Norfolk County

Water and Wastewater Rate Study

October 2, 2015

DFA Infrastructure International Inc.

DFA Infrastructure International Inc.
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October 2, 2015

Kathy Laplante
Manager Financial Planning and Reporting
Financial Services
Norfolk County
50 Colborne Street South
Simcoe, Ontario
N3Y 4H3

Re: Norfolk County Water and Wastewater Rate Study

Dear Ms Laplante:

We are pleased to submit the final version of the above noted report entitled: "Norfolk County Water and Wastewater Rate Study" which reflect the changes requested. Thank you for allowing us the opportunity to complete this assignment for the County. It is certainly appreciated.

Should you have any question please do not hesitate to contact me.

Yours truly,

DFA Infrastructure International Inc.

Derek Ali, MBA, P.Eng.
President

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1 Introduction

1.1 Background

The County of Norfolk (County) has five (5) water and five (5) wastewater systems with approximately 14,692 water accounts and 13,967 wastewater accounts within its urban area. The County provides drinking water through a combination of both surface and ground water sources and has over 300 kilometres of watermains in its water distribution system. Wastewater services are provided through four (4) wastewater treatment facilities and one storage lagoon, with 24 pumping stations and approximately 220 kilometres of sanitary sewermains.

The County currently recovers water and wastewater system costs from various direct user fees and administrative charges, and from billings to users through a base and volumetric charge based on water consumed. A two-block volumetric rate structure is employed by the County whereby commercial users are charged a reduced rate on water consumed in excess of 50 cubic metres per month.

The last Water and Wastewater Rate Study conducted by the County was in 2003. Since that time several changes in regulatory requirements have significantly impacted the water and wastewater operations resulting in increased costs associated with these operations. County staff and Council recognized the need to update the rate study. Accordingly, DFA Infrastructure International Inc. (DFA) was retained by the County to conduct a comprehensive Water and Wastewater Rate Study. The study includes determination of the full cost of service for water and wastewater over twenty five (25) years from 2015 to 2039 inclusive, and assessment of alternative water and wastewater rate structures and provides recommendations for the rate structure and rates to adequately fund the cost of service, while treating ratepayers in a fair and equitable manner.

This study assessment of the rate structures and rates also includes an evaluation of County's existing rate structure and rates and the potential impacts to customers due to the proposed changes.

1.2 Purpose

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

- Identify the full costs of managing the County's water and wastewater systems based on the most recent available information;
- Evaluate and compare alternative rate structure option against guiding principles, and recommend a preferred rate structure for the recovery of the full costs of water and wastewater services; and
- Update the County's rates and charges to its customers, using the preferred structure.

2 Regulatory Requirements

2.1 Provincial Regulations

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

- The Environmental Assessment Act (EAA);
- The Safe Drinking Water Act (SDWA);
- The Municipal Act (MA);
- The Development Charges Act (DCA);
- The Sustainable Water and Sewage Systems Act, 2002 (SWSA); and
- The Water Opportunities and Conservation Act, 2010 (WOA).

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

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

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

The Sustainable Water and Sewage Systems Act, 2002

One of the main recommendations contained in Justice O'Connor's report on the Walkerton incident is the need for municipalities to identify the full cost of water services and to develop a sustainable plan to finance these costs. This resulted in the establishment of the Sustainable Water and Sewage Systems Act, 2002 in December 2002 which requires operators of Water systems to report full costs and the method of cost recovery to the

Province of Ontario. However, the Sustainable Water and Sewage Systems Act, 2002 was never proclaimed into force, nor were the regulations necessary for the act to operate ever developed. Under the Sustainable Water and Sewage Systems Act, 2002, the municipalities are required to submit to the Province of Ontario:

- A report prepared by a Professional Engineer, identifying the full cost of water services;
- A report identifying a sustainable method by which municipalities would recover these costs;
- The comments made by the Town's Auditor following a review of both reports; and
- Copies of Council resolutions accepting the recommendation of reports.

The Water Opportunities and Conservation Act, 2010

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

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

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

The DWQMS Requirements

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

Norfolk County By-laws

Norfolk County By-law No. 2014-126 established the water and wastewater rates and charges that apply to the various customers classes in 2015. By-law 2014-126 is attached as Appendix A.

3 Methodology

The Rate Study gives consideration to the full costs (or the required investment) associated with managing the County's water and wastewater systems over a twenty-five (25) year period from 2015 to 2039 inclusive, and the recovery of costs (or revenue plan) through proposed rates and charges to customers. Life cycle costs of assets are also considered well beyond the 25-year period to determine the full replacement and/or rehabilitation needs given that some water and wastewater system assets (e.g. watermains and sewermains) can have life expectancies in the 50 to 100 year range.

A qualitative analysis of potential rate structures is also undertaken in relation to guiding rate design principles that were approved by Council. Rates under selected rate structure options are compared and evaluated and a preferred rate structure and rates recommended.

Other direct service user fees and service charges reviewed include:

- Bulk Water Rates;
- Hauled Waste Rates which include receiving and treating waste from septic tanks, holding tanks, portable toilets and landfill leachate; and
- Recovery of Fire Protection Costs

3.1 Full Cost Considerations

Calculation of the County's full cost of managing the water and wastewater systems is based on estimating and projecting the annual costs (in 2015 dollars) related to the primary activities required to deliver water and wastewater services to customers. Higher costs are generally expected in the future as the water and wastewater business environment changes. The impact can be mitigated however by fully understanding, assessing and planning for future water and wastewater system costs.

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

Table 3-1: Cost Components and Drivers

Cost Component	Cost Drivers	Future Cost Implications
Water and Wastewater systems operations and maintenance (O&M)	This is the annual cost of operating and maintaining the current system including direct (e.g. operations staff) and indirect costs (e.g overhead, charge backs etc). Changes in regulations can result in additional (O&M) activities and added costs. This was evident when the regulations under the Safe Drinking Water Act took effect. Municipalities were required to undertake specific activities in the interest of water quality management (e.g sampling, analysis and reporting of water quality). More recently, the DWQMS meant additional costs for water system operational plans and licensing albeit not annually. It is expected that pending regulations under the Water Opportunities Act and greater enforcement of compliance requirements by the Ministry of the Environmnet and Climate Change (MOECC) would require more actions to be undertaken (and increased costs) ny municipalities.	This is a direct annual cost that is reasonably consistent (fixed) from year to year but requires adjustment to account for non-recurring items, operational changes, variable cost (e.g. chemical use) changes and inflation. Non-rate revenues from administrative fees and grants offset these costs The long term impact of new regulations on costs are difficult to predict. However, the costs are expected to rise as more stringent requirements are established and compliance enforcement by the MOECC increases. Operating costs are assumed to increase by 2% annually.

Cost Component	Cost Drivers	Future Cost Implications
Customer Growth	As the existing urban areas are developed, the addition of new customers would increase the total demand for water . A corresponding rise in wastewater volume requiring treatment would also be expected	The increase in demand, if significant, would increase volumes of water consumed and wastewater treated, and variable costs in the year the new customers are added. Customer Growth is based on projections contained within the County's 2014 Development Charges Background Study. Reductions to projections have been made however to reflect more realistic growth to provide conservative estimates regarding revenue projections.
Consumption Volume (m3)	Consumption is a function of the number of customers (existing and new growth), weather conditions and the economic environment. The weather conditions have a significant influence on how much water is consumed in a given year. For example, lower temperatures and wet weather tend to result is less water consumption. Dry weather and higher temperatures increase water consumption. Wet weather would also mean more stormwater entering the wastewater system (known as inflow and infiltration) The loss of large (commercial or industrial) customers perhaps due to economic climate would reduce demand.	The annual consumption volume is unpredictable. Fluctuations can result in higher than anticipated costs or lower revenues and lead to budget deficits. An operating reserve would minimize the risk of deficits and stabilize rates (i.e. minimize rate spikes) It is assumed that consumption will continue to trend downward until 2017 when it will stabilize over the balance of the forecast period
New growth related services	This refers to installation of new assets to increase the system capacity to facilitate new development and build out of the approved service areas within the County	Would result in capital investments in the year the new infrastructure is needed. Note that financing of these costs can be through debt or cash from reserves after third party contributions are considered (e.g. grants, developer contributions etc.) Growth related capital investments are as provided from the County's 2015 - 2024 capital plan.
Asset preservation and renewal	This is mainly the replacement of aging Tangible Capital Assets (TCA) e.g. old water mains, plant components, well conponents etc. that have exceeded their service life.	Would result in future capital expenditures in the year in which the assets require replacement or rehabilitation to extend their useful lives. Allowances must be made as part of the annual costs to account for the future replacement of these assets Financing can be through a combination of debt and reserve funds.

Cost Component	Cost Drivers	Future Cost Implications
		Asset renewal needs are as provided from the County's 2015-2024 Capital Plan, and 2025 – 2039 lifecycle needs as determined from the County's TCA data analysis.
Other capital expenditures	These are capital expenditures other than those needed for growth and asset renewal. These would include cost of studies and implementation of operational improvements of the water and wastewater systems such as water loss reduction measures and wastewater I & I reduction programs.	Would increase costs in the year the expenditure is required. Financing can be through a combination of debt and reserves. Other capital investments are as provided from the County's 2015 - 2024 capital plan.
Capital Financing	Capital financing for projects can be from four (4) main sources: Debt financing, reserves, annual rates and third party contributions (grants etc.). Grant funding is available only when approved and is therefore not a predictable source of financing for financial planning purposes. The greater the debt financing, the higher the annual amount (costs) needed to repay the principal and interest on any current or future debt. Financing from reserves can only be used if sufficient funds are available. Therefore annual contributions to reserves are required to build balances for use in future years. Financing from rates do not increase annual costs but tend to drive up rates in the year the capital expenditure is required.	Annual costs would increase to provide for reserve contributions and debt repayment. It should be noted that using debt financing would minimize spikes in funding required for capital projects and allocates cost to future users It is assumed that debt financing will be used when funds from other sources (reserves, grants, etc) are insufficient to finance the current year's capital program
Inflation	This is the annual rate of inflation as reported by Statistics Canada for the provision for cost of living adjustments each year.	Annual inflation is assumed to be 2%
Market competition and pricing	The level of competition within the market place depends on the number of service providers available. Additionally, the capacity of industry service providers to meet the increasing demand for their services may tend to increase prices. Tender prices for future capital projects would be influenced by the market conditions at the time of tendering.	Potential higher prices depending on the future behaviour of the industry.

3.2 Full Cost Assessment

The full cost assessment identifies the current and future costs (i.e. the full costs) associated with the management of the water and wastewater systems over the next twenty-five (25) years (2015 to 2039). The key cost areas include:

- Operations & Maintenance (O&M) cost projections;
- Capital Budget based on the approved capital forecast;
- Tangible Capital Asset (TCA) projections including asset replacement needs;
- Debt servicing requirements; and
- Reserve fund requirements.

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

3.3 Data Sources

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

Table 3-2: Data Sources

Item	Data Source
Asset Life Expectancy	• County's TCA Policy • Information Provided by the County
Asset Replacement Costs	• County's TCA Policy • Historical Costs Provided by the County indexed to 2015
Asset Values	• County's TCA Policy • Information Provided by the County
O & M Costs and Revenue Projections	• County's 2015 Water Operating Budget
Capital Cost Projections	• County's 2015 Water Capital Budget and 2016-2024 Forecast

Debt	• Information provided by the County • County's 2015 Water Operating Budget and Capital Budget Forecast
Investments, Reserve balances etc.	• Information provided by the County
Existing Customers	• County's Customer count Provided by Norfolk Power
Growth	• Information Provided by the County including information contained in the County's 2014 DC Background Study
Water Volumes	• County's actual historical Consumption Volumes and Estimates for 2013 and 2014 provided by Norfolk Power

4 Customer Growth

The cost of service depends on the number and type of customers and corresponding demand. Although most costs are fixed, variable costs such as annual chemical use and hydro costs can increase depending on the level of customer growth and water consumption and wastewater treated. Capital costs related to increasing system capacity to accommodate customer growth can also be influenced by growth and demand. In addition, as noted in Section 10, the preferred rate is comprised of a fixed (base charge) per customer plus a consumption charge based on the metered volume of water consumed (billed wastewater flows). Therefore forecasting customer growth and annual water consumption volumes is essential to projecting future costs, revenue requirements and rates.

4.1 Current Customers

There are approximately 14,692 current water customers and 13,967 wastewater customers based on information provided by Norfolk Power. This number is expected to increase over the 2015 – 2039 forecast period. Table 4-1 shows the current total number of residential and commercial customers.

Table 4-1: 2015 Customer Count

Service	Metered	Flat Rate	Standby	Total
Water	14,619	5	68	14,692
Wastewater	13,839	89	39	13,967

4.2 Customer Growth Projections

Table 4-2 shows the increase in total customers over the 2015-2039 forecast period. Customer growth projections reflect the residential and commercial customer growth contained in the County's 2014

Development Charges Background Study prepared by Hemson Consulting Ltd. These growth projections were adjusted downward to reflect more realistic growth in customers to provide conservative estimates regarding revenue projections.

Customer growth over the 2015-2039 forecast period is projected to be 3,216 new residential units. Non-residential customer growth is also derived from the 2014 Development Charges Study. Projected employment growth is converted to reflect sixty-eight (64) new commercial customers over the 2015-2031 forecast period. Detailed customer growth projections by customer class are presented in Appendix B.

Table 4-2: Customer Growth Projection

Service	2015	2023	2031	2039
Water	14,692	15,748	16,860	17,972
Wastewater	13,967	15,023	16,135	17,247

5 Volume Projections

5.1 2015 Water Consumption and Billed Wastewater Volume

Table 5-1 details the projected 2015 water consumption by customer class derived from billing records provided by Norfolk Power. There are approximately 14,619 metered customers projected to consume approximately 2,778,845 m^3 in 2015. Residential customers account for 65% of the water consumption and commercial customers account for 35%.

Table 5-1: 2015 Water Consumption (m^3)

Customer Type	Volume	Percent
Residential	1,800,552	65%
Commercial	978,293	35%
Total	2,778,845	100%

Table 5-2 details the projected 2015 billed wastewater volume by customer class derived from billing records provided by Norfolk Power. There are approximately 13,839 metered customers that are projected to generate approximately 2,575,169 m^3 in 2015. Residential customers account for 65% of the projected billed wastewater volume and commercial customers account for 35%.

Table 5-2: 2015 Billed Wastewater Volume (m^3)

Customer Type	Volume	Percent
Residential	1,679,107	65%
Commercial	896,062	35%
Total	2,575,169	100%

5.2 Projected Water Consumption and Billed Wastewater Volume

It is important for the water consumption projections and billed wastewater volume to be reasonably conservative so that revenue projections are not unduly overestimated (leading to potential annual deficits). The process and assumptions used to estimate the volume of water to be consumed and wastewater billed each year over the study period include the following:

- Using the previous three (3) years, which indicate a decline in water consumption and billed wastewater volume, to project future volumes. That trend is assumed to continue until 2017, after which the water consumption and wastewater volume would stabilize and remain constant for the remainder of the study period.
- Projected water consumption and billed wastewater volume also takes into consideration the adjusted customer growth as noted in Section 4.2.

The 2015-2018 water consumption projections by customer class are shown below in Table 5-3 and the wastewater volume in Table 5-4.

Table 5-3: 2015-2018 Water Consumption Projection (m^3)

Customer Type	2015	2016	2017	2018
Residential	1,800,552	1,716,457	1,636,291	1,636,291
Commercial	978,294	927,506	879,535	879,535
Total	2,778,845	2,643,963	2,515,825	2,515,825

Table 5-4: 2015-2018 Billed Wastewater Volume Projection (m^3)

Customer type	2015	2016	2017	2018
Residential	1,679,107	1,600,441	1,525,461	1,525,461
Commercial	896,061	856,841	819,505	819,505
Total	2,575,168	2,457,282	2,344,966	2,344,966

6 Tangible Capital Assets (TCA)

The depreciation (amortization) of existing assets is a "non-cash" annual cost that reflects the annual "use" of assets until the end of their respective useful lives. Therefore, allowances must be made to finance the replacement and/ or rehabilitation of the existing assets once they "expire" and can no longer play a role in providing the required service to customers. However, it should be noted that because depreciation is based on the original (historical) cost incurred at the time the asset was placed in service it does not account for inflation since the year of installation. Therefore, basing asset replacement costs on depreciation alone is not sufficient to cover the future replacement needs. Accordingly, replacement cost estimates based on indexing historical costs to the replacement year are used for projecting future asset replacement costs.

TCA data contained in the County's PSAB 3150 Tangible Capital Asset database was used to develop the financial information and asset replacement projections related to the water and wastewater systems. The asset replacement projections are based on the following assumptions:

- Historical costs, life expectancy and remaining useful life as per the TCA data provided by the County;
- Replacement costs are based on indexing historical costs to the year of replacement using the appropriate Construction Price Indices; and
- New assets to be acquired are based on the capital forecast presented in Appendix C and Appendix D for water and wastewater respectively. The forecast includes projects in the County's Capital Budget Forecast and asset replacement projections based on TCA analysis undertaken as part of this study.

6.1 Water Asset Replacement

Water Asset Value

The water system is comprised of the following asset classes:

- Building-Distribution;
- Land;
- Land Improvements;
- Linear Water Distribution;
- Vehicle & Equipment-Distribution;
- Bulk Water;
- Buildings-Treatment;
- Fire Protection (Hydrants);
- Land Improvement-Treatment; and
- Vehicles & Equipment-Treatment.

The total replacement value (in 2015) of water assets (not including land as it is not a depreciable asset) is estimated to be $190,760,516 using historical costs inflated to 2015 dollars. As shown in Figure 6-1, the majority of asset values are in linear assets 67% and buildings 24%.

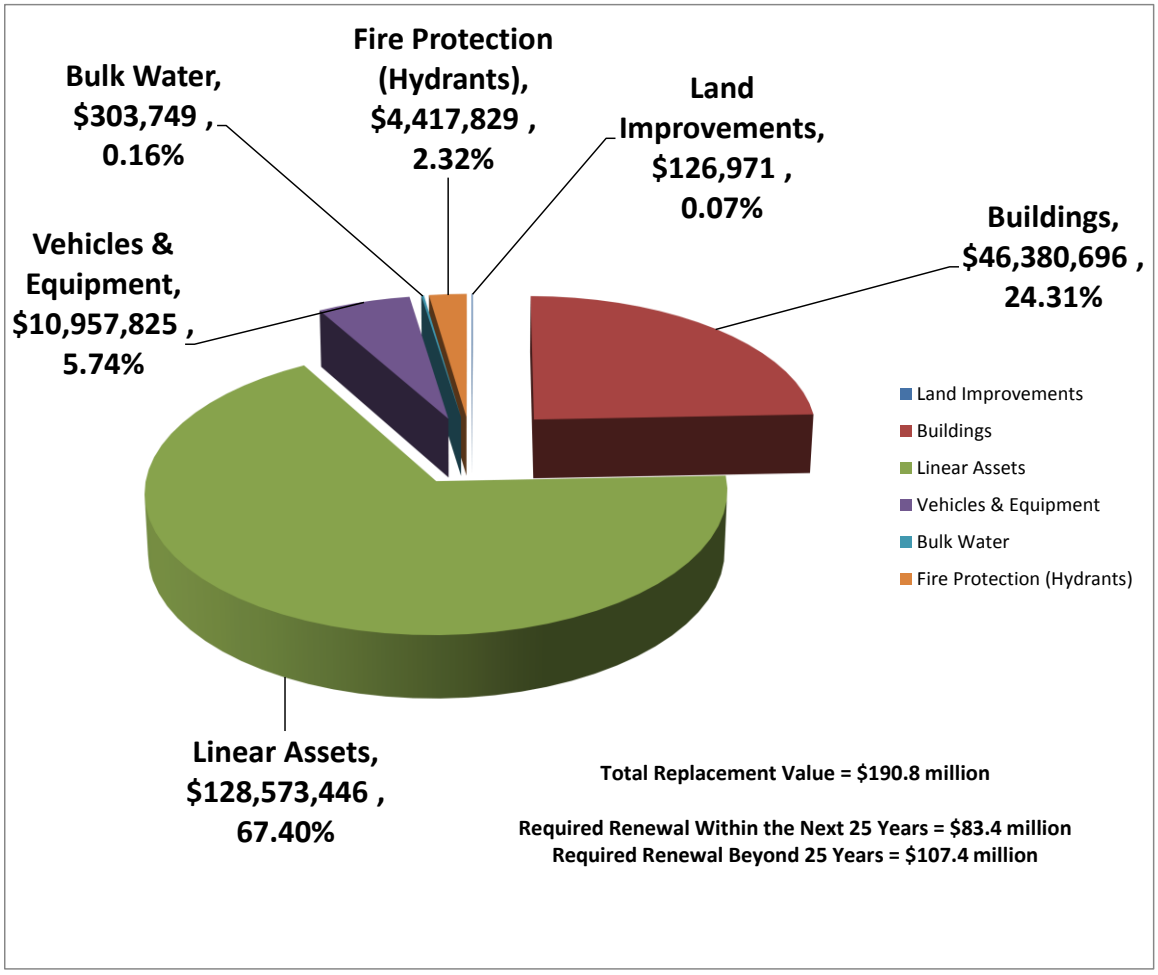

Figure 6-1: 2015 Water System Value in 2015 Dollars

Water Asset Replacement Needs

A TCA analysis was completed to determine the future assets replacement needs. This involved consideration of the following information for the respective assets:

- Historical cost;
- In-service or year of installation;
- Useful life expectancy and anticipated year of replacement; and
- Replacement costs in 2015 dollars (developed by applying the appropriate historical Construction Price Indices to the historical costs).

The asset replacement and/ or rehabilitation requirements resulting from the analysis are summarized in Table 6-1. This shows that approximately $83.4 million is required over the next 25 years. Approximately $107.4 million is required beyond 2039. The annual asset replacement requirements between 2015 and 2039 are presented in Appendix C as part of the overall capital requirements for the study period.

It is important to note that although these projections include a review of the asset life expectancies noted in the PSAB 3150 TCA inventory from an engineering perspective, they do not consider the true current condition of the assets. Condition assessments may indicate that some assets could continue in service beyond their anticipated life expectancy provided that certain maintenance and rehabilitation work is done. In such cases, replacement of the asset could be deferred to a later date than projected in this study. The reverse is also true where problematic assets may need to be replaced earlier than expected.

Table 6-1: Water Asset Replacement Needs

Water Assets	Total Replacement Costs	Amount to be Funded in Forecast Period	Amount to be Funded Beyond Forecast Period
Buildings-Distribution	$983,696	$374,170	$609,526
Land	$883,761	$883,761	$0
Land Improv-Distribution	$8,548	$8,548	$0
Linear Water-Distribution	$128,573,446	$54,022,777	$74,550,669
Vehicles & Equip-Distribution	$4,447,671	$4,435,445	$12,226
Bulk Water	$303,749	$239,068	$64,681
Buildings-Treatment	$45,397,000	$13,460,375	$31,936,625
Fire Protection (Hydrants)	$4,417,829	$4,417,829	$0
Land Improv-Treatment	$118,423	$19,305	$99,118
Vehicles & Equip-Treatment	$6,510,154	$6,375,393	$134,761
Total Water Assets	**$191,644,277**	**$84,236,671**	**$107,407,606**

6.2 Wastewater Asset Replacement

Wastewater Asset Value

The wastewater system is comprised of the following asset classes:

- Buildings-Collection;
- Land;
- Linear-Collection;
- Septic/Holding Tank;
- Building-Treatment;
- Land Improvement-Treatment; and
- Machine & Equipment-Treatment.

