	200	200	200	200	200	200
661400 - Cellular Telephone Services	4,272	4,357	4,445	4,533	4,600	4,700	4,800	4,900	5,000	5,100
661800 - Telephone Services	40,500	41,310	42,136	42,979	43,800	44,700	45,600	46,500	47,400	48,300



Figure 5-2 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
670700 - Contracted Services - General	2,477,722	2,527,276	2,577,822	2,629,378	2,682,000	2,735,600	2,790,300	2,846,100	2,903,000	2,961,100
675100 - Repairs & Maintenance - Building	106,306	108,432	110,601	112,813	115,100	117,400	119,700	122,100	124,500	127,000
675400 - Repairs & Maintenance - Equipment	681,214	694,838	708,735	722,910	737,400	752,100	767,100	782,400	798,000	814,000
700000 - Equipment Rental/Lease	86,280	90,246	94,250	98,290	100,300	102,300	104,300	106,400	108,500	110,700
700100 - Property Rental/Lease	2,341	2,388	2,436	2,484	2,500	2,600	2,700	2,800	2,900	3,000
720800 - Insurance Premium	300,326	306,333	312,459	318,708	325,100	331,600	338,200	345,000	351,900	358,900
730000 - Property Taxes	6,889	7,027	7,167	7,311	7,500	7,700	7,900	8,100	8,300	8,500
900500 - Interdepartmental - General	601,769	634,189	745,910	857,631	874,800	892,300	910,100	928,300	946,900	965,800
901000 - Interdepartmental - Fleet	48,721	49,695	50,689	51,703	52,700	53,800	54,900	56,000	57,100	58,200
901500 - Interdepartmental - Property	35,175	35,546	35,889	36,210	36,900	37,600	38,400	39,200	40,000	40,800
901599 - Interdepartmental - Property (Automated)	763,488	774,674	786,628	798,750	814,700	831,000	847,600	864,600	881,900	899,500
902000 - Interdepartmental - Corporate Support	2,554,542	2,578,205	2,595,513	2,613,375	2,665,600	2,718,900	2,773,300	2,828,800	2,885,400	2,943,100
904000 - Interdepartmental - Wastewater Rate (Manual)	3,212,184	3,303,235	3,379,904	3,454,355	3,523,400	3,593,900	3,665,800	3,739,100	3,813,900	3,890,200
904099 - Interdepartmental - Wastewater Rate (Automated)	72,614	73,647	74,905	76,186	77,700	79,300	80,900	82,500	84,200	85,900
Low-Income Support Grant Program	-	300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500
Transfer to Fleet Management Reserve	215,000	215,000	215,000	215,000	215,000	215,000	215,000	215,000	215,000	215,000
Funding of DC Exemptions for Residential Intensification	238,631	224,158	300,339	1,029,473	1,050,023	1,071,955	1,094,622	1,116,452	1,138,811	1,161,608
Sub Total Operating	21,008,824	21,740,792	22,445,592	23,630,860	24,775,123	25,364,355	25,970,422	26,592,552	27,232,511	28,323,308
Capital-Related										
Existing Debt (Principal) - Growth Related - Facilities	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Growth Related - Facilities	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Growth Related - Facilities Related Debt	5,375,735	5,614,226	5,863,823	6,125,044	6,398,459	6,684,622	6,984,155	7,297,687	7,625,897	5,001,841
Existing Debt (Interest) - Growth Related - Facilities Related Debt	3,127,695	2,885,626	2,632,452	2,367,654	2,090,661	1,800,920	1,497,810	1,180,701	848,914	501,766
New Growth Related Debt (Principal) - Facilities	-	68,779	282,690	455,389	749,276	1,149,568	1,580,750	2,044,720	2,980,777	3,988,657
New Growth Related Debt (Interest) - Facilities	-	55,443	224,153	348,051	560,281	842,363	1,127,657	1,416,017	2,059,794	2,710,748
Existing Debt (Principal) - Non-Growth Related	369,988	383,239	396,965	411,182	425,909	441,163	456,963	473,329	490,281	507,841
Existing Debt (Interest) - Non-Growth Related	199,360	186,109	172,383	158,166	143,440	128,186	112,385	96,019	79,067	61,507
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Wastewater Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-
Transfer to Wastewater Capital Reserve Fund	15,947,325	16,090,310	15,262,591	13,892,435	13,275,352	13,732,236	13,690,433	13,490,848	13,630,828	13,962,851
Sub Total Capital Related	25,020,104	25,283,733	24,835,058	23,757,922	23,643,377	24,779,058	25,450,154	25,999,322	27,715,557	26,735,212
Total Expenditures	46,028,928	47,024,525	47,280,650	47,388,782	48,418,500	50,143,413	51,420,576	52,591,874	54,948,069	55,058,519
Revenues										
Fixed Charge	13,741,299	14,567,962	15,457,030	16,504,679	17,708,789	18,992,049	20,359,667	21,816,567	23,368,258	25,020,930
810150 - Fees and Service Charges	47,363	48,310	49,276	50,262	51,300	52,300	53,300	54,400	55,500	56,600
810760 - Miscellaneous Charge	3,583	3,655	3,728	3,802	3,900	4,000	4,100	4,200	4,300	4,400
825000 - Interest and Penalties	80,000	80,000	-	-	-	-	-	-	-	-
Local Improvements Revenue	50,500	8,276	8,276	8,276	8,276	8,276	8,276	8,276	8,276	-
Contributions from Development Charges Reserve Fund - Facilities	-	124,222	506,843	803,440	1,309,557	1,991,931	2,708,407	3,460,737	5,040,570	6,699,405
Contributions from Development Charges Reserve Fund - Facilities Related Debt	8,503,430	8,499,853	8,496,275	8,492,698	8,489,120	8,485,543	8,481,965	8,478,388	8,474,810	5,503,607
Total Operating Revenue	22,426,175	23,332,277	24,521,428	25,863,157	27,570,942	29,534,098	31,615,715	33,822,568	36,943,439	37,284,942
Wastewater Billing Recovery - Operating	23,602,753	23,692,248	22,759,222	21,525,624	20,847,557	20,609,315	19,804,861	18,769,305	18,004,630	17,773,578
Asset Replacement Needs - Lifecycle Contribution (\$)	-	1,319,318	3,766,063	6,835,390	9,676,363	12,223,166	15,491,388	19,155,009	22,722,316	25,941,897
Wastewater Billing Recovery - Total	23,602,753	25,011,565	26,525,285	28,361,015	30,523,921	32,832,480	35,296,250	37,924,315	40,726,946	43,715,475



Chapter 6

Pricing Structures

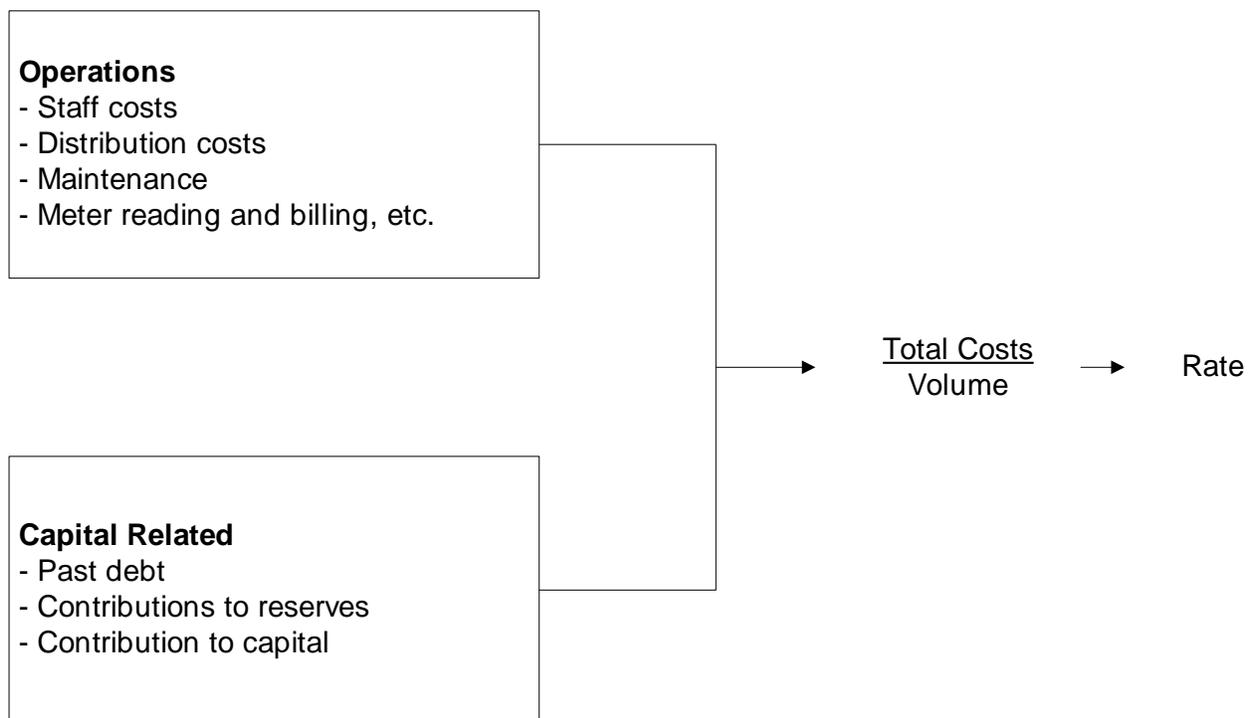


6. Pricing Structures

6.1 Introduction

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

“Annual Costs”



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

Operations

- Inflation;



- Increased maintenance as system ages; and
- Changes to provincial legislation.

Capital Related

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

6.2 Alternative Pricing Structures

Throughout Ontario, and as well, Canada, the use of pricing mechanisms varies between municipalities. The use of a particular form of pricing depends upon numerous factors, including Council preference, administrative structure, surplus/deficit system capacities, economic/demographic conditions, to name a few.

Municipalities within Ontario have two basic forms of collecting revenues for water purposes, those being through incorporation of the costs within the tax rate charged on property assessment and/or through the establishment of a specific water rate billed to the customer. Within the rate methods, there are five basic rate structures employed along with other variations:

- Flat Rate (non-metered customers);
- Constant Rate;
- Declining Block Rate;
- Increasing (or Inverted) Block Rate;
- Hump Back Block Rate; and
- Fixed Charges.

The definitions and general application of the various methods are as follows:

Property Assessment: This method incorporates the total costs of providing water into the general requisition or the assessment base of the municipality. This form of collection is a "wealth tax," as payment increases directly with the value of property owned and bears no necessary relationship to actual consumption. This form is easy to



administer as the costs to be recovered are incorporated in the calculation for all general services, normally collected through property taxes.

Flat Rate: This rate is a constant charge applicable to all customers served. The charge is calculated by dividing the total number of user households and other entities (e.g. businesses) into the costs to be recovered. This method does not recognize differences in actual consumption but provides for a uniform spreading of costs across all users. Some municipalities define users into different classes of similar consumption patterns, that is, a commercial user, residential user and industrial user, and charge a flat rate by class. Each user is then billed on a periodic basis. No meters are required to facilitate this method, but an accurate estimate of the number of users is required. This method ensures set revenue for the collection period but is not sensitive to consumption, hence may cause a shortfall or surplus of revenues collected.

Constant Rate: This rate is a volume-based rate, in which the consumer pays the same price per unit consumed, regardless of the volume. The price per unit is calculated by dividing the total cost of the service by the total volume used by total consumers. The bill to the consumer climbs uniformly as the consumption increases. This form of rate requires the use of meters to record the volume consumed by each user. This method closely aligns the revenue recovery with consumption. Revenue collected varies directly with the consumption volume.

Declining Block Rates: This rate structure charges a successively lower price for set volumes, as consumption increases through a series of "blocks." That is to say that within set volume ranges, or blocks, the charge per unit is set at one rate. Within the next volume range, the charge per unit decreases to a lower rate, and so on. Typically, the first, or first and second blocks cover residential and light commercial uses. Subsequent blocks normally are used for heavier commercial and industrial uses. This rate structure requires the use of meters to record the volume consumed by each type of user. This method requires the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under collect revenue from rate payers.

Increasing or Inverted Block Rates: The increasing block rate works essentially the same way as the declining block rate, except that the price of water in successive blocks increases rather than declines. Under this method the consumer's bill rises faster with higher volumes used. This rate structure also requires the use of meters to



record the volume consumed by each user. This method requires, as with the declining block structure, the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under collect from rate payers.

The Hump Back Rate: The hump back rate is a combination of an increasing block rate and the declining block rate. Under this method the consumer's bill rises with higher volumes used up to a certain level and then begins to fall for volumes in excess of levels set for the increasing block rate.

6.3 Assessment of Alternative Pricing Structures

The adoption by a municipality or utility of any one particular pricing structure is normally a function of a variety of administrative, social, demographic and financial factors. The number of factors, and the weighting each particular factor receives, can vary between municipalities. The following is a review of some of the more prevalent factors.

Cost Recovery

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

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



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

Administration

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

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

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

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

The benefit derived from the installation of meters is that information on consumption patterns becomes available. This information provides benefit to administration in calculating rates which will ensure revenue recovery. Additionally, when planning what services are to be constructed in future years, the municipality or utility has documented



consumption patterns distinctive to its own situation, which can be used to project sizing of growth-related works.

Equity

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

Conservation

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

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

The Declining Block Rate provides a decreasing incentive towards conservation. By creating awareness of volumes consumed, the consumer can reduce his total costs by restricting consumption; however, the incentive lessens as more water is consumed, because the marginal cost per unit declines as the consumer enters the next block



pricing range. Similarly, those whose consumption level is at the top end of a block have less incentive to reduce consumption.

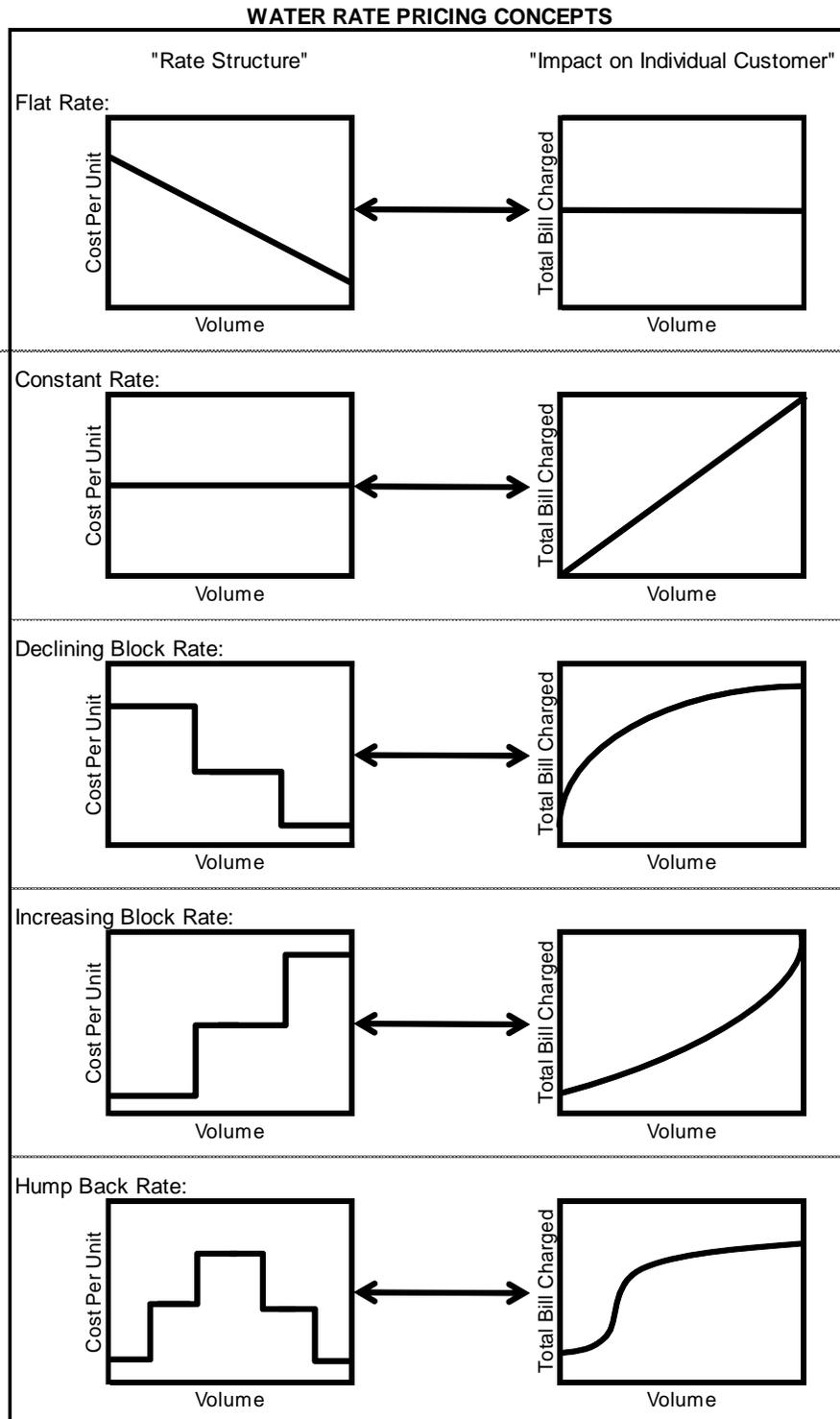
The Constant Rate structure presents the customer with a linear relationship between consumption and the cost thereof. As the consumer pays a fixed cost per unit, his bill will vary directly with the amount consumed. This method presents tangible incentive for consumers to conserve water. As metering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

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

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



Figure 6-1





RATE STRUCTURE	COST PER UNIT AS VOLUME CONSUMPTION INCREASES	IMPACT ON CUSTOMER BILL AS VOLUME CONSUMPTION INCREASES
Flat Rate	Cost per unit decreases as more volume consumed	Bill remains the same no matter how much volume is consumed
Constant Rate	Cost per unit remains the same	Bill increases in direct proportion to consumption
Declining Block	Cost per unit decreases as threshold targets are achieved	Bill increases at a slower rate as volumes increases
Increasing Block	Cost per unit increases as threshold targets are achieved	Bill increases at a faster rate as volumes increase
Hump Back Rate	Combination of an increasing block at the lower consumption volumes and then converts to a declining block for the high	Bill increases at a faster rate at the lower consumption amounts and then slows as volumes increase

6.4 Rate Structures in Ontario

In a past survey of over 170 municipalities (approximately half of the municipalities who provide water and/or sewer), all forms of rate structures are in use by Ontario municipalities. The most common rate structure is the constant rate (for metered municipalities). Most municipalities (approximately 92%) who have volume rate structures also impose a fixed monthly charge.

Historically, the development of a fixed charge often reflected either the recovery of meter reading/billing/collection costs, plus administration or those costs plus certain fixed costs (such as capital contributions or reserve contributions). More recently, many municipalities have started to establish fixed charges based on ensuring a secure portion of the revenue stream which does not vary with volume consumption. Selection of the quantum of the fixed charge is a matter of policy selected by individual municipalities.



6.5 Recommended Rate Structures

Based on the foregoing, it is recommended that the current rate structures for water and wastewater be continued in the future.

In order to meet the needs for water, it is recommended that the water fixed charges be increased by 3% in 2022 and 4% annually thereafter. The volume rates (as calculated in Chapter 7) are also anticipated to increase by the same percentages per year over the forecast period. The forecast fixed charges are provided in Table 6-1.

As for wastewater, it is recommended that wastewater fixed charge increase by 5% per year over the forecast period. The volume rates (calculated in Chapter 7) are also anticipated to increase by 5% annually. The forecast fixed charges are provided in Table 6-2.

Currently, the water fixed charge revenue accounts for 36% of total water revenues and the volume charge revenue accounts for 64% of water revenues. This ratio has been maintained over the forecast period.

For wastewater, the fixed charge revenue accounts for 37% of wastewater revenues and the volume charge revenue accounts for 63% of wastewater revenues. This ratio has been maintained over the forecast period to 2028, after which there is a slight shift in the ratio to 36% fixed charge/64% volume changes, similar to the water ratio.

The above increases are recommended to ensure that the City can fund the capital and operating costs while minimizing the need for debentures. The forecast fixed charges and corresponding revenue are provided in Tables 6-1 and 6-2 below.



