



PORT COLBORNE

CITY OF PORT COLBORNE

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Corporate Services Department, Clerk's Division

Sent via E-mail

John.ballantine@ontario.ca

April 17, 2019

John Ballantine
Manager, Financing and Infrastructure Policy
Ministry of Municipal Affairs and Housing
13th Flr 777 Bay Street
Toronto, ON, M5G 2E5

Dear Mr. Ballantine:

Re: Update regarding Port Colborne Distribution System Financial Plan

Please be advised that, at its meeting of April 15, 2019, the Council of The Corporation of the City of Port Colborne resolved as follows:

That Council, as the Owner of the Port Colborne Distribution System, approve the City of Port Colborne Distribution System Financial Plan #073-301 attached as Appendix A to Engineering and Operations Department, Operations Division report 2019-53, 2019-2029 Port Colborne Distribution System Financial Plan; and

That staff submit the City of Port Colborne Distribution System Financial Plan #073-301 to the Province by April 23, 2019 in compliance with Ontario Regulation 453/07.

For more information, please contact Darlene Suddard at 905-835-2900 ext. 256 or darlenesuddard@portcolborne.ca.

Sincerely,

Carrie McIntosh
Deputy Clerk

2019-2029

Port Colborne Distribution System FINANCIAL PLAN



EXECUTIVE SUMMARY

In 2007, as part of the Municipal Drinking Water Licensing Program, the Province released Regulation 453/07 that requires the preparation of a financial plan for all municipal drinking water systems. This plan must be approved by a resolution of Council, submitted with the Municipal Drinking Water Licence renewal application every five years, and must cover a period of six years – the first year is the year the Licence expires, plus five years. The City of Port Colborne, Engineering and Operations Department (Operating Authority), together with the Treasury Department, has prepared this financial plan in accordance with the Regulation (O. Reg. 453/07), and as required by the Regulation, has submitted the Plan to Council for approval prior to the City's Municipal Drinking Water Licence and Drinking Water Works Permit renewal deadline of April 23, 2019.

In preparing the Financial Plan, the financial impacts of the drinking water system have been considered. Based on the Projected Financial Statements and the assumptions herein, the Drinking Water System will be financially viable and will continue to provide safe drinking water to consumers.

Expected Achievements

Through the process of developing this Financial Plan, the Operating Authority set out to achieve the following:

- Financial viability;
- Provide safe drinking water;
- Enable the long term plan for capital renewal to be realized;
- Achieve full cost recovery over the long term; and
- Maintain current service levels.

Operating Plan

The operating plan includes day to day operations, maintaining and administering the drinking water system; the capital investments that will be incurred to renew and replace existing capital infrastructure; and debt management, being the resulting debt repayments and interest charges that are incurred to achieve the above.

Key highlights from the operating plan include:

- Operating costs are projected to increase by 3.6% in 2020, by 3.9% in 2022, by 4.2% in 2027 and by 2.7% annually in the remaining years until 2029;
- Staffing increases are proposed in 2020, to include a summer student and the balance of six months for the Water Operator added in 2019. The addition of a Temporary Water Operator for April 1 to October 31 each year commencing 2021, an addition of

a Water Operator in 2022 and a Water Operator in 2027, in anticipation of continued changes in legislation.

- 💧 Water purchases from Niagara Region historically make up just over 50% of the total annual operating costs. Purchases have stabilized over the last few years and it is forecasted that purchases will remain around 3 million cubic metres during this financial plan;
- 💧 Significant capital infrastructure investments are required for the next 10 years to address an “infrastructure deficit”. Over 36 km of watermains are well past their life expectancy, based on industry standards, with another 2 km of watermains reaching their life expectancy in the next 10 years. At 2019 prices, \$36.1 million is required to address this deficit. Despite life expectancy at industry standards, experience in Port Colborne demonstrates that life expectancy of watermains is variable. Consequently, this plan reflects management of main replacement based on local knowledge and the City’s empirical experience;
- 💧 As aging infrastructure is replaced, cost-savings, in the form of reducing the unbilled, unaccounted for water and reducing the number of watermain breaks will be realized. These monies can then be directed towards additional watermain replacements, thus accelerating the replacement rate, and further decreasing these operational costs;
- 💧 Under the existing Plan, approximately 10 km of watermains will be replaced over the next decade; and,
- 💧 Total projected cash expenditures, including operating expenses, capital costs and debt repayment and interest charges fluctuate between \$5 and 6.3 million annually, gradually increasing as required to continue to maintain a water system compliant with legislation.

Funding Plan

The funding plan was developed to determine the most appropriate balance of operating revenues and new debt financing. The achievements of the funding plan include:

- 💧 Increases in operating revenues will be realized through water rate increases. Forecasted increases over the next few years are: 2020 – 3.40%, 2021 – 3.91%, 2022 – 3.72%, 2023 and onward – ranging from 2.50% to 3% annually;
- 💧 Water sales are forecasted to stabilize around 1.8 to 1.9 million cubic metres;
- 💧 This plan does not rely on the use of municipal tax dollars to operate the Operating Authority;
- 💧 No additional debt will be assumed unless a new large project requires additional funding;
- 💧 This Plan provides annual financing for ongoing capital renewal; however, it may be prudent to finance a portion of significant capital infrastructure investments in the future. This plan will be reviewed as needed accordingly;

- Through the generation of revenues from the rate structure, it is projected that the Operating Authority will achieve sufficient cash receipts to cover its annual cash expenditures of between \$5.1 to \$6.7 million for operating, debt repayment, reserves and asset repair and replacement; and
- Revenue levels will gradually increase to allow the Operating Authority to invest in a reserve fund for significant future capital investments and rate stabilization.

Financial Plan

Appendix One of this Financial Plan includes projected financial statements for the Operating Authority. These statements include a projected statement of financial position, projected statement of operations and projected statement of cash flow for the periods ending from December 31, 2019 to 2029.

As required, these statements are in accordance with the new Public Sector Accounting Standards. Actual results will vary from the projections herein and the differences may be material.

This is a living document which will require regular review and updates.

It is the intention of staff to regularly review this plan for internal compliance, performance measurement, adjustment and revisions if required and to ensure absolute performance congruent with O.Reg. 453/07 and the Safe Drinking Water Act (2002). Consequently, this plan can be considered to be a work in progress even after it's adoption.

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Appendix One – Projected Financial Statements

Appendix Two – Detailed Watermain Information

1. INTRODUCTION

This financial plan for the City of Port Colborne's Water Distribution System (PCDS), was prepared in accordance with Regulation 453/07. The approach taken to develop this plan focused on achieving a balance between maintaining the water system in a safe and effective manner, increasing capital contributions to reduce the infrastructure deficit, while limiting expenditure and water rate increases. A flexible and gradual approach was taken to achieve financial viability, recognizing that the use of one-time funding sources for the purposes of sustaining the water system is limited, and the reliance on debt to support all future capital expenditures is unrealistic.

Considering historic results and future needs, financial projections to the year 2029 were prepared. These projections allow financial viability of the operation of the PCDS, while providing safe drinking water over the short and long term.

1.1. Ministry of Environment Financial Plans Regulation 453/07

Drinking water system owners are required to prepare a financial plan for their drinking water system as part of the Municipal Drinking Water Licensing Program as set out in Part V of the Safe Drinking Water Act (SDWA). The financial plan must be prepared in accordance with the Ministry of Environment Financial Plans Regulation 453/07.

Regulation 453/07 requires the following:

- the financial plan be approved by resolution of Council
- full-cost accounting to be utilized to determine the true cost of the drinking water system; and projections must apply to a period of at least six years

There are numerous recommendations and other guidelines that have been prepared to assist the municipalities in the development of their financial plan.

1.2. Operations

The City of Port Colborne has identified the Engineering and Operations Department as the Operating Authority for the Port Colborne Distribution System (PCDS). The Water Department operates under the Engineering and Operations Department, and is specifically responsible for the daily operation and maintenance of the distribution system.

The Operating Authority's top priority is to provide a safe, sustainable supply of water, providing public health protection, fire protection and support for the local economy, all contributing to a high quality of life. Through implementing the Quality Management System in conformance with the Drinking Water Quality Management Standard, the Operating

Authority has been able to better manage risks, identify operational efficiencies, enhance staff knowledge and create public awareness of its commitment to provide safe drinking water.

This long term financial plan details the commitment of the Operating Authority and Council, as the Owner of the PCDS, to ensuring that the distribution system is operated and maintained in a manner that not only meets and exceeds all regulatory requirements, but that these activities are accomplished in a prudent manner.

1.3. Changes in Operations since 2010

The first financial plan for the PCDS was approved by Council in June 2010. As expected, there have been numerous internal and external factors that have impacted the financial operations of the PCDS. A comparison of the previous financial plan to the actual results and an overview of significant changes in operations from 2010 to 2019 are summarized below

- Sales of water fell much more than was forecasted, subsequently, annual revenues were lower than forecasted.
- The volume of water purchased from the Region did not decrease, as was forecasted.
- The cost of water purchased from the Region was lower than forecasted, even though more water was purchased than forecasted. Therefore, the Region did not increase the price for water as much as was originally forecasted.
- Total Revenue and Total Costs increased by an average of 3% since 2010, while the total cost of water purchased from the Region increased by an average of 2% over the same time period
- Total water revenue from 2010-2018 was only 4% lower than the total revenues forecasted in the 2010 financial plan
- Total costs from 2010-2018 were only 3% lower than the forecasted total costs in the 2010 financial plan.
- Between 2010 and 2018, Capital expenditures totalled \$7,425,319, 15% more than was forecasted to be spent in the financial plan. These expenditures were for:
 - 7.2 km of watermains (2.05 km of new watermain, 5.15 km of replacement watermains)
 - New bulk water station on Elizabeth Street
 - 6,000 new residential/commercial water meters
 - Lowering of 160 water services on the City's side that froze during February and March 2015

Key Assumptions in this financial plan include:

- 💧 Water purchases from the Region are expected to remain relatively stable, and are forecasted to range between 2.8 and 3 million cubic metres
- 💧 Water sales are forecasted to stabilize around 1.8 to 1.9 million cubic metres
- 💧 Operating costs are projected to increase by 3.6%, 3.9% and 4.2% in 2020, 2022, 2027 due to hiring of new Operators, and at a rate of 2.7% for other years
- 💧 No debt is forecasted to be used to fund capital expenditures; however, should the Downtown CIP be completed in the next decade, this financial plan ensures that debenture reserves will be in place to permit the water/wastewater portion of the CIP to be debentured
- 💧 Leak detection programs to assist with finding and reducing sources of non-revenue water will be funded from the operating budget
- 💧 Rebates for private water service replacements, if approved by Council, will be funded through the infrastructure capital reserve, which is not part of this financial plan
- 💧 The projected rate increases in operating revenues for usage rates and fixed service rates will average 3.4% to 3.9% in 2020 to 2022 and 2.5% to 3.0% from 2023 to 2029 being an average increase annually of \$22 to \$30 to the average household

2. OPERATING PLAN

Through the achievement of its operating plan, the Operating Authority will continue to provide safe drinking water in the short term and long term. The Operating Authority's operating plan includes its day to day operations maintaining and administering the drinking water system; the capital investments that it will incur to renew and replace its existing capital infrastructure; and debt management, being the resulting debt repayments and interest charges that are incurred to achieve the above.