The total replacement value (in 2015) of wastewater assets (not including land as it is not a depreciable asset) is estimated to be $171,844,155 using historical costs inflated to 2015 dollars. As shown in Figure 6-2, the majority of asset values are in linear assets 60% and buildings 34%.

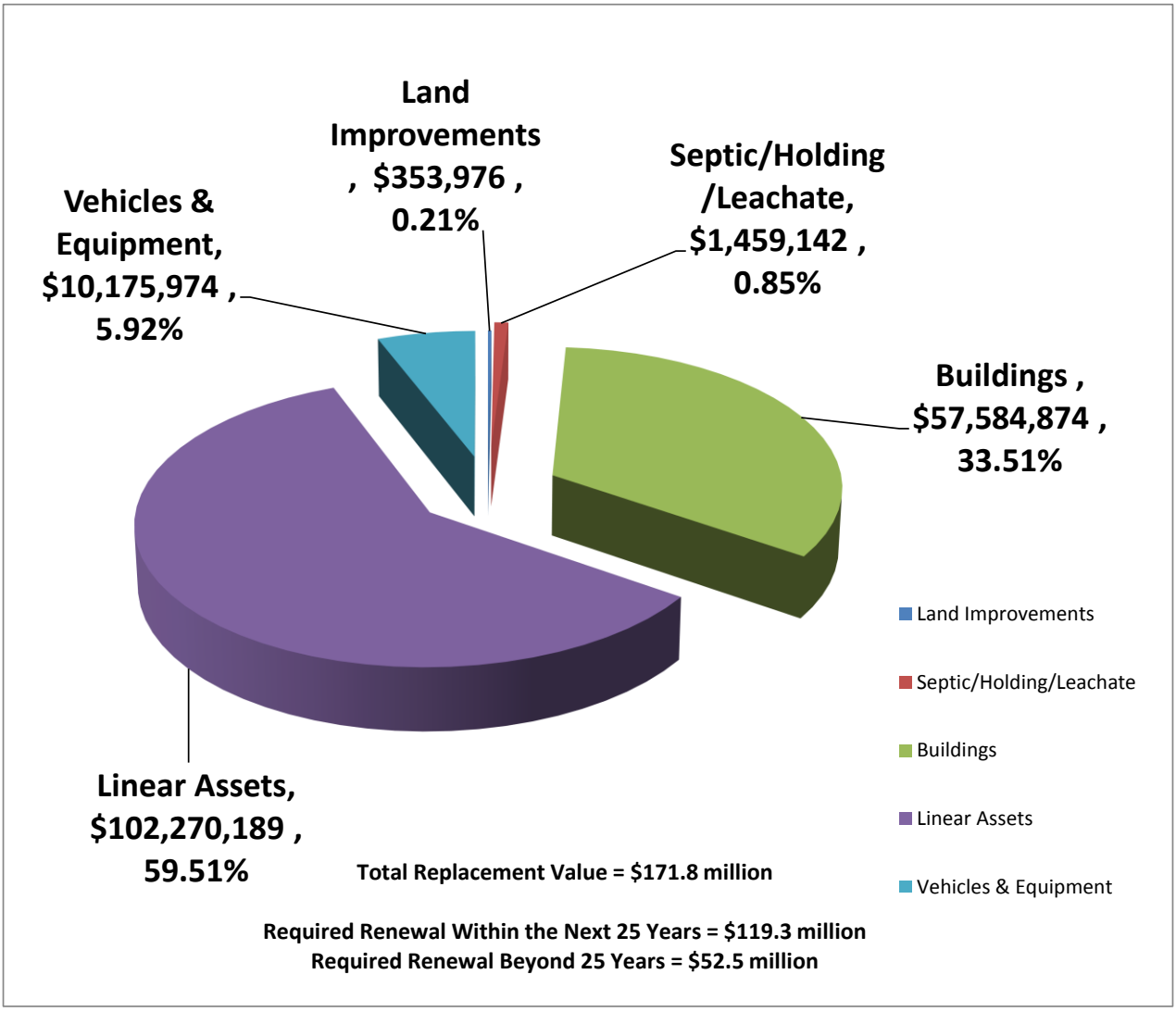

Figure 6-2: 2015 Wastewater System Value in 2015 Dollars

Wastewater Asset Replacement Needs

A TCA analysis was completed to determine the future assets replacement needs. This involved consideration of the following information for the respective assets:

- Historical cost;
- In- service or year of installation;
- Useful life expectancy and anticipated year of replacement; and
- Replacement costs in 2015 dollars (developed by applying the appropriate historical Construction Price Indices to the historical costs).

The asset replacement and/ or rehabilitation requirements resulting from the analysis are summarized in Table 6-2. This shows that approximately $119.3 million is required over the next 25 years. Approximately $52.5 million is required beyond 2039 The annual asset replacement requirements between 2015 and 2031 are presented in Appendix D as part of the overall capital requirements for the study period.

Table 6-2: Wastewater Asset Replacement Needs

Wastewater Assets	Total Replacement Costs	Amount to be Funded in Forecast Period	Amount to be Funded Beyond Forecast Period
Building- Collection	$14,446,932	$9,617,805	$4,829,127
Linear-Collection	$102,270,189	$67,067,130	$35,203,059
Vehicles & Equip-Collection	$2,961,408	$2,013,704	$947,704
Septic/Holding/Leachate	$1,459,142	$957,551	$501,591
Building- Treatment	$43,137,942	$32,336,029	$10,801,913
Land Improv-Treatment	$353,976	$140,456	$213,520
Mach&Equip-Treatment	$7,214,566	$7,202,656	$11,910
Total Wastewater Assets	**$171,844,155**	**$119,335,331**	**$52,508,824**

7 Capital Budget Requirements

The future capital budget requirements for the study period are presented in Appendices C and D for Water and Wastewater respectively. These appendices reflect the projects identified by the County in its 2015 Capital Budget and 2016 to 2024 forecast, and the 2025-2039 replacement needs of existing assets as they reach their respective useful lives as derived from the County's TCA data. It should be noted that revisions have been made to the 2016 to 2024 capital projections to reflect a reprioritization of projects. Provisions for the Centralized Water System were replaced with placeholders for a New Water Source.

There is approximately $157.9 million in water related capital expenditures and approximately $213.5 million in wastewater related capital related expenditures required between 2015 and 2039. Contained within these forecasts are a number of growth related projects that are needed to service the anticipated residential and non-residential growth in the County.

Appendices C and D also show the sources of financing for the projected annual capital expenditures. Capital financing will be mainly through cash from the capital reserve fund and developer contributions needed to fund growth related projects. Debt is also required to cash flow projects when sufficient reserve funds are unavailable. Debt financing and the reserve fund requirements are discussed in Sections 7.1 and 7.2 respectively.

7.1 Debt Financing

Issuance of debt allows for funds to be available in the year the project is required and repayment occurs over the future years. This approach supports the principle of user pay in that the beneficiaries of the new assets pay for its use through the debt repayment. Financing from the capital reserve requires that sufficient funds be available in the reserve in the year the project is undertaken, through annual contributions to the reserve in prior years. Without debt or reserve financing, major rate increases or "spikes" would be required in the project year to raise sufficient funds to cover the project expenditures.

Approximately $53.0 million in new water related debt is projected to be required to cash flow water projects between 2015 and 2039, of which $2.8 million is growth related water debt. Similarly, the 2015 – 2039 wastewater capital program projects that approximately $78.8 million in new wastewater debt will be required with approximately $9.1 million in growth related wastewater debt. It should be noted that growth related debt will be serviced from future development charge receipts and does not impact the rate payers and rates.

7.2 Reserve Fund Requirements

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

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

Appendix E shows the projected continuity schedule for each reserve. These schedules show the transfers to and from the respective reserves and the opening and closing balances. Reserves are assumed to earn 1.5% annual interest on balances.

Water Capital Reserve Fund

The Water Capital Reserve Fund, which is the primary source of financing for water projects, has a negative opening balance in 2015 of approximately $3.5 million (deficit). It is proposed that the current annual contributions be increased by $250,000 per year beginning in 2016 until the annual level of contribution to the water capital reserve fund increases to $6 million..

The annual closing balance is projected to increase from a negative balance of approximately $3.8 million in 2015 to a positive balance of approximately $19.3 million by 2039 as noted in Figure 7-1,. The 2039 closing balance represents about 10% of the water asset current replacement value, placing the County in a very good position to begin funding capital works beyond the twenty-five year period.

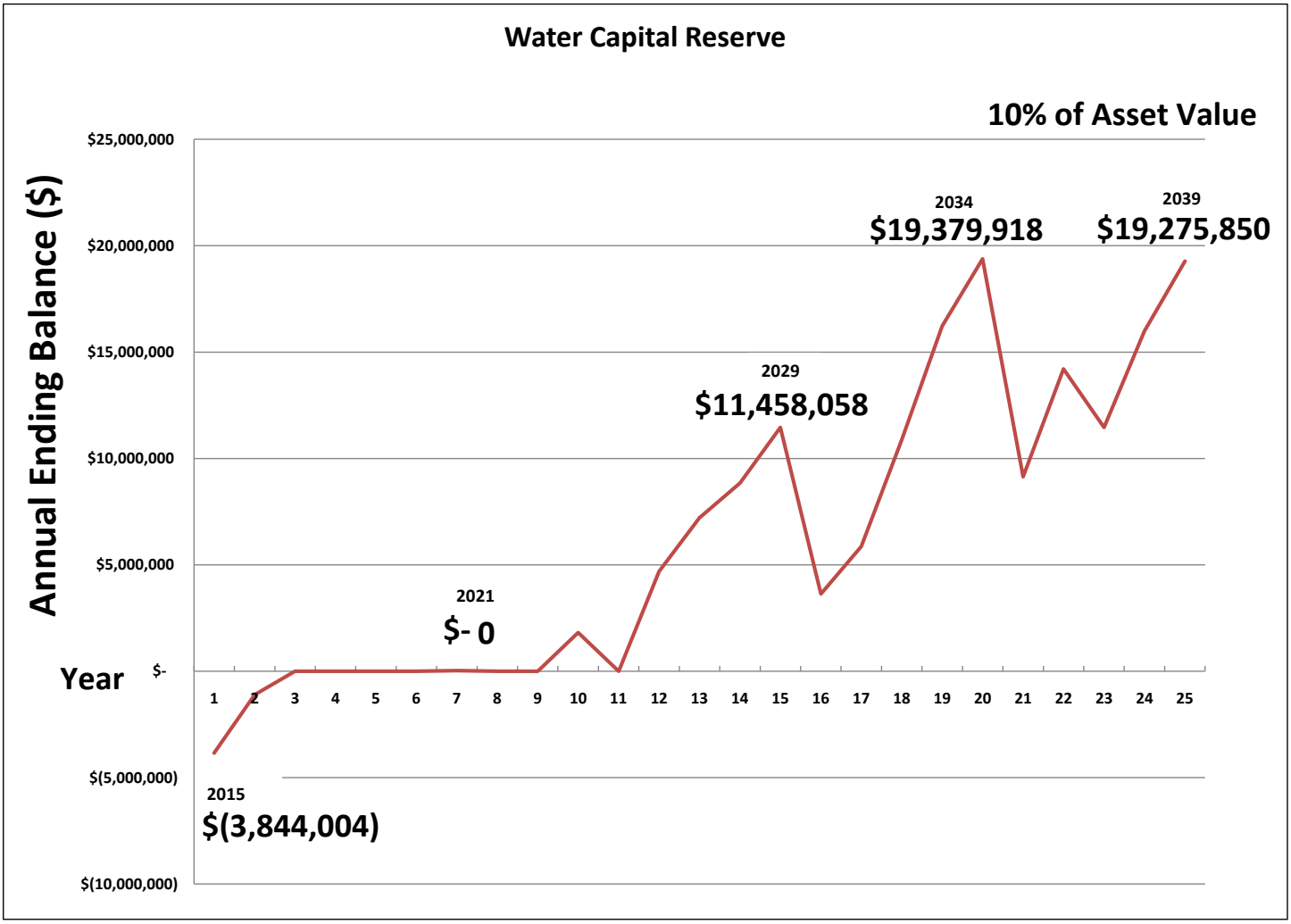

Figure 7-1: Water Capital Reserve Closing Balance Projections (2015-2039)

Wastewater Capital Reserve Fund

The Wastewater Capital Reserve Fund is the primary source of financing for wastewater projects and has an opening balance in 2015 of approximately $8.8 million.. It is proposed that the current annual contributions be increased by $250,000 per year beginning in 2016 until the annual level of contribution to the water capital reserve fund increases to $7.2 million.

The annual closing balance is projected to increase from approximately $9.0 million in 2015 to approximately $18.8 million by 2039 as noted in Figure 7-2, This represents about 10% of the current asset replacement value and, like the water reserve balance, the projected wastewater reserve balance by the end of the study period will place the County in a very good position to begin funding wastewater capital works beyond the twenty-five year period.

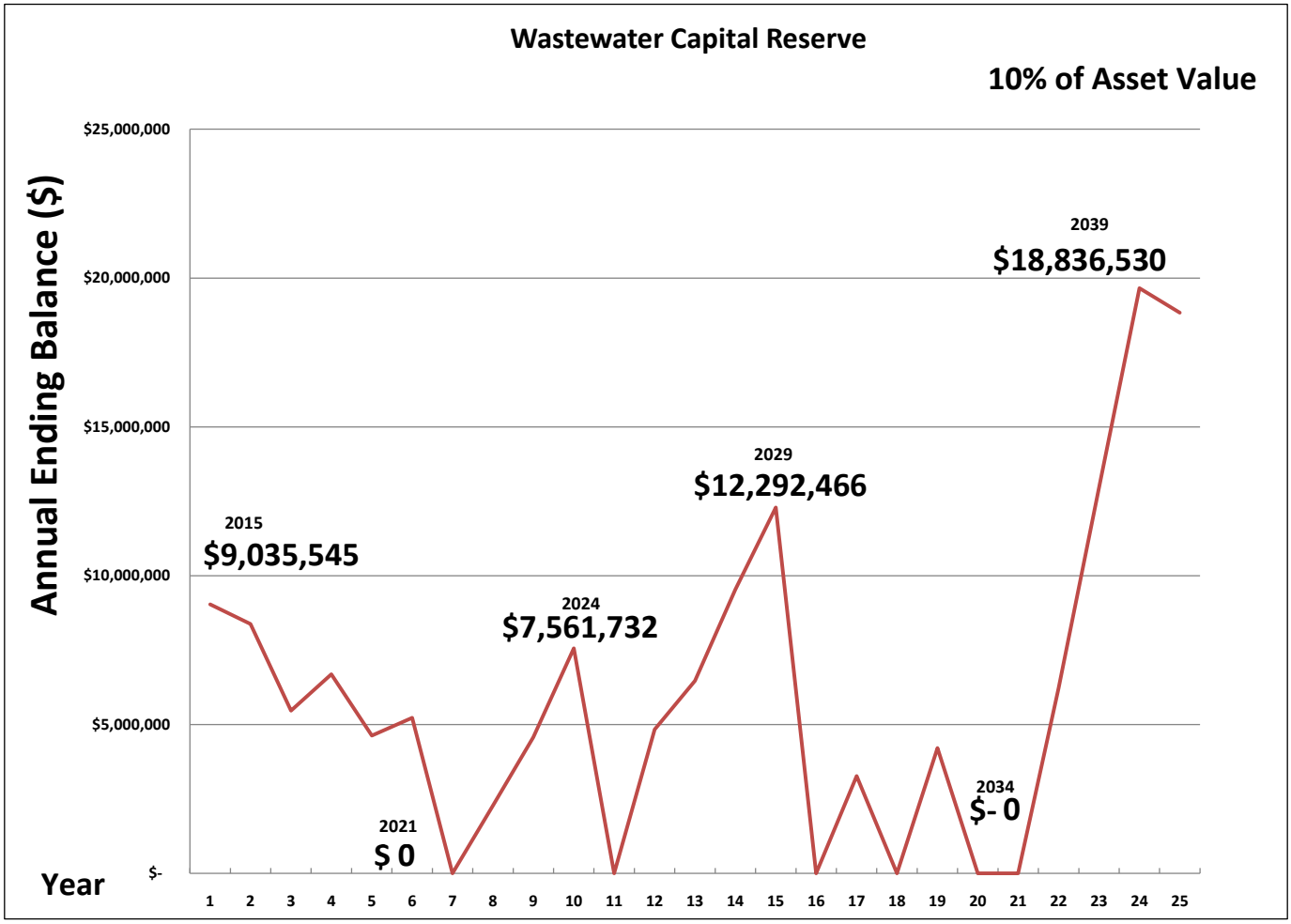

Figure 7-2: Wastewater Capital Reserve Closing Balance Projections (2015-2039)

Development Charges are fees imposed by the County on new development and is the main source of funding for growth related capital projects.

Water Development Charges Reserve Fund

The Water Development Charges Reserve Fund has a projected negative balance in 2015 of $3.4 million, increasing to $10.2 million by 2039 as noted in Figure 7-3. All growth related projects are expected to be funded from this reserve over the forecast period. The largest of these projects is the Port Dover Water Tower in 2016 with a cost of approximately $2.6 million. This project is considered 100% growth related and is projected to be funded entirely from the water development charges reserve.

It is proposed that debt be issued when the development charges reserve is in a negative position. Future debt servicing on the growth related debt will be recovered from the development charges reserve. Annual contributions to the water development charge reserve are based on the customer growth projections detailed in Section 4, and current development charge rates indexed annually by 3%.

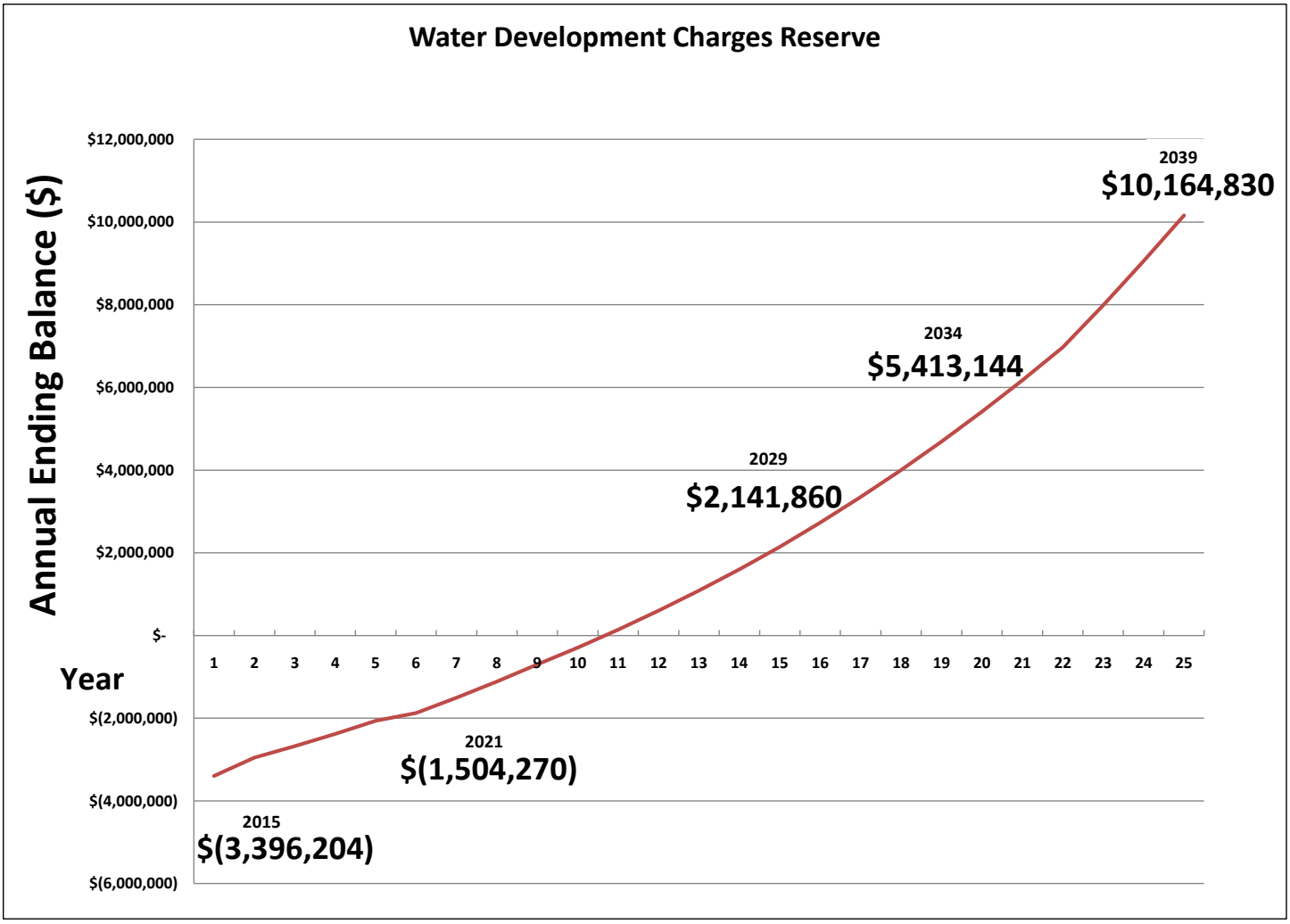

Figure 7-3: Wastewater Development Charges Reserve Closing Balance Projections (2015-2039)

Wastewater Development Charges Reserve Fund

The Wastewater Development Charges Reserve Fund is projected to have a negative balance by the end of 2015 of approximately $3.9 million, increasing to approximately a zero balance by 2039 as noted in Figure 7-4. All growth related projects are expected to be funded from this reserve, the largest being the Port Dover WPCP Expansion in 2019 for approximately $9.0 million and the Simcoe WPCP New Outfall in 2021 for approximately $9.5 million.

Similar to the growth related debt projections for water, it is proposed that wastewater debt be issued when the wastewater development charge reserve is in a negative position. Future debt servicing on growth related wastewater debt will be recovered from the wastewater development charges reserve. Annual contributions to

the wastewater development charge reserve are based on the customer growth projections detailed in Section 4, and current DC rates indexed annually by 3%.