**Table 6-1
City of Barrie
Fixed Charge Forecast – Water**

Water	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	44,958	44,958	44,958	44,958	44,958	44,958	44,958	44,958	44,958	44,958
New	303	887	1,528	2,571	3,941	5,311	6,682	8,053	9,424	10,796
Total Customers	45,261	45,845	46,486	47,529	48,899	50,269	51,640	53,011	54,382	55,754
Total Annual Revenue	\$10,254,620	\$10,663,482	\$11,205,414	\$11,849,112	\$12,590,028	\$13,371,258	\$14,195,054	\$15,063,359	\$15,978,417	\$16,942,815

Residential

Residential	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	42,231	42,231	42,231	42,231	42,231	42,231	42,231	42,231	42,231	42,231
New	303	887	1,528	2,571	3,941	5,311	6,682	8,053	9,424	10,796
Subtotal Customers	42,534	43,118	43,759	44,802	46,172	47,542	48,913	50,284	51,655	53,027
Monthly Fixed Charge	\$14.02	\$14.44	\$15.01	\$15.61	\$16.24	\$16.89	\$17.56	\$18.27	\$19.00	\$19.76
Annual Fixed Charge	\$168.18	\$173.23	\$180.15	\$187.36	\$194.86	\$202.65	\$210.76	\$219.19	\$227.95	\$237.07
Total Annual Revenue	\$7,153,368	\$7,469,193	\$7,883,353	\$8,394,169	\$8,996,887	\$9,634,392	\$10,308,713	\$11,021,564	\$11,774,950	\$12,571,209

Non-Residential

13-19 mm	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	980	980	980	980	980	980	980	980	980	980
New										
Subtotal Customers	980									
Monthly Fixed Charge	\$14.02	\$14.44	\$15.02	\$15.62	\$16.24	\$16.89	\$17.57	\$18.27	\$19.00	\$19.76
Annual Fixed Charge	\$168.24	\$173.29	\$180.22	\$187.43	\$194.92	\$202.72	\$210.83	\$219.26	\$228.03	\$237.16
Total Annual Revenue	\$164,875	\$169,821	\$176,614	\$183,679	\$191,026	\$198,667	\$206,614	\$214,878	\$223,473	\$232,412

25-32 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	414	414	414	414	414	414	414	414	414	414
New										
Subtotal Customers	414									
Monthly Fixed Charge	\$35.05	\$36.10	\$37.55	\$39.05	\$40.61	\$42.23	\$43.92	\$45.68	\$47.51	\$49.41
Annual Fixed Charge	\$420.60	\$433.22	\$450.55	\$468.57	\$487.31	\$506.80	\$527.08	\$548.16	\$570.09	\$592.89
Total Annual Revenue	\$174,128	\$179,352	\$186,526	\$193,987	\$201,747	\$209,817	\$218,209	\$226,938	\$236,015	\$245,456

38 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	349	349	349	349	349	349	349	349	349	349
New										
Subtotal Customers	349									
Monthly Fixed Charge	\$70.11	\$72.21	\$75.10	\$78.11	\$81.23	\$84.48	\$87.86	\$91.37	\$95.03	\$98.83
Annual Fixed Charge	\$841.32	\$866.56	\$901.22	\$937.27	\$974.76	\$1,013.75	\$1,054.30	\$1,096.47	\$1,140.33	\$1,185.95
Total Annual Revenue	\$293,621	\$302,429	\$314,526	\$327,108	\$340,192	\$353,800	\$367,951	\$382,670	\$397,976	\$413,895

50 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	713	713	713	713	713	713	713	713	713	713
New										
Subtotal Customers	713	713	713	713	713	713	713	713	713	713
Monthly Fixed Charge	\$112.17	\$115.54	\$120.16	\$124.96	\$129.96	\$135.16	\$140.57	\$146.19	\$152.04	\$158.12
Annual Fixed Charge	\$1,346.04	\$1,386.42	\$1,441.88	\$1,499.55	\$1,559.54	\$1,621.92	\$1,686.79	\$1,754.27	\$1,824.44	\$1,897.41
Total Annual Revenue	\$959,727	\$988,518	\$1,028,059	\$1,069,181	\$1,111,949	\$1,156,427	\$1,202,684	\$1,250,791	\$1,300,823	\$1,352,856

75 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	6	6	6	6	6	6	6	6	6	6
New										
Subtotal Customers	6									
Monthly Fixed Charge	\$245.37	\$252.73	\$262.84	\$273.35	\$284.29	\$295.66	\$307.49	\$319.79	\$332.58	\$345.88
Annual Fixed Charge	\$2,944.44	\$3,032.77	\$3,154.08	\$3,280.25	\$3,411.46	\$3,547.92	\$3,689.83	\$3,837.43	\$3,990.92	\$4,150.56
Total Annual Revenue	\$17,667	\$18,197	\$18,925	\$19,681	\$20,469	\$21,287	\$22,139	\$23,025	\$23,946	\$24,903

100 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	238	238	238	238	238	238	238	238	238	238
New										
Subtotal Customers	238									
Monthly Fixed Charge	\$420.66	\$433.28	\$450.61	\$468.64	\$487.38	\$506.88	\$527.15	\$548.24	\$570.17	\$592.97
Annual Fixed Charge	\$5,047.92	\$5,199.36	\$5,407.33	\$5,623.63	\$5,848.57	\$6,082.51	\$6,325.81	\$6,578.85	\$6,842.00	\$7,115.68
Total Annual Revenue	\$1,201,405	\$1,237,447	\$1,286,945	\$1,338,423	\$1,391,960	\$1,447,638	\$1,505,544	\$1,565,765	\$1,628,396	\$1,693,532

150 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	25	25	25	25	25	25	25	25	25	25
New										
Subtotal Customers	25									
Monthly Fixed Charge	\$876.36	\$902.65	\$938.76	\$976.31	\$1,015.36	\$1,055.97	\$1,098.21	\$1,142.14	\$1,187.83	\$1,235.34
Annual Fixed Charge	\$10,516.32	\$10,831.81	\$11,265.08	\$11,715.69	\$12,184.31	\$12,671.69	\$13,178.55	\$13,705.69	\$14,253.92	\$14,824.08
Total Annual Revenue	\$262,908	\$270,795	\$281,627	\$292,892	\$304,608	\$316,792	\$329,464	\$342,642	\$356,348	\$370,602



Table 6-1 (Cont'd)

200 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	2	2	2	2	2	2	2	2	2	2
New										
Subtotal Customers	2									
Monthly Fixed Charge	\$1,121.73	\$1,155.38	\$1,201.60	\$1,249.66	\$1,299.65	\$1,351.63	\$1,405.70	\$1,461.93	\$1,520.40	\$1,581.22
Annual Fixed Charge	\$13,460.76	\$13,864.58	\$14,419.17	\$14,995.93	\$15,595.77	\$16,219.60	\$16,868.38	\$17,543.12	\$18,244.85	\$18,974.64
Total Annual Revenue	\$26,922	\$27,729	\$28,838	\$29,992	\$31,192	\$32,439	\$33,737	\$35,086	\$36,490	\$37,949

250 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	0	0	0	0	0	0	0	0	0	0
New										
Subtotal Customers	-									
Monthly Fixed Charge	\$1,612.51	\$1,660.89	\$1,727.32	\$1,796.41	\$1,868.27	\$1,943.00	\$2,020.72	\$2,101.55	\$2,185.61	\$2,273.04
Annual Fixed Charge	\$19,350.12	\$19,930.62	\$20,727.85	\$21,556.96	\$22,419.24	\$23,316.01	\$24,248.65	\$25,218.60	\$26,227.34	\$27,276.43
Total Annual Revenue	\$0									

300mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	0	0	0	0	0	0	0	0	0	0
New										
Subtotal Customers	-									
Monthly Fixed Charge	\$1,612.51	\$1,660.89	\$1,727.32	\$1,796.41	\$1,868.27	\$1,943.00	\$2,020.72	\$2,101.55	\$2,185.61	\$2,273.04
Annual Fixed Charge	\$19,350.12	\$19,930.62	\$20,727.85	\$21,556.96	\$22,419.24	\$23,316.01	\$24,248.65	\$25,218.60	\$26,227.34	\$27,276.43
Total Annual Revenue	\$0									



**Table 6-2
City of Barrie
Fixed Charge Forecast – Wastewater**

Wastewater	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	44,480	44,480	44,480	44,480	44,480	44,480	44,480	44,480	44,480	44,480
New	303	887	1,528	2,571	3,941	5,311	6,682	8,053	9,424	10,796
Subtotal Customers	44,783	45,367	46,008	47,051	48,421	49,791	51,162	52,533	53,904	55,276
Total Annual Revenue	\$13,741,299	\$14,567,962	\$15,457,030	\$16,504,679	\$17,708,789	\$18,992,049	\$20,359,667	\$21,816,567	\$23,368,258	\$25,020,930

Residential

Residential	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	41,781	41,781	41,781	41,781	41,781	41,781	41,781	41,781	41,781	41,781
New	303	887	1,528	2,571	3,941	5,311	6,682	8,053	9,424	10,796
Subtotal Customers	42,084	42,668	43,309	44,352	45,722	47,092	48,463	49,834	51,205	52,577
Monthly Fixed Charge	\$18.96	\$19.91	\$20.90	\$21.95	\$23.05	\$24.20	\$25.41	\$26.68	\$28.01	\$29.41
Annual Fixed Charge	\$227.52	\$238.90	\$250.84	\$263.38	\$276.55	\$290.38	\$304.90	\$320.14	\$336.15	\$352.96
Total Annual Revenue	\$9,574,952	\$10,193,297	\$10,863,631	\$11,681,611	\$12,644,568	\$13,674,616	\$14,776,363	\$15,954,098	\$17,212,665	\$18,557,557

Non-Residential

13-19 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	968	968	968	968	968	968	968	968	968	968
New										
Subtotal Customers	968									
Monthly Fixed Charge	\$18.96	\$19.91	\$20.90	\$21.95	\$23.05	\$24.20	\$25.41	\$26.68	\$28.01	\$29.41
Annual Fixed Charge	\$227.52	\$238.90	\$250.84	\$263.38	\$276.55	\$290.38	\$304.90	\$320.14	\$336.15	\$352.96
Total Annual Revenue	\$220,239	\$231,251	\$242,814	\$254,955	\$267,702	\$281,087	\$295,142	\$309,899	\$325,394	\$341,664

25-32 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	409	409	409	409	409	409	409	409	409	409
New										
Subtotal Customers	409									
Monthly Fixed Charge	\$47.40	\$49.77	\$52.26	\$54.87	\$57.61	\$60.50	\$63.52	\$66.70	\$70.03	\$73.53
Annual Fixed Charge	\$568.80	\$597.24	\$627.10	\$658.46	\$691.38	\$725.95	\$762.25	\$800.36	\$840.38	\$882.40
Total Annual Revenue	\$232,639	\$244,271	\$256,485	\$269,309	\$282,774	\$296,913	\$311,759	\$327,347	\$343,714	\$360,900

38 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	345	345	345	345	345	345	345	345	345	345
New										
Subtotal Customers	345									
Monthly Fixed Charge	\$94.81	\$99.55	\$104.53	\$109.75	\$115.24	\$121.00	\$127.05	\$133.41	\$140.08	\$147.08
Annual Fixed Charge	\$1,137.72	\$1,194.61	\$1,254.34	\$1,317.05	\$1,382.91	\$1,452.05	\$1,524.65	\$1,600.89	\$1,680.93	\$1,764.98
Total Annual Revenue	\$392,513	\$412,139	\$432,746	\$454,383	\$477,102	\$500,958	\$526,005	\$552,306	\$579,921	\$608,917

50 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	707	707	707	707	707	707	707	707	707	707
New										
Subtotal Customers	707									
Monthly Fixed Charge	\$151.70	\$159.29	\$167.25	\$175.61	\$184.39	\$193.61	\$203.29	\$213.46	\$224.13	\$235.34
Annual Fixed Charge	\$1,820.40	\$1,911.42	\$2,006.99	\$2,107.34	\$2,212.71	\$2,323.34	\$2,439.51	\$2,561.49	\$2,689.56	\$2,824.04
Total Annual Revenue	\$1,287,023	\$1,351,374	\$1,418,943	\$1,489,890	\$1,564,384	\$1,642,603	\$1,724,734	\$1,810,970	\$1,901,519	\$1,996,595

75 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	6	6	6	6	6	6	6	6	6	6
New										
Subtotal Customers	6									
Monthly Fixed Charge	\$331.82	\$348.41	\$365.83	\$384.12	\$403.33	\$423.50	\$444.67	\$466.90	\$490.25	\$514.76
Annual Fixed Charge	\$3,981.84	\$4,180.93	\$4,389.98	\$4,609.48	\$4,839.95	\$5,081.95	\$5,336.05	\$5,602.85	\$5,882.99	\$6,177.14
Total Annual Revenue	\$23,891	\$25,086	\$26,340	\$27,657	\$29,040	\$30,492	\$32,016	\$33,617	\$35,298	\$37,063

100 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	237	237	237	237	237	237	237	237	237	237
New										
Subtotal Customers	237									
Monthly Fixed Charge	\$568.96	\$597.41	\$627.28	\$658.64	\$691.57	\$726.15	\$762.46	\$800.58	\$840.57	\$882.64
Annual Fixed Charge	\$6,827.52	\$7,168.90	\$7,527.34	\$7,903.71	\$8,298.89	\$8,713.84	\$9,149.53	\$9,607.01	\$10,087.36	\$10,591.72
Total Annual Revenue	\$1,618,122	\$1,699,028	\$1,783,980	\$1,873,179	\$1,966,838	\$2,065,180	\$2,168,439	\$2,276,860	\$2,390,704	\$2,510,239

150 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	25	25	25	25	25	25	25	25	25	25
New										
Subtotal Customers	25									
Monthly Fixed Charge	\$1,185.05	\$1,244.30	\$1,306.52	\$1,371.84	\$1,440.44	\$1,512.46	\$1,588.08	\$1,667.48	\$1,750.86	\$1,838.40
Annual Fixed Charge	\$14,220.60	\$14,931.63	\$15,678.21	\$16,462.12	\$17,285.23	\$18,149.49	\$19,056.96	\$20,009.81	\$21,010.30	\$22,060.82
Total Annual Revenue	\$355,515	\$373,291	\$391,955	\$411,553	\$432,131	\$453,737	\$476,424	\$500,245	\$525,258	\$551,520



Table 6-2 (Cont'd)

200 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	2	2	2	2	2	2	2	2	2	2
New										
Subtotal Customers	2									
Monthly Fixed Charge	\$1,516.86	\$1,592.70	\$1,672.34	\$1,755.96	\$1,843.75	\$1,935.94	\$2,032.74	\$2,134.37	\$2,241.09	\$2,353.15
Annual Fixed Charge	\$18,202.32	\$19,112.44	\$20,068.06	\$21,071.46	\$22,125.03	\$23,231.29	\$24,392.85	\$25,612.49	\$26,893.12	\$28,237.77
Total Annual Revenue	\$36,405	\$38,225	\$40,136	\$42,143	\$44,250	\$46,463	\$48,786	\$51,225	\$53,786	\$56,476

250 mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	0	0	0	0	0	0	0	0	0	0
New										
Subtotal Customers	-									
Monthly Fixed Charge	\$2,180.49	\$2,289.51	\$2,403.99	\$2,524.19	\$2,650.40	\$2,782.92	\$2,922.07	\$3,068.17	\$3,221.58	\$3,382.66
Annual Fixed Charge	\$26,165.88	\$27,474.17	\$28,847.88	\$30,290.28	\$31,804.79	\$33,395.03	\$35,064.78	\$36,818.02	\$38,658.92	\$40,591.87
Total Annual Revenue	\$0									

300mm Meter Size	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	0	0	0	0	0	0	0	0	0	0
New										
Subtotal Customers	-									
Monthly Fixed Charge	\$2,180.49	\$2,289.51	\$2,403.99	\$2,524.19	\$2,650.40	\$2,782.92	\$2,922.07	\$3,068.17	\$3,221.58	\$3,382.66
Annual Fixed Charge	\$26,165.88	\$27,474.17	\$28,847.88	\$30,290.28	\$31,804.79	\$33,395.03	\$35,064.78	\$36,818.02	\$38,658.92	\$40,591.87
Total Annual Revenue	\$0									



Chapter 7

Analysis of Water and Wastewater Rates and Policy Matters



7. Analysis of Water and Wastewater Rates and Policy Matters

7.1 Introduction

To summarize the analysis undertaken thus far, Chapter 2 reviewed capital-related issues and responds to the provincial directives to maintain and upgrade infrastructure to required levels. Chapter 4 provided a review of capital financing options to which water and wastewater reserve contributions will be the predominant basis for financing future capital replacement. Chapter 5 established the 10-year operating forecast of expenditures including an annual capital reserve contribution. The minimum charge revenues are to ensure that fixed costs are recovered regardless of the amount of volume used by customers. This chapter will provide for the calculation of the volume rates over the forecast period. These calculations will be based on the net operating expenditures (the variable costs) provided in Chapter 5, divided by the water consumption forecast and wastewater volumes provided in section 1.8.

7.2 Water Rates

Based on the discussion of rate structures provided in section 6.5 and the recommendation to continue with the present structures, the rates are calculated by taking the net recoverable amounts from Table 5-1 (the product of total expenditures less non-rate revenues and deduct the minimum charge amounts provided in section 6.5) and completes the calculation by dividing them by the volumes resulting in the forecasted rates. As stated earlier, the needs for water are significant throughout the forecast period. As such, the volume rates are anticipated to increase at 3% for 2022 and 4% annually over the remainder of the forecast period. The residential volume rates are presented in Table 7-1. Detailed calculations of the volume rates are provided in Appendix A. A summary of the recommended fixed charge and volume rates along with the total annual bill for an average residential user who consumes 180 cu.m. per year are shown below.



Table 7-1
City of Barrie
Water Rate Summary
Annual Customer Water Bill – Based on 180 cu.m. of usage

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Fixed Charge	\$14.02	\$14.44	\$15.01	\$15.61	\$16.24	\$16.89	\$17.56	\$18.27	\$19.00	\$19.76
Volume Rate:										
Block 1 Rate (0-15 cu.m. per month)	\$1.11	\$1.14	\$1.18	\$1.23	\$1.28	\$1.33	\$1.39	\$1.44	\$1.50	\$1.56
Block 2 Rate (16-30 cu.m. per month)	\$2.21	\$2.28	\$2.37	\$2.46	\$2.56	\$2.67	\$2.77	\$2.88	\$3.00	\$3.12
Block 3 Rate (31-45 cu.m. per month)	\$3.32	\$3.42	\$3.55	\$3.70	\$3.85	\$4.00	\$4.16	\$4.33	\$4.50	\$4.68
Block 4 Rate (>45 cu.m. per month)	\$4.43	\$4.56	\$4.74	\$4.93	\$5.13	\$5.33	\$5.55	\$5.77	\$6.00	\$6.24
Annual Fixed Charge Bill	\$168.18	\$173.23	\$180.15	\$187.36	\$194.86	\$202.65	\$210.76	\$219.19	\$227.95	\$237.07
Block 1 Volume (0-15 cu.m. per month)	180	180	180	180	180	180	180	180	180	180
Annual Volume Bill	\$199.12	\$205.09	\$213.29	\$221.82	\$230.70	\$239.93	\$249.52	\$259.50	\$269.88	\$280.68
Total Annual Bill	\$367.30	\$378.31	\$393.45	\$409.19	\$425.55	\$442.57	\$460.28	\$478.69	\$497.84	\$517.75
% Increase - Fixed Charge		3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
% Increase - Volume Rate		3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
% Increase - Total Annual Bill		3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%

7.3 Wastewater Rates

Similar to water, the calculation of the wastewater rates takes the net recoverable amounts from Table 5-2 and completes the calculation by dividing them by the volumes, resulting in the forecast rates. Detailed calculations are provided in Appendix B.

Based on the needs of the wastewater system, the volume rates are anticipated to increase by 5% per year over the forecast period, similar to the fixed charge rates.

The following summarizes the recommended rates for wastewater and provides the average annual bill for a residential customer who uses 180 cu.m. per year. Note that this annual usage means that all volume would fall under the block 1 volume rate.



Table 7-2
City of Barrie
Wastewater Rate Summary
Annual Customer Wastewater Bill – Based on 180 cu.m. of usage

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Fixed Charge	\$18.96	\$19.91	\$20.90	\$21.95	\$23.05	\$24.20	\$25.41	\$26.68	\$28.01	\$29.41
Volume Rate:										
Block 1 Rate (0-15 cu.m. per month)	\$1.60	\$1.68	\$1.76	\$1.85	\$1.94	\$2.04	\$2.14	\$2.25	\$2.36	\$2.48
Block 2 Rate (16-30 cu.m. per month)	\$2.72	\$2.85	\$2.99	\$3.14	\$3.30	\$3.47	\$3.64	\$3.82	\$4.01	\$4.21
Block 3 Rate (31-45 cu.m. per month)	\$2.72	\$2.85	\$2.99	\$3.14	\$3.30	\$3.47	\$3.64	\$3.82	\$4.01	\$4.21
Block 4 Rate (>45 cu.m. per month)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Annual Fixed Charge Bill	\$227.52	\$238.90	\$250.84	\$263.38	\$276.55	\$290.38	\$304.90	\$320.14	\$336.15	\$352.96
Block 1 Volume (0-15 cu.m. per month)	180	180	180	180	180	180	180	180	180	180
Annual Volume Bill	\$287.53	\$301.91	\$317.00	\$332.85	\$349.50	\$366.97	\$385.32	\$404.59	\$424.82	\$446.06
Total Annual Bill	\$515.05	\$540.80	\$567.84	\$596.24	\$626.05	\$657.35	\$690.22	\$724.73	\$760.97	\$799.01
% Increase - Fixed Charge		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
% Increase - Volume Rate		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
% Increase - Total Annual Bill		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

7.4 Forecast of Combined Water and Wastewater Impact for the Average Residential Customer

Based on the foregoing information, the combined impact of the water and wastewater fixed charge and volume rate charges equal to increases of 4.2% for 2022 and 4.6% per year for the remainder of the forecast period on the total annual bill for average residential customers. Table 7-3 presents the forecast combined annual bill.



Table 7-3
City of Barrie
Average Annual Residential Water and Wastewater Bill (Based on an annual usage of 180 cu.m.)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water										
Monthly Fixed Charge	\$14.02	\$14.44	\$15.01	\$15.61	\$16.24	\$16.89	\$17.56	\$18.27	\$19.00	\$19.76
Block 1 Volume Rate (0-15 cu.m. per month)	\$1.11	\$1.14	\$1.18	\$1.23	\$1.28	\$1.33	\$1.39	\$1.44	\$1.50	\$1.56
Annual Fixed Charge Bill	\$168.18	\$173.23	\$180.15	\$187.36	\$194.86	\$202.65	\$210.76	\$219.19	\$227.95	\$237.07
Annual Volume Bill	\$199.12	\$205.09	\$213.29	\$221.82	\$230.70	\$239.93	\$249.52	\$259.50	\$269.88	\$280.68
Total Water Bill	\$367.30	\$378.31	\$393.45	\$409.19	\$425.55	\$442.57	\$460.28	\$478.69	\$497.84	\$517.75
Wastewater										
Monthly Fixed Charge	\$18.96	\$19.91	\$20.90	\$21.95	\$23.05	\$24.20	\$25.41	\$26.68	\$28.01	\$29.41
Block 1 Volume Rate (0-15 cu.m. per month)	\$1.60	\$1.68	\$1.76	\$1.85	\$1.94	\$2.04	\$2.14	\$2.25	\$2.36	\$2.48
Annual Fixed Charge Bill	\$227.52	239	251	263	277	290	305	320	336	353
Annual Volume Bill	\$287.53	\$301.91	\$317.00	\$332.85	\$349.50	\$366.97	\$385.32	\$404.59	\$424.82	\$446.06
Total Wastewater Bill	\$515.05	\$540.80	\$567.84	\$596.24	\$626.05	\$657.35	\$690.22	\$724.73	\$760.97	\$799.01
Total Water and Wastewater Bill	\$882.35	\$919.12	\$961.29	\$1,005.42	\$1,051.60	\$1,099.93	\$1,150.50	\$1,203.42	\$1,258.80	\$1,316.76
Annual % Increase		4.2%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%



7.5 Summary of Water and Wastewater Volume Rate Forecasts

Tables 7-4 and 7-5 provides a summary of the residential and non-residential water rates and wastewater rates, respectively.