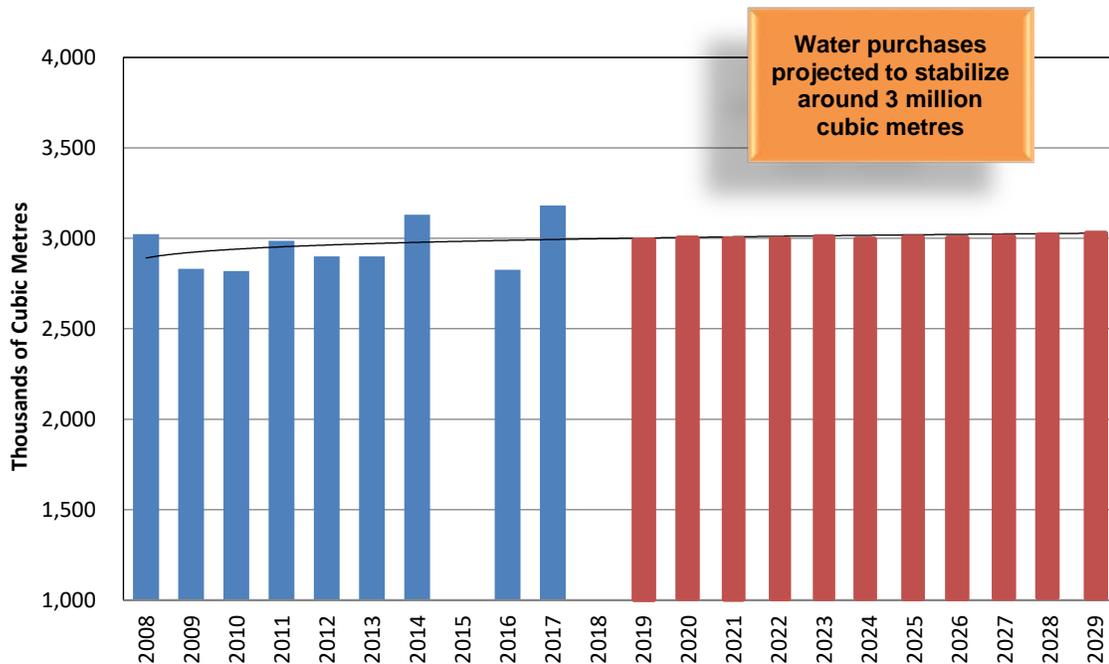
2.1. Operations

The Operating Authority's key operating expenses include the cost of purchasing water from Niagara Region, personnel costs, contract services, repairs and maintenance, utilities, materials and supplies, and administrative costs. Annual operating expenses, excluding amortization, allocations to reserves and long term debt interest, are projected to be approximately \$3.9 million in 2020, increasing to \$5.1 million by 2029. It is anticipated that operating expenses will increase by 3.6% in 2020, by 3.9% in 2022, by 4.2% in 2027 and by 2.7% annually in the remaining years until 2029.

2.1.1 Water Purchases

Water purchases from Niagara Region have historically made up just over 50% of the total annual operating costs. Therefore, the amount of water purchased from the Region has a significant impact on the budget. In the 2010 financial plan, it was forecasted that the annual volume of water purchased from the Region would stabilize at approximately 2.7 million cubic metres per annum. Actual purchased volumes remained much higher, with annual purchases around 2.9 million cubic metres from 2010 to 2013 and in 2016. The purchased volumes were even higher in 2014 and 2015 and again in 2017 and 2018, fluctuating between 3.1 and 3.2 million cubic metres.

Based on the analysis of purchases since 2008, it is forecasted that the annual purchases will stabilize around 3 million cubic metres during this financial plan.

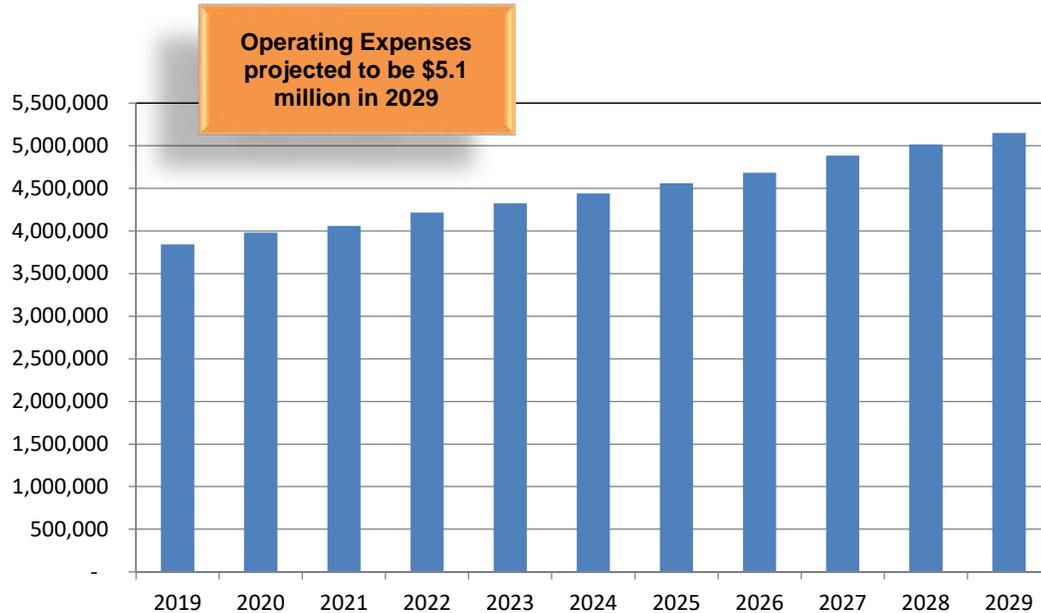


Note: 2015 and 2018 consumption were removed from the graphical analysis as the annual consumption was far higher than the remainder of the years being analyzed and were not representative of normal system consumption and made the increase very high.

To soften some of the variability, the Region investigated changing to a 50/50 allocation, whereby 50% of the price of water is fixed, and 50% of the price is volumetric. Area Municipalities were urged to adopt a similar rate structure, and the City of Port Colborne has moved towards this structure, with our water rates currently 49.5% fixed and 50.5% volumetric. The Region is currently billing municipalities 25% fixed and 75% volumetric.

2.1.2 Key Assumptions in Projections

The detailed operating expenses are outlined in the projected statement of operations, included as part of Appendix One. In these projections, it is assumed that general operating expenses will increase by 2% (2020 – 2023) and 3% (2024 - 2029). It is assumed that water purchases from the Region will increase 2.5% in 2020 to 2022 and 3% from 2023 to 2029.



2.2. Capital Costs

To enable the delivery of safe drinking water to all, the water system holds significant assets, including: 113 kilometres of watermains; thousands of connections and water meters; and hundreds of fire hydrants and valves. These assets are referred to as capital.

Water System Assets at a Glance:

- 113 km watermains
- 6,139 service connections
- 6,041 water meters
- 1,193 valves
- 634 hydrants

The City’s Infrastructure Needs Study (INS) for the distribution system was completed in 2014. The INS is one of the tools being used by the Operating Authority to assist in forecasting future projects. Other tools that assist in selecting which capital projects to undertake include: field investigations, analysis of watermain break data, water quality issues, operational issues and/or concerns and regulatory requirements. Considering all of these elements, the list of capital projects can be altered and adjusted as necessary to make the most prudent use of available capital funds.

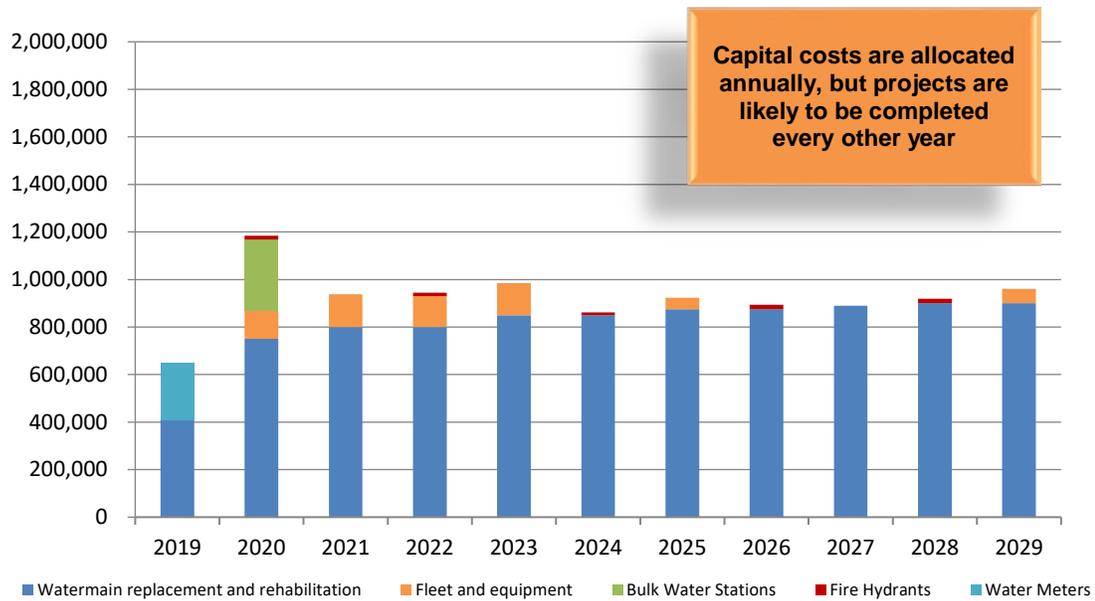
To provide a simple estimate of the capital expenditures required for the preparation of this Financial Plan, the following table details the remaining life of the watermains in the City, using industry standards for life expectancies for each material type