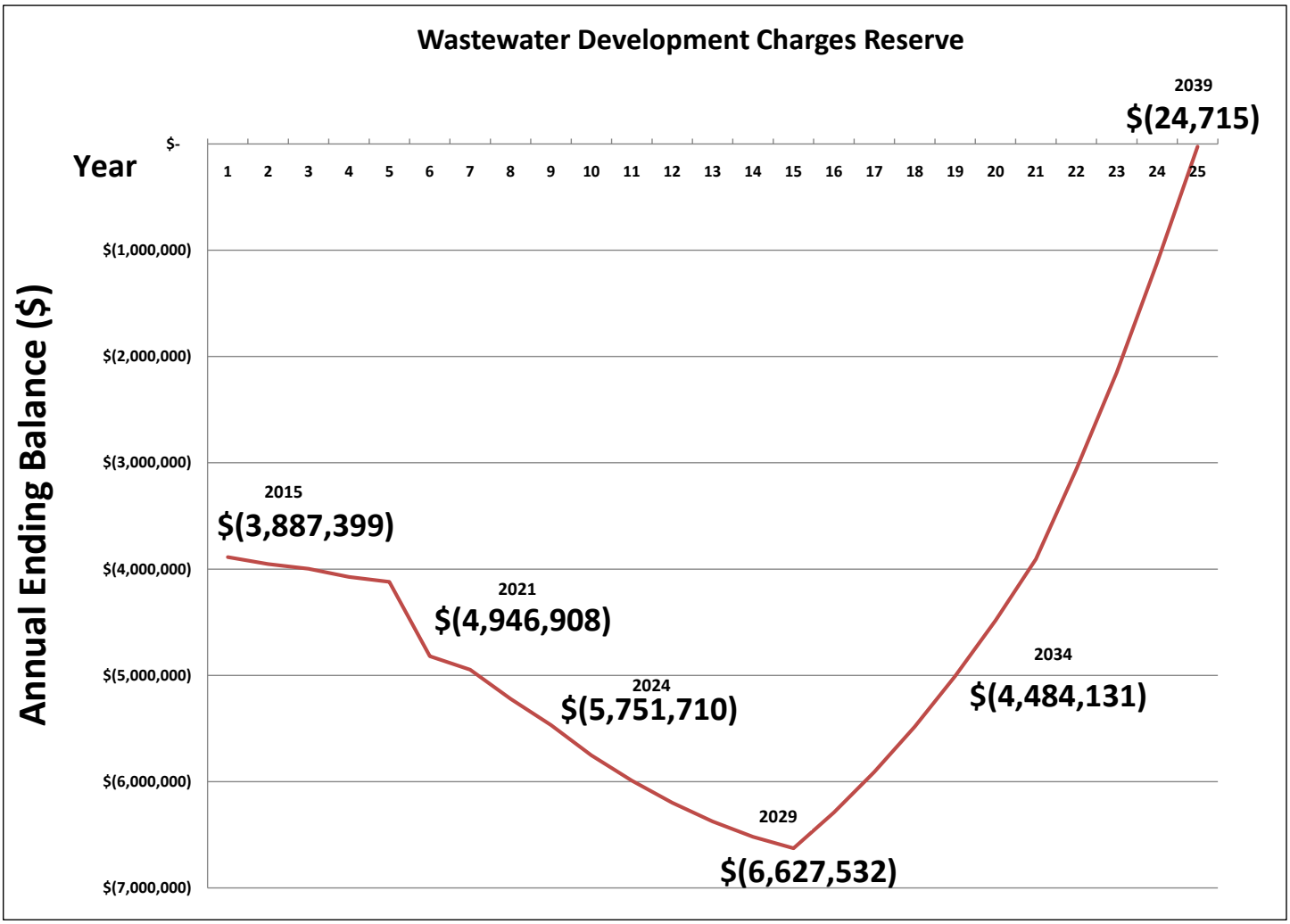

Figure 7-4: Wastewater Development Charges Reserve Closing Balance Projections (2015 - 2039)

8 Operations & Maintenance (O&M) Cost Projections

The annual operating budgets are based on the operations and maintenance needs of the County's water and wastewater systems. These include operations and maintenance costs related to the water system (i.e. water treatment, distribution including bulk water and fire protection, metering and hydrants), and the wastewater system (i.e. wastewater collection and treatment including hauled waste). These costs generally include the staffing, materials, utilities and other costs related to the following:

- Administration;
- Contracted Services;

- Minor Capital; and
- Maintenance.

Transfers to capital related reserves and debt servicing are typically included in the annual O&M budgets. However, these costs are addressed separately for the purposes of the rate study and noted in Section 7.2.

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

- Penalties and late payment charges;
- Administrative service fees and charges;
- Bulk water sales revenues;
- Hauled waste revenues, including septic, holding tank and leachate;
- Fire protection cost recovery; and
- Government grants (when available).

The projection of the gross costs and certain non-rate revenues over the study period is based on the County's 2015 Operating Budget. The assumptions used in arriving at these projections are as follows:

- 2016 and beyond, O&M costs (not including non-recurring costs and reserve transfers) will increase annually by 2%;
- No grants would be available to offset costs; and
- Bulk Water Sales Revenue, Hauled Waste Revenue and Fire Protection charges are calculated using the methodologies described in Section 10.

Appendix F and G summarizes the water and wastewater systems gross operating & maintenance costs, non-rate revenues and net costs to be recovered from users through the County's base and consumption charges. The gross annual O&M costs of the water system are expected to increase from approximately $9.1 million in 2015 to $18.1 million by 2039. The gross annual O&M wastewater system costs are expected to increase from approximately $9.6 million in 2015 to $20.4 million by 2039.

9 Full Cost of Water and Wastewater

The cost of managing the Town's water and wastewater systems over the next 25 years is reflected below in Figure 9-1 and 9-2 respectively. These tables summarize the projected gross and net costs for the water system and wastewater system by cost component over the study period by showing the average annual cost over the next 25 years. Note that the average annual cost shown does not represent the projected 2016 costs as they are an average over 25 years. Table 9-1 shows an annual average cost of approximately $15.3 million to manage the water system over the next 25 years. These annual costs reflect the average annual revenue requirements for the water system to be recovered from non-rate revenue sources and the water rates. Of the gross water

system costs, 49% are related to operations and maintenance, 33% related to contributions toward reserve fund transfers for the funding of water related infrastructure, and 18% towards the servicing of debt that was required to cash flow past water capital investments.

The gross costs are offset by recoveries and revenues with an annual average value of $3.7 million, or 24% of total water revenues. These include revenues from miscellaneous fees and charges, bulk water sales and recoveries of fire protection costs. This leaves the net annual average water costs to be recovered from users of approximately $11.5 million, or 76% to total water revenues.

Table 9-1: Average Annual Full Cost of Managing the Water System

Cost Component	Average Annual Cost	%
O&M	$ 7,529,555	49%
Capital Reserve Transfers	$ 4,950,000	33%
Debt Repayment	$ 2,738,869	18%
Total	**$ 15,218,423**	**100%**
Recoveries and Revenues	$ 3,692,834	24%
To be Recovered From Rates	**$ 11,525,589**	**76%**

Table 9-2 shows the annual average wastewater cost of approximately $15.4 million to manage the wastewater system over the next 25 years. These annual costs reflect the average annual revenue requirements for the wastewater system to be recovered from non-rate revenue sources and the wastewater rates. Of the gross wastewater system costs, 43% are related to operations and maintenance, 36% related to contributions toward reserve fund transfers for the funding of wastewater related infrastructure, and 21% towards the servicing of debt that was required to cash flow past water capital investments.

The gross costs are offset by recoveries and revenues with an annual average value of $2.6 million, or 17% of total wastewater revenues. These include revenues from miscellaneous wastewater fees and charges and hauled waste, including leachate recoveries. This leaves the net annual average wastewater costs to be recovered from users of approximately $12.8 million or 83% to total wastewater revenues.

Table 9-2: Average Annual Full Cost of Managing the Wastewater System

Cost Component	Average Annual Cost	%
O&M	$ 6,676,068	43%
Capital Reserve Transfers	$ 5,490,000	36%
Debt Repayment	$ 3,257,370	21%
Gross Costs	**$ 15,423,439**	**100%**
Recoveries and Revenues	$ 2,640,765	17%
To be Recovered From Rates	**$ 12,782,674**	**83%**

10 Evaluation of Alternative Rate Structures

This section presents the following:

- The review and assessment of alternative rate structures;
- The review and evaluation of other direct user fees and service charges such as bulk water rates, hauled waste rates and the recovery of fire protection costs;
- Identification of the preferred rate structure and rates required to recovery the full cost of managing the water and wastewater systems noted in Section 9 based on the analysis undertaken, as well as input received at an August 20th, 2015 Public Open House; and
- An assessment of the impacts to customers resulting from changes to the rate structure and rates and identification of an implementation strategy that includes phasing in the changes.

10.1 Rate Design Guiding Principles

At the July 7th 2015 Committee-in-Council meeting the following list of guiding principles were presented and adopted in principle by Council for use in developing and evaluating a preferred rate structure options and identifying a preferred option for the County's water and wastewater Rate structure:

1. ***Full Cost Recovery*** – The full costs of managing the water and wastewater systems should be recovered through the rates and charges to sustain adequate financing for the systems in the future including asset replacement/ rehabilitation based on life cycle costs (consistent with Sustainable Water & Sewer Systems Act, 2002 & Water Opportunities Act 2010);

2. ***Promote Conservation***- The rate structures should promote the reduction of wasteful uses and encourages conservation (consistent with requirements of the Water Opportunities Act, 2010);

3. ***Fair and Equitable (avoid discrimination)*** - The rate structure should not unduly benefit or adversely affect one customer class over another (user pay);

4. ***Ease of Administration*** – The rate structure should be simple. This would serve to minimize administration costs and facilitate easy understanding by customers;

5. ***Rate/Revenue Stability*** – The rate structure should provide predictability in terms of revenues each year i.e. the portion of revenues from fixed and/or base charges should be sufficient to reduce risk of running deficits;

6. ***Affordable/Minimize Shifts in Burden*** – Major fluctuations in the rates and charges from year to year should be avoided. The rate structure should consider impacts on various ratepayers. Phase-in of changes should be considered to minimize impacts;

7. ***Defensible*** – The rate structure should be transparent and defensible; and

8. ***Support Economic Development*** –The rate structure should ensure that all industries are treated equitably with no specific incentives for any particular one. The County may however wish to support economic growth by providing incentives in the rate structure.

10.2 Rate Structure Alternatives

Table 10-1 provides a list rate structure options that are evaluated in relation to the guiding rate design principles:

Table 10-1: Rate Structure Options

Structure	Description
Fixed Fee	A single flat fee that applies to all customers
Uniform Charge	Constant volumetric charge that applies to all customers
Uniform (with Base Charge)	Constant volumetric charge and base charge (the most common in Ontario)
Declining Block (with Base Charge)	Volumetric charge that decreases as water use increases (the County's existing rate structure)
Increasing Block (with Base Charge)	Volumetric charge that increases as water use increases

10.3 Analysis of Alternative Rate Structures

A detailed qualitative analysis of the alternative rate structures options is presented in Appendix H. The guiding principles were used as the basis for the assessment. A summary of the qualitative analysis is shown in Table 10.2 which indicates that the rate structure that includes a Uniform Rate and Base Charges meets all the rate design guiding principles adopted by Council. This is identified as the preferred rate structure option for the County and used as the basis to develop appropriate volumetric rates and base changes for full cost recovery.

Table 10-2: Summary of Quantitative Analysis of Rate Structure Options

Principles \ Rate Structures	Flat Fee	Uniform Charge	Uniform (with Base Charge)	Declining Block	Increasing Block
Full Cost Recovery	✓	✓	✓	✓	✓
Promote Conservation		✓	✓		✓
Fair & Equitable		✓	✓		
Ease of Administration	✓	✓	✓		
Rate/Revenue Stability	✓		✓	✓	
Affordable/Minimize Shifts in Burden		✓	✓	✓	✓
Defensible			✓		
Support Economic Development			✓	✓	

It should be noted that the rate structure option of a Uniform Rate (with Base Charge) includes eliminating the lower second block rate that is currently charged to commercial customers on consumption that is greater than 50 cubic metres per month. Elimination of the second block removes the subsidization that residential customers and low volume commercial customers have been providing to high volume commercial customers. The rate structure change to a uniform volumetric rate is consistent with the principle of being **Fair and Equitable** as it would not unduly benefit or adversely affect one customer class over another and support user pay

10.4 Other Rate Structure Changes

In addition to the rate structure of a Uniform Rate (with Base Charge) as noted in 10.3, other changes to the County's current rate structure and rate strategy, include:

- adjusting the direct user fees and service charges for bulk water , hauled waste rates and the recovery of fire protection costs), to more accurately reflect the respective cost of each service; and
- adjusting the base charge and volumetric charges such that the revenues generated by each would represent approximately 50% of total revenues to improve revenue security and stability.

10.4.1 Increase Revenue from Base Charge

Over the last several years metered consumption has decreased by approximately 10%. This downward trend in metered consumption also means a decline in revenues that are generated from the volumetric rate. In 2014 approximately 60% of revenues were derived from the volumetric rate, with only 40% coming from the base charge. This means that approximately 60% of the annual revenues are subject to variability based on weather conditions that affect consumption and are therefore unpredictable. In keeping with the principle of **Revenue Stability** the County's preferred rate structure now includes an equal share of revenues to be generated from the volumetric rate and the base charge i.e. a 50/50 split. This change in rate structure increases revenue stability for the County by lowering the portion of the annual revenues that is subject to changes in consumption patterns due to weather conditions. Also, with 50% of rate revenue still subject to the level of consumption, there remains a sufficient economic signal to customers to conserve. Therefore, this change is the rate structure is also consistent with the principle of **Promote Conservation.**

The adjustment to increase the proportion of revenues generated by the base charge to 50%, up from its current level of 40%, also moves the County's water and wastewater systems' revenue structure closer to the County's water and wastewater systems' cost structure, which is approximately 80% fixed. Fixed costs do not vary with the amount of water delivered or wastewater treated. Only costs such as gas, hydro and chemicals are seen as variable, changing in relation to water delivered or wastewater treated.

10.4.2 Bulk Water Rate

The County supplies approximately 150,000 to 200,000 cubic metres of bulk water annually, with the bulk water rate being set at 125% of the first block water rate. In keeping with the principle of **Full Cost Recovery the bulk water rate is calculated based on cost-of-service so that projected revenues from bulk water sales will recover the full cost of delivering this service.** This is also consistent with the principle of being **Fair and Equitable** as it ensures that bulk water users pay their fair share of water system costs,.

The full cost of delivering bulk water includes three major components:

1. the cost of water treatment and supply;
2. the cost of bulk water related assets; and
3. the cost to operate the bulk water assets (fill stations).

The cost of water treatment and supply allocated to bulk water is derived from the total cost per cubic metre of water treatment based on projected total consumption. The cost of bulk water related assets and their

respective operating costs are translated into a cost per cubic metre based on projected bulk water volumes estimated to be sold. These rates are combined to arrive at a full cost recovery rate for the sale per cubic metre of bulk water. The calculated bulk water rate ensures that bulk water users fund their fair portion of water treatment and distribution costs, as well as ensuring the investments in water assets that are specific to the delivery of bulk water are recovered. Projected bulk water rates are presented in Section 12.

10.4.3 Hauled Waste (Septic Waste, Holding Tank Waste and Leachate)

The County receives and treats at their wastewater treatment facilities approximately 55,000 cubic metres of hauled waste annually. This includes 1,600 cubic meters of septic waste, 9,400 cubic metres of holding tank waste and 44,000 cubic metres of leachate from the Tom Howe Landfill Site. Rates established for hauled waste have not been review for several years and have only been incrementally increased each year. Similar to the recommendation for bulk water, and in keeping with the principle of **Full Cost Recovery, the hauled waste rates are calculated based on cost-of-service so that projected revenues from receiving and treating septic waste, holding tank waste and leachate recovers the full cost of delivering these services.** By ensuring that generators of hauled waste pay their fair share of wastewater system costs, the principle of **Fair and Equitable** is also promoted.

The full cost of receiving and treating hauled waste consists of two major components, 1) the cost of specific hauled waste receiving assets, and 2) treatment related costs. Treatment related costs are allocated to each waste based on the relative loading that each waste places on the wastewater treatment facilities. Relative loading takes into account both the volume and concentration of the waste and thereby accounts for the impact that each waste type has on the facility's treatment capacity and costs. Hauled waste receiving related assets are allocated to each waste type based on the proportion of volume of waste received. The respective costs for each hauled waste is then translated into a cost per cubic metre based on projected volumes.

An observation made during the analysis of hauled waste cost recovery showed that the costs per cubic metre to manage both septic and holding tank waste are similar given their respective volumes and loading. As such **it is recommended that the septic and holding tank waste rates be combined into a single rate**. This is in keeping with the guiding principle of **Ease of Administration** in that there will no longer be the need to sample hauled waste loads to determine whether they are septic or holding tank waste. Combing the septic and holding waste rates will also benefit waste haulers in planning load pick-ups. Waste hauler will now be able to combine septic and holding tank waste into one truck load. Projected hauled waste rates, including the rate for leachate, are presented in Section 12.

10.5 Fire Protection Cost Recovery

The County currently recovers $620,000 from the tax levy for provision of water system capacity for fire protection. The current fire protection charge has not been reviewed or updated since the last Water and Wastewater Study conducted in 2003. Similar to the recommendation for bulk water and hauled waste, and in keeping with the principle of **Full Cost Recovery, the Fire Protection Charge is calculated based on cost-of-**

service to ensure that water systems costs that relate to the provision of fire protection are recovered. Ensuring that the benefiting users pay their fair share of the water system costs related to fire protection, is consistent with the principle of being **Fair and Equitable**.

The capacity of water systems to supply and convey water is determined to a large extent by the need to meet fire protection requirements i.e. water systems must be able to transfer a specified volume of water (fire flows) within a certain timeframe to the location of the fire or closest hydrant for fire-fighting purposes. This demand is usually a higher requirement than customer demand. Therefore water system design standards require that each component of the water system i.e. the treatment plant, storage and distribution system, be built to supply the fire flows required for fire-fighting as and when fires occur. Therefore a significant portion of water system costs, including asset replacement, is for fire protection purposes.

The method used to calculate the Fire Protection Charge is internationally recognized within the water industry and utilized in many jurisdictions. It recognizes that the capacity of water systems is determined to a large extent by fire protection needs (in addition to customer demand). Therefore a portion of the costs related to each component of the water system is allocated to fire protection based on the industry guidelines. Using an internationally recognized methodology for the calculation of fire protection cost the guiding principle of Defensible is promoted.

10.6 Standby Charge

When a property temporarily discontinues the supply of water, a standby charge is billed by the County. The current charge for this service is $20 per month for water, and where wastewater is available, an additional amount of $20 per month is charged. This fee has not changed for several years and does not adequately reflect the cost of service. as Although there is no consumption during the shut-off period, system capacity continues to be available to the property to be utilized at the owner's discretion i.e. the cost of maintaining system capacity continues whether or not water is actually consumed at an individual property. Accordingly, **it is recommended that the applicable base water and wastewater charges by meter size become the Standby Charge when consumption is temporarily discontinued at a property**. This is consistent with the principle of being **Fair and Equitable** as a property's base charge better reflects the fixed system costs that do not vary with consumption and is thereby recovered from all customers whether or not there is consumption.

10.7 Phase-In of Rate Structure Changes

Based on the input received from the public at the August 20th 2015 public open house, Council at its September 8th 2015 Council meeting adopted a longer phase-in period of seven (7) years for the rate structure changes instead of the five (5) year phase-in initially contemplated. . The longer phase in of the rate structure changes is consistent with the principle of **Affordability & /Minimizing Shifts in Burden** as it spreads the impacts on various ratepayers over a longer period. Section 12 details the seven (7) year phase-in of sustainable draft rates and charges that result from the rate structure changes as detailed in this report.

11 Stakeholder Consultation

Presentations were made to Council and customers during the process on the following dates to obtain feedback:

- July 7, 2015 – Presentation to Council on the Principles and cost recovery methods;
- August 18th 2015 – presentation to Council on the recommended rate structure and potential customer impacts to obtain feedback;
- August 20th 2015 – Presentation to customers at a Public Open House to present the recommended rate structure and potential customer impacts to obtain feedback; and
- September 8th 2015 - Presentation to Council on customer feedback and the final rate structure, rates and charges required for full cost recovery, and potential customer impacts based on a 5-year phase in period.

11.1 Council Presentations

Presentations were made to Council on several occasions. Draft guiding principles, along with cost recovery methods were presented to Council at a Workshop on July 7th. Council endorsed the guiding principles to be used in evaluating rate structure options.

On August 18th a further presentation was made to Council to review rate structure options along with the evaluation of those options in relation to the guiding principles. Council was also presented with recommended rate structure changes along with draft sustainable rates and the resulting customer impacts. Council accepted in-principle the recommended rate structure changes, subject to public comments received at the August 20th Public Consultation session.

A final presentation was made to Council on September 8th where comments received at the August 20th Public Consultation session were discussed. The recommended rate structure changes, draft sustainable rates and resulting impacts were further reviewed. Council adopted the rate structure changes as recommended, with one amendment whereby the rate structure changes would be phased on over seven (7) years, instead of the previously recommended five (5) year phase-in period.

11.2 Public Consultation

On August 20th 2015 a public open house was held by the County to present the rate structure guiding principles used in evaluating rate structure options, the draft recommended changes to the water and wastewater rate structure based on this evaluation, and the resulting sustainable draft rates. The purpose of the open house was to obtain feedback from the public to present to Council to inform decision making in adopting final recommended rate structure changes.

Notice of the public meeting was placed in the local paper on August 5th as well as on the County's website. Eight (8) public members attended the open house, with representation from both residential and commercial users. There was open discussion through which attendees asked questions and offered their comments. The Consultant and County staff in attendance provided answers and additional background information as required.

Table 11.1 provides a list of items and issues discussed at the open house. Appendix I contains the questions and detailed responses received during the open house. On September 8th Council was presented with these responses prior to adopting their final recommendations in respect to changes in the water and wastewater rate structures. It should be noted that Council, in adopting their final recommendations, considered the input received from the public open house, and allowed for a greater phase-in period of the rate structure changes to seven (7) years.

Table 11-1: Open House Items Discussed

Open House Items Discussed	
Bulk Water Rate	Operational Efficiencies
Senior Level Government Support	Capital Financing
Impacts of Conservation	Approval of Rates
Basic Charge	Alternative Revenue Sources
Wastewater Credits	Notice of Public Meeting
Impacts on Business	Fire Protection Charge

12 Sustainable Rates and Charges

Appendix J and Appendix K present the projected 2016 – 2039 sustainable water and wastewater rates and charges for water and wastewater services respectively. These sustainable rates are based the implementation of the rate structure changes as detailed in Section 10, and the recovery of the full cost of managing the water and wastewater systems over the study period. The rates and charges to be implemented over the next five (5) years, based on a seven (7) year phase in, are presented below.

12.1 Water Rates and Charges Projection

Table 12-1 compares the current water rates and charges to the 2016 sustainable rates and charges as calculated based on the implementation of the rate structure changes over seven (7) years. As shown, the first block volumetric rate is projected to increase slightly, with larger increases in the second block rate. These increases are mainly the result of a projected reduction in water consumption, and the phasing out of the second block. The reduction noted in the base charge is being moderated by the increased cost to be recovered from the base charge. There are also projected increases in the Bulk Water Rate and Fire Protection Charge as these rates and charges are now reflecting the recovery of the full cost-of-service, and when fully phased in will pay their fair share of water system costs. Changes in the water system costs, water customer growth, and water consumption are also factors that will impact the changes in the sustainable rates and charges.

Table 12-1: Water Rate Comparison (2015 vs. 2016)

2015 Water Rates and Charges		Proposed 2016	
Rate Category	Current 2015	7 year Phase-In of New Structure	% Change Over 2015
Consumption Rates			
Block 1 (per m3)	$ 1.9040	$ 1.9675	3.3%
Block 2 (per m3)	$ 1.3330	$ 1.4756	10.7%
Base Charges (per Month)			
Meter Size			
15 mm	$ 18.38	$ 18.14	-1.3%
25 mm	$ 30.49	$ 30.09	-1.3%
40 mm	$ 51.04	$ 50.37	-1.3%
50 mm	$ 128.83	$ 127.13	-1.3%
75 mm	$ 148.61	$ 146.65	-1.3%
100 mm	$ 290.99	$ 287.15	-1.3%
150 mm	$ 522.60	$ 515.70	-1.3%
200 mm	$ 845.92	$ 834.75	-1.3%
Fire Protection Charge (per year)	$ 620,000	$ 771,537	24.4%
Bulk Water Rate (per m3)	$ 2.38	$ 2.65	11.4%
Flat Water Charge (per month)	$ 56.46	$ 57.49	1.8%
Standby Water Charge (per month)	$ 20.00	$ 18.14	-9.3%

Table 12-2 presents the projected sustainable water rates and charges for the five (5) year period 2016–2020. These rates are based on a seven (7) year phase-in of the recommended rate structure changes, including the elimination of the second block, the increasing of revenues from the base charge, and the full cost recovery of bulk water and fire protection.