Table 7-4
Water Volume Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1 Residential (0-15 cu.m./month)	1.11	1.14	1.18	1.23	1.28	1.33	1.39	1.44	1.50	1.56
Block 2 Residential (16-30 cu.m./month)	2.21	2.28	2.37	2.46	2.56	2.67	2.77	2.88	3.00	3.12
Block 3 Residential (31-45 cu.m./month)	3.32	3.42	3.55	3.70	3.85	4.00	4.16	4.33	4.50	4.68
Block 4 Residential (45+ cu.m./month)	4.43	4.56	4.74	4.93	5.13	5.33	5.55	5.77	6.00	6.24
Block 1 Non-Residential (0-15 cu.m./month)	1.11	1.14	1.18	1.23	1.28	1.33	1.39	1.44	1.50	1.56
Block 2 Non-Residential (>30 cu.m./month)	1.66	1.71	1.78	1.85	1.92	2.00	2.08	2.16	2.25	2.34
Annual Percentage Change		3%	4%	4%	4%	4%	4%	4%	4%	4%

Table 7-5
Wastewater Volume Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Block 1 Residential (0-15 cu.m./month)	1.60	1.68	1.76	1.85	1.94	2.04	2.14	2.25	2.36	2.48
Block 2 Residential (16-30 cu.m./month)	2.72	2.85	2.99	3.14	3.30	3.47	3.64	3.82	4.01	4.21
Block 3 Residential (31-45 cu.m./month)	2.72	2.85	2.99	3.14	3.30	3.47	3.64	3.82	4.01	4.21
Block 4 Residential (45+ cu.m./month)	-	-	-	-	-	-	-	-	-	-
Block 1 Non-Residential (0-15 cu.m./month)	1.52	1.60	1.68	1.76	1.85	1.94	2.04	2.14	2.25	2.36
Block 2 Non-Residential (>30 cu.m./month)	2.28	2.40	2.52	2.64	2.77	2.91	3.06	3.21	3.37	3.54
Annual Percentage Change		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%



Chapter 8

Recommendations

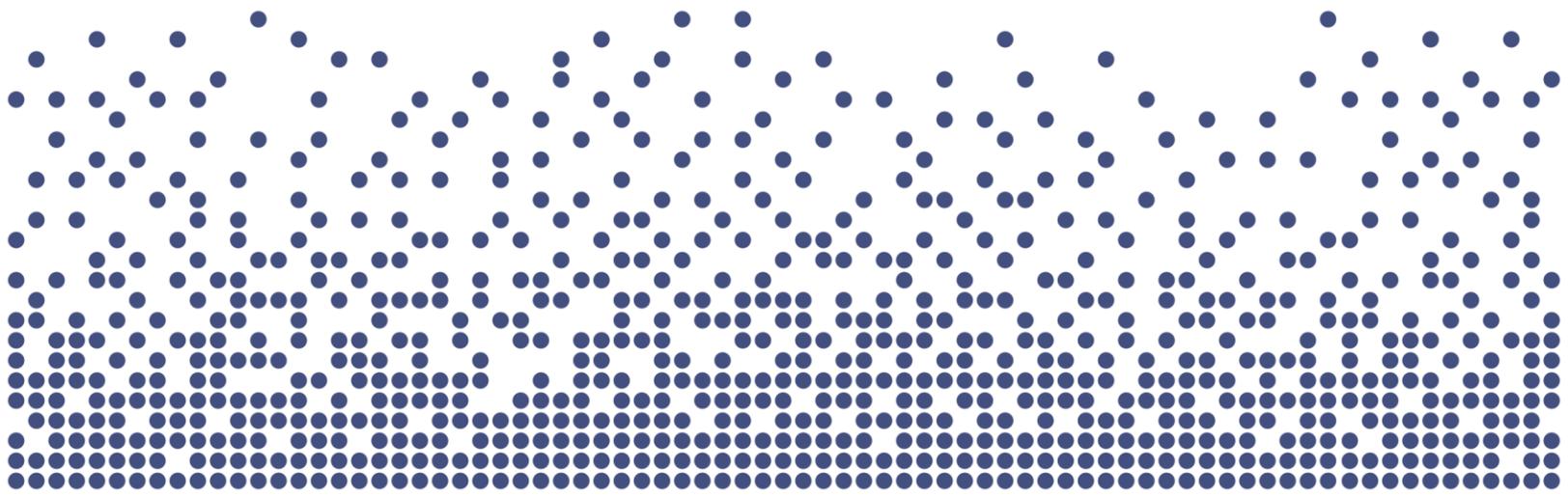


8. Recommendations

As presented within this report, capital and operating expenditures have been identified and forecast over a ten-year period for water and wastewater services to ensure the city continues to forecast rates in line with current legislation, ensuring safe and financial sustainability of the water and wastewater systems.

Based upon the foregoing, the following recommendations are identified for consideration by City's Council:

1. That Council provide for the recovery of all water and wastewater costs through full cost recovery rates.
2. That Council consider the Capital Plan for water and wastewater as provided in Tables 2-1 and 2-2 and the associated Capital Financing Plan as set out in Tables 4-4 and 4-5.
3. That Council consider the fixed charges provided in Table 6-1 for water and Table 6-2 for wastewater.
4. That Council consider the volume rates for water and wastewater as provided in Tables 7-1, 7-2 and 7-3 respectively.



Appendices



Appendix A

Detailed Water Rate Calculations



Appendix A: Detailed Water Rate Calculations

Table A-1
City of Barrie
Water Service
Capital Budget Forecast (Uninflated \$)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures											
000030 - Orchard Drive ROW Replacement - St. Vincent to End		35,000			35,000						
000030 - Orchard Drive ROW Replacement - St. Vincent to End		195,000					175,500	19,500			
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction		313,900									313,900
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction		382,800						95,700	95,700	191,400	
000106 - Mary Street ROW Replacement - Ross to Dunlop		405,000								405,000	
000106 - Mary Street ROW Replacement - Ross to Dunlop		65,000		65,000							
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End		1,245,500					499,000	746,500			
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End		190,000		95,000	95,000						
000141 - Jean and Tyndale Sanitary Servicing Installation		125,000							125,000		
000141 - Jean and Tyndale Sanitary Servicing Installation		800,000									800,000
000203 - Surface Water Treatment Plant Facility Renewal Assessment		240,000			125,000	75,000		40,000			
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction		178,000			106,800	71,200					
000725 - NRP- HNS Grove B2 Neighbourhood Reconstruction		98,000									98,000
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)		2,859,400	94,000	9,400		687,000	941,000	687,000	441,000		
001014 - SWTP-Garage Floor Structural Rehabilitation and Prevention		1,550,000	300,000	1,250,000							
001016 - SWTP Control System Upgrade	902,100	4,694,900	2,223,900	2,471,000							
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	182,246	791,123	791,123								
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster		195,000	195,000								



Table A-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
EN1150 - Big Bay Point Road Booster Station VFD Upgrade	75,000	100,000	100,000									
EN1152 - Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	225,000	420,000	225,000	195,000								
EN1167 - Dunlop Street East Corridor Improvements - Toronto to Mulcaster	10,298	-										
EN1169 - Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	197,303	-										
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	218,540	1,966,860	983,430	983,430								
EN1178 - Interim Watermain Replacement Pilot Program	512,985	-										
EN1189 - Watermain Cathodic Protection Program	1,000,000	3,960,000	1,000,000	1,000,000	1,000,000	960,000						
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	29,000	938,120	29,000	454,560	454,560							
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	28,202	1,060,200					530,100	530,100				
EN1252 - PRV Chamber Replacement Program	813,215	3,333,215	137,215	1,501,422	1,694,578							
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement		1,220,500					23,300	37,200			464,000	696,000
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	40,000	1,157,000	750,000	407,000								
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction		1,940,000				640,000	650,000	650,000				
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	43,500	2,616,240	43,500	43,500	632,310	632,310	632,310	632,310				
EN1294 - Watermain Renewal Program	1,713,000	3,057,000	290,000	1,767,000	1,000,000							
EN1305 - Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction		15,935,000		3,187,000	6,374,000	4,780,500	1,593,500					
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	60,000	1,850,000	610,000			620,000	620,000					
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	42,000	712,000		356,000	356,000							
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	-	2,380,000						500,000	940,000	940,000		
EN1355 - Grove Street East Watermain Replacement and Road Renewal – Duckworth to Fletcher	144,000	1,330,200	125,200	1,205,000								
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction		2,004,000		27,000	27,000				390,000	390,000	1,170,000	



Table A-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1395 - Ferndale Drive South Watermain Replacement – Tiffin to Ardagh	100,000	-									
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	61,000	708,000		354,000	354,000						
EN1435 - Alliance Boulevard Expansion - Bell Farm to Bell Farm		167,000						17,000		150,000	
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction		2,536,000			30,400	45,600		492,000	738,000	738,000	492,000
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	62,000	1,576,100	62,000		504,700	504,700	504,700				
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St		1,200,000			135,000				1,065,000		
000472 - Technology Forecasted Needs		1,223,600	95,000	114,000	125,400	125,400	125,400	136,800	152,000	167,200	182,400
CC1000 - ERP Sustainment Program	70,000	350,000	70,000	70,000	70,000	70,000	70,000				
EN1429 - Water and Transportation Asset Management Plans - Update	45,000	-									
IT1010 - Network Technology Infrastructure Program	56,000	168,000	56,000	56,000	56,000						
IT1012 - Server and Storage Technology Infrastructure Program	30,000	152,000	30,000	30,000	32,000	30,000	30,000				
Additional Asset Replacement Needs		24,400,000						5,000,000	5,000,000	7,000,000	7,400,000
Carryforwards:		-									
Watermain Renewal Program	232,300	464,600	232,300	232,300							
Air Valve/Main Valve Chamber Condition Assessment and Rehabilitation Program	33,300	66,600	33,300	33,300							
Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction	23,700	47,400	23,700	23,700							
BAS Component Replacement	11,500	23,000	11,500	11,500							
Bayfield Street Water Tower - Repairs and Interior Lining Replacement	177,300	354,600	177,300	177,300							
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	181,900	363,800	181,900	181,900							
Big Bay Point Road Booster Station VFD Upgrade	25,000	50,000	25,000	25,000							
Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	2,100	4,200	2,100	2,100							
Citizen Relationship Management (CRM) Solution	17,000	34,000	17,000	17,000							
City Hall Customer Contact Centre Renovation	300	600	300	300							
CMMS Improvement Project - Cityworks	107,900	215,800	107,900	107,900							
Corealis Meters	4,900	9,800	4,900	4,900							
Corporate Audio Visual Technology Infrastructure	100	200	100	100							
Corporate Communications Infrastructure Program	1,700	3,400	1,700	1,700							
Corporate PC Infrastructure Program	3,400	6,800	3,400	3,400							
Corporate Printing Infrastructure	700	1,400	700	700							



Table A-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	65,300	130,600	65,300	65,300							
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	9,500	19,000	9,500	9,500							
Dunlop Street West ROW Replacement - Eccles to Toronto	32,900	65,800	32,900	32,900							
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	86,600	173,200	86,600	86,600							
ERP Sustainment Program	59,900	119,800	59,900	59,900							
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	9,000	18,000	9,000	9,000							
Frozen Water Service Repair	184,800	369,600	184,800	184,800							
Fuel Tank Repairs 2017	11,700	23,400	11,700	11,700							
Gunn Street ROW Replacement - Peel to St. Vincent	7,900	15,800	7,900	7,900							
Harvie Road and Big Bay Point Road New Crossing - Highway 400	88,800	177,600	88,800	88,800							
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	2,000	4,000	2,000	2,000							
Huronian and Big Bay Point Large Diameter Watermain Condition Assessment	127,400	254,800	127,400	127,400							
Interim Watermain Replacement Pilot Program	217,800	435,600	217,800	217,800							
Lampman to Anne New Transmission Watermain and Lampman to Leacock ROW Rehabilitation	43,900	87,800	43,900	43,900							
Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	75,000	150,000	75,000	75,000							
Mapleview Drive East Improvements - Country Lane to Yonge (City)	900	1,800	900	900							
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	6,200	12,400	6,200	6,200							
Microsoft Office 365 and Windows Enterprise	1,300	2,600	1,300	1,300							
Network Technology Infrastructure Program	19,300	38,600	19,300	19,300							
NRP- HNS Allandale A Neighbourhood Reconstruction	43,700	87,400	43,700	43,700							
NRP- HNS Allandale B Neighbourhood Reconstruction	15,600	31,200	15,600	15,600							
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	5,200	10,400	5,200	5,200							
NRP- Wellington D1 Neighbourhood Reconstruction	11,400	22,800	11,400	11,400							
NRP- Wellington D2 Neighbourhood Reconstruction	28,700	57,400	28,700	28,700							
PC Replacements	100	200	100	100							
PRV Chamber Replacement Program	161,800	323,600	161,800	161,800							
Public Safety Communication Program	600	1,200	600	600							
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	5,300	10,600	5,300	5,300							



Table A-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Rodney St-Blake to Kempenfelt	6,700	13,400	6,700	6,700							
Ross, Collier, Bayfield Intersection Realignment	1,500	3,000	1,500	1,500							
Secondary Plan Area New Bulk Water Filling Station	30,500	61,000	30,500	30,500							
Server and Desktop Software Program	100	200	100	100							
Server and Storage Technology Infrastructure Program	1,700	3,400	1,700	1,700							
South L/Infill Leachate Gal Repl	14,700	29,400	14,700	14,700							
Sunnidale: Letitia-Wellington Transmission Watermain	574,000	1,148,000	574,000	574,000							
TCE Groundwater Monitor Wells	27,400	54,800	27,400	27,400							
TCE Plume Mitigation Solution	24,700	49,400	24,700	24,700							
Tiffin Street - Ferndale to Anne Street	400	800	400	400							
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	39,300	78,600	39,300	39,300							
Water Dispensing Event Trailer	800	1,600	800	800							
Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	19,900	39,800	19,900	19,900							
Watermain Cathodic Protection Program	344,700	689,400	344,700	344,700							
Water and Transportation Asset Management Plans - Update	23,400	46,800	23,400	23,400							
Watermain Renewal Program	340,000	680,000	340,000	340,000							
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	25,700	51,400	25,700	25,700							
Salem Road New Transmission Watermain and Road Expansion - County Road 27 to Dunn (Developer)	11,800	23,600	11,800	11,800							
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	(118,900)	-									
Growth Related:		-									
Facilities		-									
000461 - SWTP Optimization		1,041,000				1,041,000					
Water Distribution - Salem & Hewitt's Secondary Plan Areas:		-									
000293 - Huronia Road New Transmission Watermain - Mapleview to Lockhart (City)		5,637,000						49,000	508,000	424,000	4,656,000
000926 - Salem Road Reservoir and Pumping Station		4,024,000					374,000	1,825,000	1,825,000		
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	491,430	-									
EN1250 - Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	2,760,773	-									
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	(560,800)	647,500		35,200	612,300						
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	72,400	1,173,900	13,800	91,400		534,350	534,350				



Table A-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	255,600	4,869,702			694,400	2,175,302	2,000,000				
EN1259 - Big Bay Point New Transmission Watermain and Road Expansion - Prince William to Street N (Developer)	-	350,844		350,844							
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	16,600	436,500					20,700	166,320	249,480		
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)		234,963	234,963								
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)		3,622,601	66,200	96,600		1,153,267	1,153,267	1,153,267			
EN1272 - Salem Rd New Watermain, New Trunk Sanitary Sewer and ROW Expansion - Veterans to Saunders (City)		(508,000)	(1,067,000)				56,000	251,500	251,500		
EN1275 - Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	261,000	-									
EN1276 - Salem Road New Transmission Watermain and Road Expansion - County Road 27 to Dunn (Developer)	15,000	226,000	226,000								
EN1278 - Bryne Drive (North) New Road Construction - Harvie Rd to Essa Rd		311,800						62,360	124,720	124,720	
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)		266,710					34,710	232,000			
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)		932,300		17,900			60,000	341,760	512,640		
Carryforwards		-									
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain - Big Bay Point to Mplview (City)	200	400	200	200							
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	58,600	117,200	58,600	58,600							
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	16,600	33,200	16,600	16,600							
Mapleview Drive East Improvements - Country Lane to Yonge (City)	755,000	1,510,000	755,000	755,000							
McKay Road New Interchange - Highway 400 (City)	18,700	37,400	18,700	18,700							
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	11,700	23,400	11,700	11,700							
Secondary Plan Area New Bulk Water Filling Station	30,500	61,000	30,500	30,500							
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	16,000	32,000	16,000	16,000							
Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	721,500	1,443,000	721,500	721,500							



Table A-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	616,200	1,232,400	616,200	616,200							
Mapleview Drive E New Transmission Watermain - Yonge to Royal Jubilee (Developer)	1,927,900	3,855,800	1,927,900	1,927,900							
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	886,900	1,773,800	886,900	886,900							
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	826,300	1,652,600	826,300	826,300							
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain - Big Bay Point to Mplview (City)	112,300	224,600	112,300	112,300							
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	11,300	22,600	11,300	11,300							
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	58,700	117,400	58,700	58,700							
Former Municipal Boundary Areas:		-									
000924 - Fairview Road Right of Way Expansion - Big Bay Point to Little		10,000						5,000	5,000		
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	1,351,550	4,850,450	2,850,450	2,000,000							
EN1016 - Tiffin Street - Well 7 to Ferndale	342,000	6,394,000	2,700,000	3,461,000	233,000						
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	434,250	1,013,290	1,013,290								
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	1,000,000	-									
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent		1,218,800		110,800	1,108,000						
EN1168 - Dyments Creek Culvert Expansion - Bradford St.		424,260		163,260	165,000	96,000					
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview		261,000							104,400	156,600	
EN1183 - Ross, Collier, Bayfield Intersection Realignment		171,000									171,000
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore		183,090		73,236	54,927	54,927					
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	48,100	316,200	63,240	126,480	126,480						
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	466,060	664,740	664,740								
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	122,045	1,134,200	22,600	54,100	517,473	432,022	108,005				
EN1333 - Huronia Road Right of Way Expansion - Yonge to Herrell		52,000									52,000



Table A-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
EN1353 - Essa Road and Anne Street Intersection Reconstruction		747,000			25,000	361,000	361,000					
EN1377 - Anne Street Right of Way Expansion - Wellington to Dunlop		452,000			26,000	26,000				200,000	200,000	
Z423 - Cundles Road East New Transmission Watermain - St Vincent to Golden Eagle		978,000								245,000	733,000	
Z436 - Huronia Road Right of Way Expansion - Herrell to Big Bay Point		6,000								3,000	3,000	
Z438 - Lakeshore/Hurst Drive ROW Expansion - Tiffin Street to Cox Mill		6,000								3,000	3,000	
Carryforwards		-										
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	281,700	563,400	281,700	281,700								
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	116,100	232,200	116,100	116,100								
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	7,200	14,400	7,200	7,200								
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	28,500	57,000	28,500	28,500								
Harvie Road and Big Bay Point Road New Crossing - Highway 400	8,800	17,600	8,800	8,800								
Sunnidale: Letitia-Wellington Transmission Watermain	291,100	582,200	291,100	291,100								
Tiffin Street - Ferndale to Anne Street	1,100	2,200	1,100	1,100								
Total Capital Expenditures	24,053,397	155,845,308	25,434,551	32,658,032	16,770,328	15,115,578	11,096,842	13,670,317	12,978,440	12,089,920	16,031,300	