Table 2.2: Current condition of watermains in 2019

Watermain Material	Life Expectancy (years)	Length Currently in Ground (km)	Installation Year Range	Age of Oldest Pipe as of 2019 (years)	Earliest Remaining Life as of 2019 (years)	Length Exceeding Life Expectancy in 2019 (km)	Length Exceeding Life Expectancy 2020-2029 (km)
PVC	75	53.44	1969 - 2018	50	25	0	0
Cast Iron	45	40.88	1920 - 2010	99	- 54	35.37	0.771
Ductile Iron	60	4.00	1925 - 1985	94	- 34	0.30	0.17
Steel	60	0.70	1925 - 2002	94	- 34	0.58	0.35
Asbestos Cement	60	4.50	1968 - 1984	51	9	0	0.65
Hyprescon	60	0.26	1976 - 1982	43	17	0	0
PE/PHE	75	0.05	2010 - 2015	9	66	0	0
TOTAL LENGTH OF WATERMAINS EXCEEDING LIFE EXPECTANCY (km)						36.25	1.94

Table 2.2 above indicates that, based solely on the age of the watermains and the life expectancy for each material type, just over 38 kms of watermains have or will have exceeded their life expectancy by the end of 2029. At today’s average replacement cost of \$950 per metre, that translates into a total expenditure of \$36.1 million. However, City experience is that these pipes (primarily cast iron) have and continue to last longer than 45 years. This Plan is developed for pipe replacement using City experience which is outside of industry standard. Clearly, though, efforts are needed to accelerate a move towards those standards. Hence the “work-in-progress” mode of this Financial Plan. Realising that past under investing cannot be reversed in one decade, a more gradual and fiscally manageable approach to replacements is proposed in this Plan, which sees higher levels of capital allocations annually in comparison with previous years. This increase in capital allocations will not only benefit the City by ensuring the infrastructure remains capable of producing water of the highest quality, but will also enable cost savings to be realized.

Due to the age of Port Colborne’s infrastructure, unbilled, unaccounted for water constitutes a large portion of the City’s water purchased from the Region, and reduces the funds available to re-invest in the PCDS. As the aging infrastructure is replaced, the savings in billings from the Region should be re-invested in the capital expenditures, thus accelerating replacements in the City and allowing more savings to be realized.



2.2.1 Significant Capital Costs

Table 2.2.1: Amount of watermain exceeding its life expectancy – in 2019 and in subsequent decades (based on average life expectancy of materials)

Watermain Material	Total Watermains (km) Exceeding Life Expectancy in:					
	2019	2020 – 2029	2030 – 2039	2040 – 2049	2050 - 2059	2060 - 2069
PVC				0.04	13.3	19.22
Cast Iron	35.37	0.77	0.10	0.20	0.06	
Ductile Iron	0.30	0.17	3.19	0.224		
Steel	0.58	0.35	1.67			0.04
Asbestos Cement		0.65	4.26	0.19		
Hyprescon			0.06	0.22		
PE/PHE						
TOTAL KMs “EXPIRED”	36.25	1.94	9.28	0.874	13.37	19.26

Table 2.2.1 illustrates that not only have a significant amount of watermains exceeded their life expectancy in 2019, but that by 2051, the amount of watermains reaching their life expectancy begins to climb again. This is not only reflective of the most active decades of watermain installation in Port Colborne (1950s and 1980s), but also reflective of the material types used. As detailed in Table 2.2 above, before the advent of plastic,

the metal/cast iron pipes installed have a lower life expectancy than the plastic pipes installed in more recent years.

Past underfunding or capital works deferrals have resulted in the current infrastructure challenges and led to infrastructure deficits. In Port Colborne, the challenge is to manage this deficit to ensure sustainability of a reliable, safe drinking water system.

Industry standards demonstrate that Port Colborne has 36.25 km of cast iron/ductile iron and steel pipe that need to be prioritized in capital programs. This represents 32.1% of the system. Significant capital investments are required over the next 30 years to bring the PCDS “up-to-date” – in advance of the next big group of watermains – installed in the 1980s, that will begin to meet their life expectancies. It is important to note that any watermains that have exceeded their life expectancy and that are not replaced in a given decade will simply shift to the next decade, adding to the “infrastructure deficit” in that time period. Understanding that it is not practical to replace all 36 km of “expired” watermains in a 10 year period, this plan does accelerate the City’s watermain replacement program, by increasing the annual capital expenditures to \$750,000 in 2020 and increasing the annual expenditures over the 10 years to \$900,000 in 2029. This increase in capital expenditures will enable nearly 10km of watermains to be replaced during this financial plan, resulting in the replacement of nearly 28% of the watermains that have reached their life expectancy.

It is important to recognize that while replacing a watermain requires a significant capital expenditure, the costs associated with aging infrastructure – primarily those associated with repairing watermain breaks, are five to seven times the cost of replacing a similar length of watermain. As the infrastructure ages, the number of breaks increases, thus increasing operating expenses. By investing in replacing watermains, this will allow more revenues to be allocated to capital works as opposed to operational costs.

Port Colborne is not alone in facing an “infrastructure deficit” as it relates to drinking water at this time. Infrastructure deficits are being experienced by almost every municipality, not only in Niagara, but throughout Ontario and Canada, and even throughout North America. To address our infrastructure deficit, the City will continue to reference the current INS, using it with the other tools previously discussed, with an eye to preparing an updated INS during this financial plan.

The replacement of all of the City’s water meters in 2016 has resulted in more accurate billing for all water users. The average life expectancy of water meters are 15-20 years, therefore, budget for a water meter replacement program should be considered in 2031-2036.

2.2.2. Key Assumptions in Projections

Capital costs will be incurred as set out on Schedule F of these projections (Appendix One). Financing of future capital costs are based on the amortization (depreciation) amounts projected plus capital contributions of \$200,000 with an annual 2% increase and commencing in 2023 an additional \$60,000 increased annually to \$260,000 in 2029.

Capital projects are anticipated to be undertaken every 2 years beginning in 2020 with engineering and planning activities occurring in the alternating years. Capital contributions are carried forward to the next year if not expended.

2.3. Debt Management

Debt management is the ability to repay debt over time, including both principal payments and interest charges. As of January 1, 2020, just over \$2,900,000 of debt was owed by the City on past water capital projects. Debt is projected to decrease to approximately \$678,000 by December 31, 2029. This does not include any future debt incurred due to new projects which are not forecasted within this plan.

The principal payments and interest costs on this debt are approximately \$364,000 in 2020 to 2025; with debentures maturing in 2025 and in 2027, debt costs will decline to \$161,000 and \$143,000, respectively, with the last debenture maturing in 2029. As a debenture matured in 2019 for \$70,000, this is being allocated to a debt reserve and future debt maturing will be allocated to the debt reserve in 2026 to 2029. The debt reserve is available to fund any future debt incurred for capital projects or to directly fund capital projects

2.3.1 Assumptions in Projections

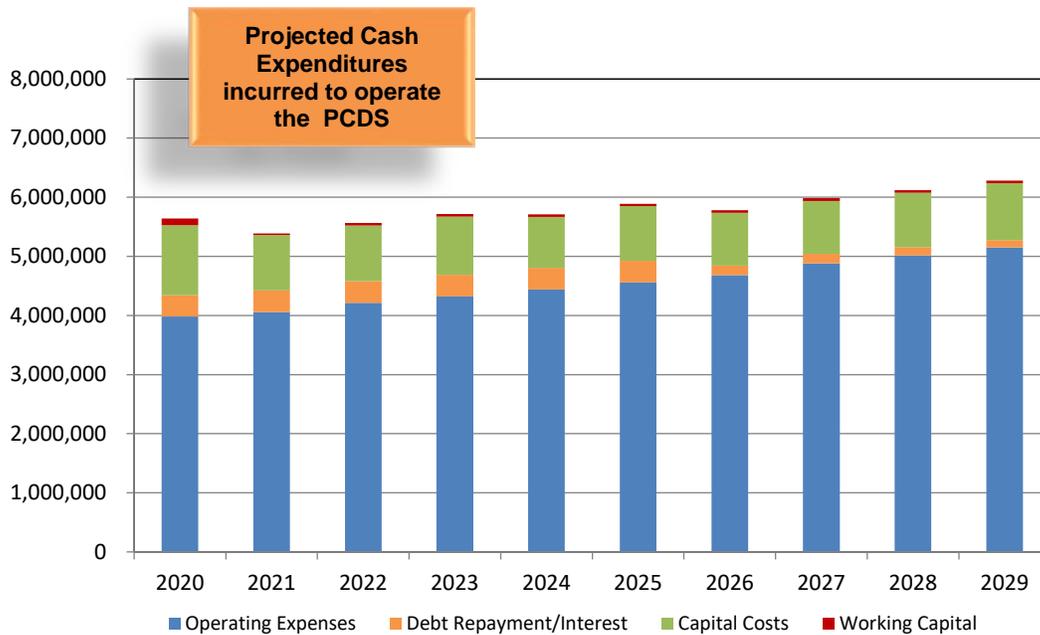
Schedule D, or the projected statement of liabilities and accumulated surplus, included as part of Appendix One, provides the detailed debt levels and repayments over the projected period, as well as assumptions. It is assumed that new debt will be repaid semi-annually over twenty years, with interest charged at 4.7% compounded semi-annually. Should interest rates increase the cash expenditures would also increase.

2.4. Total Cash Expenditures

The City of Port Colborne Operating Authority has significant cash expenditures, including operating expenses, debt repayments and interest charges, and capital costs. These expenditures are projected to fluctuate between \$5 and \$6.3 million per annum depending upon the anticipated capital projects.

Note that the aggregate cash expenditures cannot be found on any of the projected financial statements attached in Appendix One, but are summarized on Schedule B. These cash

expenditures are gathered from the various statements to illustrate the cash required to sustain a safe drinking water system.



3. FUNDING PLAN

As discussed previously, cash expenditures are projected to be about \$5 to \$6.3 million per year. To fund these critical expenditures, the Operating Authority will rely on a blend of operating revenues throughout the duration of the Financial Plan. This plan does not depend on future government funding.