Table 12-2: 2016-2020 Sustainable Water Rates and Charges

2015 Water Rates and Charges		2016		2017		2018		2019		2020	
Rate Category	Current 2015 Rates and Charges	Proposed 2016 Rates and Charges	% Change	Projected 2017 Rates and Charges	% Change	Projected 2018 Rates and Charges	% Change	Projected 2019 Rates and Charges	% Change	Projected 2020 Rates and Charges	% Change
Consumption Rates											
Block 1 (per m3)	$ 1.9040	$ 1.9675	3.3%	$ 2.0860	6.0%	$ 2.1057	0.9%	$ 2.0704	-1.7%	$ 2.0199	-2.4%
Block 2 (per m3)	$ 1.3330	$ 1.4756	10.7%	$ 1.6688	13.1%	$ 1.7688	6.0%	$ 1.8219	3.0%	$ 1.8583	2.0%
Base Charges (per Month)											
Meter Size											
15 mm	$ 18.38	$ 18.14	-1.3%	$ 20.00	10.2%	$ 21.96	9.8%	$ 22.55	2.7%	$ 22.97	1.9%
25 mm	$ 30.49	$ 30.09	-1.3%	$ 33.17	10.2%	$ 36.42	9.8%	$ 37.40	2.7%	$ 38.10	1.9%
40 mm	$ 51.04	$ 50.37	-1.3%	$ 55.53	10.2%	$ 60.97	9.8%	$ 62.61	2.7%	$ 63.79	1.9%
50 mm	$ 128.83	$ 127.13	-1.3%	$ 140.16	10.2%	$ 153.89	9.8%	$ 158.03	2.7%	$ 161.00	1.9%
75 mm	$ 148.61	$ 146.65	-1.3%	$ 161.68	10.2%	$ 177.52	9.8%	$ 182.29	2.7%	$ 185.72	1.9%
100 mm	$ 290.99	$ 287.15	-1.3%	$ 316.57	10.2%	$ 347.60	9.8%	$ 356.95	2.7%	$ 363.65	1.9%
150 mm	$ 522.60	$ 515.70	-1.3%	$ 568.55	10.2%	$ 624.27	9.8%	$ 641.05	2.7%	$ 653.10	1.9%
200 mm	$ 845.92	$ 834.75	-1.3%	$ 920.29	10.2%	$ 1,010.50	9.8%	$ 1,037.65	2.7%	$ 1,057.16	1.9%
Fire Protection Charge (per year)	$ 620,000	$ 771,537	24.4%	$ 960,113	24.4%	$ 1,194,779	24.4%	$ 1,486,801	24.4%	$ 1,850,197	24.4%
Bulk Water Rate (per m3)	$ 2.38	$ 2.65	11.4%	$ 2.95	11.4%	$ 3.29	11.4%	$ 3.66	11.4%	$ 4.07	11.4%
Flat Water Charge (per month)	$ 56.46	$ 57.49	1.8%	$ 61.72	7.4%	$ 64.07	3.8%	$ 63.95	-0.2%	$ 63.37	-0.9%
Standby Water Charge (per month)	$ 20.00	$ 18.14	-9.3%	$ 20.00	10.2%	$ 21.96	9.8%	$ 22.55	2.7%	$ 22.97	1.9%

12.2 Wastewater Rates and Charges Projection

Table 12-3 compares the current wastewater rates and charges to the 2016 sustainable rates and charges. As shown, both the first and second block volumetric rates are increasing, with the second block increasing by more due to the second block being phased out. The increase in volumetric rates are also impacted by the projected decline in billed wastewater flows which will have the effect of pushing rates up. Wastewater base charges are projected to increase slightly, in part due to a projected increase in new customers, thereby allowing costs to be spread out amongst more customers. As well, there is also projected to be a slight reduction in net costs to be recovered from rates due to the increased level of subsidization from hauled waste, which is now based cost-of-service and full cost recovery.

As a result of septic and holding tank rates being combined, the holding tank waste rate is projected to increase and the septic waste rate to decrease. This is the result of elimination of subsidization between the two hauled waste types as septic waste will no longer be subsidizing the cost of receiving and treating holding tank waste. The leachate rate is also projected to increase as it will now be based on cost-of-service.

Table 12-3: Wastewater Rate Comparison (2015 vs.2016)

2015 Wastewater Rates and Charges		Proposed 2016	
Rate Category	Current 2015	7 year Phase-In of New Structure	% Change Over 2015
Consumption Rates			
Block 1 (per m3)	$ 2.1020	$ 2.2487	7.0%
Block 2 (per m3)	$ 1.4716	$ 1.6865	14.6%
Base Charge (per month)			
Meter Size			
15 mm	$ 20.29	$ 20.58	1.4%
25 mm	$ 33.66	$ 34.13	1.4%
40 mm	$ 56.35	$ 57.14	1.4%
50 mm	$ 142.23	$ 144.22	1.4%
75 mm	$ 164.07	$ 166.37	1.4%
100 mm	$ 321.25	$ 325.76	1.4%
150 mm	$ 576.95	$ 585.05	1.4%
200 mm	$ 933.90	$ 947.00	1.4%
Septic (per m3)	$ 24.78	$ 13.55	-45.3%
Holding (per m3)	$ 6.34	$ 13.55	113.8%
Leachate	$ 5.59	$ 6.76	20.9%
Flat Wastewater Charge (per month)	$ 62.33	$ 65.55	5.2%
Standby Wastewater Charge	$ 20.00	$ 20.58	2.9%

Table 12-4 presents the projected sustainable wastewater rates and charges for the five (5) year period 2016–2020. Table 12-4 presents the projected sustainable wastewater rates and charges for the five (5) year period 2016–2020. These rates are based on a seven (7) year phase-in of the recommended rate structure changes, including the elimination of the second block, the increasing of revenues from the base charge, and the full cost recovery of hauled waste and leachate.

Table 12-4: 2016-2020 Sustainable Wastewater Rates and Charges

2015 Wastewater Rates and Charges		2016		2017		2018		2019		2020	
Rate Category	Current 2015 Rates and Charges	Proposed 2016 Rate and Charges	% Change	Proposed 2017 Rate and Charges	% Change	Proposed 2018 Rate and Charges	% Change Over	Proposed 2019 Rate and Charges	% Change	Proposed 2020 Rate and Charges	% Change
Consumption Rates											
Block 1 (per m3)	$ 2.1020	$ 2.2487	7.0%	$ 2.3866	6.1%	$ 2.3348	-2.2%	$ 2.3016	-1.4%	$ 2.3821	3.5%
Block 2 (per m3)	$ 1.4716	$ 1.6865	14.6%	$ 1.9093	13.2%	$ 1.9613	2.7%	$ 2.0254	3.3%	$ 2.1915	8.2%
Base Charge (per month)											
Meter Size											
15 mm	$ 20.29	$ 20.58	1.4%	$ 22.76	10.6%	$ 24.21	6.4%	$ 24.91	2.9%	$ 26.90	8.0%
25 mm	$ 33.66	$ 34.13	1.4%	$ 37.75	10.6%	$ 40.15	6.4%	$ 41.32	2.9%	$ 44.63	8.0%
40 mm	$ 56.35	$ 57.14	1.4%	$ 63.20	10.6%	$ 67.22	6.4%	$ 69.16	2.9%	$ 74.71	8.0%
50 mm	$ 142.23	$ 144.22	1.4%	$ 159.52	10.6%	$ 169.67	6.4%	$ 174.58	2.9%	$ 188.57	8.0%
75 mm	$ 164.07	$ 166.37	1.4%	$ 184.02	10.6%	$ 195.72	6.4%	$ 201.38	2.9%	$ 217.52	8.0%
100 mm	$ 321.25	$ 325.76	1.4%	$ 360.32	10.6%	$ 383.23	6.4%	$ 394.32	2.9%	$ 425.93	8.0%
150 mm	$ 576.95	$ 585.05	1.4%	$ 647.11	10.6%	$ 688.25	6.4%	$ 708.17	2.9%	$ 764.94	8.0%
200 mm	$ 933.90	$ 947.00	1.4%	$ 1,047.46	10.6%	$ 1,114.06	6.4%	$ 1,146.31	2.9%	$ 1,238.19	8.0%
Septic (per m3)	$ 24.78	$ 13.55	-45.3%	$ 16.14	19.1%	$ 19.22	19.1%	$ 22.88	19.1%	$ 27.24	19.1%
Holding (per m3)	$ 6.34	$ 13.55	113.8%	$ 16.14	19.1%	$ 19.22	19.1%	$ 22.88	19.1%	$ 27.24	19.1%
Leachate	$ 5.59	$ 6.76	20.9%	$ 8.17	20.9%	$ 9.88	20.9%	$ 11.95	20.9%	$ 14.45	20.9%
Flat Wastewater Charge (per month)	$ 62.33	$ 65.55	5.2%	$ 70.49	7.5%	$ 70.90	0.6%	$ 70.94	0.0%	$ 74.54	5.1%
Standby Wastewater Charge	$ 20.00	$ 20.58	2.9%	$ 22.76	10.6%	$ 24.21	6.4%	$ 24.91	2.9%	$ 26.90	8.0%

12.3 Customer Impacts

Customer impacts due to the projected water and wastewater rates and charges are presented in Table 12-5. These impacts are assessed based on the changing from the 2015 approved water and wastewater rates to the sustainable water and wastewater rates as noted in this report. Assumptions have been made with respect to customer classes and the level of consumption within those classes. It should be noted that the impacts presented here are for illustrative purposes only, recognizing that the actual 2016 rates are expected to be set in November 2015 which may result in different impacts. However, based on the full costs associated with the water and wastewater services as presented in Section 9, the water and wastewater rates presented in this report are reflective of the rates required for full cost recovery. The following summarizes the respective cost impact to each customer type:

- ***Low volume customer*** - A low volume customer is assumed to consume 5m^3 per month with a 15mm service. The impact would be a slight increase in the combined cost of water and wastewater charges services of $1.09 per month, or an increase of 1.9%.
- ***Average residential customer*** - An average residential customer is assumed to consume 20m^3 per month with a 15mm service. The impact would be an increase in the combined cost of water and wastewater charges services of $4.25 per month, or an increase of 3.6%.
- ***Commercial customer*** - A commercial customer is assumed to consume 500m^3 per month with a 50mm service. The impact would be an increase in the combined cost of water and wastewater charges services of $171.69 per month, or an increase of 9.9%.

- ***Industrial customer*** - An industrial customer is assumed to consume 10,000m^3 per month with a 150mm service. The impact would be an increase in the combined cost of water and wastewater charges services of $3,569.16 per month, or an increase of 12.2%.
- ***Bulk water users*** - It is assumed that the load size is 3000 gallons or 13.64 cubic metres. The impact would be an increase of $3.69, or a 3.5% increase per load
- ***Holding tank owners*** - It is assumed that the load size is 2000 gallons or 9.09 cubic metres. The impact would be an increase of $65.58, or a 45% increase per load of holding tank waste.
- ***Septic tank owners*** - It is assumed that the load size is 2000 gallons or 9.09 cubic metres. The impact would be a decrease of $102.04, or a 32.6% decrease per load of holding tank waste.

Table 12-5: 2015-2016 Impact of Rate Structure Changes

IMPACT OF RATE STRUCTURE CHANGES				
CUSTOMER CLASS	2015	2016	$ Change	% Change
Low Volume	$ 58.70	$ 59.79	$ 1.09	1.9%
Average User	$ 118.79	$ 123.04	$ 4.25	3.6%
Commercial	$ 1,733.44	$ 1,905.14	$ 171.69	9.9%
Industrial	$ 29,205.94	$ 32,775.10	$ 3,569.16	12.2%
Bulk Water	$ 105.00	$ 108.69	$ 3.69	3.5%
Holding Tank (Blended Rate)	$ 145.33	$ 210.91	$ 65.58	45.1%
Septic Tank (Blended Rate)	$ 312.95	$ 210.91	$ (102.04)	-32.6%

There will also be an impact on the property tax levy due to the projected increase in the Fire Protection Charge and Leachate Rates for full cost recovery. These will result in an increase in the amount to be recovered from the property tax payer.

As noted in Section 10 the County currently recovers $620,000 from the property tax levy for provision of water system capacity allocated to service fire protection. In 2016 this charge is projected to increase to $771,537 representing an increase of $151,537 (24.4%). The Leachate costs to be recovered from tax base for the treatment of leachate received from the Tom Howe Landfill Site is also expected to increase, from $233,000 in 2015, to $281,741 in 2016, or an increase of $48,741 (20.9%).

Therefore, the changes to the County's water and wastewater rate structure result in a shift in burden from the water and wastewater users, to the property tax payer in the amount of $200,278 representing an increase in the overall property tax levy of 0.272%

Table 12-6: Property Tax Impact of Rate Structure Changes

Item	2015	2016	$ Change	% Change
Fire Protection	$ 620,000	$ 771,537	$ 151,537	24.4%
Leachate	$ 233,000	$ 281,741	$ 48,741	20.9%
Net charge to levy	**$ 853,000**	**$ 1,053,278**	**$ 200,278**	**23.5%**
Total 2015 Levy			**$ 73,531,900**	
Net Increase as a % of 2015 Tax Levy			**0.272%**	

13 Conclusions & Recommendations

The following are the main conclusions regarding the water system:

- The replacement value of the water system (not including land) is estimated to be $190.8 million in 2015 dollars (i.e. historical costs indexed to 2015) ;
- The water asset replacement needs are approximately $83.4 million over the next 25 years. Approximately $107.4 million is required beyond 2039, primarily for replacement of linear assets;
- Approximately $157.9 million in water capital expenditures is required between 2015 and 2039. Approximately $103.3 million in financing will be required from the Reserve, $54.0 million from long-term debt, and $1.6 million from other sources;
- The gross annual water expenditures are expected to increase approximately $8.2 million, from $9.9 in 2015 to $18.1 million by 2039;
- The full cost of managing the water system over the next 25 years is projected to be an annual average cost of $15.2 million. Gross costs are offset with non-rate revenues with an annual average value of $3.6 million, leaving the net annual average water costs to be recovered from users at $11.5 million.

The following are the main conclusions regarding the wastewater system:

- The replacement value of the wastewater system (not including land) is estimated to be $171.8 million in 2015 dollars (i.e. historical costs indexed to 2015) ;
- The wastewater asset replacement needs are approximately $119.3 million over the next 25 years. Approximately $52.5 million is required beyond 2039, primarily for replacement of linear assets;
- Approximately $213.5 million in wastewater capital expenditures is required between 2015 and 2039. Approximately $129.4 million in financing will be required from the Reserve, $79.6 million from long-term debt, and $4.5 million from other sources;
- The gross annual wastewater expenditures are expected to increase approximately $10.8 million, from $9.6 in 2015 to $20.4 million by 2039;
- The full cost of managing the wastewater system over the next 25 years is projected to be an annual average cost of $15.4 million. Gross costs are offset with non-rate revenues with an annual average value of $2.6 million, leaving the net annual average water costs to be recovered from users at $12.8 million.

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

- That the Second Block Rate charged to commercial customers who consume greater than 50 cubic metres per month be eliminated such that a single block structure be used for all customer classes;
- That 50% of water and wastewater related user revenues be derived from the base charge;
- That water related Fire Protection costs be recovered based on the cost-of-service;
- That Bulk Water costs be recovered based on the cost-of-service;

- That Hauled Waste costs be recovered based on the cost-of-service;
- That Leachate Treatment costs be recovered based on the cost-of-service;
- That Septic Waste and Holding Tank Waste/Portable Toilet Waste rates be blended; and
- That the recommended rate structure changes be phased in over seven (7) years.

It is also recommended that the applicable base water and wastewater charges by meter size become the Standby Charge when consumption is temporarily discontinued at a property.

14 References

1. www.infrastructureontario.ca
2. American Water Works Association (AWWA) Manual: Principles of Water Rates, Fees and Charges
3. Norfolk County 2015 Water and Wastewater Operating Budget
4. Norfolk County 2015-2024 Capital Budget and Forecast
5. Norfolk County 2014 Water Consumption Records
6. Norfolk County 2014 Development Charge Background Study
7. Norfolk County 2014 PSAB 3150 TCA
8. Norfolk County 2015 Water and Wastewater Rate By-Law 2014-126
9. Sustainable Water and Sewage Systems Act, 2002
10. Water Opportunities and Conservation Act, 2010

APPENDICES

APPENDIX A

2015 Water and Wastewater Rate
By-law 2014-126

BY-LAW NO. 2014-126

OF

The Corporation of Norfolk County

BEING A BY-LAW TO PROVIDE FOR WATER RATES TO FINANCE THE SUPPLY AND DISTRIBUTION OF WATER AND TO ESTABLISH WASTEWATER SURCHARGES UPON THE WATER RATES TO FINANCE THE COLLECTION AND TREATMENT OF WASTEWATER IN RESPECT OF VARIOUS WATER AND WASTEWATER SYSTEMS WITHIN NORFOLK COUNTY.

WHEREAS Section 10(2) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended states that a single-tier municipality may pass by-laws to provide any service or thing that the municipality considers necessary or desirable for the public;

AND WHEREAS the Municipal Act, 2001, S.O. 2001, c. 25, as amended, authorizes Council by by-law to impose fees or charges to finance the supply and distribution of water and to establish wastewater surcharges upon the water rates to finance the collection and treatment of sewage in respect of various water and wastewater systems within the County;

AND WHEREAS it is deemed expedient by Council to establish water rates and surcharges for wastewater to finance various systems within the County area.

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF NORFOLK COUNTY HEREBY ENACTS AS FOLLOWS:

1. That the short title of this by-law shall be "Water & Wastewater Rates By-Law".

2. That the water rates and the surcharge for wastewater shown on Schedule "A" attached to this By-Law are hereby adopted to take effect on all bills for all consumption occurring on or after January 1, 2015 and to remain in effect until altered by Council.

3. That the water and wastewater miscellaneous charges as outlined in Schedule "B" attached to this By-Law are hereby adopted to take effect on January 1, 2015.

3. That the effective date of this By-Law shall be the date of final passage thereof.

ENACTED AND PASSED THIS 16TH DAY OF DECEMBER 2014.

First Reading: December 16, 2014

Second Reading: December 16, 2014

Third Reading: December 16, 2014

Mayor

Deputy Clerk/Manager of Council Services

SCHEDULE 'A' TO WATER AND WASTEWATER BY-LAW NO. 2014 - 126
Norfolk County
2015 Water and Wastewater Rate Structure
Schedule of Monthly Rates

WATER

Consumption Charges		Charge per Cubic Meter
First Block	0-50 Cubic Meters per Month	$1.904
Second Block	Over 50 Cubic Meters per Month	$1.333
Bulk Rate		$2.380

Basic Charges

Meter Size	Charge per Month
15 mm	$18.38
25 mm	$30.49
40 mm	$51.04
50 mm	$128.83
75 mm	$148.61
100 mm	$290.99
150 mm	$522.60
200 mm	$845.92

Flat Water Rate:

Charge per Month based on 20 Cubic Meters per Month $56.46

Residential Use: All residential use, including multiple units and mixed-use buildings, are billed at the First Block Rate.

WASTEWATER

Wastewater Surcharge (%): 110.4%

Flat Wastewater Rate (Charge per Month): $62.33

Bulk Wastewater Disposal	Charge per Cubic Meter:
Holding Tank Waste Disposal	$6.34
Septic Waste Disposal	$24.78
Effluents exceeding the wastewater use by-law limits	$5.59

THE CORPORATION OF NORFOLK COUNTY
2015 WATER & WASTEWATER MISCELLANEOUS CHARGES - Schedule B

The following is a brief explanation of each charge.

a) Water and Sewer Connection Permits

Charges payable to The Corporation of Norfolk County for permits, inspection, materials and labour.

i) Water Main Taps (19mm & 25mm)

			2015 Rate $
Property Line to Building - inspection only		$	76.00
Main to Property Line - includes inspection, main tap and materials	19mm	$	980.00
	25mm	$	1,125.00
Main to Building - includes inspection, main tap and materials to property line	19mm	$	1,056.00
	25mm	$	1,201.00

ii) Water Main Taps (38mm - 50mm)

Property Line to Building - inspection only	$	76.00
Main to Property Line - includes main tap and inspection. Contractor to supply all materials.	$	339.00
Main to Building - includes main tap and inspection. Contractor to supply all materials.	$	415.00

iii) Large Diameter Water Main Taps (larger than 50mm)

Contractor Supervision and Inspection - This charge is for Norfolk County staff to be present on site and provide inspection of the work when performed by outsourced Contractor. Fee includes valve operation where required.	$	351.00
Main Tap (larger than 50mm) and Inspection - This charge is for Norfolk County staff to perform the required watermain tap and inspect the work performed by the contractor. Contractor is to supply all required materials.	$	808.00

iv) Sanitary Sewer Connection Permits - 125mm Diameter

Property Line to Building - inspection only	$	76.00
Main to Property Line - includes inspection, main tap and saddle. Contractor to supply other materials	$	449.00
Main to Building - includes inspection, main tap and saddle. Contractor to supply other materials	$	525.00

v) Sanitary Sewer Connection Permit - 150mm Diameter or Larger

Main to Property - includes inspection and main tap. Contractor to supply all materials	$	322.00
Main to Building - includes inspection and main tap. Contractor to supply all materials	$	398.00

vi) Sanitary Manhole Inspection

Inspection of installation or modification of a sanitary manhole	$	76.00

THE CORPORATION OF NORFOLK COUNTY
2015 WATER & WASTEWATER MISCELLANEOUS CHARGES - Schedule B

The following is a brief explanation of each charge.

		2015 Rate $
vii)	Water/Sanitary Sewer Service Abandonment	
	Inspection of service disconnect at main or property line - method and location of abandonment is to be determined by Environmental Services Technologist	$ 76.00
viii)	Storm Sewer Connection Permit	
	Property Line to Building - inspection only	$ 76.00

b) Water Meter Services

Customers may call the County to perform certain services relating to water meters

Replace damaged or missing meter - 19mm (5/8 X 3/4) - greater than 19mm (5/8 X 3/4)	$	268.00
Replace damaged or missing meter reading device	$	268.00
Re-seal and install meter due to unauthorized removal of the meter	$	362.00
Drain and re-seal meter removed by County staff	$	94.00

Customers may request that their water meter be tested. Testing is to be completed by a Third Party.
If the meter is found to be accurate, the customer must pay carrying charges and cost of testing,
in addition to full payment of the bill in question.

c) Water Meter Installation Package

Replacement water meter installation package (meter tails, meter spacer, meter wire) 19mm service 25mm service	$	97.00

d) Water Turn On/Off

Only County staff are allowed to operate the property line shut off valve. This valve is used to turn off or turn on the supply of w
to each customer. A representative must be present before this work can be performed. The turn off may be requested
by the customer or initiated by the Finance Department due to non-payment of a bill.