Table A-2
City of Barrie
Water Service
Capital Budget Forecast (Inflated \$)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures											
000030 - Orchard Drive ROW Replacement - St. Vincent to End	-	41,000	-	-	41,000	-	-	-	-	-	-
000030 - Orchard Drive ROW Replacement - St. Vincent to End	-	250,000	-	-	-	-	224,000	26,000	-	-	-
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	-	487,000	-	-	-	-	-	-	-	-	487,000
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	-	546,000	-	-	-	-	-	128,000	135,000	283,000	-
000106 - Mary Street ROW Replacement - Ross to Dunlop	-	598,000	-	-	-	-	-	-	-	598,000	-
000106 - Mary Street ROW Replacement - Ross to Dunlop	-	72,000	-	72,000	-	-	-	-	-	-	-
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	-	1,637,000	-	-	-	-	637,000	1,000,000	-	-	-
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	-	215,000	-	105,000	110,000	-	-	-	-	-	-
000141 - Jean and Tyndale Sanitary Servicing Installation	-	176,000	-	-	-	-	-	-	176,000	-	-
000141 - Jean and Tyndale Sanitary Servicing Installation	-	1,241,000	-	-	-	-	-	-	-	-	1,241,000
000203 - Surface Water Treatment Plant Facility Renewal Assessment	-	290,000	-	-	145,000	91,000	-	54,000	-	-	-
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction	-	211,000	-	-	124,000	87,000	-	-	-	-	-
000725 - NRP- HNS Grove B2 Neighbourhood Reconstruction	-	152,000	-	-	-	-	-	-	-	-	152,000
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)	-	3,687,000	99,000	10,000	-	835,000	1,201,000	921,000	621,000	-	-
001014 - SWTP-Garage Floor Structural Rehabilitation and Prevention	-	1,693,000	315,000	1,378,000	-	-	-	-	-	-	-
001016 - SWTP Control System Upgrade	902,100	5,059,000	2,335,000	2,724,000	-	-	-	-	-	-	-
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	182,246	831,000	831,000	-	-	-	-	-	-	-	-
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	-	205,000	205,000	-	-	-	-	-	-	-	-
EN1150 - Big Bay Point Road Booster Station VFD Upgrade	75,000	105,000	105,000	-	-	-	-	-	-	-	-
EN1152 - Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	225,000	451,000	236,000	215,000	-	-	-	-	-	-	-
EN1167 - Dunlop Street East Corridor Improvements - Toronto to Mulcaster	10,298	-	-	-	-	-	-	-	-	-	-
EN1169 - Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	197,303	-	-	-	-	-	-	-	-	-	-
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	218,540	2,117,000	1,033,000	1,084,000	-	-	-	-	-	-	-
EN1178 - Interim Watermain Replacement Pilot Program	512,985	-	-	-	-	-	-	-	-	-	-
EN1189 - Watermain Cathodic Protection Program	1,000,000	4,478,000	1,050,000	1,103,000	1,158,000	1,167,000	-	-	-	-	-
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	29,000	1,057,000	30,000	501,000	526,000	-	-	-	-	-	-
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	28,202	1,387,000	-	-	-	-	677,000	710,000	-	-	-
EN1252 - PRV Chamber Replacement Program	813,215	3,761,000	144,000	1,655,000	1,962,000	-	-	-	-	-	-



Table A-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement	-	1,846,000	-	-	-	-	30,000	50,000	-	686,000	1,080,000
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	40,000	1,237,000	788,000	449,000	-	-	-	-	-	-	-
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction	-	2,479,000	-	-	-	778,000	830,000	871,000	-	-	-
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	43,500	3,249,000	46,000	48,000	732,000	769,000	807,000	847,000	-	-	-
EN1294 - Watermain Renewal Program	1,713,000	3,411,000	305,000	1,948,000	1,158,000	-	-	-	-	-	-
EN1305 - Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction	-	18,738,000	-	3,514,000	7,379,000	5,811,000	2,034,000	-	-	-	-
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	60,000	2,186,000	641,000	-	-	754,000	791,000	-	-	-	-
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	42,000	804,000	-	392,000	412,000	-	-	-	-	-	-
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	-	3,382,000	-	-	-	-	-	670,000	1,323,000	1,389,000	-
EN1355 - Grove Street East Watermain Replacement and Road Renewal – Duckworth to Fletcher	144,000	1,460,000	131,000	1,329,000	-	-	-	-	-	-	-
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction	-	3,001,000	-	30,000	31,000	-	-	-	549,000	576,000	1,815,000
EN1395 - Ferndale Drive South Watermain Replacement – Tiffin to Ardagh	100,000	-	-	-	-	-	-	-	-	-	-
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	61,000	800,000	-	390,000	410,000	-	-	-	-	-	-
EN1435 - Alliance Boulevard Expansion - Bell Farm to Bell Farm	-	245,000	-	-	-	-	-	23,000	-	222,000	-
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction	-	3,640,000	-	-	35,000	55,000	-	659,000	1,038,000	1,090,000	763,000
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	62,000	1,906,000	65,000	-	584,000	613,000	644,000	-	-	-	-
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St	-	1,655,000	-	-	156,000	-	-	-	1,499,000	-	-
000472 - Technology Forecasted Needs	-	1,610,000	100,000	126,000	145,000	152,000	160,000	183,000	214,000	247,000	283,000
CC1000 - ERP Sustainment Program	70,000	406,000	74,000	77,000	81,000	85,000	89,000	-	-	-	-
EN1429 - Water and Transportation Asset Management Plans - Update	45,000	-	-	-	-	-	-	-	-	-	-
IT1010 - Network Technology Infrastructure Program	56,000	186,000	59,000	62,000	65,000	-	-	-	-	-	-
IT1012 - Server and Storage Technology Infrastructure Program	30,000	176,000	32,000	33,000	37,000	36,000	38,000	-	-	-	-
Additional Asset Replacement Needs	-	35,558,000	-	-	-	-	-	6,700,000	7,036,000	10,342,000	11,480,000
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-
Watermain Renewal Program	232,300	500,000	244,000	256,000	-	-	-	-	-	-	-
Air Valve/Main Valve Chamber Condition Assessment and Rehabilitation Program	33,300	72,000	35,000	37,000	-	-	-	-	-	-	-
Anne Street - New 3N Booster Pump Station & 2N Booster Pump Station Reconstruction	23,700	51,000	25,000	26,000	-	-	-	-	-	-	-
BAS Component Replacement	11,500	25,000	12,000	13,000	-	-	-	-	-	-	-
Bayfield Street Water Tower - Repairs and Interior Lining Replacement	177,300	381,000	186,000	195,000	-	-	-	-	-	-	-
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	181,900	392,000	191,000	201,000	-	-	-	-	-	-	-



Table A-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Big Bay Point Road Booster Station VFD Upgrade	25,000	54,000	26,000	28,000	-	-	-	-	-	-	-
Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	2,100	4,000	2,000	2,000	-	-	-	-	-	-	-
Citizen Relationship Management (CRM) Solution	17,000	37,000	18,000	19,000	-	-	-	-	-	-	-
City Hall Customer Contact Centre Renovation	300	-	-	-	-	-	-	-	-	-	-
CMMS Improvement Project - Cityworks	107,900	232,000	113,000	119,000	-	-	-	-	-	-	-
Corealis Meters	4,900	10,000	5,000	5,000	-	-	-	-	-	-	-
Corporate Audio Visual Technology Infrastructure	100	-	-	-	-	-	-	-	-	-	-
Corporate Communications Infrastructure Program	1,700	4,000	2,000	2,000	-	-	-	-	-	-	-
Corporate PC Infrastructure Program	3,400	8,000	4,000	4,000	-	-	-	-	-	-	-
Corporate Printing Infrastructure	700	2,000	1,000	1,000	-	-	-	-	-	-	-
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	65,300	141,000	69,000	72,000	-	-	-	-	-	-	-
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	9,500	20,000	10,000	10,000	-	-	-	-	-	-	-
Dunlop Street West ROW Replacement - Eccles to Toronto	32,900	71,000	35,000	36,000	-	-	-	-	-	-	-
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	86,600	186,000	91,000	95,000	-	-	-	-	-	-	-
ERP Sustainment Program	59,900	129,000	63,000	66,000	-	-	-	-	-	-	-
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	9,000	19,000	9,000	10,000	-	-	-	-	-	-	-
Frozen Water Service Repair	184,800	398,000	194,000	204,000	-	-	-	-	-	-	-
Fuel Tank Repairs 2017	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-
Gunn Street ROW Replacement - Peel to St. Vincent	7,900	17,000	8,000	9,000	-	-	-	-	-	-	-
Harvie Road and Big Bay Point Road New Crossing - Highway 400	88,800	191,000	93,000	98,000	-	-	-	-	-	-	-
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	2,000	4,000	2,000	2,000	-	-	-	-	-	-	-
Huronian and Big Bay Point Large Diameter Watermain Condition Assessment	127,400	274,000	134,000	140,000	-	-	-	-	-	-	-
Interim Watermain Replacement Pilot Program	217,800	469,000	229,000	240,000	-	-	-	-	-	-	-
Lampman to Anne New Transmission Watermain and Lampman to Leacock ROW Rehabilitation	43,900	94,000	46,000	48,000	-	-	-	-	-	-	-
Lovers Creek New Bridge - Tollendal Mill, 150m West of Coxmill	75,000	162,000	79,000	83,000	-	-	-	-	-	-	-
Mapleview Drive East Improvements - Country Lane to Yonge (City)	900	2,000	1,000	1,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	6,200	14,000	7,000	7,000	-	-	-	-	-	-	-
Microsoft Office 365 and Windows Enterprise	1,300	2,000	1,000	1,000	-	-	-	-	-	-	-
Network Technology Infrastructure Program	19,300	41,000	20,000	21,000	-	-	-	-	-	-	-
NRP- HNS Allandale A Neighbourhood Reconstruction	43,700	94,000	46,000	48,000	-	-	-	-	-	-	-
NRP- HNS Allandale B Neighbourhood Reconstruction	15,600	33,000	16,000	17,000	-	-	-	-	-	-	-
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	5,200	11,000	5,000	6,000	-	-	-	-	-	-	-
NRP- Wellington D1 Neighbourhood Reconstruction	11,400	25,000	12,000	13,000	-	-	-	-	-	-	-
NRP- Wellington D2 Neighbourhood Reconstruction	28,700	62,000	30,000	32,000	-	-	-	-	-	-	-



Table A-2 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
PC Replacements	100	-	-	-	-	-	-	-	-	-	-	-
PRV Chamber Replacement Program	161,800	348,000	170,000	178,000	-	-	-	-	-	-	-	-
Public Safety Communication Program	600	2,000	1,000	1,000	-	-	-	-	-	-	-	-
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	5,300	12,000	6,000	6,000	-	-	-	-	-	-	-	-
Rodney St-Blake to Kempenfelt	6,700	14,000	7,000	7,000	-	-	-	-	-	-	-	-
Ross, Collier, Bayfield Intersection Realignment	1,500	4,000	2,000	2,000	-	-	-	-	-	-	-	-
Secondary Plan Area New Bulk Water Filling Station	30,500	66,000	32,000	34,000	-	-	-	-	-	-	-	-
Server and Desktop Software Program	100	-	-	-	-	-	-	-	-	-	-	-
Server and Storage Technology Infrastructure Program	1,700	4,000	2,000	2,000	-	-	-	-	-	-	-	-
South L/ill Leachate Gal Repl	14,700	31,000	15,000	16,000	-	-	-	-	-	-	-	-
Sunnidale: Letitia-Wellington Transmission Watermain	574,000	1,236,000	603,000	633,000	-	-	-	-	-	-	-	-
TCE Groundwater Monitor Wells	27,400	59,000	29,000	30,000	-	-	-	-	-	-	-	-
TCE Plume Mitigation Solution	24,700	53,000	26,000	27,000	-	-	-	-	-	-	-	-
Tiffin Street - Ferndale to Anne Street	400	-	-	-	-	-	-	-	-	-	-	-
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	39,300	84,000	41,000	43,000	-	-	-	-	-	-	-	-
Water Dispensing Event Trailer	800	2,000	1,000	1,000	-	-	-	-	-	-	-	-
Water Service and Backflow Prevention Upgrades for Parks and Open Spaces	19,900	43,000	21,000	22,000	-	-	-	-	-	-	-	-
Watermain Cathodic Protection Program	344,700	742,000	362,000	380,000	-	-	-	-	-	-	-	-
Water and Transportation Asset Management Plans - Update	23,400	51,000	25,000	26,000	-	-	-	-	-	-	-	-
Watermain Renewal Program	340,000	732,000	357,000	375,000	-	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	25,700	55,000	27,000	28,000	-	-	-	-	-	-	-	-
Salem Road New Transmission Watermain and Road Expansion - County Road 27 to Dunn (Developer)	11,800	25,000	12,000	13,000	-	-	-	-	-	-	-	-
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	(118,900)	-	-	-	-	-	-	-	-	-	-	-
Growth Related:	-	-	-	-	-	-	-	-	-	-	-	-
Facilities	-	-	-	-	-	-	-	-	-	-	-	-
000461 - SWTP Optimization	-	1,265,000	-	-	-	1,265,000	-	-	-	-	-	-
Water Distribution - Salem & Hewitt's Secondary Plan Areas:	-	-	-	-	-	-	-	-	-	-	-	-
000293 - Huronia Road New Transmission Watermain - Mapleview to Lockhart (City)	-	8,630,000	-	-	-	-	-	66,000	715,000	626,000	7,223,000	-
000926 - Salem Road Reservoir and Pumping Station	-	5,491,000	-	-	-	-	477,000	2,446,000	2,568,000	-	-	-
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	491,430	-	-	-	-	-	-	-	-	-	-	-
EN1250 - Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	2,760,773	-	-	-	-	-	-	-	-	-	-	-
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	(560,800)	748,000	-	39,000	709,000	-	-	-	-	-	-	-
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	72,400	1,447,000	14,000	101,000	-	650,000	682,000	-	-	-	-	-
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	255,600	6,001,000	-	-	804,000	2,644,000	2,553,000	-	-	-	-	-
EN1259 - Big Bay Point New Transmission Watermain and Road Expansion - Prince William to Street N (Developer)	-	387,000	-	387,000	-	-	-	-	-	-	-	-



Table A-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	16,600	600,000	-	-	-	-	26,000	223,000	351,000	-	-
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	-	247,000	247,000	-	-	-	-	-	-	-	-
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)	-	4,596,000	70,000	107,000	-	1,402,000	1,472,000	1,545,000	-	-	-
EN1272 - Salem Rd New Watermain, New Trunk Sanitary Sewer and ROW Expansion - Veterans to Saunders (City)	-	(358,000)	(1,120,000)	-	-	-	71,000	337,000	354,000	-	-
EN1275 - Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	261,000	-	-	-	-	-	-	-	-	-	-
EN1276 - Salem Road New Transmission Watermain and Road Expansion County Road 27 to Dunn (Developer)	15,000	237,000	237,000	-	-	-	-	-	-	-	-
EN1278 - Bryne Drive (North) New Road Construction - Harvie Rd to Essa Rd	-	443,000	-	-	-	-	-	84,000	175,000	184,000	-
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)	-	355,000	-	-	-	-	44,000	311,000	-	-	-
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)	-	1,276,000	-	20,000	-	-	77,000	458,000	721,000	-	-
Carryforwards	-	-	-	-	-	-	-	-	-	-	-
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain - Big Bay Point to Mplview (City)	200	-	-	-	-	-	-	-	-	-	-
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	58,600	127,000	62,000	65,000	-	-	-	-	-	-	-
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	16,600	35,000	17,000	18,000	-	-	-	-	-	-	-
Mapleview Drive East Improvements - Country Lane to Yonge (City)	755,000	1,625,000	793,000	832,000	-	-	-	-	-	-	-
McKay Road New Interchange - Highway 400 (City)	18,700	41,000	20,000	21,000	-	-	-	-	-	-	-
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-
Secondary Plan Area New Bulk Water Filling Station	30,500	66,000	32,000	34,000	-	-	-	-	-	-	-
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	16,000	35,000	17,000	18,000	-	-	-	-	-	-	-
Essa Road New Transmission Watermain - Athabaska to Salem (Developer)	721,500	1,553,000	758,000	795,000	-	-	-	-	-	-	-
Essa Road New Transmission Watermain - Mapleview to Athabaska (Developer)	616,200	1,326,000	647,000	679,000	-	-	-	-	-	-	-
Mapleview Drive E New Transmisison Watermain - Yonge to Royal Jubilee (Developer)	1,927,900	4,150,000	2,024,000	2,126,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	886,900	1,909,000	931,000	978,000	-	-	-	-	-	-	-
Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	826,300	1,779,000	868,000	911,000	-	-	-	-	-	-	-
Ashford Drive and Madelaine Drive New 750 mm Transmission Watermain - Big Bay Point to Mplview (City)	112,300	242,000	118,000	124,000	-	-	-	-	-	-	-
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	11,300	24,000	12,000	12,000	-	-	-	-	-	-	-
Sandringham Drive New 600mm Transmission Watermain - Big Bay Point to Mapleview (City)	58,700	127,000	62,000	65,000	-	-	-	-	-	-	-



Table A-2 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Former Municipal Boundary Areas:	-	-	-	-	-	-	-	-	-	-	-	-
000924 - Fairview Road Right of Way Expansion - Big Bay Point to Little	-	14,000	-	-	-	-	-	-	7,000	7,000	-	-
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	1,351,550	5,198,000	2,993,000	2,205,000	-	-	-	-	-	-	-	-
EN1016 - Tiffin Street - Well 7 to Ferndale	342,000	6,921,000	2,835,000	3,816,000	270,000	-	-	-	-	-	-	-
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	434,250	1,064,000	1,064,000	-	-	-	-	-	-	-	-	-
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	1,000,000	-	-	-	-	-	-	-	-	-	-	-
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	-	1,405,000	-	122,000	1,283,000	-	-	-	-	-	-	-
EN1168 - Dyments Creek Culvert Expansion - Bradford St.	-	488,000	-	180,000	191,000	117,000	-	-	-	-	-	-
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview	-	378,000	-	-	-	-	-	-	-	147,000	231,000	-
EN1183 - Ross, Collier, Bayfield Intersection Realignment	-	265,000	-	-	-	-	-	-	-	-	-	265,000
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	-	212,000	-	81,000	64,000	67,000	-	-	-	-	-	-
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	48,100	351,000	66,000	139,000	146,000	-	-	-	-	-	-	-
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	466,060	698,000	698,000	-	-	-	-	-	-	-	-	-
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	122,045	1,346,000	24,000	60,000	599,000	525,000	138,000	-	-	-	-	-
EN1333 - Huronia Road Right of Way Expansion - Yonge to Herrell	-	81,000	-	-	-	-	-	-	-	-	-	81,000
EN1353 - Essa Road and Anne Street Intersection Reconstruction	-	929,000	-	-	29,000	439,000	461,000	-	-	-	-	-
EN1377 - Anne Street Right of Way Expansion - Wellington to Dunlop	-	638,000	-	-	30,000	32,000	-	-	-	281,000	295,000	-
Z423 - Cundles Road East New Transmission Watermain - St Vincent to Golden Eagle	-	1,428,000	-	-	-	-	-	-	-	345,000	1,083,000	-
Z436 - Huronia Road Right of Way Expansion - Herrell to Big Bay Point	-	8,000	-	-	-	-	-	-	-	4,000	4,000	-
Z438 - Lakeshore/Hurst Drive ROW Expansion - Tiffin Street to Cox Mill	-	8,000	-	-	-	-	-	-	-	4,000	4,000	-
Carryforwards	-	-	-	-	-	-	-	-	-	-	-	-
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	281,700	607,000	296,000	311,000	-	-	-	-	-	-	-	-
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	116,100	250,000	122,000	128,000	-	-	-	-	-	-	-	-
Dunlop Street Right of Way Expansion - Sarjeant to Anne (outside of CAH limits)	7,200	16,000	8,000	8,000	-	-	-	-	-	-	-	-
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	28,500	61,000	30,000	31,000	-	-	-	-	-	-	-	-
Harvie Road and Big Bay Point Road New Crossing - Highway 400	8,800	19,000	9,000	10,000	-	-	-	-	-	-	-	-
Sunnidale: Letitia-Wellington Transmission Watermain	291,100	627,000	306,000	321,000	-	-	-	-	-	-	-	-
Tiffin Street - Ferndale to Anne Street	1,100	2,000	1,000	1,000	-	-	-	-	-	-	-	-
Total Capital Expenditures	24,053,397	193,984,000	26,712,000	36,007,000	19,416,000	18,374,000	14,163,000	18,319,000	18,263,000	17,860,000	24,870,000	



Table A-2 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Capital Financing												
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Facilities	-	1,265,000	-	-	-	1,265,000	-	-	-	-	-	-
Development Charges Reserve Fund - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Distribution Systems - Former Barrie	2,550,495	12,131,270	4,872,060	3,730,140	1,220,640	612,360	358,990	4,550	403,960	761,970	166,600	
Development Charges Reserve Fund - Distribution Systems - Salem & Hewitt's	9,377,913	43,074,000	5,821,000	7,345,000	1,513,000	4,696,000	5,398,100	5,436,550	4,831,350	810,000	7,223,000	
Non-Growth Related Debenture Requirements	258,600	20,843,000	-	10,364,000	8,179,000	2,300,000	-	-	-	-	-	-
Growth Related Debenture Requirements - Facilities	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Distribution Systems - Former Barrie	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Distribution Systems - Salem & Hewitt's	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Water Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Water Rate Capital Reserve Fund	11,866,388	116,670,730	16,018,940	14,567,860	8,503,360	9,500,640	8,405,910	12,877,900	13,027,690	16,288,030	17,480,400	
Total Capital Financing	24,053,397	193,984,000	26,712,000	36,007,000	19,416,000	18,374,000	14,163,000	18,319,000	18,263,000	17,860,000	24,870,000	

Table A-3
City of Barrie
Water Service
Schedule of Non-Growth Related Debenture Repayments (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2021		258,600	17,382	17,382	17,382	17,382	17,382	17,382	17,382	17,382	17,382	17,382
2022		-	-	-	-	-	-	-	-	-	-	-
2023		10,364,000			696,624	696,624	696,624	696,624	696,624	696,624	696,624	696,624
2024		8,179,000				549,757	549,757	549,757	549,757	549,757	549,757	549,757
2025		2,300,000					154,596	154,596	154,596	154,596	154,596	154,596
2026		-						-	-	-	-	-
2027		-										
2028		-										
2029		-										
2030		-										
Total Annual Debt Charges	-	21,101,600	17,382	17,382	714,006	1,263,763	1,418,359	1,418,359	1,418,359	1,418,359	1,418,359	1,418,359



Table A-4
City of Barrie
Water Service
Schedule of Growth-Related Debenture Repayments – Water Facilities (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-	-	-	-	-	-	-	-	-
2023		-										
2024		-										
2025		-										
2026		-										
2027		-										
2028		-										
2029		-										
2030		-										
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-

Table A-5
City of Barrie
Water Service
Schedule of Growth-Related Debenture Repayments – Water Facilities Related Debt (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-	-	-	-	-	-	-	-	-
2023		-										
2024		-										
2025		-										
2026		-										
2027		-										
2028		-										
2029		-										
2030		-										
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-