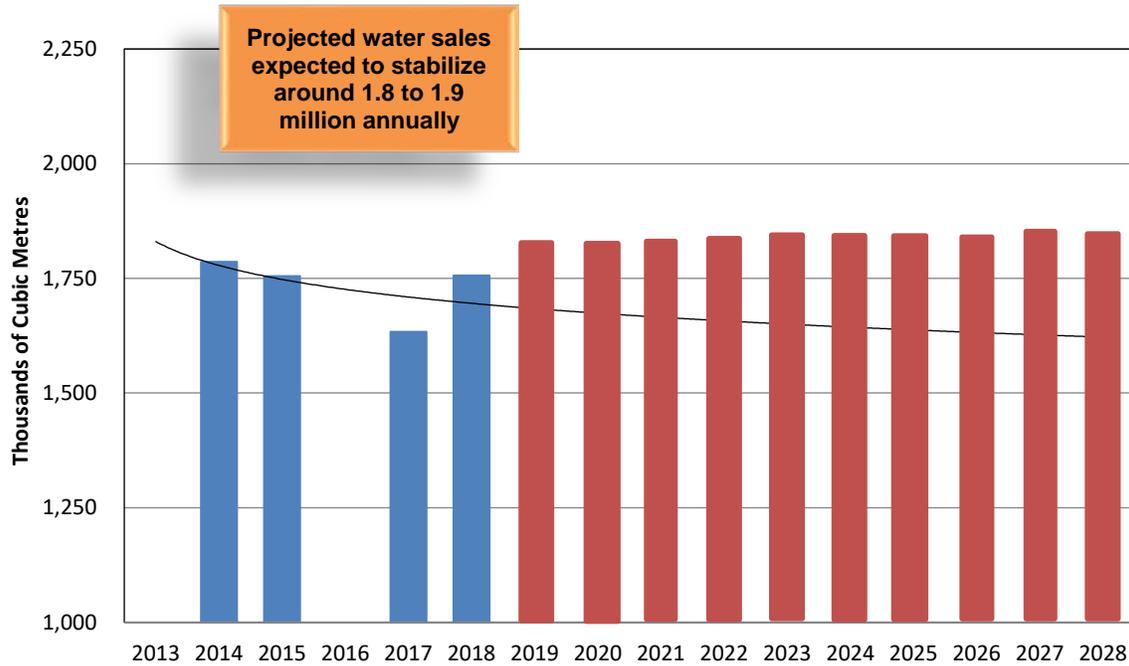
3.1. Operating Revenues

Operating revenues include water, and other charges or receipts. The majority of the operating revenues are achieved as a result of two variables: consumption and water rates.

3.1.1 Consumption (sales)

Since 2013, water consumption, with a few anomalies, has varied between 1.65 to 1.75 million cubic meters, see graph on following page. While the analysis of consumption from 2013-2018 indicates a decline in sales to around 1.62 million cubic metres, the financial plan forecasts sales volumes between 1.85 and 1.9 million cubic meters annually. Volumes that the trend analysis doesn't take into consideration include increases in sales due to: installation of water meters on fire service lines, forecasted production increases at industrial/commercial facilities, the potential increase in residential building units and development of the east side employment lands. All of these

variables are forecasted to occur during the period of this financial plan, and the increase in sales from these variables has been included in the financial plan.



Note: 2013 and 2016 sales volumes were not considered in the evaluation as 2013 was higher than normal and 2016 was abnormally low.

3.1.2 Water Rates

In order to finance the requirements outlined in this Financial Plan, it is anticipated that water rates will be required to increase. The highest increase, 3.91%, is projected to occur in 2021, with increases of 3.40% and 3.72% in 2020 and 2022, respectively, with modest increases of 2.50% to 3% annually beginning in 2023.

It is important to note that these projections are in fact, projections. Future annual increases will be dependant upon numerous factors, with the biggest factor being the rate that the Region charges the City for the drinking water purchased.

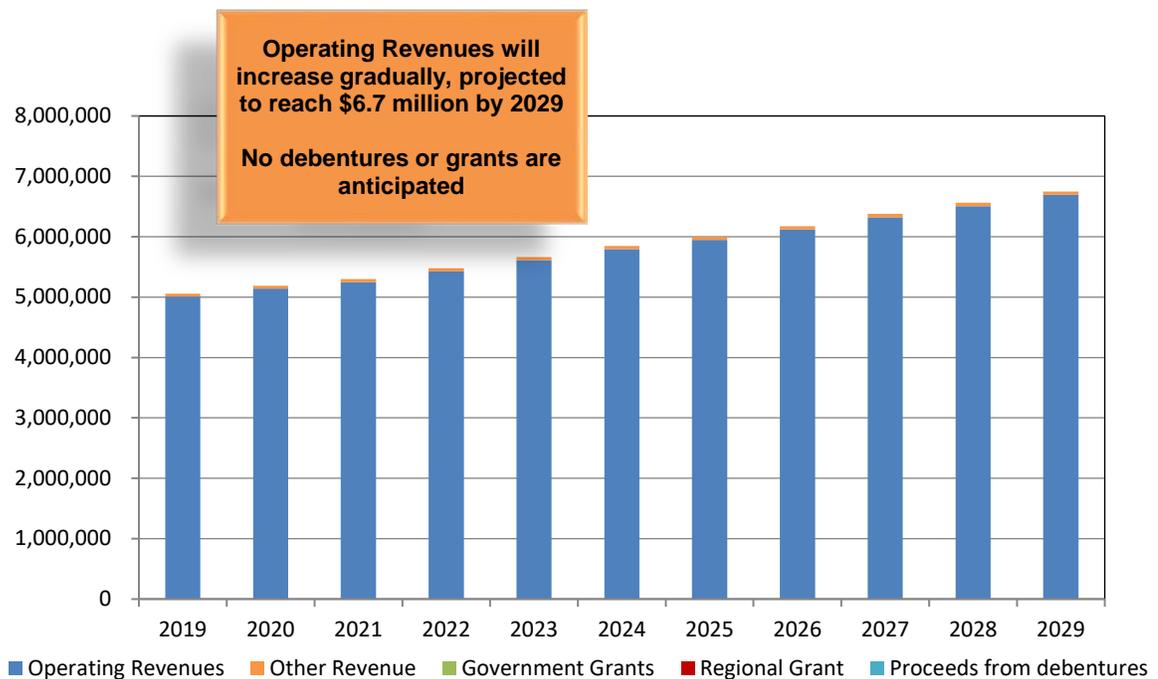
Projected Increase in Water Rates	2020	2021	2022	2023	2024 and thereafter
	3.40%	3.91%	3.72%	3.04%	2.45% to 2.95%

3.1.3 Summary of Operating Revenues

Over the projected period, operating revenues are expected to gradually increase to \$6.7 million (the total cash expenditure level).

Projected Increase in Operating Revenues	2020	2021	2022	2023	2024	2025-2029
	2.60%	2.08%	3.41%	3.44%	3.29%	2.90%

See the graph below for an illustration of the projected operating revenues. They are also summarized on the Projected Statement of Operations in Appendix One.



3.1.4 Key Assumption in projections

To forecast revenues, sales of 1,940,915 cubic metres was projected in 2020, 1,872,000 in 2021, 1,860,000 in 2022, 1,875,000 in 2023 and increasing slightly to 1,950,000 in 2024 to 2029.

3.2. Government Funding

No government funding has been assumed in creating this sustainable model.

3.3. New Debt

As it is planned to gradually increase operating revenues, there is sufficient cash flow to cover the expenditures throughout the financial plan. It is projected that new debt will be

required for new projects which may not be part of this financial plan, such as the Downtown CIP to be completed within the next decade.

Based on these projections, there will be minimal requirement to finance annual ongoing capital renewal; however, it may be prudent to finance a portion of significant capital infrastructure investments as discussed in section 2.2.1.

3.3.1 Key Assumptions in Projections

The existing and new debt is outlined on Schedule D in Appendix One. No new debt is anticipated within this plan. Any new debt will be repaid semi-annually over twenty to thirty years, interest charged at the going rate compounded semi-annually.

3.4. Funding to Meet Cash Requirements

Recapping, the funds required to pay for the Operating Authority’s cash expenditures will be derived from operating revenues, as shown in the preceding graph. Any one time funding and new debt will be accounted for new projects which are not anticipated within this plan, as required.

Through accessing all of these funding sources, it is projected that the Operating Authority will achieve sufficient available cash to meet its annual expenditures.

4. FINANCIAL PLAN

The financial impacts of the drinking water system have been considered through the projected financial statements for years ending December 31, 2019 to 2029, included as Appendix One and summarized below. These financial statements are required, by the Financial Plans Regulation to include a full-cost accounting, meaning that the all of the costs, whether operating financial or capital, related to operating the drinking water system, must be included. The projected financial statements include the following:

Projected Statement of Financial Position	Projected Statement of Operations	Projected Statement of Cash Flow
<ul style="list-style-type: none"> • Financial assets and liabilities; and • Other non-financial assets, including inventory and capital assets • See Appendix for more detail 	<ul style="list-style-type: none"> • Revenues; • Operating expenses and interest on long term debt; and • Amortization 	<ul style="list-style-type: none"> • Operating transactions; • Capital transactions (capital costs); • Financing (new debt and debt repayment) transactions. • Cash in and cash out

These projected financial statements are prepared to conform to the Public Sector Accounting Standards. These statements reflect the City of Port Colborne’s accounting policies, along with estimates and assumptions related to the operations of the Operating Authority, and are based on 2018 actual results, and the 2019 budget as derived from internal financial statements of the City of Port Colborne.

Actual results will vary from these projections and the differences may be material. Any future changes to accounting policies or key assumptions will impact these projected financial statements, and should be updated to reflect such changes.