During Normal Working Hours:

Water Turned On	$	79.00
Water Turned Off	$	79.00
Water Turned On/Off Same Day	$	79.00
Water Turned On with Meter Reconnection	$	93.00
Water Turned Off with Meter Disconnection	$	93.00

THE CORPORATION OF NORFOLK COUNTY
2015 WATER & WASTEWATER MISCELLANEOUS CHARGES - Schedule B

The following is a brief explanation of each charge.

		2015 Rate $
After Normal Working Hours		
Water Turned Off (after normal working hours)	$	129.00
Water Turned On (after normal working hours)	$	129.00

e) Sewer Rodding Charge

County staff will respond to blocked or slow-flowing sewers and provide rodding and video inspection services. If the blockage is determined to be the County's responsibility, there is no charge for the service. If staff determine that the blockage is the property owner's responsibility, the following charges will apply:

i) During Normal Working Hours:

Base Charge / Response & Initial 1 hour work	$	252.00
Each additional 1/2 hour	$	55.00

ii) After Normal Working Hours:

Base Charge / Response & Initial 3 hours of work	$	500.00
Each additional 1/2 hour	$	80.00

f) Standby Charge

When a premise is unoccupied for an extended period, a customer should have the County shut off the water service. This is to avoid the possibility of a plumbing leak going undetected for a long period. The standard service charge covers fixed costs unrelated to a volume of consumption and this is applied even when the water is shut off.

-per month (water & sewer)	$	40.00
-per month (water only)	$	20.00

g) Monthly Interest Charges

Late payment interest is applied after the due date on a monthly basis.
* Charged by Norfolk Power

	1.50%

h) NSF Cheques

This charge covers the extra cost of processing customers' cheques which have been refused or dishonoured by banks.
* Charged by Norfolk Power

	$	15.00

THE CORPORATION OF NORFOLK COUNTY
2015 WATER & WASTEWATER MISCELLANEOUS CHARGES - Schedule B

The following is a brief explanation of each charge.

			2015 Rate $
i)	**Account Setup/Change Fee**		
	This charge covers the administrative cost to establish or change customer accounts. *Charged by Norfolk Power	$	30.00
j)	**Lawyer's Certificate**		
	This charge is for responding to "Lawyer's Letters" requesting information on the status of water/sewer arrears, local improvements, municipal drain assessments, etc. - per property fee	$	69.00
k)	**Environmental Information Requests**		
	This charge is for responding to requests (from developers, public, contractors, etc.) for information on environmental issues; for example: well fields, landfill sites, spills, etc. - per property fee	$	69.00
l)	**Fire Hydrant Operation for Flow Test**		
	Includes staff labour to operate, or supervise the operation of, hydrants and valves for third party testing. Results must be provided to Norfolk County Environmental Services Division upon completion. - per hydrant operated fee	$	76.00
m)	**Sewer Dye Test**		
	Includes staff labour and materials to perform a dye test of a sanitary sewer - per dye test fee	$	76.00
n)	**Water Samples**		
	Includes staff labour, turning of valves, flushing, sample collection, delivery to lab, and lab analysis - per sampling day fee		
	i) Contractor water samples - 1st sample	$	384.00
	- each additional sample	$	37.00

THE CORPORATION OF NORFOLK COUNTY
2015 WATER & WASTEWATER MISCELLANEOUS CHARGES - Schedule B

The following is a brief explanation of each charge.

		2015 Rate $
o)	**Rain Barrels**	
	i) Rain Barrel (price per unit)	$ 60.00
p)	**Bulk Water Depot**	
	i) Account Set-up (Non-Refundable)	$ 20.00
q)	**St. Williams Water Distribution System**	
	i) Lot Charge per newly created Lot fronting on the St. Williams Water Distribution System	$ 1,465.00

r) Development Services

County staff conduct reviews of plans and complete inspections for development within Norfolk County. Under the Transfer of Approval Program, an Environmental Compliance Approval for municipal and non-municipal development is require The cost varies as to the type of project being constructed (ie. plan of subdivision, condominium, townhouse, industrial buildings, commercial buildings, pumping stations, etc.)
Charges for the administration, technical review, and/or inspection services are set by the Ministry of the Environment.
Please contact Norfolk County's Engineering Division for further information.

APPENDIX B

Customer Growth Projections

Appendix B: Customer Growth Projections

Water Customer Projection	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Metered Customers	14,619	14,751	14,883	15,015	15,147	15,279	15,411	15,543	15,675	15,814	15,953	16,092	16,231	16,370	16,509	16,648	16,787	16,926	17,065	17,204	17,343	17,482	17,621	17,760	17,899
Flat Rate Customers	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Standby Customers	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
Total Water Customers	**14,692**	**14,824**	**14,956**	**15,088**	**15,220**	**15,352**	**15,484**	**15,616**	**15,748**	**15,887**	**16,026**	**16,165**	**16,304**	**16,443**	**16,582**	**16,721**	**16,860**	**16,999**	**17,138**	**17,277**	**17,416**	**17,555**	**17,694**	**17,833**	**17,972**

Wastewater Customer Projection	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Metered Customers	13,839	13,971	14,103	14,235	14,367	14,499	14,631	14,763	14,895	15,034	15,173	15,312	15,451	15,590	15,729	15,868	16,007	16,146	16,285	16,424	16,563	16,702	16,841	16,980	17,119
Flat Rate Customers	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
Standby Customers	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
Total Wastewater Customers	**13,967**	**14,099**	**14,231**	**14,363**	**14,495**	**14,627**	**14,759**	**14,891**	**15,023**	**15,162**	**15,301**	**15,440**	**15,579**	**15,718**	**15,857**	**15,996**	**16,135**	**16,274**	**16,413**	**16,552**	**16,691**	**16,830**	**16,969**	**17,108**	**17,247**

APPENDIX C

Capital Forecast - Water

Appendix C: Capital Forecast - Water

Water Capital	2015 Budget	Forecast																							
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Infrastructure Replacement Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0011 Bruce St - Sovereign to Russel, Waterford	125,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0016 College Street - Main to Bruce, Waterford	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0017 Crescent Street - Regent Ave to Dead End, Port Dover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0033 Main Street - Harbour to Chapman, Port Dover - Phase 1 of 3	325,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0043 Prospect Street - Union St to Dover Mills Rd, Port Dover	550,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0087 Regent Street - Elm Park to Nelson, Port Dover	90,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0088 John Street - South Dr. to Dean, Simcoe	180,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0108 Old Hill Road - Cedar Dr. to Front Road, Turkey Point	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0111 Pine Street - Queen St to James St, Delhi	240,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0163 East Street - Pine to William - Road Upgrade, Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0183 Clinton Street - Main to St Andrew St, Port Dover	75,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0202 Russell Street - Main St to Bruce St, Waterford	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0203 Sovereign Street East - Main St to Bruce St, Waterford	45,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0162 Argyle Avenue - Johnson to West End, Delhi	540,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0007 Basil Ave - Argyle St to Wilson Ave, Simcoe	-	154,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0026 Holden Ave - Beckett to West Street, Simcoe	-	314,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0030 Lynn Park Subdivision - Port Dover	-	1,081,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0031 Lynn Street - Chapman Street East to Bridge Street, Port Dover	-	103,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0045 Second Ave - Norfolk St to Hunt St, Simcoe	-	618,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0051 St. George Street - Pine to Park Ave, Delhi	-	61,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0059 Upper Wellington Street - 1st Ave to 2nd Ave, Simcoe	-	103,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0105 Kent Street - Robinson St to 125m North of Union St, Simcoe	-	272,950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0112 Park Avenue - St. George St to east end	-	133,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0151 East Street - Pine to Park, Delhi	-	46,350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0184 McNab Street - Main to St. George St, Port Dover	-	61,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0185 Greenock Street - Main to St. George St, Port Dover	-	61,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0204 Main Street - Chapman to Alma, Port Dover - Phase 2 of 3	-	437,750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0003 Ann Street - Main to East, Delhi, Road Reconstruction	-	-	291,748	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0019 Don Jon Blvd - Hwy 6 to Jaylin Cres, Port Dover	-	-	201,571	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0040 Nichol Street - St. James to Auty, Waterford	-	-	127,308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0047 South Drive - John St to Queen St, Simcoe	-	-	265,225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0055 Temperance Street - Main St to Duncombe Rd, Waterford	-	-	286,443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0064 Bell Street - Swimming Pool Road to Herbert Ave, Delhi	-	-	318,270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0089 Croton Road - Main St. Southerly - Watermain, Delhi	-	-	222,789	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0090 Head Street - South Dr. to Chapel, Simcoe	-	-	185,658	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0092 Church Street - Main to Mill, Delhi	-	-	137,917	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0095 Hazel, Ryerse, Glendon, Swan, Douglas - Watermain Upgrades, Port Dove	-	-	530,450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0097 St. Andrews Street - Chapman to McNab, Port Dover	-	-	238,703	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0205 Main Street - Alma to Thompson Road, Port Dover - Phase 3 of 3	-	-	652,454	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0009 Bellevue Ave - Foster to Tyrell, Simcoe	-	-	-	114,736	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0014 Chrysler - Maple to Main, Delhi	-	-	-	120,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0015 Colborne Street North - Robinson to Windham, Simcoe	-	-	-	524,509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0056 Tyrell Street - Beckett to King, Simcoe	-	-	-	426,164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0115 Maple Avenue - Imperial St to Crysler St, Delhi	-	-	-	114,736	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0136 Maple Blvd, Elm Ave, Kiwanis Ave. Watermain Upgrades, Port Dover	-	-	-	382,454	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0140 Regent Street - Nelson St. to Greenock St., Port Dover	-	-	-	229,473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0168 College Street - Robinson to John St., Waterford	-	-	-	491,727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0180 Arthur Lane - College to Mechanic St, Waterford	-	-	-	87,418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0181 Norfolk Street - College to Mechanic St, Waterford	-	-	-	87,418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0182 John Street - College to Mechanic St, Waterford	-	-	-	92,882	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0186 Nelson Street - Lakeside Ln to 400m east of Cumberland St, Port Dover	-	-	-	491,727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0091 Main Street - First to Crosier, Delhi	-	-	-	92,882	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0004 Ann Street - James to East, Delhi, Road Reconstruction	-	-	-	-	118,178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0012 Calvert Crescent - Dora to Carolyn, Simcoe	-	-	-	-	208,219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0020 Dora Drive - Holden Ave to Calvert Cres, Simcoe	-	-	-	-	180,081	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0021 East Street - Ann to William, Delhi	-	-	-	-	118,178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0037 Dover Mills Road - Prospect Street to Cockshutt Road, Port Dover	-	-	-	-	405,183	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0054 Talbot Street - Robinson St to Maple, Simcoe	-	-	-	-	343,280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0065 Sunset Drive - Carolyn Blvd to Holden Ave, Simcoe	-	-	-	-	61,903	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0066 Carolyn Boulevard - Dora Drive to Sunset Drive, Simcoe	-	-	-	-	208,219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0101 Head Street - Maple to Windham, Simcoe	-	-	-	-	208,219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0103 Norfolk Avenue - Western to Eagle, Delhi	-	-	-	-	140,689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0117 Eagle Street - Norfolk Ave to Main St, Delhi	-	-	-	-	73,158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0187 College Street - John to Main St, Waterford	-	-	-	-	281,377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0188 St James Street - College to Mechanic St, Waterford	-	-	-	-	129,434	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0189 Cottage Street - College to Mechanic St, Waterford	-	-	-	-	135,061	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0190 Sovereign Street - John to Main St, Waterford	-	-	-	-	281,377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0098 Sloan Street - Water to St. George - Watermain, Port Dover	-	-	-	-	50,648	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix C: Capital Forecast - Water

Water Capital	2015 Budget	Forecast																								
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
C304.0104 Blueline Road - Highway 6 to Radical Road - Watermain, Port Dover	-	-	-	-	2,104,701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0010 Brown Street - Main to Washington, Waterford	-	-	-	-	-	313,004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0024 Gilbertson Drive - Queensway to Abandoned Railway, Simcoe	-	-	-	-	-	405,746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0025 Harbour Street - St. Andrew Street to St. George Street, Port Dover	-	-	-	-	-	139,113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0099 Melcalfe Street - Maple to Windham, Simcoe	-	-	-	-	-	214,466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0100 Talbot Street - Maple to Windham, Simcoe	-	-	-	-	-	214,466	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0109 McNab Street - Frist Ave to West End	-	-	-	-	-	86,946	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0113 Old Main Street - Old Main St to Main St - Wastewater, Waterford	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0114 Deer Park Road - 200m of Sanitary Sewer at SPS, Waterford	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0118 Harris Street - Ridgewood Ave to Adams Ave, Delhi	-	-	-	-	-	336,189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0119 New Lakeshore Road - Watermain Upgrade / 2nd Feed to Tower, Port Do	-	-	-	-	-	405,746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0137 Wellington Street - Alice St. to Brown St., Port Dover	-	-	-	-	-	498,488	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0138 Ridgewood Crescent - Argyle St. to Connaught Ave., Delhi	-	-	-	-	-	115,927	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0139 Spydell Street - Harris St. to Connaught Ave., Delhi	-	-	-	-	-	52,167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0102 Peel Street - Waverly to Wilson, Delhi	-	-	-	-	-	-	453,740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0141 Highway 24 watermain - Davis St. to Hwy 3, Simcoe	-	-	-	-	-	-	835,837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0142 Trunk Sanitary Sewer - Victoria St. to WPCP, Hwy 24 to Queensway, Sim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0143 King Street (Hwy 3) - James St. to Mill St., Delhi	-	-	-	-	-	-	477,621	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0144 Watermain Scott Dr - Hwy 6 to John St., Port Dover	-	-	-	-	-	-	197,019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0145 Leamon St - Nichol St. to Thompson Rd., Waterford	-	-	-	-	-	-	656,729	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0152 Colborne Street North - Windham to Queensway, Simcoe	-	-	-	-	-	-	167,167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0153 Windham Street - Colborne to Norfolk - Road Upgrades, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0154 Park Lane - Colborne to Norfolk, Simcoe	-	-	-	-	-	-	47,762	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0155 North Main Street - Colborne to Norfolk, Simcoe	-	-	-	-	-	-	71,643	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0005 Argyle Ave Extension - Huggins Ave to Fertilizer Road, Delhi	-	-	-	-	-	-	334,335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0146 Hiawatha / Dufferin watermain upgrades, Simcoe	-	-	-	-	-	-	-	245,975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0147 Windham Street - Colborne St to west end, Simcoe	-	-	-	-	-	-	-	368,962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0148 Hume Street - Watermain Looping, Simcoe	-	-	-	-	-	-	-	184,481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0156 Adams Avenue - Aberdeen to Delcrest, Delhi	-	-	-	-	-	-	-	295,170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0157 West Church Street - Main to Washington, Waterford	-	-	-	-	-	-	-	350,514	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0158 Sunninghill Drive - Inglewood to Ryerse, Port Dover	-	-	-	-	-	-	-	651,833	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0159 Garden Street - Brock to South Dr., Simcoe	-	-	-	-	-	-	-	184,481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0160 South Drive - Oak to Head, Simcoe	-	-	-	-	-	-	-	541,145	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0165 Aberdeen Avenue - Landsdowne to Church St., Delhi	-	-	-	-	-	-	-	135,286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0166 Nelson Street - Main to St. Patrick St., Port Dover	-	-	-	-	-	-	-	178,332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0094 Highland Blvd. and Norfolk St. North - Watermain Looping, Simcoe	-	-	-	-	-	-	-	104,539	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0135 Prescott / Wembley Watermain Looping & Road Upgrade, Simcoe	-	-	-	-	-	-	-	202,929	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0116 Washington Street - Green St to Thompson Rd, Waterford	-	-	-	-	-	-	-	-	348,362	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0167 Lasalle Street - Inglewood to Sunninghill, Port Dover	-	-	-	-	-	-	-	-	272,356	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0169 Church Street - James to Delcrest, Delhi	-	-	-	-	-	-	-	-	424,368	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0170 MacKay Avenue - Garden to Queen, Simcoe	-	-	-	-	-	-	-	-	177,348	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0171 Rosseau Drive - Garden to MacKay, Simcoe	-	-	-	-	-	-	-	-	190,016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0172 Oakwood Avenue - Potts to Victoria, Simcoe	-	-	-	-	-	-	-	-	380,031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0191 Potts Road - Oakwood to Victoria St, Simcoe	-	-	-	-	-	-	-	-	152,012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0192 Homewood Avenue - Oakwood to Victoria St, Simcoe	-	-	-	-	-	-	-	-	152,012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0093 Dancy Side Road - Queen to Front - Watermain, St. Williams	-	-	-	-	-	-	-	-	633,385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0193 Ormond Crescent - Basil Ave to Hellen Blvd, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0194 Helen Boulevard - Basil Ave to Argyle St, Simcoe	-	-	-	-	-	-	-	-	-	176,144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0195 Summit Circle - Lynndale Rd to south end, Simcoe	-	-	-	-	-	-	-	-	-	234,859	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0196 Lansdowne Avenue - James St to Northern Ave, Delhi	-	-	-	-	-	-	-	-	-	234,859	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0197 Fredrick Street - Neil St to Adams Ave, Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0198 Neil Street - Fredrick St to Spydell St N, Delhi	-	-	-	-	-	-	-	-	-	260,955	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0199 Mergl Drive - Nelson St to Thompson Rd, Port Dover	-	-	-	-	-	-	-	-	-	397,956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0200 East Church Street - Main St to Duncombe Rd, Waterford	-	-	-	-	-	-	-	-	-	352,289	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0201 Sylvia Street - Main St to east end, Waterford	-	-	-	-	-	-	-	-	-	260,955	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0204 Main Street - Chapman to Alma, Port Dover - Phase 2 of 3	-	417,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0205 Main Street - Alma to Thompson Road, Port Dover - Phase 3 of 3	-	-	663,063	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c462.0016 Talbot Road (Hwy 3) - Big Creek Watermain Crossing Delhi	-	288,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W&WW Administratioin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C440.0013 Ceder St Operations Yard Admin Building - Windows & Doors	50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Operations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Equipment Replacements/Upgrades Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0019 2020 Water Equipment Replacements & Upgrades	-	-	-	-	-	373,286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0024 2016 Water Equipment Replacements & Upgrades	-	298,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0025 2017 Water Equipment Replacements & Upgrades	-	-	316,148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0026 2018 Water Equipment Replacements & Upgrades	-	-	-	334,374	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0027 2019 Water Equipment Replacements & Upgrades	-	-	-	-	353,410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0045 2021 Water Equipment Replacements & Upgrades	-	-	-	-	-	-	394,037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0046 2022 Water Equipment Replacements & Upgrades	-	-	-	-	-	-	-	415,697	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0049 2023 Water Equipment Replacements & Upgrades	-	-	-	-	-	-	-	-	438,302	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0057 2024 Water Equipment Replacements & Upgrades	-	-	-	-	-	-	-	-	-	461,890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SCADA Workstation Upgrades Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0058 SCADA Workstations - Water	20,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0063 2016 Water SCADA Local Data Historian Installations	-	61,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Well Rehabilitation Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C462.0019 2019 Well Rehabilitation Program - Delhi	-	-	-	-	112,551	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C462.0022 2024 Well Rehabilitation Program - Delhi	-	-	-	-	-	-	-	-	-	130,477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0010 Well Rehabilitation Program - Simcoe	150,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix C: Capital Forecast - Water

Water Capital	2015 Budget	Forecast 2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
C465.0011 2016 Well Rehabilitation Program - Simcoe	-	154,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0012 2017 Well Rehabilitation Program - Simcoe	-	-	159,135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0013 2018 Well Rehabilitation Program - Simcoe	-	-	-	163,909	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0015 2023 Well Rehabilitation Program - Simcoe	-	-	-	-	-	-	-	-	190,016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0026 2019 Well Rehabilitation Program - Simcoe	-	-	-	-	168,826	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0027 2020 Well Rehabilitation Program - Simcoe	-	-	-	-	-	173,891	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0028 2021 Well Rehabilitation Program - Simcoe	-	-	-	-	-	-	179,108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0029 2022 Well Rehabilitation Program - Simcoe	-	-	-	-	-	-	-	184,481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0033 2024 Well Rehabilitation Program - Simcoe	-	-	-	-	-	-	-	-	-	195,716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C466.0004 Well Rehabilitation Program - Waterford	200,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C466.0013 2020 Well Rehabilitation Program - Waterford	-	-	-	-	-	231,855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Meter Replacements Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C464.0008 2018 Water Meter Replacement Program - Port Rowan	-	103,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C466.0010 2018 Water Meter Replacement Program - Waterford	-	-	-	437,091	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standpipe & Elevated Tank Inspection Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C462.0015 2016 Standpipe & Elevated Tank Inspection Program - Delhi	-	46,350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C462.0020 2023 Standpipe & Elevated Tank Inspection Program - Delhi	-	-	-	-	-	-	-	-	57,005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C463.0003 2021 Standpipe & Elevated Tank Inspection Program - Port Dover	-	-	-	-	-	-	53,732	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C464.0003 2016 Standpipe & Elevated Tank Inspection Program - Port Rowan	-	46,350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C464.0015 2023 Standpipe & Elevated Tank Inspection Program - Port Rowan	-	-	-	-	-	-	-	-	57,005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0030 2018 Standpipe & Elevated Tank Inspection Program - Simcoe	-	-	-	49,173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C466.0005 2017 Standpipe & Elevated Tank Inspection Program - Waterford	-	-	47,741	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C466.0016 2024 Standpipe & Elevated Tank Inspection Program - Waterford	-	-	-	-	-	-	-	-	-	58,715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Supervisory Control & Data Acquisition Replacements Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0059 Water SCADA PLC	250,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0060 2016 Water SCADA PLC	-	257,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0061 2017 Water SCADA PLC	-	-	265,225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Replacements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C461.0008 Courtland Reservoir - Building Repairs	10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C462.0010 Delhi Water Filter Plant Upgrades	-	-	3,182,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C462.0011 Spring Plant, Delhi - Water Facility Decommissioning	-	-	-	-	253,239	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C463.0007 Doan's Hollow Water Facility Decommissioning	-	-	-	480,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C463.0016 Port Dover WTP - Access Road and Parking Area Tar & Chip	10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C464.0016 Port Rowan WTP - Raw Water Surface Scatter Turbidity Analyzer	8,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0034 Simcoe Cedar Street Reservoir Rehabilitation	50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C440.0006 Water and Wastewater Reporting Base Vehicle Shelter	-	23,175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0034-Land Purchase-Source Protection	-	154,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0037-SCADA Additions-Water	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0038 2016 SCADA Additions-Water	-	154,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0039 2017 SCADA Additions-Water	-	-	159,135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0040 2018 SCADA Additions-Water	-	-	-	163,909	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0041 2019 SCADA Additions-Water	-	-	-	-	168,826	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0042 2020 SCADA Additions-Water	-	-	-	-	-	173,891	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0043 2021 SCADA Additions-Water	-	-	-	-	-	-	179,108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0044 2023 SCADA Additions-Water	-	-	-	-	-	-	-	-	190,016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0047 2022 SCADA Additions-Water	-	-	-	-	-	-	-	184,481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0051 Centralized Water System-Feedermains and Connections 2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0052 Centralized Water Treatment Plant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0053 Centralized Water System-Feedermains and Connections 2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0054 Centralized Water System-Feedermains and Connections 2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0055 Centralized Water System-Feedermains and Connections 2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0056 2024 SCADA Additions-Water	-	-	-	-	-	-	-	-	-	195,716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C460.0062 Water SCADA Local DATA Historian Installation	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C462.0012 Delhi Well Trunck Watermain	-	-	-	-	-	3,593,750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C463.0006 Port Dover Water Tower	-	2,575,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C465.0035 Simcoe NW Well #1 Decommissioning	20,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C440.0012 SCADA Data Historian	13,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Place Holder for New Water Source	-	-	-	-	-	-	-	6,149,369	6,333,850	-	6,719,582	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures - Water Capital Program	**3,231,500**	**8,031,425**	**8,251,680**	**4,885,582**	**6,104,760**	**7,328,931**	**4,047,837**	**10,377,676**	**9,996,083**	**2,960,530**	**6,719,582**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Lifecycle Needs	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**
Buildings-Distribution	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	327,947	-	-	188,819	-	30,614	-	-	-	-
Land Improv-Distribution	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15,902	-	-	-
Linear Water-Distribution	-	-	-	-	-	-	-	-	-	-	14,468,434	597,289	439,973	2,395,701	1,475,140	11,662,980	2,410,455	454,292	429,170	909,887	15,703,534	233,367	812,708	1,554,551	2,797,487
Vehicles & Equip-Distribution	-	-	-	-	-	-	-	-	-	-	68,219	-	288,835	-	-	-	23,769	-	14,423	-	-	-	7,910,188	10,067	-
Bulk Water	-	-	-	-	-	-	-	-	-	-	-	-	-	45,735	-	-	-	-	225,453	-	30,614	30,667	-	65,342	18,181
Buildings-Treatment	-	-	-	-	-	-	-	-	-	-	52,324	-	2,155,504	-	237,939	1,041,174	-	647,974	-	2,134,997	2,747,874	-	273,035	84,260	176,335
Fire Protection (Hydrants)	-	-	-	-	-	-	-	-	-	-	159,257	-	-	670,039	1,066,091	333,913	580,182	-	-	23,213	-	-	-	-	-
Vehicles & Equip-Treatment	-	-	-	-	-	-	-	-	-	-	29,305	29,461	203,264	1,134,344	778,621	3,849,650	837,201	32,588	49,122	61,795	-	865,288	76,518	-	-
Total Water Capital Expenditures	**3,231,500**	**8,031,425**	**8,251,680**	**4,885,582**	**6,104,760**	**7,328,931**	**4,047,837**	**10,377,676**	**9,996,083**	**2,960,530**	**21,497,121**	**626,749**	**3,087,575**	**4,245,819**	**3,557,791**	**17,215,665**	**3,851,607**	**1,134,853**	**906,987**	**3,129,893**	**18,512,635**	**1,145,223**	**9,109,439**	**1,714,220**	**2,992,003**
Capital Financing																									
Provincial/Federal Grants		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gas Tax Allocation	350,000	150,000	150,000	150,000	-	550,000	-	350,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges	8,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	92,000	5,293,035	6,198,303	1,452,801	2,532,359	3,013,860	(0)	5,728,643	5,479,615	0	14,680,809	0	0	(0)	0	3,333,456	(0)	0	(0)	(0)	2,137,189	0	196,840	(0)	(0)
Growth Related Debenture Requirements	-	2,588,390	13,792	32,782	72,400	15,071	80,394	15,988	16,468	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions (Capital From Current)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Capital Replacement Reserve Fund Continuity- Budget	2,781,500	-	1,889,586	3,250,000	3,500,000	3,750,000	3,967,444	4,283,044	4,500,000	2,960,530	6,816,312	626,749	3,087,575	4,245,819	3,557,791	13,882,209	3,851,607	1,134,853	906,987	3,129,893	16,375,446	1,145,223	8,912,599	1,714,220	2,992,003
Total Water Capital Financing	**3,231,500**	**8,031,425**	**8,251,680**	**4,885,582**	**6,104,760**	**7,328,931**	**4,047,837**	**10,377,676**	**9,996,083**	**2,960,530**	**21,497,121**	**626,749**	**3,087,575**	**4,245,819**	**3,557,791**	**17,215,665**	**3,851,607**	**1,134,853**	**906,987**	**3,129,893**	**18,512,635**	**1,145,223**	**9,109,439**	**1,714,220**	**2,992,003**