Table A-6
City of Barrie
Water Service
Schedule of Growth-Related Debenture Repayments – Distribution Systems – Former Municipal Boundary Areas
(Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-								
2023		-										
2024		-										
2025		-										
2026		-										
2027		-										
2028		-										
2029		-										
2030		-										
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-

Table A-7
City of Barrie
Water Service
Schedule of Growth-Related Debenture Repayments – Distribution Systems – Salem & Hewitt's Secondary Plan Areas

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-								
2023		-										
2024		-										
2025		-										
2026		-										
2027		-										
2028		-										
2029		-										
2030		-										
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-



Table A-8
City of Barrie
Water Service
Water Capital Reserve Fund Continuity (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	19,399,469	14,893,589	6,376,651	43,205	45,950	48,096	2,688,011	2,604,947	4,258,679	4,638,320
Transfer from Operating	7,068,478	7,376,969	8,233,567	8,505,204	9,501,843	10,993,119	12,743,758	14,597,919	16,576,724	18,678,865
Transfer to Capital	11,866,388	16,018,940	14,567,860	8,503,360	9,500,640	8,405,910	12,877,900	13,027,690	16,288,030	17,480,400
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	14,601,558	6,251,619	42,358	45,049	47,153	2,635,305	2,553,869	4,175,175	4,547,373	5,836,786
Interest	292,031	125,032	847	901	943	52,706	51,077	83,504	90,947	116,736

Table A-9
City of Barrie
Water Service
Water Rate Stabilization Reserve Fund Continuity (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	3,127,216	3,189,760	3,253,555	3,318,627	3,384,999	3,452,699	3,521,753	3,592,188	3,664,032	3,737,312
Transfer from Operating	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	3,127,216	3,189,760	3,253,555	3,318,627	3,384,999	3,452,699	3,521,753	3,592,188	3,664,032	3,737,312
Interest	62,544	63,795	65,071	66,373	67,700	69,054	70,435	71,844	73,281	74,746

Table A-10
City of Barrie
Water Service
Water Development Charges Reserve Fund Continuity – Water Facilities (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	118,481	229,299	340,719	471,366	689,976	(373,036)	(162,607)	56,365	284,029	520,681
Development Charge Proceeds	106,321	104,740	121,404	205,081	209,303	213,617	217,868	222,095	226,442	230,719
Transfer to Capital	-	-	-	-	1,265,000	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	224,803	334,039	462,123	676,447	(365,722)	(159,419)	55,260	278,460	510,472	751,400
Interest	4,496	6,681	9,242	13,529	(7,314)	(3,188)	1,105	5,569	10,209	15,028
Required from Development Charges	-	-	-	-	1,265,000	-	-	-	-	-



Table A-11
City of Barrie
Water Service
Water Development Charges Reserve Fund Continuity – Water Facilities Related Debt (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(31,675,579)	(33,332,387)	(35,134,525)	(35,884,711)	(31,125,406)	(25,994,745)	(20,476,323)	(14,562,647)	(8,242,646)	(1,495,891)
Development Charge Proceeds	6,914,250	6,804,255	7,870,917	13,287,088	13,557,844	13,837,400	14,116,700	14,399,102	14,693,567	14,987,408
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481
Closing Balance	(32,678,811)	(34,445,613)	(35,181,089)	(30,515,104)	(25,485,044)	(20,074,827)	(14,277,105)	(8,081,025)	(1,466,560)	5,574,035
Interest	(653,576)	(688,912)	(703,622)	(610,302)	(509,701)	(401,497)	(285,542)	(161,621)	(29,331)	111,481
Required from Development Charges										

Table A-12
City of Barrie
Water Service
Water Development Charges Reserve Fund Continuity – Distribution System – Former Municipal Boundary Areas
(Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(2,110,447)	(4,379,170)	(9,053,393)	(12,648,302)	(13,553,984)	(13,845,316)	(13,871,187)	(13,523,829)	(13,564,003)	(13,957,125)
Development Charge Proceeds	367,637	375,355	383,237	580,723	592,504	605,103	617,081	629,747	642,516	655,393
Transfer to Capital	2,550,495	4,872,060	3,730,140	1,220,640	612,360	358,990	4,550	403,960	761,970	166,600
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	(4,293,304)	(8,875,875)	(12,400,296)	(13,288,219)	(13,573,839)	(13,599,203)	(13,258,656)	(13,298,042)	(13,683,456)	(13,468,333)
Interest	(85,866)	(177,518)	(248,006)	(265,764)	(271,477)	(271,984)	(265,173)	(265,961)	(273,669)	(269,367)
Required from Development Charges	2,550,495	4,872,060	3,730,140	1,220,640	612,360	358,990	4,550	403,960	761,970	166,600



Table A-13
City of Barrie
Water Service
Water Development Charges Reserve Fund Continuity – Distribution System – Salem & Hewitt’s Secondary Plan Areas
(Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(12,381,102)	(18,528,575)	(21,377,513)	(24,740,904)	(18,780,957)	(15,788,810)	(13,289,598)	(10,609,981)	(7,089,501)	783,047
Development Charge Proceeds	3,593,746	3,391,229	4,466,725	7,841,201	7,997,732	8,157,892	8,324,206	8,490,840	8,667,194	8,840,576
Transfer to/(from) Capital	9,377,913	5,821,000	7,345,000	1,513,000	4,696,000	5,398,100	5,436,550	4,831,350	810,000	7,223,000
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	(18,165,269)	(20,958,346)	(24,255,788)	(18,412,703)	(15,479,225)	(13,029,017)	(10,401,942)	(6,950,491)	767,693	2,400,623
Interest	(363,305)	(419,167)	(485,116)	(368,254)	(309,585)	(260,580)	(208,039)	(139,010)	15,354	48,012
Required from Development Charges	9,377,913	5,821,000	7,345,000	1,513,000	4,696,000	5,398,100	5,436,550	4,831,350	810,000	7,223,000



Table A-14
City of Barrie
Water Services
Operating Budget Forecast (Inflated \$)

Description	Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures										
<u>Operating Costs</u>										
400000 - Full-time Salaries	6,051,907	6,206,281	6,346,102	6,463,396	6,592,700	6,724,600	6,859,100	6,996,300	7,136,200	7,278,900
400100 - Full-time Salaries - Casual	290,979	373,346	279,633	221,111	225,500	230,000	234,600	239,300	244,100	249,000
400700 - Full-time Overtime	162,590	165,856	169,173	172,556	176,000	179,500	183,100	186,800	190,500	194,300
401000 - Full-time Salary Recovery (123,846)	(123,846)	(214,322)	(90,731)	-	-	-	-	-	-	-
401100 - Full-time Fringe Benefits	1,642,068	1,672,108	1,699,210	1,721,943	1,756,400	1,791,500	1,827,300	1,863,800	1,901,100	1,939,100
401200 - Full-time Fringe Benefits - Casual	37,440	44,443	35,883	28,236	28,800	29,400	30,000	30,600	31,200	31,800
433100 - Part-time Salaries - Casual	117,487	123,093	129,314	135,432	138,100	140,900	143,700	146,600	149,500	152,500
433500 - Part-time Fringe Benefits - Casual	15,548	16,336	17,210	18,069	18,400	18,800	19,200	19,600	20,000	20,400
Salaries & Benefits for Additional Staff		86,200	87,900	89,700	91,500	93,300	95,200	97,100	99,000	101,000
500400 - Stationery & Office Supplies	47,643	52,151	53,194	54,257	55,300	56,400	57,500	58,700	59,900	61,100
500500 - Preprinted Forms, Tags & Passes	4,735	3,589	3,661	3,734	3,800	3,900	4,000	4,100	4,200	4,300
500800 - Meetings & Meal Expenses	10,127	10,476	10,686	10,899	11,100	11,300	11,500	11,700	11,900	12,100
501000 - Award & Ceremony Expenses	1,875	1,950	1,989	2,029	2,100	2,100	2,100	2,100	2,100	2,100
501100 - Protective Clothing	24,290	25,494	26,004	26,524	27,100	27,600	28,200	28,800	29,400	30,000
501300 - Clothing Allowance	6,710	6,947	7,086	7,228	7,400	7,500	7,700	7,900	8,100	8,300
501500 - Protective Equipment	27,970	28,867	29,444	30,033	30,600	31,200	31,800	32,400	33,000	33,700
510100 - Chemicals	171,606	172,428	173,267	174,122	182,800	191,900	201,500	211,600	222,200	233,300
520000 - Gasoline	3,798	3,874	3,951	4,030	4,200	4,400	4,600	4,800	5,000	5,300
520100 - Hydro	1,761,153	1,796,376	1,832,304	1,868,950	1,962,400	2,060,500	2,163,500	2,271,700	2,385,300	2,504,600
520200 - Water & Wastewater	96,068	97,989	99,949	101,948	104,000	106,100	108,200	110,400	112,600	114,900
520300 - Natural Gas	125,007	127,507	130,057	132,658	135,300	138,000	140,800	143,600	146,500	149,400
540300 - Small Parts	93,083	96,248	98,051	99,891	101,900	103,900	106,000	108,100	110,300	112,500
540500 - Asphalt	48,000	49,915	50,913	51,931	53,000	54,100	55,200	56,300	57,400	58,500
540900 - Field & Other Supplies	474,227	486,096	494,228	502,502	512,600	522,900	533,400	544,100	555,000	566,100
541400 - Laboratory Supplies	15,240	15,550	15,861	16,178	16,500	16,800	17,100	17,400	17,700	18,100
541600 - Purchases for Resale	102,170	104,213	106,298	108,424	110,600	112,800	115,100	117,400	119,700	122,100
560200 - Minor Capital - General	424,446	437,466	444,714	452,107	461,100	470,300	479,700	489,300	499,100	509,100
570000 - Small Tools	25,447	26,398	26,926	27,464	28,000	28,600	29,200	29,800	30,400	31,000
600000 - Conferences & Trade Show Registration	32,377	35,353	36,060	36,781	37,500	38,300	39,100	39,900	40,700	41,500
600100 - Kilometer Reimbursement	9,359	9,722	9,916	10,114	10,300	10,500	10,700	10,900	11,100	11,300
620000 - Staff Training & Development	132,030	144,128	147,011	149,951	152,900	156,000	159,100	162,300	165,500	168,800
620200 - Memberships & Subscriptions	148,816	160,453	163,652	166,915	170,300	173,700	177,200	180,700	184,300	188,000
640500 - Consultants - General	1,436	1,542	1,573	1,605	1,600	1,600	1,600	1,600	1,600	1,600
660400 - Examination Services	255	255	260	265	300	300	300	300	300	300
661100 - Advertising Services	2,360	2,454	2,503	2,553	2,600	2,700	2,800	2,900	3,000	3,100
661200 - Application & Permit Services	3,784	-	-	-	-	-	-	-	-	-
661400 - Cellular Telephone Services	44,785	45,788	46,353	46,929	47,900	48,900	49,900	50,900	51,900	52,900
661800 - Telephone Services	29,910	30,225	30,390	30,558	31,200	31,800	32,400	33,000	33,700	34,400
670700 - Contracted Services - General	904,635	915,040	926,415	940,018	958,800	978,000	997,600	1,017,600	1,038,000	1,058,800
671900 - Contracted Services - Snow Clearing	118,280	122,998	125,458	127,967	130,500	133,100	135,800	138,500	141,300	144,100
672200 - Contracted Services - Water	9,050	9,411	9,599	9,791	10,000	10,200	10,400	10,600	10,800	11,000



Table A-14 (Cont'd)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
672600 - Contracted Services - Painting	57,000	58,140	59,303	60,489	61,700	62,900	64,200	65,500	66,800	68,100
675100 - Repairs & Maintenance - Building	5,820	6,053	6,174	6,297	6,400	6,500	6,600	6,700	6,800	6,900
675400 - Repairs & Maintenance - Equipment	232,239	234,604	236,224	237,877	242,600	247,500	252,500	257,600	262,800	268,100
676100 - Repairs & Maintenance - Hydrants	101,966	104,005	106,085	108,207	110,400	112,600	114,900	117,200	119,500	121,900
676400 - Repairs & Maintenance - Parking	32,219	32,606	33,001	33,403	34,100	34,800	35,500	36,200	36,900	37,600
700000 - Equipment Rental/Lease	84,633	23,103	25,258	27,056	27,600	28,200	28,800	29,400	30,000	30,600
720400 - Debit & Credit Card Fees	1,315	1,341	1,368	1,395	1,400	1,400	1,400	1,400	1,400	1,400
720800 - Insurance Premium	219,043	223,424	227,892	232,450	237,100	241,800	246,600	251,500	256,500	261,600
721100 - Insurance Settlement	29,260	29,845	30,442	31,051	31,700	32,300	32,900	33,600	34,300	35,000
900500 - Interdepartmental - General	100,000	100,000	132,118	166,236	169,600	173,000	176,500	180,000	183,600	187,300
901000 - Interdepartmental - Fleet	298,690	304,664	310,757	316,972	323,300	329,800	336,400	343,100	350,000	357,000
901599 - Interdepartmental - Property (Automated)	946,770	961,145	976,297	991,654	1,011,500	1,031,700	1,052,300	1,073,300	1,094,800	1,116,700
902000 - Interdepartmental - Corporate Support	5,898,416	5,994,070	6,091,577	6,183,636	6,307,300	6,433,400	6,562,100	6,693,300	6,827,200	6,963,700
903000 - Interdepartmental - Water Rates (Manual)	694,973	697,178	738,592	741,881	756,700	771,800	787,200	802,900	819,000	835,400
903099 - Interdepartmental - Water Rates (Automated)	77,728	78,834	80,400	82,000	83,600	85,300	87,000	88,700	90,500	92,300
Low-Income Support Grant Program		300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500
Transfer to Fleet Management Reserve	345,000	345,000	345,000	345,000	345,000	345,000	345,000	345,000	345,000	345,000
Funding of DC Exemptions for Residential Intensification	152,439	141,653	195,881	581,505	593,120	605,430	618,400	630,835	643,484	656,323
Sub Total Operating	22,372,350	23,129,909	23,683,837	24,508,010	25,052,520	25,611,530	26,185,700	26,773,535	27,376,784	27,995,723
Capital-Related										
Existing Debt (Principal) - Growth Related - Facilities Related Debt	1,975,688	2,066,476	2,161,492	2,260,937	2,365,020	2,473,959	2,587,985	2,707,337	2,832,268	2,963,043
Existing Debt (Interest) - Growth Related - Facilities Related Debt	5,941,793	5,851,006	5,755,989	5,656,544	5,552,461	5,443,522	5,329,496	5,210,144	5,085,213	4,954,439
New Non-Growth Related Debt (Principal)	-	9,624	9,913	395,914	712,178	819,140	843,714	869,025	895,096	921,949
New Non-Growth Related Debt (Interest)	-	7,758	7,469	318,092	551,584	599,219	574,645	549,334	523,263	496,410
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Water Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-
Transfer to Water Capital Reserve Fund	7,068,478	7,083,882	7,333,536	6,942,925	7,200,546	7,880,349	8,742,358	9,625,869	10,546,845	11,498,457
Sub Total Capital Related	14,985,959	15,018,745	15,268,400	15,574,412	16,381,790	17,216,190	18,078,198	18,961,709	19,882,685	20,834,298
Total Expenditures	37,358,309	38,148,655	38,952,236	40,082,422	41,434,309	42,827,720	44,263,898	45,735,244	47,259,468	48,830,020
Revenues										
Fixed Charge	10,254,620	10,663,482	11,205,414	11,849,112	12,590,028	13,371,258	14,195,054	15,063,359	15,978,417	16,942,815
810260 - Engineering Fees	36,977	37,717	38,471	39,240	40,000	40,800	41,600	42,400	43,200	44,100
810340 - Hydrant Meter Gate Valves	182,491	186,141	189,864	193,661	197,500	201,500	205,500	209,600	213,800	218,100
810360 - Swimming Pool Fills	17,668	18,021	18,382	18,749	19,100	19,500	19,900	20,300	20,700	21,100
810370 - Water Service Calls	18,738	19,113	19,495	19,885	20,300	20,700	21,100	21,500	21,900	22,300
810380 - Stop & Drain Calls	52,270	53,315	54,382	55,469	56,600	57,700	58,900	60,100	61,300	62,500
810590 - Water Tapping Fees	44,843	45,740	46,655	47,588	48,500	49,500	50,500	51,500	52,500	53,600
810610 - Backflow Fees	219,000	221,000	222,000	223,000	227,500	232,100	236,700	241,400	246,200	251,100
810640 - Water ON/OFF Fees	61,323	62,549	63,800	65,076	66,400	67,700	69,100	70,500	71,900	73,300
810820 - Sundry Revenue	150,406	153,414	156,482	159,612	162,800	166,100	169,400	172,800	176,300	179,800
825000 - Interest and Penalties	80,000	80,000	-	-	-	-	-	-	-	-
Local Improvements Revenue	50,500	8,276	8,276	8,276	8,276	8,276	8,276	-	-	-
Contributions from Development Charges Reserve Fund - Facilities Related Debt	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481	7,917,481
Total Operating Revenue	19,086,317	19,466,249	19,940,702	20,597,150	21,354,485	22,152,615	22,993,511	23,870,941	24,803,698	25,786,196
Water Billing Recovery - Operating	18,271,992	18,682,405	19,011,534	19,485,272	20,079,824	20,675,105	21,270,387	21,864,304	22,455,770	23,043,824
Asset Replacement Needs - Lifecycle Contribution (\$)		293,087	900,031	1,562,279	2,301,297	3,112,770	4,001,400	4,972,050	6,029,879	7,180,408
Water Billing Recovery - Total	18,271,992	18,975,492	19,911,565	21,047,551	22,381,121	23,787,874	25,271,788	26,836,353	28,485,649	30,224,232



Table A-15
City of Barrie
Water Services
Water Rate Forecast (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Water Billing Recovery	18,271,992	18,975,492	19,911,565	21,047,551	22,381,121	23,787,874	25,271,788	26,836,353	28,485,649	30,224,232
Increasing Block Structure - Residential										
<i>Volume Forecast By Block (m3)</i>										
Block 1 Residential (0-15 cu.m./month)	6,123,590	6,259,927	6,409,343	6,684,850	7,068,470	7,452,220	7,836,280	8,220,340	8,604,400	8,988,640
Block 2 Residential (16-30 cu.m./month)	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380	1,498,380
Block 3 Residential (31-45 cu.m./month)	251,940	251,940	251,940	251,940	251,940	251,940	251,940	251,940	251,940	251,940
Block 4 Residential (45+ cu.m./month)	96,900	96,900	96,900	96,900	96,900	96,900	96,900	96,900	96,900	96,900
Increasing Block Structure - Non-Residential										
Block 1 Non-Residential (0-15 cu.m./month)	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000
Block 2 Non-Residential (>30 cu.m./month)	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000	3,935,000
Check Total Volume	12,256,810	12,393,147	12,542,563	12,818,070	13,201,690	13,585,440	13,969,500	14,353,560	14,737,620	15,121,860
Increasing Block Rates (\$/m³)										
Block 1 Residential (0-15 cu.m./month)	1.11	1.14	1.18	1.23	1.28	1.33	1.39	1.44	1.50	1.56
Block 2 Residential (16-30 cu.m./month)	2.21	2.28	2.37	2.46	2.56	2.67	2.77	2.88	3.00	3.12
Block 3 Residential (31-45 cu.m./month)	3.32	3.42	3.55	3.70	3.85	4.00	4.16	4.33	4.50	4.68
Block 4 Residential (45+ cu.m./month)	4.43	4.56	4.74	4.93	5.13	5.33	5.55	5.77	6.00	6.24
Block 1 Non-Residential (0-15 cu.m./month)	1.11	1.14	1.18	1.23	1.28	1.33	1.39	1.44	1.50	1.56
Block 2 Non-Residential (>30 cu.m./month)	1.66	1.71	1.78	1.85	1.92	2.00	2.08	2.16	2.25	2.34
Annual Percentage Change		3%	4%							



Appendix B

Detailed Wastewater Rate Calculations



Appendix B: Detailed Wastewater Rate Calculations

Table B-1
City of Barrie
Wastewater Service
Capital Budget Forecast (Uninflated \$)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Capital Expenditures												
000030 - Orchard Drive ROW Replacement - St. Vincent to End		274,000			49,000			202,500	22,500			
000061 - Johnson Street wastewater pump station valve chamber, back up pump and flow meter	225,000	-										
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction		765,300							105,600	105,600	211,300	342,800
000106 - Mary Street ROW Replacement - Ross to Dunlop		505,000		70,000							435,000	
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End		1,623,000		107,500	107,500			563,000	845,000			
000141 - Jean and Tyndale Sanitary Servicing Installation		955,000								125,000		830,000
000208 - Waste Water Maintenance Facility Renewal Assessment		64,000								32,000	32,000	
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction		379,200			124,600	83,100						171,500
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)		2,315,000	96,000	96,000				850,000	653,000	620,000		
000952 - Mobile Response Technology Replacement		40,000	20,000	20,000								
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	227,948	1,155,974	1,155,974									
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster		195,000	195,000									
EN1127 - WwTF Biosolids Storage Tank Mixers	(2,599,400)	9,329,600		1,582,400	2,582,400	2,582,400	2,582,400					
EN1167 - Dunlop Street East Corridor Improvements Toronto to Mulcaster	2,080	-										
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	218,540	1,966,860	983,430	983,430								
EN1184 - Sewer Rehabilitation Program	320,000	2,540,000	320,000	320,000	320,000	320,000	320,000	320,000	320,000	320,000	300,000	
EN1237 - WwTF Sludge Thickening System Process - Polymer System Replacement	91,000	2,982,000	100,000	593,800	2,288,200							