4.1. New Public Sector Accounting Standards

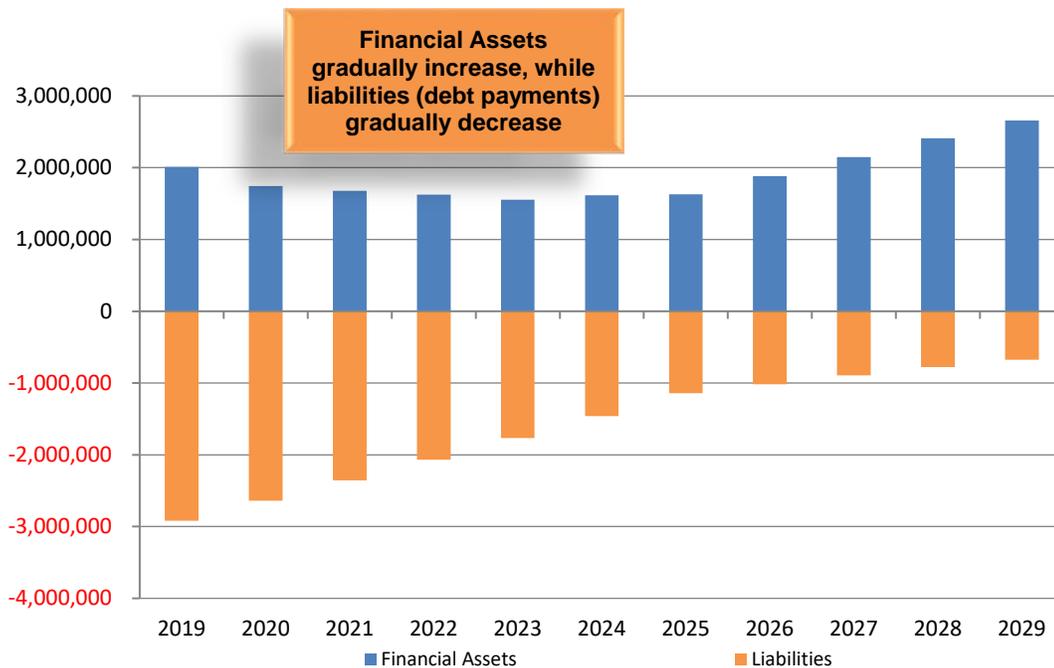
In 2006, the Canadian Institute of Chartered Accountant’s Public Sector Accounting Board approved that municipalities will prepare annual financial statements, utilizing full accrual accounting. In simple terms, full-accrual accounting means that all municipalities will be required to include tangible capital assets in the financial statements.

4.2. Projected Statement of Financial Position

The projected statement of financial position reflects both the financial and non-financial assets of the Operating Authority.

4.2.1 Net Financial Assets

Net financial assets are the financial assets, including cash and accounts receivable, offset by the liabilities (debt) of the Operating Authority. Net financial assets are projected to be as follows:



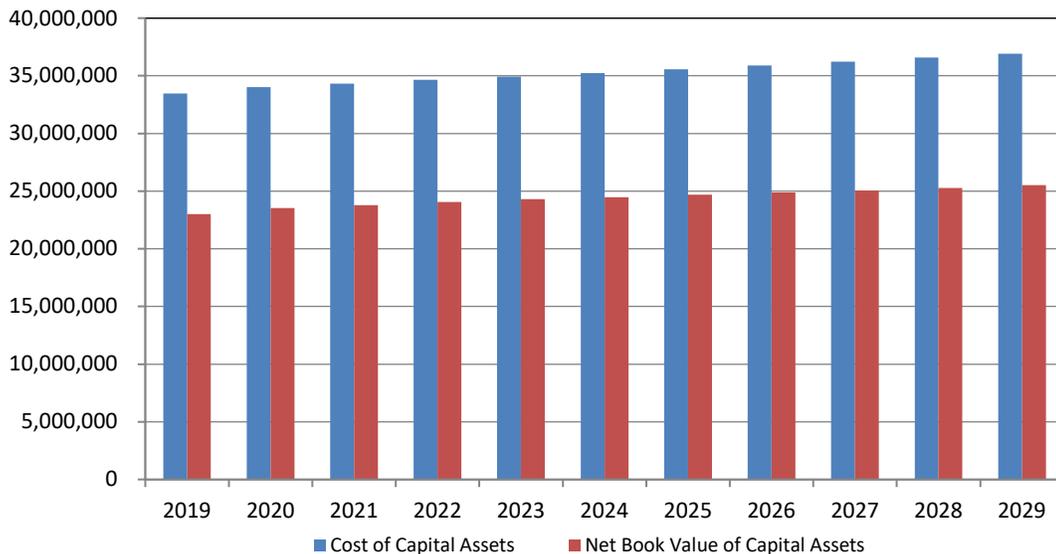
In 2019, the Operating Authority has a higher level of liabilities (debt) and a lower level of cash and accounts receivable. As the debt is paid, it is projected that the Operating Authority will have reduced its liabilities significantly and begun to build a higher level of net financial assets, allowing it to save for significant future capital expenditures.

4.2.2 Non-Financial Assets

Non-financial assets include inventory and capital assets. The capital assets represent the infrastructure required to provide safe drinking water to the community. As the Regional Municipality of Niagara is responsible for the water treatment plant, water tower and reservoir, the only capital assets related to the drinking water system owned by the City of Port Colborne are the watermains, affiliated appurtenances and the water fleet (i.e., vehicles used by water staff, the water truck etc.)

These capital assets are recorded at net book value, which is their original cost, less accumulated amortization.

Below, the cost and net book value of the capital assets has been illustrated.



It is projected that in 2020, the original cost of the capital assets required to provide safe drinking water is approximately \$34 million. The net book value or the net cost remaining in the useful life, of those same assets is \$23.5 million.

4.2.3 Accumulated Surplus

The accumulated surplus is a new term in Municipal financial statements. It is essentially the accumulation of the Operating Authority’s excess of revenues over expenses over time, including the net book value of tangible capital assets.

4.3. Projected Statement of Operations

The projected statement of operations includes the revenues less the expenses, arriving at the excess or net revenues over expenses.

4.3.1 Revenues

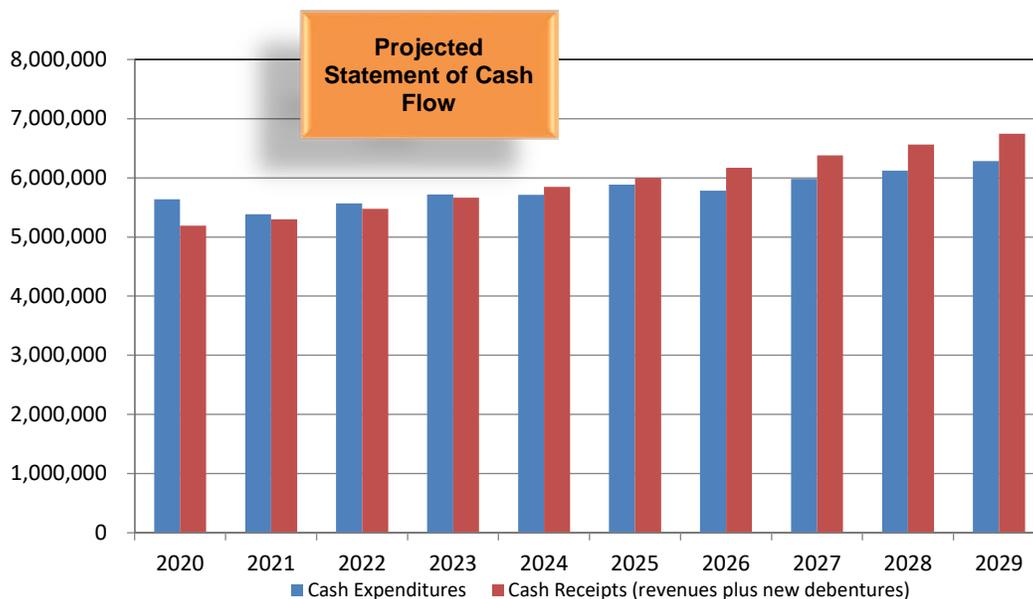
Revenues include operating revenues, other revenue, proceeds from debentures and one time government funding received. A chart illustrating the operating revenues earned over time is shown on page 12.

4.3.2 Expenses

Expenses include a list of detailed projected expenses, including operating expenses, interest on long term debt, reserve allocations for debt and capital and amortization. Amortization is the write off of the capital assets or the water system infrastructure over their useful life. It does not represent a cash expenditure.

4.4. Projected Statement of Cash Flow

The projected statement of cash flow is a very useful statement for a capital intensive operation, such as the operation of the distribution system. This projected statement of cash flow summarizes the key transactions that either increase or decrease the cash balance. It is set out in three sections: operating transactions; capital transactions and financing transactions.



Projected operating transactions section is a summary of the projected net revenues over expenses, adjusted for any non-cash items, such as amortization. Projected capital transactions show the capital additions and sale of assets, if any, while the projected

financing transactions reveal if any new debt will be incurred and the amount of debt that will be repaid.

In the Operating Plan section of this financial plan, the cash expenditures, such as operating expenses, debt repayments and capital costs, were identified. In the Funding Plan section of this financial plan, the cash receipts, or funds required to cover the cash expenditures were discussed. These funds include operating revenues, one time funding and new debt.

The chart on the preceding page is a summary of those cash expenditures and receipts, which is essentially a summary of the Projected Statement of Cash Flow.

As shown on the graph, the Operating Authority will allocate unexpended capital funds to the capital reserve as it is the intention of the Operating Authority to undertake capital projects every other year. Construction projects will reduce cash flow in the year they are undertaken; however the overall cash flow will continue to grow to meet future capital infrastructure projects. It is important to note that in order to escalate infrastructure projects, additional debt proceeds will be required.

Should management have any reasons to believe that significant costs will be required before the current life expectancies of existing infrastructure; the projections provided herein should be revisited; as previously mentioned in section 2.2.1

5. AFFORDABILITY OF WATER

While the provision of safe drinking water and the financial viability of the PCDS are key priorities for the Operating Authority, the overall affordability of water to our consumers is also a key objective. Industry standards indicate that affordable water/wastewater rates make up 4% or less of median household income. A search of the most recent census data for Port Colborne and our neighbouring municipalities, and calculation of 2019 water/wastewater bills in each municipality for an average family revealed the following:

	Municipality		
	Port Colborne	Welland	Fort Erie
Median household income (2016 Census)	\$57,244	\$56,981	\$55,788
Annual water/wastewater bill (based on 0.75 m ³ per day, or 274 m ³ per annum)	\$1,615.61	\$1,628.44	\$1,713.04
Percentage of median household income	2.81%	2.86%	3.07%

In comparing Port Colborne's rates to our neighbours with comparable median household incomes, it is evident that water/wastewater rates remain affordable.

6. SUMMARY

This Financial Plan has been prepared in accordance with the MOE Financial Plans Regulation (O. Reg. 453/07). The process in developing this plan has focused on the achievement of a balance between maintaining the water system in a safe and effective manner, increasing capital contributions to reduce the infrastructure deficit, while limiting expenditure and water rate increases. A flexible and gradual approach has been utilized to achieve financial viability.

This Financial Plan must be approved by a City Council resolution, indicating that as a result of this plan, the City of Port Colborne Operating Authority is financially viable.