APPENDIX D

Capital Forecast - Wastewater

Appendix D: Capital Forecast - Wastewater

Wastewater Capital	2015 Budget	Forecast																						
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Infrastructure Replacement Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0011 Bruce St - Sovereign to Russel, Waterford	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0016 College Street - Main to Bruce, Waterford	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0017 Crescent Street - Regent Ave to Dead End, Port Dover	175,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0033 Main Street - Harbour to Chapman, Port Dover - Phase 1 of 3	315,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0043 Prospect Street - Union St to Dover Mills Rd, Port Dover	420,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0087 Regent Street - Elm Park to Nelson, Port Dover	80,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0088 John Street - South Dr. to Dean, Simcoe	130,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0108 Old Hill Road - Cedar Dr. to Front Road, Turkey Point	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0111 Pine Street - Queen St to James St, Delhi	180,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0163 East Street - Pine to William - Road Upgrade, Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0183 Clinton Street - Main to St Andrew St, Port Dover	55,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0202 Russell Street - Main St to Bruce St, Waterford	20,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0203 Sovereign Street East - Main St to Bruce St, Waterford	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0162 Argyle Avenue - Johnson to West End, Delhi	600,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0007 Basil Ave - Argyle St to Wilson Ave, Simcoe	-	164,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0026 Holden Ave - Beckett to West Street, Simcoe	-	236,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0030 Lynn Park Subdivision - Port Dover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0031 Lynn Street - Chapman Street East to Bridge Street, Port Dover	-	103,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0045 Second Ave - Norfolk St to Hunt St, Simcoe	-	463,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0051 St. George Street - Pine to Park Ave, Delhi	-	46,350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0059 Upper Wellington Street - 1st Ave to 2nd Ave, Simcoe	-	77,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0105 Kent Street - Robinson St to 125m North of Union St, Simcoe	-	206,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0112 Park Avenue - St. George St to east end	-	103,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0151 East Street - Pine to Park, Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0184 McNab Street - Main to St. George St, Port Dover	-	51,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0185 Greenock Street - Main to St. George St, Port Dover	-	51,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0204 Main Street - Chapman to Alma, Port Dover - Phase 2 of 3	-	375,950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0003 Ann Street - Main to East, Delhi, Road Reconstruction	-	-	222,789	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0019 Don Jon Blvd - Hwy 6 to Jaylin Cres, Port Dover	-	-	190,962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0040 Nichol Street - St. James to Auty, Waterford	-	-	106,090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0047 South Drive - John St to Queen St, Simcoe	-	-	201,571	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0055 Temperance Street - Main St to Duncombe Rd, Waterford	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0064 Bell Street - Swimming Pool Road to Herbert Ave, Delhi	-	-	238,703	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0089 Croton Road - Main St. Southerly - Watermain, Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0090 Head Street - South Dr. to Chapel, Simcoe	-	-	148,526	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0092 Church Street - Main to Mill, Delhi	-	-	106,090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0095 Hazel, Ryerse, Glendon, Swan, Douglas - Watermain Upgrades, Po	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0097 St. Andrews Street - Chapman to McNab, Port Dover	-	-	180,353	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0205 Main Street - Alma to Thompson Road, Port Dover - Phase 3 of 3	-	-	371,315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0009 Bellevue Ave - Foster to Tyrell, Simcoe	-	-	-	87,418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0014 Chrysler - Maple to Main, Delhi	-	-	-	92,882	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0015 Colborne Street North - Robinson to Windham, Simcoe	-	-	-	393,382	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0056 Tyrell Street - Beckett to King, Simcoe	-	-	-	322,354	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0115 Maple Avenue - Imperial St to Crysler St, Delhi	-	-	-	87,418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0136 Maple Blvd, Elm Ave, Kiwanis Ave. Watermain Upgrades, Port Dove	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0140 Regent Street - Nelson St. to Greenock St., Port Dover	-	-	-	174,836	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0168 College Street - Robinson to John St., Waterford	-	-	-	371,527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0180 Arthur Lane - College to Mechanic St, Waterford	-	-	-	65,564	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0181 Norfolk Street - College to Mechanic St, Waterford	-	-	-	65,564	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0182 John Street - College to Mechanic St, Waterford	-	-	-	71,027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0186 Nelson Street - Lakeside Ln to 400m east of Cumberland St, Port D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0091 Main Street - First to Crosier, Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0004 Ann Street - James to East, Delhi, Road Reconstruction	-	-	-	-	90,041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0012 Calvert Crescent - Dora to Carolyn, Simcoe	-	-	-	-	157,571	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0020 Dora Drive - Holden Ave to Calvert Cres, Simcoe	-	-	-	-	135,061	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0021 East Street - Ann to William, Delhi	-	-	-	-	90,041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0037 Dover Mills Road - Prospect Street to Cockshutt Road, Port Dover	-	-	-	-	163,199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0054 Talbot Street - Robinson St to Maple, Simcoe	-	-	-	-	258,867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0065 Sunset Drive - Carolyn Blvd to Holden Ave, Simcoe	-	-	-	-	50,648	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0066 Carolyn Boulevard - Dora Drive to Sunset Drive, Simcoe	-	-	-	-	157,571	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0101 Head Street - Maple to Windham, Simcoe	-	-	-	-	157,571	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0103 Norfolk Avenue - Western to Eagle, Delhi	-	-	-	-	112,551	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0117 Eagle Street - Norfolk Ave to Main St, Delhi	-	-	-	-	56,275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0187 College Street - John to Main St, Waterford	-	-	-	-	213,847	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0188 St James Street - College to Mechanic St, Waterford	-	-	-	-	95,668	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0189 Cottage Street - College to Mechanic St, Waterford	-	-	-	-	101,296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0190 Sovereign Street - John to Main St, Waterford	-	-	-	-	213,847	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0098 Sloan Street - Water to St. George - Watermain, Port Dover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0104 Blueline Road - Highway 6 to Radical Road - Watermain, Port Dover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0010 Brown Street - Main to Washington, Waterford	-	-	-	-	-	237,651	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0024 Gilbertson Drive - Queensway to Abandoned Railway, Simcoe	-	-	-	-	-	301,411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0025 Harbour Street - St. Andrew Street to St. George Street, Port Dover	-	-	-	-	-	144,909	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0099 Melcalfe Street - Maple to Windham, Simcoe	-	-	-	-	-	162,298	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0100 Talbot Street - Maple to Windham, Simcoe	-	-	-	-	-	162,298	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0109 McNab Street - Frist Ave to West End	-	-	-	-	-	162,298	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0113 Old Main Street - Old Main St to Main St - Wastewater, Waterford	-	-	-	-	-	86,946	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0114 Deer Park Road - 200m of Sanitary Sewer at SPS, Waterford	-	-	-	-	-	173,891	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0118 Harris Street - Ridgewood Ave to Adams Ave, Delhi	-	-	-	-	-	255,040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0119 New Lakeshore Road - Watermain Upgrade / 2nd Feed to Tower, P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0137 Wellington Street - Alice St. to Brown St., Port Dover	-	-	-	-	-	382,560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0138 Ridgewood Crescent - Argyle St. to Connaught Ave., Delhi	-	-	-	-	-	86,946	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0139 Spydell Street - Harris St. to Connaught Ave., Delhi	-	-	-	-	-	46,371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0102 Peel Street - Waverly to Wilson, Delhi	-	-	-	-	-	-	346,275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0141 Highway 24 watermain - Davis St. to Hwy 3, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0142 Trunk Sanitary Sewer - Victoria St. to WPCP, Hwy 24 to Queenswa	-	-	-	-	-	-	835,837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0143 King Street (Hwy 3) - James St. to Mill St., Delhi	-	-	-	-	-	-	358,216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0144 Watermain Scott Dr - Hwy 6 to John St., Port Dover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0145 Leamon St - Nichol St. to Thompson Rd., Waterford	-	-	-	-	-	-	507,472	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0152 Colborne Street North - Windham to Queensway, Simcoe	-	-	-	-	-	-	125,375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0153 Windham Street - Colborne to Norfolk - Road Upgrades, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0154 Park Lane - Colborne to Norfolk, Simcoe	-	-	-	-	-	-	35,822	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0155 North Main Street - Colborne to Norfolk, Simcoe	-	-	-	-	-	-	59,703	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0005 Argyle Ave Extension - Huggins Ave to Fertilizer Road, Delhi	-	-	-	-	-	-	370,156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0146 Hiawatha / Dufferin watermain upgrades, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0147 Windham Street - Colborne St to west end, Simcoe	-	-	-	-	-	-	-	245,975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0148 Hume Street - Watermain Looping, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0156 Adams Avenue - Aberdeen to Delcrest, Delhi	-	-	-	-	-	-	-	221,377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0157 West Church Street - Main to Washington, Waterford	-	-	-	-	-	-	-	264,423	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix D: Capital Forecast - Wastewater

Wastewater Capital	2015 Budget	Forecast 2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
C304.0158 Sunninghill Drive - Inglewood to Ryerse, Port Dover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0159 Garden Street - Brock to South Dr., Simcoe	-	-	-	-	-	-	-	245,975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0160 South Drive - Oak to Head, Simcoe	-	-	-	-	-	-	-	405,858	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0165 Aberdeen Avenue - Landsdowne to Church St., Delhi	-	-	-	-	-	-	-	98,390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0166 Nelson Street - Main to St. Patrick St., Port Dover	-	-	-	-	-	-	-	135,286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0094 Highland Blvd. and Norfolk St. North - Watermain Looping, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0135 Prescott / Wembley Watermain Looping & Road Upgrade, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0116 Washington Street - Green St to Thompson Rd, Waterford	-	-	-	-	-	-	-	-	266,022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0167 Lasalle Street - Inglewood to Sunninghill, Port Dover	-	-	-	-	-	-	-	-	209,017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0169 Church Street - James to Delcrest, Delhi	-	-	-	-	-	-	-	-	316,693	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0170 MacKay Avenue - Garden to Queen, Simcoe	-	-	-	-	-	-	-	-	133,011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0171 Rosseau Drive - Garden to MacKay, Simcoe	-	-	-	-	-	-	-	-	145,679	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0172 Oakwood Avenue - Potts to Victoria, Simcoe	-	-	-	-	-	-	-	-	285,023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0191 Potts Road - Oakwood to Victoria St, Simcoe	-	-	-	-	-	-	-	-	114,009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0192 Homewood Avenue - Oakwood to Victoria St, Simcoe	-	-	-	-	-	-	-	-	114,009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0093 Dancy Side Road - Queen to Front - Watermain, St. Williams	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0193 Ormond Crescent - Basil Ave to Hellen Blvd, Simcoe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0194 Helen Boulevard - Basil Ave to Argyle St, Simcoe	-	-	-	-	-	-	-	-	-	130,477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0195 Summit Circle - Lynndale Rd to south end, Simcoe	-	-	-	-	-	-	-	-	-	176,144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0196 Lansdowne Avenue - James St to Northern Ave, Delhi	-	-	-	-	-	-	-	-	-	176,144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0197 Fredrick Street - Neil St to Adams Ave, Delhi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0198 Neil Street - Fredrick St to Spydell St N, Delhi	-	-	-	-	-	-	-	-	-	195,716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0199 Mergl Drive - Nelson St to Thompson Rd, Port Dover	-	-	-	-	-	-	-	-	-	300,098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0200 East Church Street - Main St to Duncombe Rd, Waterford	-	-	-	-	-	-	-	-	-	260,955	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C304.0201 Sylvia Street - Main St to east end, Waterford	-	-	-	-	-	-	-	-	-	195,716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W&WW Administratioin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C440.0013 Ceder St Operations Yard Admin Building - Windows & Doors	50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Operations (Replacements with Enhancement)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C453.0037 Port Dover WPCP Upgrades - Construction	-	-	9,017,650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C455.0003 Simcoe WPCP - Roads Upgrade & New Watermain	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C455.0016 Simcoe WPCP - Operating Building Replacement	1,200,000	-	1,273,080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C453.0006 Port Dover WPCP Outfall - Port Dover	-	-	1,591,350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Operations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Equipment Replacements/Upgrades Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0031 2020 Wastewater Equipment Replacements & Upgrades	-	-	-	-	-	373,286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0036 2016 Wastewater Equipment Replacements & Upgrades	-	298,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0037 2017 Wastewater Equipment Replacements & Upgrades	-	-	316,148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0038 2018 Wastewater Equipment Replacements & Upgrades	-	-	-	334,374	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0039 2019 Wastewater Equipment Replacements & Upgrades	-	-	-	-	353,410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0043 2022 Wastewater Equipment Replacements & Upgrades	-	-	-	-	-	-	-	415,697	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0044 2021 Wastewater Equipment Replacements & Upgrades	-	-	-	-	-	-	394,037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0050 2023 Wastewater Equipment Replacements & Upgrades	-	-	-	-	-	-	-	-	438,302	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0052 2024 Wastewater Equipment Replacements & Upgrades	-	-	-	-	-	-	-	-	-	461,890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0053 Wastewater Automatic Sampler	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C454.0008 Port Rowan WWTF - Membrane Filter	-	-	-	-	-	695,564	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C454.0009 Port Rowan Mallard Walk SPS - Pump	60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C454.0010 Port Rowan Front Road SPS - Pump Rebuild	10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Concrete Tank Repairs Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0029 Wastewater Treatment Facility Concrete Tank Repairs	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0046 2016 Wastewater Treatment Facility Concrete Tank Repairs	-	103,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0047 2017 Wastewater Treatment Facility Concrete Tank Repairs	-	-	106,090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0048 2018 Wastewater Treatment Facility Concrete Tank Repairs	-	-	-	109,273	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Supervisory Control & Data Acquisition Replacements Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C440.0012 SCADA Data Historian	13,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0054 Wastewater SCADA PLC	190,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Replacements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C453.0043 Port Dover WPCP - Boiler Room Gas Detector	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C456.0007 Waterford Lagoon Clean-out and Decommissioning	-	1,030,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C440.0006 Water and Wastewater Reporting Base Vehicle Shelter	-	23,175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0017 SCADA Additions-Wastewater	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0018 2016 SCADA Additions-Wastewater	-	154,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0019 2017 SCADA Additions-Wastewater	-	-	159,135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0020 2018 SCADA Additions-Wastewater	-	-	-	163,909	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0025 2020 SCADA Additions-Wastewater	-	-	-	-	-	173,891	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0027 2019 SCADA Additions-Wastewater	-	-	-	-	168,826	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0024 2021 SCADA Additions-Wastewater	-	-	-	-	-	-	179,108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0045 2022 SCADA Additions-Wastewater	-	-	-	-	-	-	-	184,481	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0049 2023 SCADA Additions-Wastewater	-	-	-	-	-	-	-	-	190,016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C450.0051 2024 SCADA Additions-Wastewater	-	-	-	-	-	-	-	-	-	195,716	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C453.0002 WPCP Expansion, Port Dover-Wastewater	-	-	-	-	9,004,070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C453.0042 Passmore Ave Forcemain-Brant Ave to Marina, Port Dover	-	-	-	-	-	-	-	-	278,689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C454.0011 Port Rowman WWTF-Sodium Bicarbonate Gravimetric Feeder	40,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C454.0013 Port Rowan WWTF-Equip/Chemical Building and Lunch Room	-	257,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C455.0010 Simcoe WPCP New Outfall	-	-	-	-	-	-	9,552,418	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5831618 Delhi WWTF - New Filter Building	-	4,429,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Wastewater Capital Expenditures - Capital Program	**3,956,500**	**8,175,625**	**14,229,852**	**2,339,529**	**11,580,360**	**3,445,363**	**12,764,419**	**2,217,463**	**2,490,470**	**2,092,856**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Lifecycle Needs	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**
Building- Collection	-	-	-	-	-	-	-	-	-	-	-	-	-	122,367	-	13,488,087	525,355	268,502	83,414	-	-	-	-	84,456	6,738,412
Linear-Collection	-	-	-	-	-	-	-	-	-	-	7,602,565	668,588	4,050,632	2,635,466	2,954,935	19,787,591	2,821,791	21,662,889	1,182,731	298,755	-	1,035,979	673,683	691,632	1,427,436
Vehicles & Equip-Collection	-	-	-	-	-	-	-	-	-	-	-	-	-	118,754	229,909	62,917	17,315	-	1,406,971	-	-	-	-	-	138,167
Septic/Holding/Leachate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,679,071	-	-	-	-	-
Building- Treatment	-	-	-	-	-	-	-	-	-	-	17,067,092	19,594	-	-	212,201	-	11,905	24,472	-	21,733,321	12,761,316	-	-	-	-
Land Improv-Treatment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66,350	79,175	-	97,180	-	-	-	-
Mach&Equip-Treatment	-	-	-	-	-	-	-	-	-	-	-	-	109,183	149,037	226,459	268,648	99,720	47,470	302,081	4,437,315	-	26,066	-	-	-
Total Wastewater Capital Expenditures	**3,956,500**	**8,175,625**	**14,229,852**	**2,339,529**	**11,580,360**	**3,445,363**	**12,764,419**	**2,217,463**	**2,490,470**	**2,092,856**	**24,669,656**	**688,182**	**4,159,816**	**3,025,624**	**3,623,504**	**33,607,244**	**3,476,086**	**22,069,683**	**3,054,373**	**28,148,463**	**12,858,495**	**1,062,046**	**673,683**	**776,087**	**8,304,015**
Capital Financing																									
Provincial/Federal Grants		-	6,480,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gas Tax Allocation		-	750,000	-	-	-	700,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges	8,000	-	-	-	-	-	-	-	-	16,325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	1,367,000	4,429,000	-	0	(0)	(0)	161,040	0	(0)	0	11,907,924	(0)	-	-	-	14,864,778	0	11,847,410	(0)	16,740,652	5,658,495	-	-	-	-
Growth Related Debenture Requirements	-	13,390	809,467	14,205	5,752,843	15,071	2,475,449	15,988	16,468	637	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Capital Replacement Reserve Fund Continuity - Budget	2,581,500	3,733,235	6,190,385	2,325,323	5,827,517	3,430,292	9,427,930	2,201,474	2,474,002	2,075,894	12,761,732	688,182	4,159,816	3,025,624	3,623,504	18,742,466	3,476,086	10,222,273	3,054,373	11,407,811	7,200,000	1,062,046	673,683	776,087	8,304,015
Total Wastewater Capital Financing	**3,956,500**	**8,175,625**	**14,229,852**	**2,339,529**	**11,580,360**	**3,445,363**	**12,764,419**	**2,217,463**	**2,490,470**	**2,092,856**	**24,669,656**	**688,182**	**4,159,816**	**3,025,624**	**3,623,504**	**33,607,244**	**3,476,086**	**22,069,683**	**3,054,373**	**28,148,463**	**12,858,495**	**1,062,046**	**673,683**	**776,087**	**8,304,015**