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	38,750	1,250,910	38,750	606,080	606,080						
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	37,603	1,413,600					706,800	706,800			
EN1243 - WwTF Cogeneration Building Ventilation Upgrades	300,000	-									
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement		1,900,900					46,600	74,300		712,000	1,068,000
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	35,000	1,075,000	800,000	275,000							
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction		1,940,000				640,000	650,000	650,000			
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	57,500	3,487,320	57,500	57,500	843,080	843,080	843,080	843,080			
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	54,731	1,645,000	505,000			570,000	570,000				
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	45,000	948,000		474,000	474,000						
EN1328 - WwTF Septage/Supernating Dosing Tank Pre-Treatment Upgrade		250,000	100,000	150,000							
EN1330 - WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition	100,000	2,300,000		1,380,000	920,000						
EN1335 - WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	100,000	-									
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	-	2,400,000						500,000	950,000	950,000	
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction		2,030,000		27,000	27,000					395,200	395,200
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	65,000	944,000		472,000	472,000						
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction		3,563,000			30,000	45,000	-	697,600	1,046,400	1,046,400	697,600
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	62,000	980,000	62,000		306,000	306,000	306,000				
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St		710,000			80,000				630,000		
Additional Asset Replacement Needs		15,750,000	250,000	500,000	750,000	1,000,000	1,500,000	2,000,000	2,500,000	3,250,000	4,000,000
Carryforwards:		-									
Automatic Transfer Switch	133,300	266,600	133,300	133,300							
BCSC Elec Surge Protect Upgrad	57,900	115,800	57,900	57,900							
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	43,700	87,400	43,700	43,700							
Biosolids Electrical Protect	16,400	32,800	16,400	16,400							



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Biosolids Facility Roof Coating Rehabilitation	8,300	16,600	8,300	8,300							
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	12,700	25,400	12,700	12,700							
Capital Purchase - New Vehicles from Intake Forms	45,000	90,000	45,000	45,000							
Citizen Relationship Management (CRM) Solution	17,000	34,000	17,000	17,000							
City Hall Customer Contact Centre Renovation	300	600	300	300							
CMMS Improvement Project - Cityworks	16,300	32,600	16,300	16,300							
Corporate Audio Visual Technology Infrastructure	100	200	100	100							
Corporate Communications Infrastructure Program	1,100	2,200	1,100	1,100							
Corporate PC Infrastructure Program	3,500	7,000	3,500	3,500							
Corporate Printing Infrastructure	500	1,000	500	500							
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	95,600	191,200	95,600	95,600							
Dunlop Street East Corridor Improvements - Toronto to Mulcaster	1,800	3,600	1,800	1,800							
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	68,400	136,800	68,400	68,400							
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	258,100	516,200	258,100	258,100							
ERP Sustainment Program	59,900	119,800	59,900	59,900							
eTendering Platform New System	4,000	8,000	4,000	4,000							
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	6,700	13,400	6,700	6,700							
Grove Street Pumping Station New Sewage Pump	14,900	29,800	14,900	14,900							
Gunn Street ROW Replacement - Peel to St. Vincent	9,300	18,600	9,300	9,300							
Harvie Road and Big Bay Point Road New Crossing - Highway 400	20,700	41,400	20,700	20,700							
Harvie Road ROW Expansion - Essa to Bryne	135,000	270,000	135,000	135,000							
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	206,200	412,400	206,200	206,200							
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	229,100	458,200	229,100	229,100							
Huron Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	15,000	30,000	15,000	15,000							



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Inlet Wks Screen Install	6,700	13,400	6,700	6,700							
Little Lk Sew Pump Station Upg	17,500	35,000	17,500	17,500							
Lockhart Rd Trunk San Sew/Pump (City)	7,100	14,200	7,100	7,100							
Mapleview Dr E Sewer Watermain	5,000	10,000	5,000	5,000							
Mapleview Drive East Improvements - Country Lane to Yonge (City)	181,400	362,800	181,400	181,400							
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	39,400	78,800	39,400	39,400							
Microsoft Office 365 and Windows Enterprise	700	1,400	700	700							
Mobility Technology Program	47	94	47	47							
Network Technology Infrastructure Program	10,400	20,800	10,400	10,400							
NRP- HNS Allandale A Neighbourhood Reconstruction	43,400	86,800	43,400	43,400							
NRP- HNS Allandale B Neighbourhood Reconstruction	14,400	28,800	14,400	14,400							
NRP- HNS Brock Park Neighbourhood Reconstruction	37,000	74,000	37,000	37,000							
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	4,900	9,800	4,900	4,900							
NRP- Wellington D1 Neighbourhood Reconstruction	11,600	23,200	11,600	11,600							
NRP- Wellington D2 Neighbourhood Reconstruction	32,000	64,000	32,000	32,000							
PC Replacements	100	200	100	100							
Process Instrumentation	8,300	16,600	8,300	8,300							
Public Safety Communication Program	600	1,200	600	600							
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	16,300	32,600	16,300	16,300							
Ross, Collier, Bayfield Intersection Realignment	2,800	5,600	2,800	2,800							
Server and Desktop Software Program	200	400	200	200							
Server and Storage Technology Infrastructure Program	900	1,800	900	900							
Sewer Rehabilitation Program	122,300	244,600	122,300	122,300							
Sophia Creek Culvert Expansion - Grove, 130m East of Davidson	300	600	300	300							



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
South L/fill Leachate Gal Repl	14,700	29,400	14,700	14,700							
Sunnidale Road Hwy 400 Crossing Reconstruction (within CAH limits)	218,700	437,400	218,700	218,700							
Utilization of Wastewater Collection System as Active Storage	23,200	46,400	23,200	23,200							
Waste Water Treatment Facility Administrative Office Fit-Up	11,200	22,400	11,200	11,200							
Wastewat- Auto ValvesFlowmeter	44,200	88,400	44,200	44,200							
Wastewater Asset Management Plan	31,900	63,800	31,900	31,900							
Wastewater Peak Flow Attenuation Facility	158,500	317,000	158,500	158,500							
Well Installations for Biosolids Storage Facility Groundwater Monitoring Program	18,900	37,800	18,900	18,900							
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	109,500	219,000	109,500	109,500							
WwTF Administration Building Retrofit of Laboratory Fume Hood Ventilation Unit - Laboratory Room	8,300	16,600	8,300	8,300							
WwTF Alum System Upgrade at Secondary Clarifiers	293,400	586,800	293,400	293,400							
WwTF Biosolids Storage Tank Mixers	1,135,800	2,271,600	1,135,800	1,135,800							
WwTF Chemical Building Upgrade	8,400	16,800	8,400	8,400							
WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition Assessment	100,000	200,000	100,000	100,000							
WwTF Cogenerat Engine #2 Rehab	37,500	75,000	37,500	37,500							
WwTF Cogeneration Building Ventilation Upgrades	29,300	58,600	29,300	29,300							
WwTF Electrical Substation and Transformer Upgrade	285,600	571,200	285,600	285,600							
WwTF Feasibility Study - Reuse of Final Effluent	(50,900)	-									
WwTF Filter Beds 1 and 2 Diffuser Upgrade	13,000	26,000	13,000	13,000							
WWTF Innovation Center	11,700	23,400	11,700	11,700							
WwTF New Advanced Nutrient Removal	723,100	1,446,200	723,100	723,100							
WwTF New Heat Exchanger - Primary Digester 3	17,400	34,800	17,400	17,400							
WwTF Redundant Power Feed to Secondary Effluent Pumps	50,000	100,000	50,000	50,000							
WwTF Sand Filter Controls & Instrumentation Replacement	55,000	110,000	55,000	55,000							



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
WWTF Secondary Digester Facade Replacement	33,900	67,800	33,900	33,900							
WwTF Selector Tank Mixer Upgrade	200	400	200	200							
WwTF Sludge Thickening System Process - Polymer System Replacement	73,200	146,400	73,200	73,200							
WwTF Splitter Gallery Concrete and Expansion Joint Repairs	116,700	233,400	116,700	116,700							
WwTF Travelling Bridge Frame Renewal - Filters 1 - 4	46,500	93,000	46,500	46,500							
WwTF Underground Sludge Transfer Pipe Replacement - Admin Building	339,000	678,000	339,000	339,000							
WwTF Unox Tank Isolation Gate Replacement	33,300	66,600	33,300	33,300							
WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	36,600	73,200	36,600	36,600							
WwTF Feasibility Study - Reuse of Final Effluent	18,400	36,800	18,400	18,400							
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	30,900	61,800	30,900	30,900							
WwTF Biosolids Storage Tank Mixers	800,000	1,600,000	800,000	800,000							
Sanitary Servicing - Royal Oak, Bay, Cottage	459,500	919,000	459,500	459,500							
Co-generation & Biogas Trmt	(2,500)	-									
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	(200,400)	-									
Sanitary Servicing - Royal Oak, Bay, Cottage	14,900	29,800	14,900	14,900							
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	5,000	10,000	5,000	5,000							
Growth Related:		-									
Salem & Hewitt's Secondary Plan Areas		-									
000332 - McKay Pump Station (City)		3,975,000						88,000	634,000	834,000	2,419,000
000458 - Hewitts Pump Station (City)		959,000								91,000	868,000
EN1137 - Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)		5,413,750			2,704,750			2,709,000			
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	830,800	-									
EN1255 - Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	(1,321,400)	13,178,100			2,635,620	3,953,430	3,953,430	2,635,620			
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	(8,000,000)	31,722,300		1,723,000	5,999,860	11,999,720	11,999,720				



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	1,398,200	5,794,336	4,029,136	1,765,200							
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	135,800	2,323,900			219,300	1,104,600	1,000,000				
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	16,600	436,500					20,700	166,320	249,480		
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	75,795	-									
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)		3,622,601	66,200	96,600		1,153,267	1,153,267	1,153,267			
EN1278 - Bryne Drive (North) New Road Construction - Harvie Rd to Essa Rd		311,800						62,360	124,720	124,720	
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)		116,000				12,000	52,000	52,000			
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)		1,450,200		27,800			93,300	531,640	797,460		
Carryforwards:		-									
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	84,800	169,600	84,800	84,800							
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	559,700	1,119,400	559,700	559,700							
County Rd 27 Sanitary Sewer - Holly SPS to Loughheed	116,700	233,400	116,700	116,700							
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits	16,000	32,000	16,000	16,000							
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	285,000	570,000	285,000	285,000							
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	1,083,400	2,166,800	1,083,400	1,083,400							
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	453,300	906,600	453,300	453,300							
Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary	1,271,700	2,543,400	1,271,700	1,271,700							
McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	2,853,600	5,707,200	2,853,600	2,853,600							
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	2,365,100	4,730,200	2,365,100	2,365,100							
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	154,300	308,600	154,300	154,300							
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	63,300	126,600	63,300	63,300							
Lockhart Rd Trunk San Sew/Pump (City)	64,600	129,200	64,600	64,600							
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	145,900	291,800	145,900	145,900							
Sanitary Pump Station 3 Decommissioning (City)	31,200	62,400	31,200	31,200							
Sanitary Servicing - Royal Oak, Bay, Cottage	26,200	52,400	26,200	26,200							



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Former Municipal Boundary Areas		-										
000931 - Wastewater Inflow/Infiltration Reduction Action Plan	200,000	4,500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
001018 - Dunlop Street Bridge Sanitary - Sarjeant Drive to Anne Street	1,208,069	31,900,694	1,000,000	1,000,000		2,846,316	9,018,126	9,018,126	9,018,126			
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	448,000	-										
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	56,250	31,305	31,305									
EN1122 - Little Lk Sew Pump Station Upg		5,502,000	502,000	2,000,000	3,000,000							
EN1132 - Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	167,500	3,130,500	676,500	1,227,000	1,227,000							
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent		1,750,000		875,000	875,000							
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview	35,700	564,700						564,700				
EN1183 - Ross, Collier, Bayfield Intersection Realignment		25,000										25,000
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore		366,180		146,472	109,854	109,854						
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	48,100	316,200	63,240	126,480	126,480							
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	125,800	-										
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	107,400	1,443,500	28,800	68,800	658,597	549,842	137,461					
EN1353 - Essa Road and Anne Street Intersection Reconstruction		985,000			21,000	482,000	482,000					
Carryforwards:		-										
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	32,500	65,000	32,500	32,500								
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	1,400	2,800	1,400	1,400								
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	51,600	103,200	51,600	51,600								
Wastewater Asset Management Plan	60,100	120,200	60,100	60,100								
Facilities		-										
EN1091 - WwTF New Advanced Nutrient Removal	2,500,000	146,444,150	7,024,200	4,682,800	10,730,650	13,778,500	13,778,500	13,778,500	27,557,000	27,557,000	27,557,000	
EN1245 - WwTF Chemical Building Upgrade	364,000	876,000	876,000									
EN1297 - WwTF Electrical Substation and Transformer Upgrade	570,000	15,074,000	600,000	2,966,800	3,708,500	4,450,200	3,348,500					
EN1390 - Wastewater Peak Flow Attenuation Facility	473,200	24,709,800	1,346,400	1,009,400	200,000		2,215,400	8,861,600	8,861,600	2,215,400		
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	600,000	657,400	657,400									



Table B-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR		12,988,600		3,001,400	3,745,200	3,745,200	2,496,800					
EN1438 - WwTF Digester Capacity Expansion	500,000	30,225,000	1,110,000	732,500	632,500	2,775,000	8,325,000	8,325,000	5,550,000	2,775,000		
FC1215 - WWTF Innovation Center	1,000,000	14,000,000	6,000,000	6,000,000	2,000,000							
Z162 - WwTF New Cogeneration and Biogas Treatment System	80,000	420,000	220,000	200,000								
Carryforwards:		-										
Wastewater Peak Flow Attenuation Facility	62,000	124,000	62,000	62,000								
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	194,600	389,200	194,600	194,600								
WwTF Alum System Upgrade at Secondary Clarifiers	158,000	316,000	158,000	158,000								
WwTF Digester Capacity Expansion	259,200	518,400	259,200	259,200								
WwTF Electrical Substation and Transformer Upgrade	225,000	450,000	225,000	225,000								
WWTF Innovation Center	11,700	23,400	11,700	11,700								
WwTF New Heat Exchanger - Primary Digester 3	156,600	313,200	156,600	156,600								
WwTF Selector Tank Mixer Upgrade	1,700	3,400	1,700	1,700								
WwTF Biosolids Storage Tank Mixers	116,000	232,000	116,000	116,000								
WwTF New Advanced Nutrient Removal	216,700	433,400	216,700	216,700								
Total Capital Expenditures	19,320,213	470,038,074	47,988,282	54,437,409	49,074,171	53,849,509	70,423,584	53,155,013	60,016,586	41,429,020	39,664,500	



Table B-2
City of Barrie
Wastewater Service
Capital Budget Forecast (Inflated \$)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Capital Expenditures												
000030 - Orchard Drive ROW Replacement - St. Vincent to End	-	345,000	-	-	57,000	-	258,000	30,000	-	-	-	-
000061 - Johnson Street wastewater pump station valve chamber, back up pump and flow meter	225,000	-	-	-	-	-	-	-	-	-	-	-
000088 - NRP- HNS The Grove A2 Neighbourhood Reconstruction	-	1,135,000	-	-	-	-	-	142,000	149,000	312,000	532,000	-
000106 - Mary Street ROW Replacement - Ross to Dunlop	-	720,000	-	77,000	-	-	-	-	-	643,000	-	-
000111 - Puget Street ROW Replacement and Drainage Upgrades - Steel to End	-	2,094,000	-	119,000	124,000	-	719,000	1,132,000	-	-	-	-
000141 - Jean and Tyndale Sanitary Servicing Installation	-	1,464,000	-	-	-	-	-	-	176,000	-	1,288,000	-
000208 - Waste Water Maintenance Facility Renewal Assessment	-	92,000	-	-	-	-	-	-	45,000	47,000	-	-
000724 - NRP- HNS Grove B1 Neighbourhood Reconstruction	-	511,000	-	-	144,000	101,000	-	-	-	-	266,000	-
000798 - Sophia Trunk Storm Sewers - Clapperton, Owen & Sophia (Dunlop to Peel)	-	3,039,000	101,000	106,000	-	-	1,085,000	875,000	872,000	-	-	-
000952 - Mobile Response Technology Replacement	-	43,000	21,000	22,000	-	-	-	-	-	-	-	-
EN1071 - Dunlop Street West ROW Replacement - Eccles to Toronto	227,948	1,214,000	1,214,000	-	-	-	-	-	-	-	-	-
EN1101 - Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	-	205,000	205,000	-	-	-	-	-	-	-	-	-
EN1127 - WwTF Biosolids Storage Tank Mixers	(2,599,400)	11,169,000	-	1,745,000	2,989,000	3,139,000	3,296,000	-	-	-	-	-
EN1167 - Dunlop Street East Corridor Improvements - Toronto to Mulcaster	2,080	-	-	-	-	-	-	-	-	-	-	-
EN1172 - Gunn Street ROW Replacement - Peel to St. Vincent	218,540	2,117,000	1,033,000	1,084,000	-	-	-	-	-	-	-	-
EN1184 - Sewer Rehabilitation Program	320,000	3,178,000	336,000	353,000	370,000	389,000	408,000	429,000	450,000	443,000	-	-
EN1237 - WwTF Sludge Thickening System Process - Polymer System Replacement	91,000	3,409,000	105,000	655,000	2,649,000	-	-	-	-	-	-	-
EN1238 - NRP- Wellington D1 Neighbourhood Reconstruction	38,750	1,411,000	41,000	668,000	702,000	-	-	-	-	-	-	-
EN1240 - NRP- Wellington D2 Neighbourhood Reconstruction	37,603	1,849,000	-	-	-	-	902,000	947,000	-	-	-	-
EN1243 - WwTF Cogeneration Building Ventilation Upgrades	300,000	-	-	-	-	-	-	-	-	-	-	-
EN1254 - Foster, Merrett, Garson, MacLaren and Yeates New Sanitary and Watermain and ROW Replacement	-	2,868,000	-	-	-	-	59,000	100,000	-	1,052,000	1,657,000	-
EN1280 - NRP- HNS Queens Park A1 Neighbourhood Reconstruction	35,000	1,143,000	840,000	303,000	-	-	-	-	-	-	-	-
EN1281 - NRP- HNS Allandale B Neighbourhood Reconstruction	-	2,479,000	-	-	-	778,000	830,000	871,000	-	-	-	-
EN1282 - NRP- HNS Allandale A Neighbourhood Reconstruction	57,500	4,330,000	60,000	63,000	976,000	1,025,000	1,076,000	1,130,000	-	-	-	-
EN1318 - NRP- HNS Brock Park Neighbourhood Reconstruction	54,731	1,950,000	530,000	-	-	693,000	727,000	-	-	-	-	-
EN1319 - Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	45,000	1,072,000	-	523,000	549,000	-	-	-	-	-	-	-
EN1328 - WwTF Septage/Supernating Dosing Tank Pre-Treatment Upgrade	-	270,000	105,000	165,000	-	-	-	-	-	-	-	-
EN1330 - WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition Assessment	100,000	2,586,000	-	1,521,000	1,065,000	-	-	-	-	-	-	-



Table B-2 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
EN1335 - WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	100,000	-	-	-	-	-	-	-	-	-	-	-
EN1336 - NRP- HNS Queens Park B Neighbourhood Reconstruction	-	3,411,000	-	-	-	-	-	670,000	1,337,000	1,404,000	-	-
EN1357 - NRP- HNS The Grove A1 Neighbourhood Reconstruction	-	3,040,000	-	30,000	31,000	-	-	-	556,000	584,000	1,839,000	-
EN1398 - Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	65,000	1,066,000	-	520,000	546,000	-	-	-	-	-	-	-
EN1437 - NRP- HNS Brock Park B Neighbourhood Reconstruction	-	5,125,000	-	-	35,000	55,000	-	935,000	1,472,000	1,546,000	1,082,000	-
EN1453 - Codrington Street and Lakeview Crescent ROW Replacement - Duckworth to Weldon	62,000	1,182,000	65,000	-	354,000	372,000	391,000	-	-	-	-	-
Z301 - Sanford Street & Short Street Reconstruction - Brock St to Tiffin St	-	979,000	-	-	93,000	-	-	-	886,000	-	-	-
Additional Asset Replacement Needs	-	22,017,000	263,000	551,000	868,000	1,216,000	1,914,000	2,680,000	3,518,000	4,802,000	6,205,000	-
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-	-
Automatic Transfer Switch	133,300	287,000	140,000	147,000	-	-	-	-	-	-	-	-
BCSC Elec Surge Protect Upgrad	57,900	125,000	61,000	64,000	-	-	-	-	-	-	-	-
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	43,700	94,000	46,000	48,000	-	-	-	-	-	-	-	-
Biosolids Electrical Protect	16,400	35,000	17,000	18,000	-	-	-	-	-	-	-	-
Biosolids Facility Roof Coating Rehabilitation	8,300	18,000	9,000	9,000	-	-	-	-	-	-	-	-
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	12,700	27,000	13,000	14,000	-	-	-	-	-	-	-	-
Capital Purchase - New Vehicles from Intake Forms	45,000	97,000	47,000	50,000	-	-	-	-	-	-	-	-
Citizen Relationship Management (CRM) Solution	17,000	37,000	18,000	19,000	-	-	-	-	-	-	-	-
City Hall Customer Contact Centre Renovation	300	-	-	-	-	-	-	-	-	-	-	-
CMMS Improvement Project - Cityworks	16,300	35,000	17,000	18,000	-	-	-	-	-	-	-	-
Corporate Audio Visual Technology Infrastructure	100	-	-	-	-	-	-	-	-	-	-	-
Corporate Communications Infrastructure Program	1,100	2,000	1,000	1,000	-	-	-	-	-	-	-	-
Corporate PC Infrastructure Program	3,500	8,000	4,000	4,000	-	-	-	-	-	-	-	-
Corporate Printing Infrastructure	500	2,000	1,000	1,000	-	-	-	-	-	-	-	-
Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	95,600	205,000	100,000	105,000	-	-	-	-	-	-	-	-
Dunlop Street East Corridor Improvements - Toronto to Mulcaster	1,800	4,000	2,000	2,000	-	-	-	-	-	-	-	-
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	68,400	147,000	72,000	75,000	-	-	-	-	-	-	-	-
Dunlop, Poyntz and Berczy New Watermain and ROW Replacement - Codrington to Mulcaster	258,100	556,000	271,000	285,000	-	-	-	-	-	-	-	-
ERP Sustainment Program	59,900	129,000	63,000	66,000	-	-	-	-	-	-	-	-
eTendering Platform New System	4,000	8,000	4,000	4,000	-	-	-	-	-	-	-	-
Eugenia Street ROW Reconstruction and New Transmission Watermain - Berczy to Duckworth	6,700	14,000	7,000	7,000	-	-	-	-	-	-	-	-
Grove Street Pumping Station New Sewage Pump	14,900	32,000	16,000	16,000	-	-	-	-	-	-	-	-
Gunn Street ROW Replacement - Peel to St. Vincent	9,300	20,000	10,000	10,000	-	-	-	-	-	-	-	-
Harvie Road and Big Bay Point Road New Crossing - Highway 400	20,700	45,000	22,000	23,000	-	-	-	-	-	-	-	-
Harvie Road ROW Expansion - Essa to Bryne	135,000	291,000	142,000	149,000	-	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	206,200	444,000	217,000	227,000	-	-	-	-	-	-	-	-
Hotchkiss Creek Culvert Expansion - Innisfil, 125m North of Tiffin	229,100	494,000	241,000	253,000	-	-	-	-	-	-	-	-
Huron Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	15,000	33,000	16,000	17,000	-	-	-	-	-	-	-	-