7. FEEDBACK AND CONTINUOUS IMPROVEMENT

The financial plan must apply for a minimum of 6 years and cover the entire 5 year Municipal Drinking Water Licence term. When the Licence is renewed every 5 years, if the plan would "expire" during the licence period, the plan is required to be updated and approved by Council and submitted with the Municipal Drinking Water Licence renewal. By creating and approving a 10 year financial plan, Council is ensuring that the Plan will cover the 2019 licence renewal and the 2024 licence renewal. However, it is recommended that the Plan be reviewed at the five year mark and updated as required to reflect changes in operations, economic climate, financing costs, consumption and pricing.

The preparation and implementation of the City's Asset Management Plan is likely to have an impact on this financial plan; therefore it is anticipated that the Financial Plan will require an update before the five year mark to include elements from the Asset Management Plan.

In Summary, this Financial Plan:

- Provides safe drinking water
- Achieves financial viability
- Develops long term plan for capital renewal
- Achieves full cost recovery over the long term
- Maintains current service levels

**CITY OF PORT COLBORNE
DISTRIBUTION SYSTEM FINANCIAL PLAN**

**APPENDIX ONE
PROJECTED FINANCIAL STATEMENTS**

	Schedule
Projected Statement of Financial Position	A
Projected Statement of Operations	B
Projected Statements of Cash Flows	C
Projected Liabilities and Accumulated Surplus	D
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The Corporation of the City of Port Colborne
 Engineering and Operations - Water Department
 Projected Statement of Operations
 For The Years Ended December 31

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
REVENUES		2.60%	2.08%	3.41%	3.44%	3.29%	2.61%	2.89%	3.34%	2.91%	2.85%
Operating Revenues	5,009,220	5,139,613	5,246,403	5,425,176	5,611,768	5,796,240	5,947,303	6,119,013	6,323,352	6,507,541	6,693,252
Other Revenue	49,600	50,096	50,597	51,103	51,614	52,130	52,651	53,178	53,710	54,247	54,789
Government Grants											
Regional Grant											
	5,058,820	5,189,709	5,297,000	5,476,279	5,663,382	5,848,370	5,999,954	6,172,191	6,377,062	6,561,788	6,748,041
EXPENSES											
Amortization/Capital	587,039	574,881	600,815	617,513	632,803	645,438	648,515	652,558	654,637	658,255	663,534
Contract Services	153,729	156,804	159,940	163,138	166,401	171,393	176,535	181,831	187,286	192,905	198,692
Salaries and benefits	746,829	812,179	863,062	946,224	967,486	986,836	1,006,571	1,026,702	1,120,172	1,142,575	1,165,426
Water Purchases	2,375,340	2,434,724	2,446,345	2,506,388	2,577,716	2,652,665	2,728,020	2,806,881	2,886,169	2,968,984	3,055,337
Interdepartmental charges											
Administrative	264,060	269,341	274,728	280,223	285,827	294,402	303,234	312,331	321,701	331,352	341,292
Fleet Rental	61,701	62,935	64,194	65,478	66,787	68,791	70,854	72,980	75,170	77,425	79,747
Interest on long term debt	93,311	87,298	80,688	73,454	65,559	56,979	47,849	38,243	34,042	29,698	26,050
Interest on new long term debt	0	0	0	0	0	0	0	0	0	0	0
General Administration	43,459	44,328	45,215	46,119	47,041	48,453	49,906	51,403	52,946	54,534	56,170
Materials and supplies											
Utilities and telephone	8,721	8,983	9,252	9,530	9,816	10,110	10,413	10,726	11,048	11,379	11,720
Repairs and Maintenance	109,738	111,933	114,171	116,455	118,784	122,347	126,018	129,798	133,692	137,703	141,834
Materials, parts and supplies	49,513	50,503	51,513	52,544	53,594	55,202	56,858	58,564	60,321	62,131	63,995
Other	28,100	28,662	29,235	29,820	30,416	31,329	32,269	33,237	34,234	35,261	36,319
Capital Reserve					60,000	110,000	135,000	175,000	175,000	220,000	260,000
Debt Reserve	70,000	70,000	70,000	70,000	70,000	70,000	70,000	273,494	273,494	291,121	308,750
Capital/rate stabilization	196,211	200,135	204,138	208,221	212,385	216,633	220,965	225,385	229,892	234,490	239,180
	4,787,751	4,912,706	5,013,296	5,185,105	5,364,616	5,540,578	5,683,009	6,049,133	6,249,803	6,447,812	6,648,047
EXCESS REVENUES OVER EXPENSES (EXPENSES OVER REVENUES)	271,069	277,003	283,703	291,174	298,766	307,792	316,946	123,058	127,259	113,976	99,995

Operating Expenses	3,841,190	3,980,392	4,057,655	4,215,918	4,323,869	4,441,528	4,560,679	4,684,454	4,882,738	5,014,248	5,150,532
(expenses less amortization/interest/reserves)											
Annual Percent Increase		3.6	1.9	3.9	2.6	2.7	2.7	2.7	4.2	2.7	2.7
Capital contributions	783,250	775,016	804,953	825,734	905,188	972,071	1,004,481	1,052,943	1,059,529	1,112,745	1,162,714
Operating Expenses	3,841,190	3,980,392	4,057,655	4,215,918	4,323,869	4,441,528	4,560,679	4,684,454	4,882,738	5,014,248	5,150,532
Debt Repayment/Interest	364,380	364,301	364,391	364,628	364,325	364,771	364,795	161,301	161,301	143,674	126,045
Capital Costs	650,000	1,184,200	938,000	944,000	985,000	862,000	923,000	894,000	890,000	919,000	960,000
Working Capital	131,871	110,376	27,251	43,144	44,921	44,513	37,222	41,824	49,063	44,692	45,089
Total Cash Expenditures	4,987,441	5,639,269	5,387,297	5,567,689	5,718,115	5,712,812	5,885,696	5,781,578	5,983,102	6,121,613	6,281,666
Average Expenditures	5,807,884										
Cash Receipts (revenues plus new debentures)		5,189,709	5,297,000	5,476,279	5,663,382	5,848,370	5,999,954	6,172,191	6,377,062	6,561,788	6,748,041

**The Corporation of the City of Port Colborne
Engineering and Operations - Water Department
Projected Statement of Cash Flows
For The Years Ended December 31**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OPERATING TRANSACTIONS											
Projected excess of revenues over expenses	271,069	277,003	283,703	291,174	298,766	307,792	316,946	123,058	127,259	113,976	99,995
Add non-cash items:											
Amortization	587,039	574,881	600,815	617,513	632,803	645,438	648,515	652,558	654,637	658,255	663,534
Capital Contributions	196,211	200,135	204,138	208,221	212,385	216,633	220,965	225,385	229,892	234,490	239,180
Debt Reserve	70,000	70,000	70,000	70,000	70,000	70,000	70,000	273,494	273,494	291,121	308,750
	853,250	845,016	874,953	895,734	915,188	932,071	939,481	1,151,437	1,158,023	1,183,866	1,211,464
Add (deduct) working capital items											
Accounts receivable	-128,224	-28,686	-23,494	-39,330	-41,050	-40,584	-33,234	-37,776	-44,955	-40,522	-40,856
Inventory	-3,647	-3,702	-3,757	-3,814	-3,871	-3,929	-3,988	-4,048	-4,108	-4,170	-4,233
Capital work in progress	0	77,988	0	0	0	0	0	0	0	0	0
Cash provided by operating transactions	992,448	1,167,619	1,131,406	1,143,764	1,169,033	1,195,351	1,219,205	1,232,670	1,236,219	1,253,151	1,266,370
FINANCING TRANSACTIONS											
Proceeds from debentures	0	0	0	0	0	0	0	0	0	0	0
Repayment of long-term debt	-271,069	-277,003	-283,703	-291,174	-298,766	-307,792	-316,946	-123,058	-127,259	-113,976	-99,995
Cash provided (used) by financing transactions	-271,069	-277,003	-283,703	-291,174	-298,766	-307,792	-316,946	-123,058	-127,259	-113,976	-99,995
CAPITAL TRANSACTIONS											
Capital assets purchases											
Watermain replacement and rehabilitation	410,000	750,000	800,000	800,000	850,000	850,000	875,000	875,000	890,000	900,000	900,000
Water Meters	240,000	0	0	0	0	0	0	0	0	0	0
Fleet and equipment	0	118,200	138,000	130,000	135,000	0	48,000	0	0	0	60,000
Bulk Water Stations	0	300,000	0	0	0	0	0	0	0	0	0
Fire Hydrants	0	16,000	0	14,000	0	12,000	0	19,000	0	19,000	0
Cash used for Capital Transactions	650,000	1,184,200	938,000	944,000	985,000	862,000	923,000	894,000	890,000	919,000	960,000
PROJECTED INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	71,379	-293,584	-90,297	-91,410	-114,733	25,559	-20,741	215,612	218,960	220,175	206,375
Cash and cash equivalents, beginning of year	836,125	907,504	613,920	523,622	432,212	317,479	343,037	322,296	537,909	756,869	977,043
Cash and cash equivalents, end of year	907,504	613,920	523,622	432,212	317,479	343,037	322,296	537,909	756,869	977,043	1,183,418

