

**MUNICIPALITY OF CASSELMAN
DRINKING WATER QUALITY MANAGEMENT SYSTEM
FINANCIAL PLAN 173-301**



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Prepared for:

MUNICIPALITY OF CASSELMAN

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1.0 INTRODUCTION

This Financial Plan for the Municipality of Casselman (Municipality) Drinking Water System was prepared by J.L. Richards & Associates Limited (JLR) in accordance with the *Safe Water Drinking Act* (SWDA), Ontario Regulation 453/07, as well as provisions of the financial planning guidelines published by the Ministry of the Environment, Conservation and Parks (MECP) in August 2007 entitled "Toward Financially Sustainable Drinking Water and Wastewater Systems".

This Financial Plan was prepared based on information supplied by the Municipality, including future capital and major maintenance projects, consolidated water system financial information, as well as tangible capital asset information. This data was used to generate a financial operating plan with projected annual expenditure requirements over a ten (10) year study period from 2021 through to 2030. A funding strategy, relying mainly on user fees, was generated to support the expenditure requirements outlined in the operating plan.

The process used to develop this plan was focused on achieving a balance between maintaining the water system in a safe and effective manner, while incorporating appropriate expenditures and water rate increases and generating modest reserve funds. A flexible and gradual approach was utilized to achieve financial viability through 2030, recognizing that provincial and federal funding sources for the purpose of sustaining the water system may be limited, and the reliance on debt to support all future capital expenditures is unrealistic.

1.1 Acronyms

The following is a list of acronyms found in this report. The list is in no particular order.

- SWDA - *Safe Water Drinking Act*
- SCADA - Supervisory Control and Data Acquisition
- MECP - Ministry of the Environment, Conservation and Parks
- PSAB - Public Sector Accounting Board
- JLR - J.L. Richards & Associates Limited
- DWS - Drinking Water System
- WTP - Water Treatment Plant
- ICI - Industrial-Commercial-Institutional
- PVC - Polyvinyl Chloride
- Municipality - Municipality of Casselman

2.0 LEGISLATIVE BACKGROUND AND GENERAL REQUIREMENTS

In 2009, the Ontario Government implemented the Municipal Drinking Water Licensing Program as recommended by Justice O'Connor in the Part 2 Report of the Walkerton Inquiry. The licensing program replaced the approvals program for municipal residential drinking water systems.

One of the five elements that must be in place for the drinking water system license (issued by the MECP under the SWDA) is a Financial Plan for the drinking water system. The Financial Plan must be prepared in accordance with MECP O. Reg. 453/07. In the case of the Municipality, an existing drinking water system and financial plan is already in place. Some important provisions set out in the regulation that must be met by a Municipality operating a water system when applying for a license renewal include:

1. The Financial Plan must be approved by a resolution of Council that specifies that the drinking water system is financially viable;
2. A copy of the resolution of Council for the Financial Plan must be attached to the application for a license renewal;
3. The Financial Plan must include a statement that the financial impacts of the drinking water system have been considered;
4. The Financial Plan must include projections over a period of at least 6 years;
5. The first year to which the Financial Plan must apply must be the year in which the Municipal Drinking Water License would otherwise expire;
6. The Financial Plan must be available, upon request, to members of the public at no charge and posted on the internet (if the Municipality maintains a website);
7. The Municipality must provide notice as deemed appropriate to advise the Public of the availability of the Financial Plan;
8. A copy of the Financial Plan, along with the resolution, must be submitted to the Ministry of Municipal Affairs and Housing.

The Municipality's Financial Plan is required to be updated (minimum of every 5 years) and approved prior to applying for a license renewal.

2.1 Financial Plan Requirements – Existing Water Systems

In addition to the general requirements listed in Section 2.0, this section lists additional O.Reg. 453/07 financial plan requirements for license renewal of existing water systems.