Table B-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Inlet Wks Screen Install	6,700	14,000	7,000	7,000	-	-	-	-	-	-	-
Little Lk Sew Pump Station Upg	17,500	37,000	18,000	19,000	-	-	-	-	-	-	-
Lockhart Rd Trunk San Sew/Pump (City)	7,100	15,000	7,000	8,000	-	-	-	-	-	-	-
Mapleview Dr E Sewer Watermain	5,000	11,000	5,000	6,000	-	-	-	-	-	-	-
Mapleview Drive East Improvements - Country Lane to Yonge (City)	181,400	390,000	190,000	200,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	39,400	84,000	41,000	43,000	-	-	-	-	-	-	-
Microsoft Office 365 and Windows Enterprise	700	2,000	1,000	1,000	-	-	-	-	-	-	-
Mobility Technology Program	47	-	-	-	-	-	-	-	-	-	-
Network Technology Infrastructure Program	10,400	22,000	11,000	11,000	-	-	-	-	-	-	-
NRP- HNS Allandale A Neighbourhood Reconstruction	43,400	94,000	46,000	48,000	-	-	-	-	-	-	-
NRP- HNS Allandale B Neighbourhood Reconstruction	14,400	31,000	15,000	16,000	-	-	-	-	-	-	-
NRP- HNS Brock Park Neighbourhood Reconstruction	37,000	80,000	39,000	41,000	-	-	-	-	-	-	-
NRP- HNS Queens Park A1 Neighbourhood Reconstruction	4,900	10,000	5,000	5,000	-	-	-	-	-	-	-
NRP- Wellington D1 Neighbourhood Reconstruction	11,600	25,000	12,000	13,000	-	-	-	-	-	-	-
NRP- Wellington D2 Neighbourhood Reconstruction	32,000	69,000	34,000	35,000	-	-	-	-	-	-	-
PC Replacements	100	-	-	-	-	-	-	-	-	-	-
Process Instrumentation	8,300	18,000	9,000	9,000	-	-	-	-	-	-	-
Public Safety Communication Program	600	2,000	1,000	1,000	-	-	-	-	-	-	-
Queen St. ROW Reconstruction- St. Vincent Street to Berczy Street	16,300	35,000	17,000	18,000	-	-	-	-	-	-	-
Ross, Collier, Bayfield Intersection Realignment	2,800	6,000	3,000	3,000	-	-	-	-	-	-	-
Server and Desktop Software Program	200	-	-	-	-	-	-	-	-	-	-
Server and Storage Technology Infrastructure Program	900	2,000	1,000	1,000	-	-	-	-	-	-	-
Sewer Rehabilitation Program	122,300	263,000	128,000	135,000	-	-	-	-	-	-	-
Sophia Creek Culvert Expansion - Grove, 130m East of Davidson	300	-	-	-	-	-	-	-	-	-	-
South L/ill Leachate Gal Repl	14,700	31,000	15,000	16,000	-	-	-	-	-	-	-
Sunnidale Road Hwy 400 Crossing Reconstruction (within CAH limits)	218,700	471,000	230,000	241,000	-	-	-	-	-	-	-
Utilization of Wastewater Collection System as Active Storage	23,200	50,000	24,000	26,000	-	-	-	-	-	-	-
Waste Water Treatment Facility Administrative Office Fit-Up	11,200	24,000	12,000	12,000	-	-	-	-	-	-	-
Wastewater- Auto Valves/Flowmeter	44,200	95,000	46,000	49,000	-	-	-	-	-	-	-
Wastewater Asset Management Plan	31,900	68,000	33,000	35,000	-	-	-	-	-	-	-
Wastewater Peak Flow Attenuation Facility	158,500	341,000	166,000	175,000	-	-	-	-	-	-	-
Well Installations for Biosolids Storage Facility Groundwater Monitoring Program	18,900	41,000	20,000	21,000	-	-	-	-	-	-	-
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	109,500	236,000	115,000	121,000	-	-	-	-	-	-	-
WwTF Administration Building Retrofit of Laboratory Fume Hood Ventilation Unit - Laboratory Room	8,300	18,000	9,000	9,000	-	-	-	-	-	-	-
WwTF Alum System Upgrade at Secondary Clarifiers	293,400	631,000	308,000	323,000	-	-	-	-	-	-	-
WwTF Biosolids Storage Tank Mixers	1,135,800	2,445,000	1,193,000	1,252,000	-	-	-	-	-	-	-
WwTF Chemical Building Upgrade	8,400	18,000	9,000	9,000	-	-	-	-	-	-	-
WwTF Cleaning and Rehab of Primary Digester 3 Overflow Box and Interior Condition Assessment	100,000	215,000	105,000	110,000	-	-	-	-	-	-	-
WwTF Cogeneration Engine #2 Rehab	37,500	80,000	39,000	41,000	-	-	-	-	-	-	-
WwTF Cogeneration Building Ventilation Upgrades	29,300	63,000	31,000	32,000	-	-	-	-	-	-	-
WwTF Electrical Substation and Transformer Upgrade	285,600	615,000	300,000	315,000	-	-	-	-	-	-	-
WwTF Feasibility Study - Reuse of Final Effluent (50,900)	(50,900)	-	-	-	-	-	-	-	-	-	-
WwTF Filter Beds 1 and 2 Diffuser Upgrade	13,000	28,000	14,000	14,000	-	-	-	-	-	-	-
WwTF Innovation Center	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-
WwTF New Advanced Nutrient Removal	723,100	1,556,000	759,000	797,000	-	-	-	-	-	-	-



Table B-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
WwTF New Heat Exchanger - Primary Digester 3	17,400	37,000	18,000	19,000	-	-	-	-	-	-	-
WwTF Redundant Power Feed to Secondary Effluent Pumps	50,000	108,000	53,000	55,000	-	-	-	-	-	-	-
WwTF Sand Filter Controls & Instrumentation Replacement	55,000	119,000	58,000	61,000	-	-	-	-	-	-	-
WwTF Secondary Digester Facade Replacement	33,900	73,000	36,000	37,000	-	-	-	-	-	-	-
WwTF Selector Tank Mixer Upgrade	200	-	-	-	-	-	-	-	-	-	-
WwTF Sludge Thickening System Process - Polymer System Replacement	73,200	158,000	77,000	81,000	-	-	-	-	-	-	-
WwTF Splitter Gallery Concrete and Expansion Joint Repairs	116,700	252,000	123,000	129,000	-	-	-	-	-	-	-
WwTF Travelling Bridge Frame Renewal - Filters 1 - 4	46,500	100,000	49,000	51,000	-	-	-	-	-	-	-
WwTF Underground Sludge Transfer Pipe Replacement - Admin Building	339,000	730,000	356,000	374,000	-	-	-	-	-	-	-
WwTF Unox Tank Isolation Gate Replacement	33,300	72,000	35,000	37,000	-	-	-	-	-	-	-
WwTF Ventilation Upgrades at Ultraviolet Disinfection Building	36,600	78,000	38,000	40,000	-	-	-	-	-	-	-
WwTF Feasibility Study - Reuse of Final Effluent	18,400	39,000	19,000	20,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	30,900	66,000	32,000	34,000	-	-	-	-	-	-	-
WwTF Biosolids Storage Tank Mixers	800,000	1,722,000	840,000	882,000	-	-	-	-	-	-	-
Sanitary Servicing - Royal Oak, Bay, Cottage	459,500	989,000	482,000	507,000	-	-	-	-	-	-	-
Co-generation & Biogas Trmt	(2,500)	-	-	-	-	-	-	-	-	-	-
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	(200,400)	-	-	-	-	-	-	-	-	-	-
Sanitary Servicing - Royal Oak, Bay, Cottage	14,900	32,000	16,000	16,000	-	-	-	-	-	-	-
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	5,000	11,000	5,000	6,000	-	-	-	-	-	-	-
Growth Related:	-	-	-	-	-	-	-	-	-	-	-
Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-	-
000332 - McKay Pump Station (City)	-	5,995,000	-	-	-	-	-	118,000	892,000	1,232,000	3,753,000
000458 - Hewitts Pump Station (City)	-	1,481,000	-	-	-	-	-	-	-	134,000	1,347,000
EN1137 - Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	-	6,588,000	-	-	3,131,000	-	3,457,000	-	-	-	-
EN1144 - County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	830,800	-	-	-	-	-	-	-	-	-	-
EN1255 - Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	(1,321,400)	16,434,000	-	-	3,051,000	4,805,000	5,046,000	3,532,000	-	-	-
EN1256 - McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	(8,000,000)	38,747,000	-	1,900,000	6,946,000	14,586,000	15,315,000	-	-	-	-
EN1257 - McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	1,398,200	6,177,000	4,231,000	1,946,000	-	-	-	-	-	-	-
EN1258 - Veterans Drive New Trunk Watermain - Salem to McKay (Developer)	135,800	2,873,000	-	-	254,000	1,343,000	1,276,000	-	-	-	-
EN1261 - Yonge Street ROW Expansion - Mapleview to Madelaine (City)	16,600	600,000	-	-	-	-	26,000	223,000	351,000	-	-
EN1270 - Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	75,795	-	-	-	-	-	-	-	-	-	-
EN1271 - Mapleview Dr E Road Expansion - East of Yonge to Prince William (City)	-	4,596,000	70,000	107,000	-	1,402,000	1,472,000	1,545,000	-	-	-
EN1278 - Bryne Drive (North) New Road Construction - Harvie Rd to Essa Rd	-	443,000	-	-	-	-	-	84,000	175,000	184,000	-
EN1334 - Lockhart Road ROW Expansion and Trunk Watermain - Saunders to Huronia (City)	-	151,000	-	-	-	15,000	66,000	70,000	-	-	-
EN1339 - Yonge Street ROW Expansion - Madelaine Drive (South) extension to Lockhart (City)	-	1,984,000	-	31,000	-	-	119,000	712,000	1,122,000	-	-



Table B-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	84,800	182,000	89,000	93,000	-	-	-	-	-	-	-
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	559,700	1,205,000	588,000	617,000	-	-	-	-	-	-	-
County Rd 27 Sanitary Sewer - Holly SPS to Loughheed	116,700	252,000	123,000	129,000	-	-	-	-	-	-	-
County Road 27 New Transmission Watermain - Holly PS to Former Barrie South City Limits (Developer)	16,000	35,000	17,000	18,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	285,000	613,000	299,000	314,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	1,083,400	2,332,000	1,138,000	1,194,000	-	-	-	-	-	-	-
Huronia Road New Trunk Sanitary Sewer and Road Replacement - Lockhart to McKay (City)	453,300	976,000	476,000	500,000	-	-	-	-	-	-	-
Mapleview Dr E New Sanitary Sewer & Road Expansion - Prince William to Phase 1 Boundary (Developer)	1,271,700	2,737,000	1,335,000	1,402,000	-	-	-	-	-	-	-
McKay Road New Trunk Sanitary Sewer - Hwy 400 to Huronia (City)	2,853,600	6,142,000	2,996,000	3,146,000	-	-	-	-	-	-	-
McKay Road ROW Expansion - Reid Drive to West of Highway 400 (Developer)	2,365,100	5,091,000	2,483,000	2,608,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Mapleview to Lockhart (Developer)	154,300	332,000	162,000	170,000	-	-	-	-	-	-	-
Hewitt's Creek New Trunk Sanitary Sewer - Sun King to Mapleview (Developer)	63,300	136,000	66,000	70,000	-	-	-	-	-	-	-
Lockhart Rd Trunk San Sew/Pump (City)	64,600	139,000	68,000	71,000	-	-	-	-	-	-	-
Mapleview Drive West Sanitary Forcemain Twinning and Pumping Station 5 Upgrades & Expansion (City)	145,900	314,000	153,000	161,000	-	-	-	-	-	-	-
Sanitary Pump Station 3 Decommissioning (City)	31,200	67,000	33,000	34,000	-	-	-	-	-	-	-
Sanitary Servicing - Royal Oak, Bay, Cottage	26,200	57,000	28,000	29,000	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-
Former Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-	-
000931 - Wastewater Inflow/Infiltration Reduction Action Plan	200,000	5,790,000	525,000	551,000	579,000	608,000	638,000	670,000	704,000	739,000	776,000
001018 - Dunlop Street Bridge Sanitary - Sarjeant Drive to Anne Street	1,208,069	41,897,000	1,050,000	1,103,000	-	3,460,000	11,510,000	12,085,000	12,689,000	-	-
EN1013 - Sunnidale: Letitia-Wellington Transmission Watermain	448,000	-	-	-	-	-	-	-	-	-	-
EN1097 - Mapleview Drive East Improvements - Country Lane to Yonge (City)	56,250	33,000	33,000	-	-	-	-	-	-	-	-
EN1122 - Little Lk Sew Pump Station Upg	-	6,205,000	527,000	2,205,000	3,473,000	-	-	-	-	-	-
EN1132 - Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	167,500	3,483,000	710,000	1,353,000	1,420,000	-	-	-	-	-	-
EN1166 - Duckworth Street New Transmission Watermain and ROW Expansion - Bell Farm to St. Vincent	-	1,978,000	-	965,000	1,013,000	-	-	-	-	-	-
EN1170 - Essa Road ROW Expansion - Coughlin to Mapleview	35,700	757,000	-	-	-	-	757,000	-	-	-	-
EN1183 - Ross, Collier, Bayfield Intersection Realignment	-	39,000	-	-	-	-	-	-	-	-	39,000
EN1274 - Bunkers Creek Culverts and Watercourse Improvements - Innisfil to Lakeshore	-	422,000	-	161,000	127,000	134,000	-	-	-	-	-
EN1277 - Bryne Drive New Road Construction - Harvie to North of Caplan	48,100	351,000	66,000	139,000	146,000	-	-	-	-	-	-
EN1286 - Big Bay Point Road ROW Expansion - Bayview to Huronia	125,800	-	-	-	-	-	-	-	-	-	-
EN1288 - Bayview Drive New Transmission Watermain & Road Expansion - Little Avenue to Big Bay Point Road	107,400	1,711,000	30,000	76,000	762,000	668,000	175,000	-	-	-	-
EN1353 - Essa Road and Anne Street Intersection Reconstruction	-	1,225,000	-	-	24,000	586,000	615,000	-	-	-	-
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-
Bell Farm Road ROW Expansion - St. Vincent to Duckworth	32,500	70,000	34,000	36,000	-	-	-	-	-	-	-



Table B-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Bishop Drive Trunk Sanitary Sewer Expansion - Ferndale to Patterson	1,400	3,000	1,000	2,000	-	-	-	-	-	-	-
Dunlop Street Interchange Replacement - Sarjeant Drive to Anne Street	51,600	111,000	54,000	57,000	-	-	-	-	-	-	-
Wastewater Asset Management Plan	60,100	129,000	63,000	66,000	-	-	-	-	-	-	-
Facilities	-	-	-	-	-	-	-	-	-	-	-
EN1091 - WwTF New Advanced Nutrient Removal	2,500,000	199,997,000	7,375,000	5,163,000	12,422,000	16,748,000	17,585,000	18,465,000	38,775,000	40,714,000	42,750,000
EN1245 - WwTF Chemical Building Upgrade	364,000	920,000	920,000	-	-	-	-	-	-	-	-
EN1297 - WwTF Electrical Substation and Transformer Upgrade	570,000	17,877,000	630,000	3,271,000	4,293,000	5,409,000	4,274,000	-	-	-	-
EN1390 - Wastewater Peak Flow Attenuation Facility	473,200	33,203,000	1,414,000	1,113,000	232,000	-	2,827,000	11,875,000	12,469,000	3,273,000	-
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	600,000	690,000	690,000	-	-	-	-	-	-	-	-
EN1431 - WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	-	15,384,000	-	3,309,000	4,336,000	4,552,000	3,187,000	-	-	-	-
EN1438 - WwTF Digester Capacity Expansion	500,000	39,769,000	1,166,000	808,000	732,000	3,373,000	10,625,000	11,156,000	7,809,000	4,100,000	-
FC1215 - WWTF Innovation Center	1,000,000	15,230,000	6,300,000	6,615,000	2,315,000	-	-	-	-	-	-
Z162 - WwTF New Cogeneration and Biogas Treatment System	80,000	452,000	231,000	221,000	-	-	-	-	-	-	-
Carryforwards:	-	-	-	-	-	-	-	-	-	-	-
Wastewater Peak Flow Attenuation Facility	62,000	133,000	65,000	68,000	-	-	-	-	-	-	-
WwTF 96 MLD Expansion Program, Comprehensive Site Strategy Plan & ESR	194,600	419,000	204,000	215,000	-	-	-	-	-	-	-
WwTF Alum System Upgrade at Secondary Clarifiers	158,000	340,000	166,000	174,000	-	-	-	-	-	-	-
WwTF Digester Capacity Expansion	259,200	558,000	272,000	286,000	-	-	-	-	-	-	-
WwTF Electrical Substation and Transformer Upgrade	225,000	484,000	236,000	248,000	-	-	-	-	-	-	-
WWTF Innovation Center	11,700	25,000	12,000	13,000	-	-	-	-	-	-	-
WwTF New Heat Exchanger - Primary Digester 3	156,600	337,000	164,000	173,000	-	-	-	-	-	-	-
WwTF Selector Tank Mixer Upgrade	1,700	4,000	2,000	2,000	-	-	-	-	-	-	-
WwTF Biosolids Storage Tank Mixers	116,000	250,000	122,000	128,000	-	-	-	-	-	-	-
WwTF New Advanced Nutrient Removal	216,700	467,000	228,000	239,000	-	-	-	-	-	-	-
Total Capital Expenditures	19,320,213	600,971,000	50,388,000	60,017,000	56,808,000	65,457,000	89,878,000	71,233,000	84,447,000	61,209,000	61,534,000
Capital Financing											
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Facilities	3,549,167	98,716,646	7,940,897	11,559,077	9,812,578	11,953,482	18,301,475	16,649,572	14,233,366	6,819,618	1,446,582
Development Charges Reserve Fund - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Wastewater Collection - Former Municipal Boundary Areas	1,529,163	37,500,290	1,704,060	3,303,900	3,334,960	3,238,880	8,230,840	8,468,860	8,550,570	317,770	350,450
Development Charges Reserve Fund - Wastewater Collection - Salem & Hewitt's Secondary Plan Areas	2,696,485	106,169,000	14,355,000	14,540,000	13,382,000	22,151,000	26,754,900	6,094,450	2,241,650	1,550,000	5,100,000
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Facilities	1,848,105	123,735,544	5,692,443	4,412,613	7,529,742	10,151,998	10,659,355	11,192,778	23,503,924	24,679,272	25,913,418
Growth Related Debenture Requirements - Facilities Related Debt	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Wastewater Collection - Former Municipal Boundary Areas	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Wastewater Collection - Salem & Hewitt's Secondary Plan Areas	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-
Wastewater Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-	-
Wastewater Rate Capital Reserve Fund	9,697,293	234,849,520	20,695,600	26,201,410	22,748,720	17,961,640	25,931,430	28,827,340	35,917,490	27,842,340	28,723,550
Total Capital Financing	19,320,213	600,971,000	50,388,000	60,017,000	56,808,000	65,457,000	89,878,000	71,233,000	84,447,000	61,209,000	61,534,000



Table B-3
City of Barrie
Wastewater Services
Schedule of Non-Growth-Related Debenture Repayments (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-	-	-	-	-	-	-	-	-
2023		-			-	-	-	-	-	-	-	-
2024		-				-	-	-	-	-	-	-
2025		-					-	-	-	-	-	-
2026		-						-	-	-	-	-
2027		-							-	-	-	-
2028		-								-	-	-
2029		-									-	-
2030		-										-
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-

Table B-4
City of Barrie
Wastewater Services
Schedule of Growth-Related Debenture Repayments – Facilities (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2021		1,848,105	124,222	124,222	124,222	124,222	124,222	124,222	124,222	124,222	124,222	124,222
2022		5,692,443		382,622	382,622	382,622	382,622	382,622	382,622	382,622	382,622	382,622
2023		4,412,613			296,597	296,597	296,597	296,597	296,597	296,597	296,597	296,597
2024		7,529,742				506,117	506,117	506,117	506,117	506,117	506,117	506,117
2025		10,151,998					682,374	682,374	682,374	682,374	682,374	682,374
2026		10,659,355							716,476	716,476	716,476	716,476
2027		11,192,778								752,330	752,330	752,330
2028		23,503,924									1,579,833	1,579,833
2029		24,679,272										1,658,835
2030		25,913,418										
Total Annual Debt Charges	-	125,583,649	124,222	506,843	803,440	1,309,557	1,991,931	2,708,407	3,460,737	5,040,570	6,699,405	