**The Corporation of the City of Port Colborne
Engineering and Operations - Water Department
Projected Capital Asset Acquisitions, Disposals and Accumulated Amortization
For The Years Ended December 31
ACCUMULATED AMORTIZATION**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Watermains - 75 to 100 years											
Opening	8,848,509	8,995,224	8,939,458	8,865,257	8,801,723	8,720,420	8,650,450	8,577,596	8,516,408	8,458,557	8,407,018
Amortization for the year	379,886	370,767	380,767	391,434	402,100	413,434	424,767	436,434	448,300	460,300	472,300
Disposals	-233,171	-426,533	-454,968	-454,968	-483,404	-483,404	-497,621	-497,621	-506,152	-511,839	-511,839
Closing	8,995,224	8,939,458	8,865,257	8,801,723	8,720,420	8,650,450	8,577,596	8,516,408	8,458,557	8,407,018	8,367,479
Water Meters - 20 years											
Opening	278,251	388,541	498,831	609,121	719,411	829,701	939,991	1,050,281	1,160,571	1,270,861	1,381,151
Amortization for the year	110,290	110,290	110,290	110,290	110,290	110,290	110,290	110,290	110,290	110,290	110,290
Disposals											
Closing	388,541	498,831	609,121	719,411	829,701	939,991	1,050,281	1,160,571	1,270,861	1,381,151	1,491,441
Fleet and Equipment - 10 to 15 years											
Opening	515,090	581,721	570,159	537,678	515,343	470,266	554,672	573,636	642,882	702,753	755,059
Amortization for the year	66,631	64,758	71,466	78,508	82,978	84,406	75,991	69,245	59,871	52,306	45,495
Disposals		-76,320	-103,947	-100,843	-128,055	0	-57,027	0	0	0	-59,445
Closing	581,721	570,159	537,678	515,343	470,266	554,672	573,636	642,882	702,753	755,059	741,110
Bulk Water Stations - 30 years											
Opening	96,058	102,680	59,827	76,449	93,071	109,693	126,315	142,937	159,559	176,181	192,803
Amortization for the year	6,622	6,622	16,622	16,622	16,622	16,622	16,622	16,622	16,622	16,622	16,622
Disposals		-49,475									
Closing	102,680	59,827	76,449	93,071	109,693	126,315	142,937	159,559	176,181	192,803	209,425
Fire Hydrants - 30 years											
Opening	362,892	386,502	408,946	430,616	451,276	472,089	492,775	513,620	533,587	553,140	571,876
Amortization for the year	23,610	22,444	21,670	20,659	20,813	20,686	20,845	19,967	19,553	18,736	18,827
Disposals	0	0	0	0	0	0	0	0	0	0	0
Closing	386,502	408,946	430,616	451,276	472,089	492,775	513,620	533,587	553,140	571,876	590,703
Total											
Opening	10,100,800	10,454,668	10,477,221	10,519,122	10,580,824	10,602,168	10,764,203	10,858,070	11,013,007	11,161,492	11,307,908
Amortization for the year	587,039	574,881	600,815	617,513	632,803	645,438	648,515	652,558	654,637	658,255	663,534
Disposals	-233,171	-552,328	-558,915	-555,811	-611,459	-483,404	-554,648	-497,621	-506,152	-511,839	-571,284
TOTAL	10,454,668	10,477,221	10,519,122	10,580,824	10,602,168	10,764,203	10,858,070	11,013,007	11,161,492	11,307,908	11,400,158

**City of Port Colborne
Analysis of Water System Costs**

	2020		2021		2022	2023	2024	2025	2026	2027	2028	2029	
Budgeted Expenditures													
City Operating costs	1,545,668	29.8%	1,611,310	30.4%	1,709,530	1,746,153	1,788,863	1,832,659	1,877,573	1,996,569	2,045,264	2,095,195	31.0%
Regional Water Purchases	2,434,724	46.9%	2,446,345	46.2%	2,506,388	2,577,716	2,652,665	2,728,020	2,806,881	2,886,169	2,968,984	3,055,337	45.3%
Capital Contribution	200,135	3.9%	204,138	3.9%	208,221	272,385	326,633	355,965	400,385	404,892	454,490	499,180	7.4%
Amortization	574,881	11.1%	600,815	11.3%	617,513	632,803	645,438	648,515	652,558	654,637	658,255	663,534	9.8%
Debt Reserve	70,000	1.3%	70,000	1.3%	70,000	70,000	70,000	70,000	273,494	273,494	291,121	308,750	4.6%
Long Term Debt Payments	364,301	7.0%	364,391	6.9%	364,628	364,325	364,771	364,795	161,301	161,301	143,674	126,045	1.9%
Total Costs	5,189,709	100%	5,296,999	100%	5,476,280	5,663,382	5,848,370	5,999,954	6,172,192	6,377,062	6,561,788	6,748,041	100%
Other Revenue	-50,096		-50,597		-51,103	-51,614	-52,130	-52,651	-53,178	-53,710	-54,247	-54,789	
Net Costs	5,139,613		5,246,402		5,425,177	5,611,768	5,796,240	5,947,303	6,119,014	6,323,352	6,507,541	6,693,252	
Percentage Increase in Net Costs	2.60%		2.08%		3.41%	3.44%	3.29%	2.61%	2.89%	3.34%	2.91%	2.85%	
Net Costs allocated to Fixed Rate	49.18%		49.75%		49.69%	49.61%	49.58%	49.68%	49.60%	49.60%	49.54%	49.44%	
Net Costs allocated to Usage Rate	50.82%		50.25%		50.31%	50.39%	50.42%	50.32%	50.40%	50.40%	50.46%	50.56%	
Fixed Regional Water Purchases	52.61%		53.37%		53.68%	53.25%	52.81%	52.76%	52.32%	51.90%	51.47%	51.03%	
Water Consumptions													
Estimated Water Purchases m3	3,080,818		3,000,000		3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	
Unbilled UFW m3	1,139,903		1,128,000		1,140,000	1,125,000	1,110,000	1,110,000	1,095,000	1,080,000	1,065,000	1,050,000	
	37.0%		37.6%		38.0%	37.5%	37.0%	37.0%	36.5%	36.0%	35.5%	35.0%	
Estimated Water Sold m3	1,940,915		1,872,000		1,860,000	1,875,000	1,890,000	1,890,000	1,905,000	1,920,000	1,935,000	1,950,000	
	-1.56%		-3.55%		-0.64%	0.81%	0.80%	0.00%	0.79%	0.79%	0.78%	0.78%	

Schedule I

City of Port Colborne
Anticipated Future Water Rates

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Cost per cu.m	\$1.291	\$1.346	\$1.408	\$1.467	\$1.508	\$1.546	\$1.583	\$1.619	\$1.660	\$1.697	\$1.735
		4.26%	4.61%	4.19%	2.79%	2.52%	2.39%	2.27%	2.53%	2.23%	2.24%
Annual fixed cost	\$384.65	\$394.66	\$407.54	\$420.89	\$434.67	\$448.66	\$461.34	\$473.85	\$489.64	\$503.33	\$516.66
		2.60%	3.26%	3.28%	3.27%	3.22%	2.83%	2.71%	3.33%	2.80%	2.65%
Annual Cost .75 m3 per day	\$353.41	\$368.47	\$385.44	\$401.59	\$412.82	\$423.22	\$433.35	\$443.20	\$454.43	\$464.55	\$474.96
Total Annual cost	\$738.06	\$763.13	\$792.98	\$822.48	\$847.49	\$871.88	\$894.69	\$917.05	\$944.07	\$967.88	\$991.62
Percentage Increase		3.40%	3.91%	3.72%	3.04%	2.88%	2.62%	2.50%	2.95%	2.52%	2.45%
Dollar Increase		\$25.07	\$29.85	\$29.50	\$25.00	\$24.39	\$22.81	\$22.37	\$27.01	\$23.82	\$23.73

Schedule J

City of Port Colborne
Water Rate Calculations
2020

	Total Costs	Consumption Costs	Fixed Costs
Amortization/Capital	574,881		574,881
Contract Services	156,804	156,804	
Salaries and benefits	812,179	812,179	
Water Purchases	2,434,724	1,153,874	1,280,850
Interdepartmental			
Administration	269,341	231,681	37,660
Fleet Charges	62,935	62,935	
Long term debt	364,301		364,301
New Long term debt			
General Admin	44,328	44,328	
Materials and supplies			
Utilities and telephone	8,983	8,983	
Repairs and Maintenance	111,933	111,933	
Materials, parts and supplies	50,503	50,503	
Other	28,662	28,662	
Capital Reserve			
Debt Reserve	70,000		70,000
Capital/rate stabilization	200,135		200,135
	<hr/>	<hr/>	<hr/>
	5,189,709	2,661,882	2,527,827
Other Revenues	- 50,096 -	50,096	
	<hr/>	<hr/>	<hr/>
	5,139,613	2,611,786	2,527,827
	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
Estimated Annual Water Sold - m3		1,940,915	
Total Customers			6,405
Water Usage Rate		1.346	
Annual Water Service Fixed Charge			394.66

Schedule K

City of Port Colborne Water Rate Calculations 2021

	Total Costs	Consumption Costs	Fixed Costs
Amortization/Capital	600,815		600,815
Contract Services	159,940	159,940	
Salaries and benefits	863,062	863,062	
Water Purchases	2,446,345	1,140,727	1,305,618
Interdepartmental			
Administration	274,728	209,425	65,303
Fleet Charges	64,194	64,194	
Long term debt	364,391		364,391
New Long term debt			
General Admin	45,215	45,215	
Materials and supplies			
Utilities and telephone	9,252	9,252	
Repairs and Maintenance	114,171	114,171	
Materials, parts and supplies	51,513	51,513	
Other	29,235	29,235	
Capital Reserve			
Debt Reserve	70,000		70,000
Capital/rate stabilization	204,138		204,138
	5,296,999	2,686,734	2,610,265
Other Revenues	- 50,597 -	50,597	
	5,246,402	2,636,137	2,610,265
Estimated Annual Water Sold - m3		1,872,000	
Total Customers			6,405
Water Usage Rate		1.408	
Annual Water Service Fixed Charge			407.54

Schedule L

City of Port Colborne Water Rate Calculations 2022

	Total Costs	Consumption Costs	Fixed Costs
Amortization/Capital	617,513		617,513
Contract Services	163,138	163,138	
Salaries and benefits	946,224	946,224	
Water Purchases	2,506,388	1,161,059	1,345,329
Interdepartmental			
Administration	280,223	190,104	90,119
Fleet Charges	65,478	65,478	
Long term debt	364,628		364,628
New Long term debt	-		-
General Admin	46,119	46,119	
Materials and supplies			
Utilities and telephone	9,530	9,530	
Repairs and Maintenance	116,455	116,455	
Materials, parts and supplies	52,544	52,544	
Other	29,820	29,820	
Capital Reserve			
Debt Reserve	70,000		70,000
Capital/rate stabilization	208,221		208,221
	5,476,281	2,780,471	2,695,810
Other Revenues	- 51,103 -	51,103	
	5,425,178	2,729,368	2,695,810
Estimated Annual Water Sold - m3		1,860,000	
Total Customers			6,405
Water Usage Rate		1.467	
Annual Water Service Fixed Charge			420.89

Schedule M

City of Port Colborne Water Rate Calculations 2023

	Total Costs	Consumption Costs	Fixed Costs
Amortization/Capital	632,803		632,803
Contract Services	166,401	166,401	
Salaries and benefits	967,486	967,486	
Water Purchases	2,577,716	1,205,100	1,372,616
Interdepartmental			
Administration	285,827	213,889	71,938
Fleet Charges	66,787	66,787	
Long term debt	364,325		364,325
New Long term debt	-		-
General Admin	47,041	47,041	
Materials and supplies			
Utilities and telephone	9,816	9,816	
Repairs and Maintenance	118,784	118,784	
Materials, parts and supplies	53,594	53,594	
Other	30,416	30,416	
Capital Reserve	60,000		60,000
Debt Reserve	70,000		70,000
Capital/rate stabilization	212,385		212,385
	5,663,381	2,879,314	2,784,067
Other Revenues	- 51,614 -	51,614	
	5,611,767	2,827,700	2,784,067
Estimated Annual Water Sold - m3		1,875,000	
Total Customers			6,405
Water Usage Rate		1.508	
Annual Water Service Fixed Charge			434.67

City of Port Colborne Distribution System Financial Plan Notes and Assumptions

Actual results achieved for the periods covered within this Financial Plan will vary from this information presented. The differences may be material. The City's accounting policies can be reviewed with the City of Port Colborne's Annual Financial Reports for the Year Ended December 31.