FINANCIAL POSITION: Each Financial Plan must also include details of the proposed or projected financial position of the drinking water system itemized by:

- Total financial assets;
- Total liabilities;
- Net Debt;
- Non-financial assets that are tangible capital assets, tangible capital assets under construction, inventories of supplies and prepaid expenses; and
- Changes in tangible capital assets that are additions, donations, write downs, and disposals.

OPERATIONS: Each Financial Plan is required to document proposed or projected financial operations for each fiscal year that the plan is in effect. This information should be itemized by:

- Total Revenues, further itemized by water rates, user charges and other revenues;
- Total Expenses, further itemized by amortization expenses, interest expenses and other expenses;
- Annual and accumulated surplus or deficit.

CASH FLOW: Each Financial Plan must include details of the drinking water system's proposed or projected gross cash receipts and gross cash payments itemized by:

- Operating transactions that are cash received from revenues, cash paid for operating expenses and finance charges;
- Capital transactions that are proceeds on the sale of tangible capital assets and cash used to acquire capital assets;
- Investing transactions that are acquisitions and disposal of investments;
- Financing transactions that are proceeds from the issuance of debt and debt repayment;
- Changes in cash and cash equivalents during the year; and
- Cash and cash equivalents at the beginning and end of the year.

In essence, O.Reg. 453/07 requires owners to project certain elements of their statement of financial position, statement of operations and statement of cash flow. Each of these statements is discussed briefly below:

- The **Statement of Financial Position** highlights the key figures that describe the financial position of the municipal water system at the reporting date. For example, the net debt position of the Municipality is calculated as the difference between its liabilities and financial assets. The non-financial assets of the Municipality are assets that are, by nature, normally for use in water service provision and include purchased, constructed, contributed, developed or leased tangible capital assets, inventories of supplies and prepaid expenses.
- The **Statement of Operations** reports the surplus or deficit from water operations in an accounting period. This statement displays the cost of municipal water services provided annually, the revenue collected annually and the difference between them. It measures, in monetary terms, the extent to which a Municipality has maintained its net assets in a given year.
- The **Statement of Cash Flow** reports the change in cash and cash equivalents annually, and how a Municipality finances its activities and meets its cash requirements.

Projections of these three statements will help provide a “snapshot” of the Drinking Water System’s (DWS) projected financial situation, as well as the resources required to run and maintain the system.

2.2 PSAB and Policy Changes

In June 2006, the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered Accountants approved new municipal financial accounting and reporting standards requiring that tangible capital assets, including components of the water system, be included in municipal financial statements. The new accounting standard PS3150 came into effect on January 1, 2009. This allows for a focus on the depreciation of the capital asset base of the water system and the need to plan for renewal and replacement on a timely basis.

The Clean Water Act 2006 targets the protection of drinking water supplies through the development of collaborative, locally driven, science and watershed based source protection plans. The MECP financial planning guidelines suggest that Financial Plans include source water protection costs related to the provision of water services. Utilities are encouraged to have, at minimum, estimates of any current source protection costs as a separate cost item.

In June 2007, the government of Ontario proposed a lead action plan. The Financial Plan's regulation contains requirements for municipalities to include in their Financial Plans, the costs associated with replacing lead service pipes that are part of the drinking water system.

3.0 GENERAL DESCRIPTION OF WATER SYSTEM

The Municipality is located approximately 50 kilometers southeast of the City of Ottawa, following Highway 417, and is within the United Counties of Prescott and Russell. The population of the Municipality is approximately 3,600 with approximately 1,400 households. Please refer to Figure 1 for a context map of the Study Area. The Study Area is serviced by a water distribution system comprised of approximately 23 kilometers of watermains, a Water Treatment Plant (WTP) and an elevated water storage tank. There are approximately 150 fire hydrants, 150 valve boxes and over 1,500 water service connections on the water system.