Table B-5
City of Barrie
Wastewater Services
Schedule of Growth-Related Debenture Repayments – Facilities Related Debt (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
2022		-		-	-	-	-	-	-	-	-
2023		-			-	-	-	-	-	-	-
2024		-				-	-	-	-	-	-
2025		-					-	-	-	-	-
2026		-						-	-	-	-
2027		-							-	-	-
2028		-								-	-
2029		-									-
2030		-									-
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-

Table B-6
City of Barrie
Wastewater Services
Schedule of Growth-Related Debenture Repayments – Wastewater Collection – Former Municipal Boundary Areas (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
2022		-		-	-	-	-	-	-	-	-
2023		-			-	-	-	-	-	-	-
2024		-				-	-	-	-	-	-
2025		-					-	-	-	-	-
2026		-						-	-	-	-
2027		-							-	-	-
2028		-								-	-
2029		-									-
2030		-									-
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-



Table B-7
City of Barrie
Wastewater Services
Schedule of Growth-Related Debenture Repayments – Wastewater Collection – Salem & Hewitt’s Secondary Plan Areas
(Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-		-		-		-		-
2023		-										
2024		-										
2025		-										
2026		-										
2027		-										
2028		-										
2029		-										
2030		-										
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-

Table B-8
City of Barrie
Wastewater Services
Wastewater Capital Reserve Fund Continuity (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	55,582,924	63,069,615	60,979,316	54,882,692	53,919,033	60,087,290	61,313,487	62,901,328	60,822,290	70,719,756
Transfer from Operating	15,947,325	17,409,628	19,028,655	20,727,825	22,951,715	25,955,402	29,181,822	32,645,858	36,353,144	39,904,748
Transfer to Capital	9,697,293	20,695,600	26,201,410	22,748,720	17,961,640	25,931,430	28,827,340	35,917,490	27,842,340	28,723,550
Transfer to Operating										
Closing Balance	61,832,956	59,783,643	53,806,560	52,861,797	58,909,108	60,111,262	61,667,969	59,629,696	69,333,094	81,900,954
Interest	1,236,659	1,195,673	1,076,131	1,057,236	1,178,182	1,202,225	1,233,359	1,192,594	1,386,662	1,638,019



Table B-9
City of Barrie
Wastewater Services
Wastewater Rate Stabilization Reserve Fund Continuity (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	2,530,674	2,581,288	2,632,914	2,685,572	2,739,283	2,794,069	2,849,950	2,906,949	2,965,088	3,024,390
Transfer from Operating	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	2,530,674	2,581,288	2,632,914	2,685,572	2,739,283	2,794,069	2,849,950	2,906,949	2,965,088	3,024,390
Interest	50,613	51,626	52,658	53,711	54,786	55,881	56,999	58,139	59,302	60,488

Table B-10
City of Barrie
Wastewater Services
Wastewater Development Charges Reserve Fund Continuity – Facilities (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	21,305,493	26,594,538	27,248,254	25,142,838	31,117,461	34,842,506	31,814,283	30,021,737	30,236,867	36,768,226
Development Charge Proceeds	8,316,751	8,184,554	9,467,507	15,980,495	16,304,898	16,641,373	16,976,771	17,316,354	17,670,602	18,023,963
Transfer to Capital	3,549,167	7,940,897	11,559,077	9,812,578	11,953,482	18,301,475	16,649,572	14,233,366	6,819,618	1,446,582
Transfer to Operating	-	124,222	506,843	803,440	1,309,557	1,991,931	2,708,407	3,460,737	5,040,570	6,699,405
Closing Balance	26,073,077	26,713,974	24,649,841	30,507,315	34,159,320	31,190,474	29,433,075	29,643,987	36,047,281	46,646,201
Interest	521,462	534,279	492,997	610,146	683,186	623,809	588,662	592,880	720,946	932,924
Required from Development Charges	5,397,272	13,633,340	15,971,690	17,342,320	22,105,480	28,960,830	27,842,350	37,737,290	31,498,890	27,360,000

Table B-11
City of Barrie
Wastewater Services
Wastewater Development Charges Reserve Fund Continuity – Facilities Related Debt (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(41,529,132)	(45,960,060)	(50,556,567)	(54,458,853)	(54,461,592)	(54,261,869)	(53,849,699)	(53,219,931)	(52,367,115)	(51,278,070)
Development Charge Proceeds	4,973,679	4,894,651	5,661,810	9,557,833	9,752,801	9,953,590	10,155,261	10,358,010	10,569,307	10,781,224
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	8,503,430	8,499,853	8,496,275	8,492,698	8,489,120	8,485,543	8,481,965	8,478,388	8,474,810	5,503,607
Closing Balance	(45,058,883)	(49,565,262)	(53,391,032)	(53,393,717)	(53,197,911)	(52,793,822)	(52,176,403)	(51,340,308)	(50,272,617)	(46,000,453)
Interest	(901,178)	(991,305)	(1,067,821)	(1,067,874)	(1,063,958)	(1,055,876)	(1,043,528)	(1,026,806)	(1,005,452)	(920,009)
Required from Development Charges	-	-	-	-	-	-	-	-	-	-



Table B-12
City of Barrie
Wastewater Services
Wastewater Development Charges Reserve Fund Continuity – Wastewater Collection – Former Municipal Boundary Areas (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(3,476,726)	(4,085,549)	(4,863,593)	(7,267,271)	(9,203,530)	(11,047,474)	(17,984,817)	(25,270,127)	(32,750,339)	(31,947,901)
Development Charge Proceeds	1,000,448	1,021,381	1,042,718	1,579,162	1,611,553	1,646,141	1,679,043	1,712,521	1,746,638	1,781,629
Transfer to Capital	1,529,163	1,704,060	3,303,900	3,334,960	3,238,880	8,230,840	8,468,860	8,550,570	317,770	350,450
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	(4,005,440)	(4,768,228)	(7,124,775)	(9,023,069)	(10,830,857)	(17,632,174)	(24,774,634)	(32,108,176)	(31,321,472)	(30,516,722)
Interest	(80,109)	(95,365)	(142,496)	(180,461)	(216,617)	(352,643)	(495,493)	(642,164)	(626,429)	(610,334)
Required from Development Charges	1,529,163	1,704,060	3,303,900	3,334,960	3,238,880	8,230,840	8,468,860	8,550,570	317,770	350,450

Table B-13
City of Barrie
Wastewater Services
Wastewater Development Charges Reserve Fund Continuity – Wastewater Collection – Salem & Hewitt's Secondary Plan Areas (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(11,738,164)	(11,318,506)	(22,974,104)	(34,032,854)	(40,935,080)	(56,771,072)	(77,468,201)	(77,348,061)	(73,137,598)	(67,969,999)
Development Charge Proceeds	3,338,075	3,149,874	4,148,561	7,282,423	7,428,166	7,576,755	7,731,219	7,886,183	8,050,345	8,211,360
Transfer to Capital	2,696,485	14,355,000	14,540,000	13,382,000	22,151,000	26,754,900	6,094,450	2,241,650	1,550,000	5,100,000
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
Closing Balance	(11,096,574)	(22,523,632)	(33,365,543)	(40,132,431)	(55,657,913)	(75,949,217)	(75,831,432)	(71,703,528)	(66,637,254)	(64,858,639)
Interest	(221,931)	(450,473)	(667,311)	(802,649)	(1,113,158)	(1,518,984)	(1,516,629)	(1,434,071)	(1,332,745)	(1,297,173)
Required from Development Charges	2,696,485	14,355,000	14,540,000	13,382,000	22,151,000	26,754,900	6,094,450	2,241,650	1,550,000	5,100,000



Table B-14
City of Barrie
Wastewater Services
Operating Budget Forecast (Inflated \$)

Description	Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures										
Operating Costs										
400000 - Full-time Salaries	3,586,124	3,672,137	3,753,526	3,828,300	3,904,900	3,983,000	4,062,700	4,144,000	4,226,900	4,311,400
400100 - Full-time Salaries - Casual	205,546	208,629	214,678	230,512	235,100	239,800	244,600	249,500	254,500	259,600
400700 - Full-time Overtime	96,064	97,985	99,945	101,944	104,000	106,100	108,200	110,400	112,600	114,900
401000 - Full-time Salary Recovery	(215,196)	(219,500)	(223,890)	(228,368)	(232,900)	(237,600)	(242,400)	(247,200)	(252,100)	(257,100)
401100 - Full-time Fringe Benefits	975,928	992,990	1,009,144	1,023,980	1,044,500	1,065,400	1,086,700	1,108,400	1,130,600	1,153,200
401200 - Full-time Fringe Benefits - Casual	25,719	26,142	26,972	29,144	29,700	30,300	30,900	31,500	32,100	32,700
Salaries & Benefits for Additional Staff			122,700	125,200	711,400	725,600	740,100	754,900	770,000	1,217,900
466500 - Shift Premiums	8,375	8,543	8,713	8,888	9,100	9,300	9,500	9,700	9,900	10,100
500100 - Training Supplies	74	80	81	83	100	100	100	100	100	100
500400 - Stationery & Office Supplies	20,378	21,879	22,317	22,763	23,200	23,700	24,200	24,700	25,200	25,700
500500 - Preprinted Forms, Tags & Passes	28	29	29	30	-	-	-	-	-	-
500800 - Meetings & Meal Expenses	8,329	8,496	8,665	8,839	9,000	9,200	9,400	9,600	9,800	10,000
501100 - Protective Clothing	62,249	63,494	64,764	66,059	67,400	68,700	70,100	71,500	72,900	74,400
501300 - Clothing Allowance	104	106	108	110	100	100	100	100	100	100
501500 - Protective Equipment	59,896	61,094	62,316	63,562	64,800	66,100	67,400	68,700	70,100	71,500
510100 - Chemicals	6,366	6,493	6,623	6,756	7,100	7,500	7,900	8,300	8,700	9,100
510200 - Phosphorus	990,239	1,010,044	1,030,245	1,050,850	1,103,400	1,158,600	1,216,500	1,277,300	1,341,200	1,408,300
510300 - Chlorine	27,396	27,944	28,503	29,073	30,500	32,000	33,600	35,300	37,100	39,000
510400 - Citric Acid	465	474	484	493	500	500	500	500	500	500
510500 - Oxygen	832,197	848,841	865,818	883,134	927,300	973,700	1,022,400	1,073,500	1,127,200	1,183,600
510600 - Filter, Bed, Media	68,465	69,834	71,231	72,656	74,100	75,600	77,100	78,600	80,200	81,800
510700 - Percol	107,992	110,152	112,355	114,602	116,900	119,200	121,600	124,000	126,500	129,000
510800 - Activated Carbon	34,723	35,417	36,126	36,848	37,600	38,400	39,200	40,000	40,800	41,600
520000 - Gasoline	14,586	14,878	15,175	15,479	15,800	16,100	16,400	16,700	17,000	17,300
520100 - Hydro	1,042,119	1,062,961	1,084,221	1,105,905	1,161,200	1,219,300	1,280,300	1,344,300	1,411,500	1,482,100
520200 - Water & Wastewater	137,576	140,328	143,134	145,997	148,900	151,900	154,900	158,000	161,200	164,400
520300 - Natural Gas	48,232	49,197	50,181	51,184	52,200	53,200	54,300	55,400	56,500	57,600
520600 - Propane Gas	12,000	12,240	12,485	12,734	13,000	13,300	13,600	13,900	14,200	14,500
540200 - Cleaning Supplies	2,687	2,741	2,796	2,851	2,900	3,000	3,100	3,200	3,300	3,400
540300 - Small Parts	837,716	854,470	871,560	888,991	906,800	924,900	943,400	962,300	981,500	1,001,100
540900 - Field & Other Supplies	100,696	102,710	104,764	106,860	109,000	111,200	113,400	115,700	118,000	120,400
541400 - Laboratory Supplies	33,500	34,170	34,853	35,550	36,300	37,000	37,700	38,500	39,300	40,100
560200 - Minor Capital - General	9,787	9,983	10,182	10,386	10,600	10,800	11,000	11,200	11,400	11,600
560300 - Minor Capital - Office Furniture & Equipment	7,100	-	-	-	-	-	-	-	-	-
570000 - Small Tools	79,239	80,824	82,440	84,089	85,800	87,500	89,300	91,100	92,900	94,800
600000 - Conferences & Trade Show Registration	35,103	37,689	38,443	39,212	40,000	40,800	41,600	42,400	43,200	44,100
600100 - Kilometer Reimbursement	4,421	4,509	4,599	4,691	4,800	4,900	5,000	5,100	5,200	5,300
620000 - Staff Training & Development	148,310	155,172	158,275	109,246	111,400	113,600	115,900	118,200	120,600	123,000
620200 - Memberships & Subscriptions	15,086	16,198	16,522	16,852	17,200	17,500	17,900	18,300	18,700	19,100
620300 - Tuition Fees	462	471	481	490	500	500	500	500	500	500
640500 - Consultants - General	130,559	140,179	142,982	140,474	143,300	146,200	149,100	152,100	155,100	158,200



Table B-14 (Cont'd)

Description	Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
660700 - License Services	210	214	218	223	200	200	200	200	200	200
661400 - Cellular Telephone Services	4,272	4,357	4,445	4,533	4,600	4,700	4,800	4,900	5,000	5,100
661800 - Telephone Services	40,500	41,310	42,136	42,979	43,800	44,700	45,600	46,500	47,400	48,300
670700 - Contracted Services - General	2,477,722	2,527,276	2,577,822	2,629,378	2,682,000	2,735,600	2,790,300	2,846,100	2,903,000	2,961,100
675100 - Repairs & Maintenance - Building	106,306	108,432	110,601	112,813	115,100	117,400	119,700	122,100	124,500	127,000
675400 - Repairs & Maintenance - Equipment	681,214	694,838	708,735	722,910	737,400	752,100	767,100	782,400	798,000	814,000
700000 - Equipment Rental/Lease	86,280	90,246	94,250	98,290	100,300	102,300	104,300	106,400	108,500	110,700
700100 - Property Rental/Lease	2,341	2,388	2,436	2,484	2,500	2,600	2,700	2,800	2,900	3,000
720800 - Insurance Premium	300,326	306,333	312,459	318,708	325,100	331,600	338,200	345,000	351,900	358,900
730000 - Property Taxes	6,889	7,027	7,167	7,311	7,500	7,700	7,900	8,100	8,300	8,500
900500 - Interdepartmental - General	601,769	634,189	745,910	857,631	874,800	892,300	910,100	928,300	946,900	965,800
901000 - Interdepartmental - Fleet	48,721	49,695	50,689	51,703	52,700	53,800	54,900	56,000	57,100	58,200
901500 - Interdepartmental - Property	35,175	35,546	35,889	36,210	36,900	37,600	38,400	39,200	40,000	40,800
901599 - Interdepartmental - Property (Automated)	763,488	774,674	786,628	798,750	814,700	831,000	847,600	864,600	881,900	899,500
902000 - Interdepartmental - Corporate Support	2,554,542	2,578,205	2,595,513	2,613,375	2,665,600	2,718,900	2,773,300	2,828,800	2,885,400	2,943,100
904000 - Interdepartmental - Wastewater Rate (Manual)	3,212,184	3,303,235	3,379,904	3,454,355	3,523,400	3,593,900	3,665,800	3,739,100	3,813,900	3,890,200
904099 - Interdepartmental - Wastewater Rate (Automated)	72,614	73,647	74,905	76,186	77,700	79,300	80,900	82,500	84,200	85,900
Low-Income Support Grant Program	-	300,000	306,000	312,100	318,300	324,700	331,200	337,800	344,600	351,500
Transfer to Fleet Management Reserve	215,000	215,000	215,000	215,000	215,000	215,000	215,000	215,000	215,000	215,000
Funding of DC Exemptions for Residential Intensification	238,631	224,158	300,339	1,029,473	1,050,023	1,071,955	1,094,622	1,116,452	1,138,811	1,161,608
Sub Total Operating	21,008,824	21,740,792	22,445,592	23,630,860	24,775,123	25,364,355	25,970,422	26,592,552	27,232,511	28,323,308
Capital-Related										
Existing Debt (Principal) - Growth Related - Facilities	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Growth Related - Facilities	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Growth Related - Facilities Related Debt	5,375,735	5,614,226	5,863,823	6,125,044	6,398,459	6,684,622	6,984,155	7,297,687	7,625,897	5,001,841
Existing Debt (Interest) - Growth Related - Facilities Related Debt	3,127,695	2,885,626	2,632,452	2,367,654	2,090,661	1,800,920	1,497,810	1,180,701	848,914	501,766
New Growth Related Debt (Principal) - Facilities	-	68,779	282,690	455,389	749,276	1,149,568	1,580,750	2,044,720	2,980,777	3,988,657
New Growth Related Debt (Interest) - Facilities	-	55,443	224,153	348,051	560,281	842,363	1,127,657	1,416,017	2,059,794	2,710,748
Existing Debt (Principal) - Non-Growth Related	369,988	383,239	396,965	411,182	425,909	441,163	456,963	473,329	490,281	507,841
Existing Debt (Interest) - Non-Growth Related	199,360	186,109	172,383	158,166	143,440	128,186	112,385	96,019	79,067	61,507
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Wastewater Rate Stabilization Reserve Fund	-	-	-	-	-	-	-	-	-	-
Transfer to Wastewater Capital Reserve Fund	15,947,325	16,090,310	15,262,591	13,892,435	13,275,352	13,732,236	13,690,433	13,490,848	13,630,828	13,962,851
Sub Total Capital Related	25,020,104	25,283,733	24,835,058	23,757,922	23,643,377	24,779,058	25,450,154	25,999,322	27,715,557	26,735,212
Total Expenditures	46,028,928	47,024,525	47,280,650	47,388,782	48,418,500	50,143,413	51,420,576	52,591,874	54,948,069	55,058,519
Revenues										
Fixed Charge	13,741,299	14,567,962	15,457,030	16,504,679	17,708,789	18,992,049	20,359,667	21,816,567	23,368,258	25,020,930
810150 - Fees and Service Charges	47,363	48,310	49,276	50,262	51,300	52,300	53,300	54,400	55,500	56,600
810760 - Miscellaneous Charge	3,583	3,655	3,728	3,802	3,900	4,000	4,100	4,200	4,300	4,400
825000 - Interest and Penalties	80,000	80,000	-	-	-	-	-	-	-	-
Local Improvements Revenue	50,500	8,276	8,276	8,276	8,276	8,276	8,276	8,276	8,276	8,276
Contributions from Development Charges Reserve Fund - Facilities	-	124,222	506,843	803,440	1,309,557	1,991,931	2,708,407	3,460,737	5,040,570	6,699,405
Contributions from Development Charges Reserve Fund - Facilities Related Debt	8,503,430	8,499,853	8,496,275	8,492,698	8,489,120	8,485,543	8,481,965	8,478,388	8,474,810	5,503,607
Total Operating Revenue	22,426,175	23,332,277	24,521,428	25,863,157	27,570,942	29,534,098	31,615,715	33,822,568	36,943,439	37,284,942
Wastewater Billing Recovery - Operating	23,602,753	23,692,248	22,759,222	21,525,624	20,847,557	20,609,315	19,804,861	18,769,305	18,004,630	17,773,578
Asset Replacement Needs - Lifecycle Contribution (\$)	-	1,319,318	3,766,063	6,835,390	9,676,363	12,223,166	15,491,388	19,155,009	22,722,316	25,941,897
Wastewater Billing Recovery - Total	23,602,753	25,011,565	26,525,285	28,361,015	30,523,921	32,832,480	35,296,250	37,924,315	40,726,946	43,715,475



Table B-15
City of Barrie
Wastewater Services
Wastewater Rate Forecast – Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Wastewater Billing Recovery	23,602,753	25,011,565	26,525,285	28,361,015	30,523,921	32,832,480	35,296,250	37,924,315	40,726,946	43,715,475
Increasing Block Structure - Residential										
<i>Volume Forecast By Block (m3)</i>										
Block 1 Residential (0-15 cu.m./month)	6,032,865	6,169,202	6,318,618	6,594,125	6,977,745	7,361,495	7,745,555	8,129,615	8,513,675	8,897,915
Block 2 Residential (16-30 cu.m./month)	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271	1,474,271
Block 3 Residential (31-45 cu.m./month)	245,139	245,139	245,139	245,139	245,139	245,139	245,139	245,139	245,139	245,139
Block 4 Residential (45+ cu.m./month)	-	-	-	-	-	-	-	-	-	-
Increasing Block Structure - Residential										
Block 1 Non-Residential (0-15 cu.m./month)	351,230	351,230	351,230	351,230	351,230	351,230	351,230	351,230	351,230	351,230
Block 2 Non-Residential (>30 cu.m./month)	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409	3,839,409
Check Total Volume	7,507,136	7,643,473	7,792,889	8,068,396	8,452,016	8,835,766	9,219,826	9,603,886	9,987,946	10,372,186
Increasing Block Rates (\$/m³)										
Block 1 Residential (0-15 cu.m./month)	1.60	1.68	1.76	1.85	1.94	2.04	2.14	2.25	2.36	2.48
Block 2 Residential (16-30 cu.m./month)	2.72	2.85	2.99	3.14	3.30	3.47	3.64	3.82	4.01	4.21
Block 3 Residential (31-45 cu.m./month)	2.72	2.85	2.99	3.14	3.30	3.47	3.64	3.82	4.01	4.21
Block 4 Residential (45+ cu.m./month)	-	-	-	-	-	-	-	-	-	-
Block 1 Non-Residential (0-15 cu.m./month)	1.52	1.60	1.68	1.76	1.85	1.94	2.04	2.14	2.25	2.36
Block 2 Non-Residential (>30 cu.m./month)	2.28	2.40	2.52	2.64	2.77	2.91	3.06	3.21	3.37	3.54
Annual Percentage Change		5.0%								