APPENDIX E

Reserve Projections

Appendix E: Reserve Projections

Table E-1

Water Capital Replacement Reserve Fund Continuity	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Opening Balance	(3,505,696)	(3,844,004)	(1,110,414)	-	-	-	-	33,044	-	-	1,816,312	-	4,692,600	7,211,600	8,846,518	11,458,058	3,629,487	5,864,548	10,890,640	16,223,408	19,379,918	9,139,539	14,204,231	11,461,006	15,982,988
Transfer from Operating	2,500,000	2,750,000	3,000,000	3,250,000	3,500,000	3,750,000	4,000,000	4,250,000	4,500,000	4,750,000	5,000,000	5,250,000	5,500,000	5,750,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
Transfer to Capital	2,781,500	-	1,889,586	3,250,000	3,500,000	3,750,000	3,967,444	4,283,044	4,500,000	2,960,530	6,816,312	626,749	3,087,575	4,245,819	3,557,791	13,882,209	3,851,607	1,134,853	906,987	3,129,893	16,375,446	1,145,223	8,912,599	1,714,220	2,992,003
Transfer to Operating																									
Interest	(56,808)	(16,410)	-	-	-	-	488	-	-	26,842	-	69,349	106,575	130,737	169,331	53,638	86,668	160,945	239,755	286,403	135,067	209,915	169,374	236,202	284,865
Closing Balance	**(3,844,004)**	**(1,110,414)**	**-**	**-**	**-**	**-**	**33,044**	**-**	**-**	**1,816,312**	**-**	**4,692,600**	**7,211,600**	**8,846,518**	**11,458,058**	**3,629,487**	**5,864,548**	**10,890,640**	**16,223,408**	**19,379,918**	**9,139,539**	**14,204,231**	**11,461,006**	**15,982,988**	**19,275,850**

Table E-2

Water Development Charges Reserve Fund Continuity	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Opening Balance	(3,807,790)	(3,396,204)	(2,954,922)	(2,676,419)	(2,378,535)	(2,063,738)	(1,876,499)	(1,504,270)	(1,113,824)	(699,773)	(292,337)	140,281	599,076	1,084,920	1,598,834	2,141,860	2,730,551	3,350,880	4,003,938	4,690,974	5,413,144	6,171,733	6,968,075	7,988,377	9,053,026
Development Charge Proceeds	503,483	518,538	534,101	550,109	566,625	583,648	601,117	619,221	637,833	626,355	645,143	664,540	684,409	704,886	725,971	747,832	770,302	793,380	817,204	841,667	866,875	892,859	919,619	947,261	975,680
Transfer to Capital	8,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	33,707	33,587	216,045	217,074	221,330	368,677	206,658	212,315	213,440	214,599	214,599	214,599	214,599	214,599	214,599	199,494	199,494	199,494	199,494	199,494	199,494	199,494	17,372	16,401	14,095
Interest	(50,190)	(43,669)	(39,553)	(35,151)	(30,499)	(27,732)	(22,231)	(16,460)	(10,341)	(4,320)	2,073	8,853	16,033	23,628	31,653	40,353	49,520	59,172	69,325	79,997	91,208	102,976	118,055	133,789	150,219
Closing Balance	**(3,396,204)**	**(2,954,922)**	**(2,676,419)**	**(2,378,535)**	**(2,063,738)**	**(1,876,499)**	**(1,504,270)**	**(1,113,824)**	**(699,773)**	**(292,337)**	**140,281**	**599,076**	**1,084,920**	**1,598,834**	**2,141,860**	**2,730,551**	**3,350,880**	**4,003,938**	**4,690,974**	**5,413,144**	**6,171,733**	**6,968,075**	**7,988,377**	**9,053,026**	**10,164,830**

Table E-3

Wastewater Capital Replacement Reserve Fund Continuity	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Opening Balance	8,783,515	9,035,545	8,376,095	5,466,496	6,690,041	4,630,962	5,227,930	-	2,282,254	4,575,876	7,561,732	-	4,833,245	6,469,031	9,534,308	12,292,466	-	3,272,273	-	4,207,811	-	-	6,230,023	12,947,686	19,662,173
Transfer from Operating	2,700,000	2,950,000	3,200,000	3,450,000	3,700,000	3,950,000	4,200,000	4,450,000	4,700,000	4,950,000	5,200,000	5,450,000	5,700,000	5,950,000	6,200,000	6,450,000	6,700,000	6,950,000	7,200,000	7,200,000	7,200,000	7,200,000	7,200,000	7,200,000	7,200,000
Transfer to Capital	2,581,500	3,733,235	6,190,385	2,325,323	5,827,517	3,430,292	9,427,930	2,201,474	2,474,002	2,075,894	12,761,732	688,182	4,159,816	3,025,624	3,623,504	18,742,466	3,476,086	10,222,273	3,054,373	11,407,811	7,200,000	1,062,046	673,683	776,087	8,304,015
Transfer to Operating																									
Closing Balance	8,902,015	8,252,310	5,385,710	6,591,173	4,562,524	5,150,670	-	2,248,526	4,508,252	7,449,982	-	4,761,818	6,373,430	9,393,407	12,110,804	-	3,223,914	-	4,145,627	-	-	6,137,954	12,756,341	19,371,599	18,558,158
Interest	133,530	123,785	80,786	98,868	68,438	77,260	-	33,728	67,624	111,750	-	71,427	95,601	140,901	181,662	-	48,359	-	62,184	-	-	92,069	191,345	290,574	278,372
Closing Balance	**9,035,545**	**8,376,095**	**5,466,496**	**6,690,041**	**4,630,962**	**5,227,930**	**-**	**2,282,254**	**4,575,876**	**7,561,732**	**-**	**4,833,245**	**6,469,031**	**9,534,308**	**12,292,466**	**-**	**3,272,273**	**-**	**4,207,811**	**-**	**-**	**6,230,023**	**12,947,686**	**19,662,173**	**18,836,530**

Table E-4

Wastewater Development Charges Reserve Fund Continuity	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Opening Balance	(4,693,367)	(3,887,399)	(3,953,440)	(3,997,622)	(4,073,307)	(4,120,629)	(4,819,611)	(4,946,908)	(5,221,194)	(5,468,061)	(5,751,710)	(5,990,262)	(6,198,639)	(6,375,291)	(6,518,787)	(6,627,532)	(6,291,080)	(5,910,347)	(5,483,572)	(5,008,828)	(4,484,131)	(3,907,496)	(3,058,422)	(2,148,917)	(1,119,816)
Development Charge Proceeds	871,418	897,579	924,565	952,376	981,012	1,010,474	1,040,760	1,072,000	1,104,192	1,076,881	1,109,223	1,142,478	1,176,812	1,212,090	1,248,448	1,285,886	1,324,541	1,364,276	1,405,228	1,447,428	1,490,845	1,535,509	1,581,557	1,628,990	1,677,807
Transfer to Capital	8,000	-	-	-	-	-	-	-	-	16,325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	905,195	909,668	967,864	967,439	1,638,229	1,094,950	1,269,125	1,270,250	1,259,204	1,259,249	1,259,249	1,259,249	1,259,249	1,259,249	856,463	856,463	856,463	856,463	856,463	856,463	856,463	641,237	640,295	583,340	582,340
Closing Balance	(3,829,949)	(3,895,015)	(3,938,544)	(4,013,110)	(4,059,733)	(4,748,385)	(4,873,801)	(5,144,034)	(5,387,252)	(5,666,709)	(5,901,736)	(6,107,033)	(6,281,075)	(6,422,450)	(6,529,588)	(6,198,109)	(5,823,002)	(5,402,534)	(4,934,806)	(4,417,863)	(3,849,749)	(3,013,224)	(2,117,160)	(1,103,267)	(24,350)
Interest	(57,449)	(58,425)	(59,078)	(60,197)	(60,896)	(71,226)	(73,107)	(77,161)	(80,809)	(85,001)	(88,526)	(91,605)	(94,216)	(96,337)	(97,944)	(92,972)	(87,345)	(81,038)	(74,022)	(66,268)	(57,746)	(45,198)	(31,757)	(16,549)	(365)
Required from Development Charges	(4,933,539)	(4,788,810)	(5,161,197)	(5,565,820)	(5,803,786)	(6,046,548)	(6,203,707)	(6,293,191)	(6,687,234)	(7,073,867)	(7,269,102)	(7,929,814)	(8,127,886)	(8,327,419)	(8,528,443)	(8,519,133)	(8,715,501)	(8,796,178)	(8,878,469)	(8,963,405)	(9,048,020)	(9,207,299)	(9,110,161)	(8,990,382)	(9,031,444)
Closing Balance	**(3,887,399)**	**(3,953,440)**	**(3,997,622)**	**(4,073,307)**	**(4,120,629)**	**(4,819,611)**	**(4,946,908)**	**(5,221,194)**	**(5,468,061)**	**(5,751,710)**	**(5,990,262)**	**(6,198,639)**	**(6,375,291)**	**(6,518,787)**	**(6,627,532)**	**(6,291,080)**	**(5,910,347)**	**(5,483,572)**	**(5,008,828)**	**(4,484,131)**	**(3,907,496)**	**(3,058,422)**	**(2,148,917)**	**(1,119,816)**	**(24,715)**

APPENDIX F

Operations & Maintenance Projections-Water

Appendix F: Operations & Maintenance Projections - Water

Water Operating	Budget	Forecast																							
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Operating Expenditures																									
Water - Administration																									
Interdepartmental Charges	1,389,900	1,417,698	1,446,052	1,474,973	1,504,472	1,534,562	1,565,253	1,596,558	1,628,489	1,661,059	1,694,280	1,728,166	1,762,729	1,797,984	1,833,944	1,870,622	1,908,035	1,946,196	1,985,119	2,024,822	2,065,318	2,106,625	2,148,757	2,191,732	2,235,567
Water - Financial Administration																									
Financial	36,700	37,434	38,183	38,946	39,725	40,520	41,330	42,157	43,000	43,860	44,737	45,632	46,544	47,475	48,425	49,393	50,381	51,389	52,417	53,465	54,534	55,625	56,737	57,872	59,030
Water Direct																									
Salaries & Benefits	2,276,600	2,322,132	2,368,575	2,415,946	2,464,265	2,513,550	2,563,821	2,615,098	2,667,400	2,720,748	2,775,163	2,830,666	2,887,279	2,945,025	3,003,925	3,064,004	3,125,284	3,187,790	3,251,545	3,316,576	3,382,908	3,450,566	3,519,577	3,589,969	3,661,768
Materials & Supplies	934,100	952,782	971,838	991,274	1,011,100	1,031,322	1,051,948	1,072,987	1,094,447	1,116,336	1,138,663	1,161,436	1,184,665	1,208,358	1,232,525	1,257,176	1,282,319	1,307,966	1,334,125	1,360,807	1,388,023	1,415,784	1,444,100	1,472,982	1,502,441
Services	1,134,600	1,157,292	1,180,438	1,204,047	1,228,128	1,252,690	1,277,744	1,303,299	1,329,365	1,355,952	1,383,071	1,410,732	1,438,947	1,467,726	1,497,081	1,527,022	1,557,563	1,588,714	1,620,488	1,652,898	1,685,956	1,719,675	1,754,069	1,789,150	1,824,933
Capital	105,000	107,100	109,242	111,427	113,655	115,928	118,247	120,612	123,024	125,485	127,994	130,554	133,165	135,829	138,545	141,316	144,142	147,025	149,966	152,965	156,024	159,145	162,328	165,574	168,886
Sub Total Operating Expenditures	5,876,900	5,994,438	6,114,327	6,236,613	6,361,346	6,488,572	6,618,344	6,750,711	6,885,725	7,023,440	7,163,908	7,307,186	7,453,330	7,602,397	7,754,445	7,909,534	8,067,724	8,229,079	8,393,660	8,561,534	8,732,764	8,907,420	9,085,568	9,267,279	9,452,625
Capital-Related																									
Existing Debt (Principal) - Non-Growth Related	1,137,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	353,200	827,032	829,494	830,335	829,313	759,431	481,919	278,520	278,520	278,520	278,520	173,709	173,709	173,709	173,709	-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Growth Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Growth Related	33,707	33,587	33,923	33,982	35,931	178,184	15,105	15,105	15,105	15,105	15,105	15,105	15,105	15,105	15,105	-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)	-	3,253	190,534	416,382	482,328	588,756	715,936	740,994	969,500	1,197,197	1,239,099	1,801,597	1,864,653	1,929,915	1,997,463	2,067,374	2,374,277	2,449,168	2,526,680	2,606,904	2,689,937	2,919,777	2,636,074	2,292,595	2,256,658
New Non-Growth Related Debt (Interest)	-	3,220	188,362	398,634	434,909	506,660	591,539	566,481	741,049	898,903	857,001	1,327,461	1,264,405	1,199,142	1,131,595	1,061,684	989,326	914,435	836,923	756,698	673,666	587,727	499,007	420,217	353,933
New Growth Related Debt (Principal)	-	-	91,528	95,219	99,711	105,761	109,996	116,689	121,338	126,167	130,583	135,153	139,884	144,780	149,847	155,092	160,520	166,138	171,953	177,971	184,200	190,647	15,198	14,760	12,970
New Growth Related Debt (Interest)	-	-	90,594	87,873	85,688	84,732	81,557	80,521	76,997	73,326	68,911	64,340	59,610	54,714	49,647	44,402	38,974	33,356	27,541	21,522	15,293	8,846	2,174	1,642	1,125
Transfer to Capital Budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Water Capital Replacement Reserve Fund Continuity- Budget	2,500,000	2,750,000	3,000,000	3,250,000	3,500,000	3,750,000	4,000,000	4,250,000	4,500,000	4,750,000	5,000,000	5,250,000	5,500,000	5,750,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
Sub Total Capital Related Expenditures	4,024,207	3,617,092	4,424,436	5,112,425	5,467,880	5,973,524	5,996,052	6,048,310	6,702,508	7,339,218	7,589,218	8,767,365	9,017,365	9,267,365	9,517,365	9,328,551	9,563,097	9,563,097	9,563,097	9,563,097	9,563,096	9,706,998	9,152,453	8,729,213	8,624,686
Total Expenditures	**9,901,107**	**9,611,530**	**10,538,763**	**11,349,039**	**11,829,225**	**12,462,097**	**12,614,396**	**12,799,020**	**13,588,233**	**14,362,658**	**14,753,127**	**16,074,551**	**16,470,695**	**16,869,762**	**17,271,810**	**17,238,085**	**17,630,821**	**17,792,175**	**17,956,757**	**18,124,630**	**18,295,861**	**18,614,418**	**18,238,021**	**17,996,492**	**18,077,311**
Non-Rate Revenues																									
Bulk Water Sales	250,000	287,662	330,998	380,863	438,240	504,261	580,227	667,638	703,769	711,328	744,460	740,610	716,592	732,228	671,073	642,702	649,911	657,264	890,218	672,415	710,832	718,845	696,296	769,919	731,205
Fire Protection Charge	620,000	771,537	960,113	1,194,779	1,486,801	1,850,197	2,302,413	2,865,158	3,019,077	3,052,234	3,301,985	3,178,502	3,078,247	3,408,641	3,614,512	2,997,293	3,196,871	2,834,240	2,867,386	2,917,005	2,935,681	2,970,857	3,006,735	3,043,332	3,080,660
Miscellaneous Revenues																									
PIL's-Supplementaries-Local Improvements	14,900	15,198	15,502	15,812	16,128	16,451	16,780	17,115	17,458	17,807	18,163	18,526	18,897	19,275	19,660	20,053	20,455	20,864	21,281	21,706	22,141	22,583	23,035	23,496	23,966
Federal/Provncial Grants	41,900	42,738	43,593	44,465	45,354	46,261	47,186	48,130	49,093	50,074	51,076	52,097	53,139	54,202	55,286	56,392	57,520	58,670	59,844	61,040	62,261	63,506	64,777	66,072	67,394
Fees & Service Charges	98,400	100,368	102,375	104,423	106,511	108,642	110,814	113,031	115,291	117,597	119,949	122,348	124,795	127,291	129,837	132,433	135,082	137,784	140,539	143,350	146,217	149,142	152,124	155,167	158,270
Other Revenues	2,000	2,040	2,081	2,122	2,165	2,208	2,252	2,297	2,343	2,390	2,438	2,487	2,536	2,587	2,639	2,692	2,746	2,800	2,856	2,914	2,972	3,031	3,092	3,154	3,217
Total-Non Rate Revenues	**1,027,200**	**1,219,544**	**1,454,662**	**1,742,464**	**2,095,199**	**2,528,019**	**3,059,673**	**3,713,369**	**3,907,031**	**3,951,430**	**4,238,071**	**4,114,571**	**3,994,206**	**4,344,223**	**4,493,007**	**3,851,565**	**4,062,584**	**3,711,622**	**3,982,124**	**3,818,430**	**3,880,104**	**3,927,964**	**3,946,060**	**4,061,139**	**4,064,712**
Operating Subsidies																									
Contributions from Water Development Charges Reserve Fund Continuity	33,707	33,587	216,045	217,074	221,330	368,677	206,658	212,315	213,440	214,599	214,599	214,599	214,599	214,599	214,599	199,494	199,494	199,494	199,494	199,494	199,494	199,494	17,372	16,401	14,095
Contributions from Operating Reserve								-												2,000				1,000	
Total Operating Revenue	**1,060,907**	**1,253,131**	**1,670,707**	**1,959,538**	**2,316,529**	**2,896,696**	**3,266,332**	**3,925,684**	**4,120,471**	**4,166,029**	**4,452,670**	**4,329,170**	**4,208,805**	**4,558,822**	**4,707,606**	**4,051,059**	**4,262,078**	**3,911,116**	**4,181,618**	**4,019,924**	**4,079,598**	**4,127,458**	**3,963,432**	**4,078,541**	**4,078,807**
Net Water Costs To Be Recovered From Users	**8,840,200**	**8,358,400**	**8,868,056**	**9,389,501**	**9,512,696**	**9,565,400**	**9,348,064**	**8,873,336**	**9,467,762**	**10,196,629**	**10,300,457**	**11,745,382**	**12,261,890**	**12,310,940**	**12,564,204**	**13,187,026**	**13,368,743**	**13,881,060**	**13,775,139**	**14,104,706**	**14,216,263**	**14,486,960**	**14,274,589**	**13,917,952**	**13,998,504**

APPENDIX G

Operations & Maintenance Projections-Wastewater

Appendix G: Operations & Maintenance Projections- Wastewater

Wastewater Operating	Budget	Forecast																							
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Operating Expenditures																									
Wastewater - Administration																									
Interdepartmental Charges	1,163,400	1,186,668	1,210,401	1,234,609	1,259,302	1,284,488	1,310,177	1,336,381	1,363,109	1,390,371	1,418,178	1,446,542	1,475,473	1,504,982	1,535,082	1,565,783	1,597,099	1,629,041	1,661,622	1,694,854	1,728,751	1,763,326	1,798,593	1,834,565	1,871,256
Wastewater - Financial Administration																									
Financial	33,600	34,272	34,957	35,657	36,370	37,097	37,839	38,596	39,368	40,155	40,958	41,777	42,613	43,465	44,334	45,221	46,126	47,048	47,989	48,949	49,928	50,926	51,945	52,984	54,043
Wastewater Direct																									
Salaries & Benefits	228,100	232,662	237,315	242,062	246,903	251,841	256,878	262,015	267,256	272,601	278,053	283,614	289,286	295,072	300,973	306,993	313,132	319,395	325,783	332,299	338,945	345,723	352,638	359,691	366,885
Materials & Supplies	229,600	234,192	238,876	243,653	248,526	253,497	258,567	263,738	269,013	274,393	279,881	285,479	291,188	297,012	302,952	309,011	315,192	321,495	327,925	334,484	341,174	347,997	354,957	362,056	369,297
Services	3,432,300	3,500,946	3,570,965	3,642,384	3,715,232	3,789,537	3,865,327	3,942,634	4,021,486	4,101,916	4,183,955	4,267,634	4,352,986	4,440,046	4,528,847	4,619,424	4,711,812	4,806,049	4,902,170	5,000,213	5,100,217	5,202,222	5,306,266	5,412,391	5,520,639
Additional Salary		25,000	25,500	26,010	26,530	27,061	27,602	28,154	28,717	29,291	29,877	30,475	31,084	31,706	32,340	32,987	33,647	34,320	35,006	35,706	36,420	37,149	37,892	38,649	39,422
Capital	100,000	102,000	104,040	106,121	108,243	110,408	112,616	114,869	117,166	119,509	121,899	124,337	126,824	129,361	131,948	134,587	137,279	140,024	142,825	145,681	148,595	151,567	154,598	157,690	160,844
Sub Total Operating Expenditures	5,187,000	5,315,740	5,422,055	5,530,496	5,641,106	5,753,928	5,869,006	5,986,387	6,106,114	6,228,237	6,352,801	6,479,857	6,609,455	6,741,644	6,876,477	7,014,006	7,154,286	7,297,372	7,443,319	7,592,186	7,744,029	7,898,910	8,056,888	8,218,026	8,382,386
Capital-Related																									
Existing Debt (Principal) - Non-Growth Related	1,116,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	626,000	1,101,591	1,104,519	1,101,591	1,022,057	1,475,231	717,362	673,467	673,467	586,038	586,038	586,038	586,038	586,038	586,038	264,383	264,383	264,383	264,383	264,383	-	-	-	-	-
Existing Debt (Principal) - Growth Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Growth Related		905,195	908,726	909,967	908,542	1,174,556	630,217	630,217	630,217	618,012	618,012	618,012	618,012	618,012	618,012	215,226	215,226	215,226	215,226	215,226	215,226	-	-	-	-
New Non-Growth Related Debt (Principal)	-	48,339	206,645	213,877	221,363	229,111	237,129	251,124	259,913	269,010	278,425	709,247	734,071	759,763	786,355	813,877	1,888,265	1,917,748	2,781,859	2,813,441	4,024,020	4,359,806	4,079,826	4,101,677	4,124,292
New Non-Growth Related Debt (Interest)	-	47,845	201,168	193,936	186,450	178,702	170,683	168,020	159,231	150,134	140,719	547,751	522,927	497,235	470,643	443,121	414,635	385,152	354,638	323,055	290,367	256,535	224,885	203,035	180,419
New Growth Related Debt (Principal)	-	-	473	29,114	30,635	235,134	243,897	339,967	352,432	365,349	378,159	391,394	405,093	419,271	433,946	449,134	464,854	481,124	497,963	515,392	533,430	552,100	570,482	533,494	551,167
New Growth Related Debt (Interest)	-	-	469	28,783	28,262	228,539	220,837	298,941	287,602	275,843	263,078	249,843	236,144	221,965	207,291	192,103	176,383	160,113	143,274	125,845	107,807	89,136	69,813	49,846	31,174
Transfer to Capital Budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Wastewater Capital Replacement Reserve Fund Continuity - Budge	2,700,000	2,950,000	3,200,000	3,450,000	3,700,000	3,950,000	4,200,000	4,450,000	4,700,000	4,950,000	5,200,000	5,450,000	5,700,000	5,950,000	6,200,000	6,450,000	6,700,000	6,950,000	7,200,000	7,200,000	7,200,000	7,200,000	7,200,000	7,200,000	7,200,000
Sub Total Capital Related Expenditures	4,442,200	5,052,970	5,622,000	5,927,268	6,097,308	7,471,273	6,420,125	6,811,736	7,062,861	7,214,386	7,464,431	8,552,285	8,802,285	9,052,285	9,302,285	8,827,844	10,123,746	10,373,746	11,457,342	11,457,342	12,370,850	12,457,578	12,145,007	12,088,052	12,087,052
Total Expenditures	**9,629,200**	**10,368,710**	**11,044,055**	**11,457,764**	**11,738,414**	**13,225,201**	**12,289,132**	**12,798,123**	**13,168,976**	**13,442,623**	**13,817,232**	**15,032,142**	**15,411,740**	**15,793,929**	**16,178,762**	**15,841,850**	**17,278,032**	**17,671,118**	**18,900,662**	**19,049,528**	**20,114,879**	**20,356,488**	**20,201,895**	**20,306,078**	**20,469,439**
Non-Rate Revenues																									
Bulk Processing (Wastewater Disposal Charge)	125,600	149,547	178,059	212,007	252,427	300,554	357,857	426,085	437,362	446,961	458,486	487,390	499,173	511,088	523,138	528,703	562,569	575,041	604,825	947,809	639,030	653,176	654,847	663,096	671,511
Haldimand Recovery	233,000	281,741	340,678	411,944	498,118	602,318	728,316	880,671	958,440	979,255	1,004,244	1,066,919	1,092,467	1,118,302	1,144,432	1,156,499	1,229,930	1,256,976	1,321,557	2,681,791	1,395,724	1,426,398	1,430,021	1,447,909	1,466,154
PIL's-Supplementaries-Local Improvements	20,500	20,910	21,328	21,755	22,190	22,634	23,086	23,548	24,019	24,499	24,989	25,489	25,999	26,519	27,049	27,590	28,142	28,705	29,279	29,865	30,462	31,071	31,693	32,326	32,973
Miscellaneous Revenues	49,100	50,082	51,084	52,105	53,147	54,210	55,295	56,400	57,528	58,679	59,853	61,050	62,271	63,516	64,786	66,082	67,404	68,752	70,127	71,529	72,960	74,419	75,908	77,426	78,974
Total-Non Rate Revenues	**428,200**	**502,279**	**591,148**	**697,810**	**825,882**	**979,716**	**1,164,554**	**1,386,705**	**1,477,349**	**1,509,395**	**1,547,572**	**1,640,848**	**1,679,909**	**1,719,425**	**1,759,406**	**1,778,875**	**1,888,045**	**1,929,474**	**2,025,788**	**3,730,994**	**2,138,176**	**2,185,065**	**2,192,469**	**2,220,757**	**2,249,612**
Operating Subsidies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund	-	905,195	909,668	967,864	967,439	1,638,229	1,094,950	1,269,125	1,270,250	1,259,204	1,259,249	1,259,249	1,259,249	1,259,249	1,259,249	856,463	856,463	856,463	856,463	856,463	856,463	641,237	640,295	583,340	582,340
Contributions from Operating Reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**428,200**	**1,407,474**	**1,500,816**	**1,665,675**	**1,793,321**	**2,617,945**	**2,259,504**	**2,655,830**	**2,747,600**	**2,768,599**	**2,806,821**	**2,900,097**	**2,939,158**	**2,978,674**	**3,018,655**	**2,635,338**	**2,744,508**	**2,785,937**	**2,882,251**	**4,587,457**	**2,994,639**	**2,826,302**	**2,832,763**	**2,804,097**	**2,831,952**
Net Wastewater Costs To Be Recovered From Users	**9,201,000**	**8,961,235**	**9,543,238**	**9,792,089**	**9,945,094**	**10,607,256**	**10,029,628**	**10,142,293**	**10,421,376**	**10,674,024**	**11,010,411**	**12,132,046**	**12,472,582**	**12,815,255**	**13,160,107**	**13,206,512**	**14,533,524**	**14,885,181**	**16,018,410**	**14,462,071**	**17,120,240**	**17,530,186**	**17,369,131**	**17,501,980**	**17,637,486**