The surface water treatment plant (WTP) was constructed in 1976 with a major upgrade to many of the plant components and systems undertaken in the early 2000s. Further upgrades were completed to the WTP roof as well as the distribution pumping system in 2014. Since the last Financial Plan update, the following upgrades have been completed to the WTP:

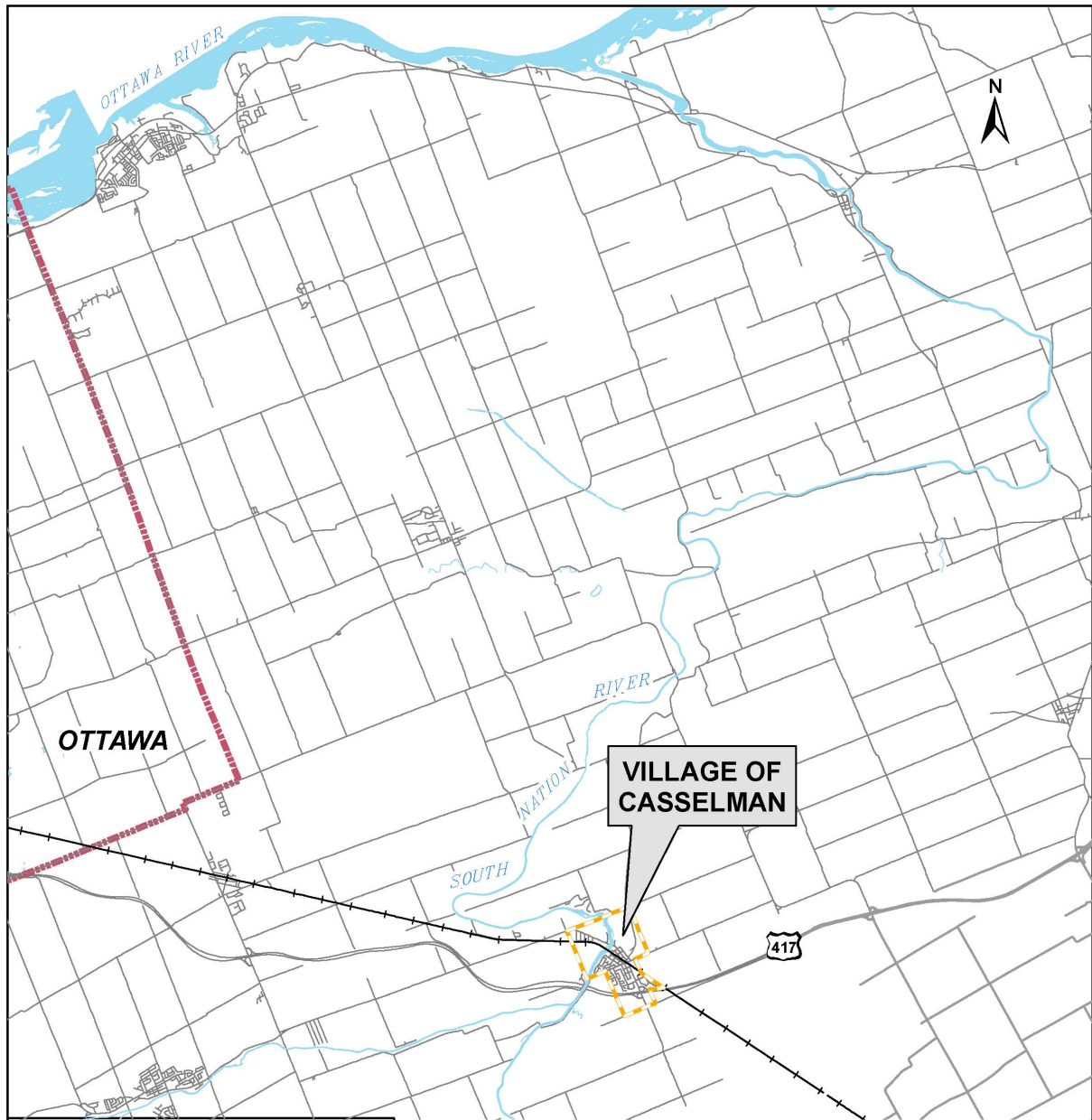
- Replacement of low and high lift pumps and replacement of electrical motor;
- Replacement of building windows and doors;
- Replacement of flow meters;
- Overhaul of electrical motors;
- Overhaul of chemical pump;
- Replacement of VFD drive; and
- Replacement of plant analyzer.