Projected Statement of Financial Position

- The assets and liabilities for 2018 and 2019 are derived from internal financial information of the City of Port Colborne.
- Cash and cash equivalents are derived from the Projected Statement of Cash Flows. Opening cash at the beginning of 2019 equates to funds in water reserves and capital for future capital projects.
- Accounts receivable has been calculated and based on 22% of operating revenues from the average historical receivables to water sales.
- Long Term Debt includes current debentures outstanding. No new debt is anticipated unless and major capital project such as the Downtown CIP is funded.
- Inventory of materials has been calculated based on actual for 2018 and increased by 1.5% for each year after.
- Capital work in progress represents outstanding capital works for 2018 and 2019. It is assumed that future capital projects will be completed in the year and the asset will be put into service and capitalized to the appropriate capital asset account.
- Accounts payable and accrued liabilities related directly to the water system are integrated with the City's accounts payable system and assumed to be deducted from the bank in the year the expenses are incurred and paid immediately.
- Capital assets are calculated and based on the most current information available under the regulations of the Public Sector Accounting Board Standards (PSAB). The costs have been established based on discounted historical costs and amortized over the assets normal life expectancy.
- Accumulated surplus is the combination excess revenues over expenses and the net book value of capital assets.

Projected Statement of Operations

- Operating revenues include and is a combination of those derived from the usage water rates based on billable consumption and annual fixed service charges (including capital requirements, amortization established, repayment of debt charges, reserve allocations and fixed Regional water charges) billed to each customer.
- Revenues are based on annual expenditure requirements including operations, amortization, reserve allocations, long term debt payments and capital contributions.
- Operating revenues are influenced by customer consumption and billable water usage. As water consumption has been stable over the last few years, it is anticipated that the consumption may decline by about 2% annually from 2020 to 2022. In 2023 to 2029, it is projected that consumption will increase very slightly each year being less than 1%.
- Other revenue includes penalties and service installation fees being increased annually at a rate of 1%.
- Amortization is based on a straight line basis at rates which reflect the estimated useful life of the asset.
- General operating expenses, including Regional water purchases, are projected to be increased in 2020 by 3.6% (new Operator hired), increased 3.9% in 2022 (new Operator hired), 4.2% in 2027 (new Operator hired) and by 2.7% annually for other years until 2029.
- It is assumed that water purchases from the Region will increase 2.5% in 2020 to 2022 and 3% from 2023 to 2029.
- Interest on long term debt includes interest on existing debentures which mature in 2025, 2027 and 2019.
- Matured debt is allocated to a Debt reserve for future Debenture requirements
- No debt is forecasted to be used to fund capital expenditures; however, should the Downtown CIP be completed in the next decade, this financial plan ensures that debenture reserves will be in place to permit the water/wastewater portion of the CIP to be debentured
- Financing of future capital costs are based on the amortization (depreciation) amounts projected plus capital contributions of \$200,000 with an annual 2% increase and commencing in 2023 an additional \$60,000 increased annually to \$260,000 in 2029.

Projected Statement of Cash Flows

- Operating transactions include the projected excess of revenues over expenses and adds non-cash items for amortization, allocations to the Debt reserve and the capital contributions not expended in the projected year. These add to the monies available for future capital expenditures. The change in working capital items is the difference in cash flows year over year which is very minimal.
- Financing transactions include the proceeds from new debt and the repayment of the long term debt each year.
- Capital transactions include the purchase of new capital assets.
- The balance of the cash and cash equivalents at the end of each year reflects the monies available for the future capital expenditures. Interest earned on this cash balance has not been calculated.

Projected Liabilities and Accumulated Surplus

- Currently the water division holds existing debentures which include three debentures maturing in 2025, 2027 and 2029 and shows the annual principle payments.
- New debt may be required to pay for some future capital costs. The debt terms are anticipated to be payable semi-annually over twenty (20) or thirty (30) years with an interest rate based on the day of issuing.

Projected Capital Assets – Acquisitions, Disposals and Accumulated Amortization

- The capital assets costs, additions, disposals and accumulated amortization have been developed through the process of satisfying the PSAB requirements and are based on the best available information at the time of preparing this financial plan.
- Additions are defined as capital purchases, valued at cost, which have been put in to service to provide future benefits.
- Capital projects are anticipated to be undertaken every 2 years with engineering and detailed planning and design occurring in the alternate years.
- This plan does accelerate the City's watermain replacement program, by increasing the annual capital expenditures to \$750,000 in 2020 and increasing the annual expenditures over the 10 years to \$900,000 in 2029.
- Financing of future capital costs are based on the amortization (depreciation) amounts projected plus capital contributions of \$200,000 with an annual 2% increase and commencing in 2023 an additional \$60,000 increased annually to \$260,000 in 2029.
- Capital purchases are assumed to be replacing an existing asset. The cost of the disposed asset has been identified and is based on the actual discounted historical cost from PSAB.

- Amortization is calculated on a straight line basis at rates which reflect the estimated useful life of the asset. The useful life of each category of capital asset is set out in Schedule G. The useful life for watermains is based on the City's experience which is outside of the industry standard, especially for cast iron, as the City has experienced longer life than 45 years. Efforts are required to accelerate capital replacement towards these standards.
- No gains or losses have been calculated on any disposal of assets.

Analysis of Water System Costs

- The budgeted expenditures are allocated into components and percentage of total costs determined. This includes operating costs, Regional water purchases, capital contributions, debt payments and allocations to Debt reserves.
- Water purchases from the Region are expected to remain relatively stable, and are forecasted to range between 2,800,000 m³ and 3,000,000 m³. Estimated unbilled water purchases or unaccounted for water is set at 35% to 38% throughout the years of this plan.
- Water sales are forecasted to continue a slight decline, falling from 1.9 million m³ to 1.8 million m³ in 2022 then slightly increase to 1.95 million m³ by 2029. The estimated water sold is used to determine volumetric (usage) rates.
- The Region had investigated changing to a 50/50 allocation, whereby 50% of the price of water is fixed, and 50% of the price is volumetric. Area Municipalities were being urged to adopt a similar rate structure, and the City of Port Colborne has moved towards this structure, with our water rates currently 49.5% fixed and 50.5% volumetric. The Region is currently billing municipalities 25% fixed and 75% volumetric.

Anticipated Future Water Rates

- The projected rate increases in operating revenues for usage rates and fixed service rates will average 3.4% to 3.9% in 2020 to 2022 and 2.5% to 3.0% from 2023 to 2029 being an average increase annually of \$22 to \$30 to the average household. These increases are a combination of volumetric (usage) rates and annual fixed charges. Future annual increases will be dependent on factors such as Regional charges for water purchased and levels of consumption

Water Rate Calculations

- Water rate calculations have been illustrated for 2020 to 2023 and are based on the projections of revenues and expenditures in this plan.
- Costs have been allocated to both consumption (volumetric) and fixed to determine the rates to customers for both the volumetric (usage) rate and the annual fixed charge.
- These costs can be allocated differently between consumption and fixed, although, past practice for the City is to allocate capital costs, capital and debt reserves, debenture costs and unbilled water purchases (now Regional fixed costs) to the annual fixed charge.
- The volumetric (usage) rate is determined by estimating the annual amount of water to be sold in cubic meters and divide it into the consumption costs.
- The annual fixed charge is determined by dividing the total number of customers into the fixed costs.

**CITY OF PORT COLBORNE
DISTRIBUTION SYSTEM FINANCIAL PLAN**

**APPENDIX TWO
DETAILED WATERMAIN INFORMATION**

**INSTALLATION BY DECADE AND MATERIAL TYPE
and
DECADE WHEN LIFE EXPECTANCY IS EXCEEDED
(based on industry standards)**

**City of Port Colborne
Summary of Watermain Installations, by date and material**

Installation Year Range	Length of Watermains (in km) Installed, by Material Type						
	PVC	Cast Iron	Ductile Iron	Steel	Asbestos Cement	Hyprescon	PE/PHE
1920 - 1929		2.199	0.159	0.565			
1930 - 1939		0.556					
1940 - 1949		7.440	0.041	0.014			
1950 - 1959		17.053	0.103				
1960 - 1964		3.005	0.171				
1965 - 1969	0.031	3.542		0.354	0.647		
1970 - 1974	0.012	1.573	0.852	1.673	3.789		
1975 - 1979	1.698	0.697	2.336		0.473	0.061	
1980 - 1984	11.616	0.074	0.200		0.190	0.217	
1985 - 1989	10.231	0.100	0.028				
1990 - 1994	8.988						
1995 - 1999	12.484	0.174					
2000 - 2004	8.779	0.022		0.041			
2005 - 2009	1.814	0.050					
2010 - 2014	3.134	0.008					
2015 - 2018	5.297			0.028			0.286
Total length (km) by material type	64.084	36.493	3.890	2.675	5.099	0.278	0.286

**City of Port Colborne
Summary of When Watermains Exceed Their Life Expectancy, by decade and material**

Decade	Length of Watermains (in km) Exceeding Life Expectancy in Each Decade, by Material Type						
	PVC	Cast Iron	Ductile Iron	Steel	Asbestos Cement	Hyprescon	PE/PHE
As of 2019		35.368	0.303	0.579			
2020-2029*		0.771	0.171	0.354	0.647		
2030-2039*		0.100	3.188	1.673	4.262	0.061	
2040-2049*	0.043	0.196	0.228		0.190	0.217	
2050-2059*	13.314	0.058					
2060-2069*	19.219			0.041			

*does not include any watermains from the previous decade(s) that were not replaced. Therefore, this number would be adjusted based on infrastructure "carry over" from the previous decade