APPENDIX H

Qualitative Analysis of Rate Structure Options

Option	Analysis
Fixed fee A single flat fee applies to all customers	• Not beneficial in Norfolk where water meters are already in place and part of the normal operation. • Major inequities exist because one flat fee applies regardless of water consumed or wastewater generated. • Does not promote water conservation. **This structure is not recommended because it:** - **Is not fair and equitable as it does not consider water consumption or wastewater flows.** - **Does not utilize the County's current assets (water meters).** - **There is no economic incentive for customer to conserve.**
Uniform Rate This is a single unit price per cubic metre that applies to ALL customers regardless of customer type	• Widely accepted rate structure. • Can be volatile as revenue is based entirely on consumption/flows. • Simple to administer and understand compared to other structures. • Promotes equity by having the same rate apply to all customers. • User pay (customers pay for the amount of water consumed/ wastewater generated). • Promotes conservation as customers pay more for higher consumption. • Can have a fixed fee component (see next option). **This structure is not recommended because it:** - **Would result in significant cost increase to high volume users which is not consistent with the Industry Promotion principle.** - **Very volatile option that relies fully on consumption which could result in revenue shortfalls in wet years (decrease revenue stability).** - **Would require building a larger reserve to offset risk of revenue shortfall.**

Base Charge plus Uniform Rate The rate is comprised of a fixed portion regardless of consumption and a unit price portion based on consumption	• Provides stability in the revenue stream to the extent of the revenues generated from the fixed charge. • Widely accepted rate structure • This structure has all the benefits of a uniform rate including the promotion of conservation without the extreme revenue volatility. • Structure currently employed by majority of Ontario municipalities. **This structure is recommended because it:** - **Would provide consistency from previous years.** - **Is understood by current users.** - **Promotes conservation while providing security of revenue**
Declining Block Rate The unit price of water declines (in blocks) as consumption increases	• Usually the first block is designed for residential and small commercial users. Additional blocks are geared to high consumption users such as industry and agriculture. • Can be used as an economic incentive for higher consumption customers. • Can have a minimum fixed fee component below a specified consumption volume. • Applies in areas where the cost of managing the system declines with volume delivered to and used by customers. • Viewed as a disincentive for conservation. General perception that declining rates tend to be a "discount" for higher volume water users and promotes wasteful uses. • Generally not used where water supplies are limited or where promotion of conservation is desired. • Frequently used (and works best) in cases where there is a good water supply and same rates apply to ALL customer types. • Data on consumption patterns (normal and peak capacity needs) and costs specific to each type of customer needs to be acquired and maintained on a consistent basis for rate and block design and fairness. This aspect can be costly and complex. • Generally provides a stable revenue stream if a fixed fee component is included. **This structure is not recommended because it:** - **Diminishes the existing economic incentive for conservation.**

Increasing Block Rate The Unit Price of Water increases (in blocks) as consumption increases	• Requires details on consumption by block and customer. • Used in situations where avoidance of capacity expansions is necessary. • More difficult to explain and communicate to users. • Requires clear understanding of how customers might respond to different rates. • Requires that the different types of customers can be easily differentiated. • If applied equally to all customers, then it could result in inequities (especially to high volume users with uniform demand). • Inequities can easily result if the time, effort and resources are not invested in acquiring all the necessary information. • Perceived as promoting conservation particularly in areas of scarce water supplies. • Revenues not as stable due to the fact that a greater proportion of revenues are dependent on higher volume water users that have the tendency to reduce consumption whenever possible. **This structure is not recommended because it:** - **Decreases security of revenue**

APPENDIX I

Public Open House Feedback

Appendix I: Public Open House Feedback

Number	Topic	Question/Comment	Answer/Response
1	Bulk Water	What was the bulk water rate based on (benchmark)?	Bulk Water Rates based on cost to deliver bulk water service in Norfolk.
2	Operational Efficiences	What does the county do to effect operational efficiencies?	Regulations have hampered the County from creating efficiencies although operational cost increases.
3	Senior Level Government Support	Has the County pursued the Province for more funds?	The Provincial and Federal governments have different priorities. Senior level government funding support was previously provided when existing facilities were constructed. Funds from user rates are now required to fund the replacement of these facilities with "NO" Provincial or Federal government financial support being provided.
4	Capital Financing	Has enough money been set aside to pay for infrastructure renewal?	The County has seen over the last 5 years a reduction in reserves that resulted from funding past infrastructure. Debt will also be used to fund infrastructure needs as water and wastewater debt levels are low compared to the value of existing assets.
5	Impacts of Conservation	One attendee had concern that conservation of water actually penalizes water users	Conserving water reduces an individual's water bills plus reduces overall system costs by deferring the need for expansion.
6	Approval of Rates	Has Council approved the rates being presented?	No, rates presented are for illustrative purposes to show estimated customer impacts of the changes in rate structure which Council has only approved in principle.
7	Basic Charge	What is the basic charge on the water bill for?	The basic charge is to represent the fixed costs of the system. It provides security of revenue as the majority of the system costs are fixed and do not change with the volume of water consumed.
8	Alternative Revenue Sources	What is the County doing to increase revenue?	The County is looking at recovering the full cost of service delivery for other services such as Bulk Water, Hauled Waste and Fire Protection.
9	Wastewater Credits	Why are water consumers being charged for wastewater when watering lawns?	Wastewater is calculated based on metered water use. Wastewater is not metered and therefore cannot be measured to allow for a credit for uses such as lawn watering.
10	Notice of Public Meeting	One attendee felt the timing was poor for the public meeting and that he did not receive notice.	A notice of public meeting was placed in the local paper on August 5th as well as being placed on the County's website
11	Impacts on Business	One attendee had concern any rate increase will drive out business.	Any impacts on business will be a combination of changes to the rate structure and increase in overall revenue requirements. Changes to the rates structure are being recommended to be phased in over 5 years to mitigate any impacts. Revenue Requirement will be determined during budget deliberations.
12	Fire Protection Charge	Would the Fire Protection Charges be a one-time increase on the property tax bill?	Yes, if it was not phased-in.

APPENDIX J

2016-2039 Sustainable Rate - Water

Appendix J: 2016 – 2039 Sustainable Rates - Water

2015 Water Rates and Charges		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Rate Category	Current 2015 Rates and Charges	Proposed 2016 Rates and Charges	Projected 2017 Rates and Charges	Projected 2018 Rates and Charges	Projected 2019 Rates and Charges	Projected 2020 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges
Consumption Rates																									
Block 1 (per m3)	$ 1.9040	$ 1.9675	$ 2.0860	$ 2.1057	$ 2.0704	$ 2.0199	$ 1.7636	$ 1.7627	$ 1.8807	$ 2.0255	$ 2.0462	$ 2.3332	$ 2.4358	$ 2.4455	$ 2.4958	$ 2.6196	$ 2.6557	$ 2.7574	$ 2.7364	$ 2.8017	$ 2.8240	$ 2.8778	$ 2.8356	$ 2.7648	$ 2.7808
Block 2 (per m3)	$ 1.3330	$ 1.4756	$ 1.6688	$ 1.7688	$ 1.8219	$ 1.8583	$ 1.7636	$ 1.7627	$ 1.8807	$ 2.0255	$ 2.0462	$ 2.3332	$ 2.4358	$ 2.4455	$ 2.4958	$ 2.6196	$ 2.6557	$ 2.7574	$ 2.7364	$ 2.8017	$ 2.8240	$ 2.8778	$ 2.8356	$ 2.7648	$ 2.7808
Base Charges (per Month)																									
Meter Size																									
15 mm	$ 18.38	$ 18.14	$ 20.00	$ 21.96	$ 22.55	$ 22.97	$ 22.03	$ 21.85	$ 23.13	$ 24.71	$ 24.76	$ 28.01	$ 29.01	$ 28.90	$ 29.27	$ 30.48	$ 30.66	$ 31.60	$ 31.12	$ 31.62	$ 31.64	$ 32.00	$ 31.30	$ 30.30	$ 30.26
25 mm	$ 30.49	$ 30.09	$ 33.17	$ 36.42	$ 37.40	$ 38.10	$ 36.55	$ 36.25	$ 38.37	$ 40.99	$ 41.08	$ 46.47	$ 48.13	$ 47.94	$ 48.55	$ 50.56	$ 50.87	$ 52.42	$ 51.62	$ 52.46	$ 52.49	$ 53.09	$ 51.93	$ 50.27	$ 50.19
40 mm	$ 51.04	$ 50.37	$ 55.53	$ 60.97	$ 62.61	$ 63.79	$ 61.18	$ 60.67	$ 64.24	$ 68.62	$ 68.77	$ 77.79	$ 80.57	$ 80.26	$ 81.27	$ 84.64	$ 85.15	$ 87.74	$ 86.42	$ 87.82	$ 87.86	$ 88.88	$ 86.93	$ 84.14	$ 84.02
50 mm	$ 128.83	$ 127.13	$ 140.16	$ 153.89	$ 158.03	$ 161.00	$ 154.43	$ 153.15	$ 162.14	$ 173.21	$ 173.57	$ 196.35	$ 203.36	$ 202.58	$ 205.14	$ 213.65	$ 214.93	$ 221.48	$ 218.13	$ 221.66	$ 221.77	$ 224.33	$ 219.42	$ 212.39	$ 212.08
75 mm	$ 148.61	$ 146.65	$ 161.68	$ 177.52	$ 182.29	$ 185.72	$ 178.14	$ 176.66	$ 187.04	$ 199.81	$ 200.22	$ 226.49	$ 234.59	$ 233.68	$ 236.64	$ 246.45	$ 247.93	$ 255.48	$ 251.62	$ 255.70	$ 255.82	$ 258.77	$ 253.11	$ 245.00	$ 244.64
100 mm	$ 290.99	$ 287.15	$ 316.57	$ 347.60	$ 356.95	$ 363.65	$ 348.82	$ 345.92	$ 366.23	$ 391.24	$ 392.05	$ 443.49	$ 459.34	$ 457.57	$ 463.35	$ 482.57	$ 485.48	$ 500.25	$ 492.69	$ 500.67	$ 500.92	$ 506.70	$ 495.62	$ 479.72	$ 479.02
150 mm	$ 522.60	$ 515.70	$ 568.55	$ 624.27	$ 641.05	$ 653.10	$ 626.46	$ 621.25	$ 657.73	$ 702.64	$ 704.10	$ 796.48	$ 824.95	$ 821.76	$ 832.15	$ 866.66	$ 871.88	$ 898.42	$ 884.85	$ 899.18	$ 899.62	$ 910.00	$ 890.10	$ 861.55	$ 860.29
200 mm	$ 845.92	$ 834.75	$ 920.29	$ 1,010.50	$ 1,037.65	$ 1,057.16	$ 1,014.03	$ 1,005.60	$ 1,064.66	$ 1,137.35	$ 1,139.71	$ 1,289.25	$ 1,335.32	$ 1,330.16	$ 1,346.98	$ 1,402.85	$ 1,411.30	$ 1,454.25	$ 1,432.28	$ 1,455.47	$ 1,456.20	$ 1,472.99	$ 1,440.78	$ 1,394.58	$ 1,392.54
Fire Protection Charge (per year)	$ 620,000	$ 771,537	$ 960,113	$ 1,194,779	$ 1,486,801	$ 1,850,197	$ 2,719,315	$ 2,865,158	$ 3,019,077	$ 3,052,234	$ 3,301,985	$ 3,178,502	$ 3,078,247	$ 3,408,641	$ 3,614,512	$ 2,997,293	$ 3,196,871	$ 2,834,240	$ 2,867,386	$ 2,917,005	$ 2,935,681	$ 2,970,857	$ 3,006,735	$ 3,043,332	$ 3,080,660
Bulk Water Rate (per m3)	$ 2.38	$ 2.65	$ 2.95	$ 3.29	$ 3.66	$ 4.07	$ 4.79	$ 5.05	$ 5.33	$ 5.38	$ 5.63	$ 5.60	$ 5.42	$ 5.54	$ 5.08	$ 4.86	$ 4.92	$ 4.97	$ 6.74	$ 5.09	$ 5.38	$ 5.44	$ 5.27	$ 5.83	$ 5.53
Flat Water Charge (per month)	$ 56.46	$ 57.49	$ 61.72	$ 64.07	$ 63.95	$ 63.37	$ 57.30	$ 57.10	$ 60.75	$ 65.22	$ 65.69	$ 74.68	$ 77.73	$ 77.81	$ 79.18	$ 82.87	$ 83.78	$ 86.75	$ 85.85	$ 87.66	$ 88.12	$ 89.56	$ 88.02	$ 85.60	$ 85.87
Standby Water Charge (per month)	$ 20.00	$ 18.14	$ 20.00	$ 21.96	$ 22.55	$ 22.97	$ 22.03	$ 21.85	$ 23.13	$ 24.71	$ 24.76	$ 28.01	$ 29.01	$ 28.90	$ 29.27	$ 30.48	$ 30.66	$ 31.60	$ 31.12	$ 31.62	$ 31.64	$ 32.00	$ 31.30	$ 30.30	$ 30.26

APPENDIX K

2016-2039 Sustainable Rate - Wastewater

Appendix K: 2016 – 2039 Sustainable Rates - Wastewater

015 Wastewater Rates and Charge		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Rate Category	Current 2015 Rates and Charges	Proposed 2016 Rates and Charges	Projected 2017 Rates and Charges	Projected 2018 Rates and Charges	Projected 2019 Rates and Charges	Projected 2020 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges	Projected 2021 Rates and Charges
Consumption Rates																									
Block 1 (per m3)	$ 2.1020	$ 2.2487	$ 2.3866	$ 2.3348	$ 2.3016	$ 2.3821	$ 2.1850	$ 2.1430	$ 2.2020	$ 2.2553	$ 2.3264	$ 2.5634	$ 2.6354	$ 2.7078	$ 2.7806	$ 2.7904	$ 3.0708	$ 3.1451	$ 3.3846	$ 3.1051	$ 3.7127	$ 3.8417	$ 3.8571	$ 3.9345	$ 4.0125
Block 2 (per m3)	$ 1.4716	$ 1.6865	$ 1.9093	$ 1.9613	$ 2.0254	$ 2.1915	$ 2.0976	$ 2.1430	$ 2.2020	$ 2.2553	$ 2.3264	$ 2.5634	$ 2.6354	$ 2.7078	$ 2.7806	$ 2.7904	$ 3.0708	$ 3.1451	$ 3.3846	$ 3.1051	$ 3.7127	$ 3.8417	$ 3.8571	$ 3.9345	$ 4.0125
Base Charges (per Month)																									
Meter Size																									
15 mm	$ 20.29	$ 20.58	$ 22.76	$ 24.21	$ 24.91	$ 26.90	$ 25.75	$ 26.35	$ 26.86	$ 27.28	$ 27.90	$ 30.48	$ 31.08	$ 31.67	$ 32.25	$ 32.10	$ 35.05	$ 35.61	$ 38.02	$ 34.60	$ 41.05	$ 42.15	$ 41.99	$ 42.51	$ 43.02
25 mm	$ 33.66	$ 34.13	$ 37.75	$ 40.15	$ 41.32	$ 44.63	$ 42.72	$ 43.72	$ 44.55	$ 45.25	$ 46.28	$ 50.56	$ 51.55	$ 52.53	$ 53.50	$ 53.26	$ 58.14	$ 59.07	$ 63.06	$ 57.40	$ 68.10	$ 69.92	$ 69.66	$ 70.52	$ 71.37
40 mm	$ 56.35	$ 57.14	$ 63.20	$ 67.22	$ 69.16	$ 74.71	$ 71.51	$ 73.18	$ 74.58	$ 75.74	$ 77.47	$ 84.64	$ 86.30	$ 87.94	$ 89.57	$ 89.15	$ 97.32	$ 98.88	$ 105.57	$ 96.09	$ 113.99	$ 117.04	$ 116.61	$ 118.05	$ 119.48
50 mm	$ 142.23	$ 144.22	$ 159.52	$ 169.67	$ 174.58	$ 188.57	$ 180.51	$ 184.73	$ 188.26	$ 191.18	$ 195.54	$ 213.65	$ 217.82	$ 221.96	$ 226.07	$ 225.03	$ 245.65	$ 249.58	$ 266.46	$ 242.54	$ 287.73	$ 295.43	$ 294.33	$ 297.96	$ 301.57
75 mm	$ 164.07	$ 166.37	$ 184.02	$ 195.72	$ 201.38	$ 217.52	$ 208.22	$ 213.09	$ 217.16	$ 220.53	$ 225.56	$ 246.45	$ 251.27	$ 256.04	$ 260.78	$ 259.58	$ 283.36	$ 287.90	$ 307.37	$ 279.77	$ 331.91	$ 340.79	$ 339.53	$ 343.71	$ 347.87
100 mm	$ 321.25	$ 325.76	$ 360.32	$ 383.23	$ 394.32	$ 425.93	$ 407.71	$ 417.24	$ 425.22	$ 431.82	$ 441.66	$ 482.58	$ 492.00	$ 501.35	$ 510.63	$ 508.27	$ 554.85	$ 563.74	$ 601.85	$ 547.82	$ 649.90	$ 667.29	$ 664.82	$ 673.00	$ 681.16
150 mm	$ 576.95	$ 585.05	$ 647.11	$ 688.25	$ 708.17	$ 764.94	$ 732.22	$ 749.34	$ 763.67	$ 775.52	$ 793.20	$ 866.68	$ 883.60	$ 900.39	$ 917.06	$ 912.83	$ 996.47	$ 1,012.44	$ 1,080.89	$ 983.85	$ 1,167.19	$ 1,198.42	$ 1,193.97	$ 1,208.67	$ 1,223.32
200 mm	$ 933.90	$ 947.00	$ 1,047.46	$ 1,114.06	$ 1,146.31	$ 1,238.19	$ 1,185.23	$ 1,212.94	$ 1,236.14	$ 1,255.32	$ 1,283.93	$ 1,402.87	$ 1,430.26	$ 1,457.44	$ 1,484.42	$ 1,477.58	$ 1,612.96	$ 1,638.81	$ 1,749.61	$ 1,592.54	$ 1,889.30	$ 1,939.85	$ 1,932.65	$ 1,956.44	$ 1,980.15
Septic (per m3)	$ 24.78	$ 13.55	$ 16.14	$ 19.22	$ 22.88	$ 27.24	$ 32.44	$ 38.62	$ 39.64	$ 40.51	$ 41.56	$ 44.18	$ 45.24	$ 46.32	$ 47.42	$ 47.92	$ 50.99	$ 52.12	$ 54.82	$ 86.38	$ 58.82	$ 60.50	$ 61.12	$ 62.34	$ 63.57
Holding (per m3)	$ 6.34	$ 13.55	$ 16.14	$ 19.22	$ 22.88	$ 27.24	$ 32.44	$ 38.62	$ 39.64	$ 40.51	$ 41.56	$ 44.18	$ 45.24	$ 46.32	$ 47.42	$ 47.92	$ 50.99	$ 52.12	$ 54.82	$ 86.38	$ 58.82	$ 60.50	$ 61.12	$ 62.34	$ 63.57
Leachate	$ 5.59	$ 6.76	$ 8.17	$ 9.88	$ 11.95	$ 14.45	$ 17.47	$ 21.13	$ 21.68	$ 22.15	$ 22.72	$ 24.14	$ 24.71	$ 25.30	$ 25.89	$ 26.16	$ 27.82	$ 28.44	$ 29.90	$ 60.92	$ 32.06	$ 32.97	$ 33.31	$ 33.96	$ 34.63
Flat Water Charge (per month)	$ 62.33	$ 65.55	$ 70.49	$ 70.90	$ 70.94	$ 74.54	$ 69.45	$ 69.21	$ 70.90	$ 72.38	$ 74.43	$ 81.75	$ 83.78	$ 85.82	$ 87.87	$ 87.91	$ 96.46	$ 98.51	$ 105.71	$ 96.70	$ 115.30	$ 118.98	$ 119.13	$ 121.20	$ 123.27
Standby Water Charge (per month)	$ 20.00	$ 20.58	$ 22.76	$ 24.21	$ 24.91	$ 26.90	$ 25.75	$ 26.35	$ 26.86	$ 27.28	$ 27.90	$ 30.48	$ 31.08	$ 31.67	$ 32.25	$ 32.10	$ 35.05	$ 35.61	$ 38.02	$ 34.60	$ 41.05	$ 42.15	$ 41.99	$ 42.51	$ 43.02