A more specific overview of the water treatment process is provided below:

- One (1) raw water intake;
- One (1) low lift wet well;
- Three (3) vertical turbine low lift pumps;
- One (1) 1,575 m³ elevated storage tank;

-
- Chemical feed systems consisting of chemical pumps, storage tanks, piping and associated appurtenances to dose aluminum sulphate, polyelectrolyte, potassium permanganate, sodium hydroxide and chlorine gas;
 - Two (2) ballasted flocculation water treatment units (Actiflo® process units) complete with coagulation, injection, maturation and settling tanks;
 - Two (2) mixed media filters and filter backwash system;
 - One (1) filtered water holding tank with 3 variable speed pumps;
 - Two (2) ultraviolet (UV) disinfection units;
 - Two (2) clearwells (415 m³ and 440 m³); and
 - Three (3) vertical turbine high lift pumps that distribute water into the Distribution System.

The Municipality is the Owner of the WTP, while the Ontario Clean Water Agency (OCWA) is the Operating Authority. The WTP operates under *Municipal Drinking Water License Number 173-101 (Issue Number 3), dated March 4, 2019 and Permit to Take Water No. 6067-9EGMS2 issued on December 17, 2013*. The Municipal Drinking Water License expires on *March 9, 2021*, and the next *Application Renewal date is September 7, 2020*.



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PROJECT: VILLAGE OF CASSELMAN DWQMS FINANCIAL PLAN		DRAWING: STUDY AREA	
 <p>J.L. Richards ENGINEERS · ARCHITECTS · PLANNERS</p>	DESIGN: T.B.	FIGURE: 1	
	DRAWN: T.B.	JLR NO: 22992-03	
	CHECKED: T.O'B.		
	PLOTTED: 6/5/2012		

Figure 1: Municipality of Casselman – Study Area.

The WTP currently produces an average treated water flow in the order of 958 m³/day (2019 data) and during high peak demand periods it can be close to triple the average day flow. The current “connected” population is estimated at 3,600 persons. Average day water usage is estimated to be 265 litres/capita/day, which includes ICI (Industrial-Commercial-Institutional) uses. The WTP is currently rated for a maximum day capacity of 3,182 m³/day. Figure 2 below provides a comparison of the Daily Average and Maximum Flow Rates for 2019.

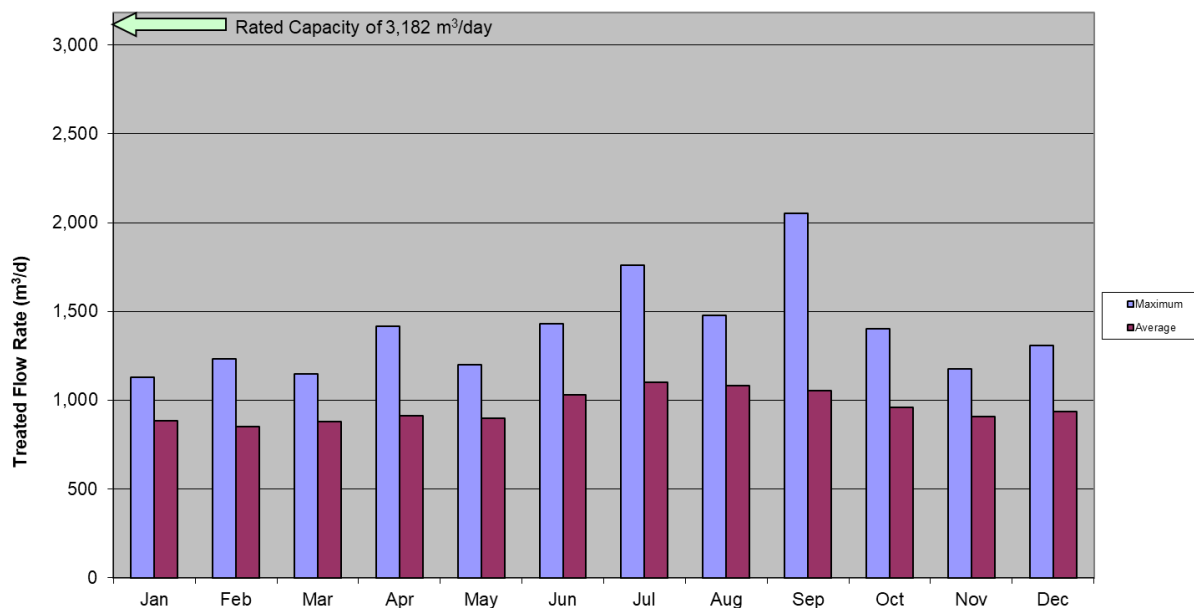


Figure 2: Municipality of Casselman WTP Comparison of 2019 Treated Water Daily Average and Maximum Flows.

4.0 PLAN OBJECTIVE

As the Owner of the Drinking Water System (DWS), the Municipality must prepare an updated Financial Plan for the DWS in order to meet the requirements for renewal of the Municipal Drinking Water License. The Financial Plan update will also allow the Municipality to gain a better understanding of immediate, short term and long term operating costs so that improved fiscal planning can be implemented through a variety of approaches, which include review of user charges. The Financial Plan must be updated at a minimum every five (5) years, but it is recommended that it be updated more frequently to reflect changes in operation, financing costs, consumption and pricing.

This Financial Plan should be considered a “living” document which will require ongoing review and updates as conditions and circumstances inevitably change over time. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.

Achieving financial sustainability in Ontario’s municipal water and wastewater sector is a long-term provincial goal. Systems are aging, there is a growing amount of deferred maintenance, and many assets are nearing, or even beyond, the end of their useful lives and are in need of replacement. The overall guiding principle in the updating of this Financial Plan is to ensure that both current operating needs and longer-term infrastructure planning are addressed.

Through the process of updating this Financial Plan, the Municipality set out to achieve:

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

5.0 FINANCIAL OPERATING PLAN

The Financial Operating Plan includes the full costs of operating the Municipality DWS on an ongoing basis, as well as the capital renewal costs required to sustain the drinking water system. These costs include capital investment forecasting, operating costs, maintenance costs, administration costs, debt repayment and interest charges.

The financial operating plan for the DWS was developed using 2019 financial information and projecting this information forward to forecast the annual expenditure requirements, while taking into account capital needs, inflation and any growth forecast. The intent of the operating plan is to ensure that funding will be available for the projected capital and major maintenance costs, when needed between 2021 and 2030 and beyond.

5.1 Drinking Water System Rehabilitation and Renewal

Rehabilitation and renewal of the water supply system is performed on an as needed basis. Capital and operational money is allocated each year for improvements to the system. Requests for rehabilitation capital are prepared by OCWA and Municipality staff, with authorization by Council. This funding includes monies in the operating budget for OCWA to cover the costs

associated with the annual maintenance program, as well as dealing with unplanned maintenance.

When rehabilitation activities are under consideration, regard is given to the Major Infrastructure Capacity Analysis (i.e., Master Plan) which details water system areas that the Municipality should look upon to improve and rehabilitate, based on a prioritized short, medium and long term schedule. An annual report detailing the maintenance programs, any requirements for infrastructure and for rehabilitation and renewal of the infrastructure is prepared annually by OCWA. This report is provided to Council for consideration, discussion and approval / authorization.

5.2 Operating Expenses

Recurring or annual operating expenses for the DWS, which include fuel and hydro costs, OCWA fees, municipal salaries and benefits, insurance and other costs, are forecasted to increase on an annual basis due to inflation. As this plan extends over many fiscal years, operating expenditures must be projected based on estimation of service costs over time. This estimation/projection considers the following parameters:

- Future customer demands;
- Projected repair and maintenance costs;
- Input commodity costs (such as power supply and treatment chemicals).

Annual operating expenses were \$594,420 for the 2019 fiscal year. For the 2020 fiscal year, expenses were estimated based on the Municipality's budget for 2020 or, where the budget was not provided, with a projected average (linear) per annum increase of 3%, with the exception of Hydro, which was forecasted to increase at a rate of 5% per annum. For the 2021 - 2030 period, expenses were estimated based only on per annum percentage increases.

5.3 Capital Renewal Expenses

The water supply and distribution system for the Municipality consists of considerable infrastructure. At the end of 2019, the approximate capital value of this infrastructure was valued at \$9.94M. These tangible capital assets provide for the delivery of safe drinking water to the Municipality's residential, commercial, industrial and institutional customers.

As noted, the capital cost component of the municipal water supply and distribution system represents a substantial value. As such, capital costs must form a significant component of the Financial Plan. To more accurately determine long-term infrastructure needs, the Municipality

has provided a ten year forecast of capital projects in addition to annual costs associated with planned maintenance and repairs to the WTP and water distribution system. These capital expenditures include:

- Various water treatment plant upgrades such as the repairs to fix the Manganese issues, replacement of a UV control panel, replacement of granular activated carbon and filter media, recoating of the Actiflow® system, replacement of PLC and SCADA, and the replacement of various pumps and water meter;
- Watermain replacement along Bridge Street;
- Repair of valves within the distribution system.

Looking beyond the ten-year study period, this plan will be updated continuously to allow the Municipality to predict and prepare for significant capital investments, such as WTP upgrades and watermain replacements.

5.4 Debt Management

Debt management is the ability to repay debt over time, including both principal payments and interest charges. Funding for the Municipality's capital improvements is commonly financed by issuing debt. All debts currently owed were incurred to fund direct capital costs improvements for the water system. The financial plan utilizes debt financing while managing the ability to repay debt over time, including both principal and interest charges while not impairing the financial position of the Municipality.

Principal payments and interest costs on existing water infrastructure debt is currently estimated at \$112,957 for 2021. This debt is projected to decline as debt is repaid and interest charges decrease.

5.5 Lead Service Pipe Removal

Based on the information provided by the Municipality, there is no dedicated lead pipe service pipe removal program in place. If lead pipe is discovered during normal operations and maintenance, it is replaced accordingly. The majority of Casselman's water system pipe material is PVC in nature. As a result, there are no significant material financial costs associated with lead pipe removal.

5.6 Source Water Protection

There are no costs associated with source water protection forecasted for the DWS during the study period.

5.7 Total Cash Expenditures

The Municipality has significant cash expenditures, including operating expenses, capital costs and debt repayments/interest charges. For the fiscal year 2021, total projected cash expenditures are \$807,328. This balance can be broken down as follows: \$634,371 (operating expenses) plus \$60,000 (capital asset purchases) plus \$112,957 (debt repayment/interest charges).

6.0 FUNDING PLAN

The funding plan outlines how the Municipality will generate the required funds to meet the expenditure requirements detailed in the operating plan. The funding plan proposed will rely primarily on user fees, with some funds provided by short term one-time government grants, reserve funds and “other” connection charges or receipts and new debt financing. The funding plan will also rely on Development Charges as a source of deferred revenue and influx of cash flow. Most of the operating revenues are achieved as a result of water rates described in Section 6.2 below.

6.1 Water Consumption

Serving the residents of the Municipality, the surface water treatment plant is capable of supplying water at a maximum rate of 3,182 m³/day. In 2019, there were up to 1275 residential and 62 industrial, commercial and institutional customers (active accounts) served by the water distribution system.

In 2019, the following water volume, in cubic metres, was used by the population of the Municipality:

- Residential – 177,082;
- Industrial, Commercial and Institutional – 53,881;

Since 2014, water consumption in the Municipality has decreased from 303,000 cubic metres to approximately 230,960 cubic metres in 2019. As with most water utilities, the Municipality has significant fixed costs, and as consumption decreases, these costs must be offset by increasing water commodity rates.

Based on estimations, historical trends and operating efficiencies, it is anticipated that water consumption within the Municipality will proportionally increase over the next ten years in relation to moderate population and development increases. Recent and anticipated upgrades of the WTP should permit the Municipality to meet anticipated growth rates over this study period.

6.2 Water Rates

In 2018, the Municipality passed By-law 2018-024, which establishes water service rates and minimum charges per billing. This By-law contains user pay water rates, which include fixed rates and minimum charges per month from 2016 through 2028. The water rate structure is a combination of a monthly fixed rate by service pipe size (water service) plus a minimum charge per billing cycle. Water billing is done on a quarterly (three month) basis. Figures 3 and 4 outline, respectively, residential service rates for 2016 through 2028 for pipe sizes ranging from 15mm to 100mm, and minimum service charges per billing cycle. Note that the Municipality has adopted similar non-residential water rates for water meters ranging from 3/4" – 4"+ and water revenues associated with non-residential usage are accounted for in this plan.

YEAR	Categories	Water Fix Rate (per month)	Water Consumption Rate (Per Cubic Meter)
2016	15-20mm	\$8.50	\$1.88
	25-40mm	\$32.00	
	50mm-100mm	\$77.00	
2017	15-20mm	\$8.84	\$1.96
	25-40mm	\$33.28	
	50mm100mm	\$80.08	
2018	15-20mm	\$9.19	\$2.03
	25-40mm	\$34.61	
	50mm100mm	\$83.28	
2019	15-20mm	\$9.58	\$2.11
	25-40mm	\$38.00	
	50mm100mm	\$86.61	
2020	15-20mm	\$9.94	\$2.20
	25-40mm	\$37.44	
	50mm100mm	\$90.08	
2021	15-20mm	\$10.34	\$2.29
	25-40mm	\$38.93	
	50mm100mm	\$93.68	
2022	15-20mm	\$10.76	\$2.36
	25-40mm	\$40.49	
	50mm100mm	\$97.43	
2023	15-20mm	\$11.19	\$2.47
	25-40mm	\$42.11	
	50mm100mm	\$101.33	
2024	15-20mm	\$11.63	\$2.57
	25-40mm	\$43.79	
	50mm100mm	\$105.38	
2025	15-20mm	\$12.10	\$2.68
	25-40mm	\$46.55	
	50mm100mm	\$109.60	
2026	15-20mm	\$12.58	\$2.78
	25-40mm	\$47.37	
	50mm100mm	\$113.98	

Figure 3: Municipality of Casselman Residential Water Rates – Service Rates (By-Law No. 2018-024, Schedule “A”).

YEAR	Categories	Water Minimum Charge (per billing)
2016	15-20mm	\$56.40
	25-40mm	
	50mm-100mm	
2017	15-20mm	\$58.80
	25-40mm	
	50mm100mm	
2018	15-20mm	\$60.90
	25-40mm	
	50mm100mm	
2019	15-20mm	\$63.30
	25-40mm	
	50mm100mm	
2020	15-20mm	\$66.00
	25-40mm	
	50mm100mm	
2021	15-20mm	\$68.70
	25-40mm	
	50mm100mm	
2022	15-20mm	\$71.40
	25-40mm	
	50mm100mm	
2023	15-20mm	\$74.10
	25-40mm	
	50mm100mm	
2024	15-20mm	\$77.10
	25-40mm	
	50mm100mm	
2025	15-20mm	\$80.40
	25-40mm	
	50mm100mm	
2026	15-20mm	\$83.40
	25-40mm	
	50mm100mm	

Figure 4: Municipality of Casselman Residential Water Rates – Minimum Consumption (By-Law No. 2018-024, Schedule “B”).

Water rates are reviewed annually as part of the budget process. Based on this financial plan, user fees and water rates are projected to increase at approximately 4% per annum for the ten-year study period. In addition, the financial plan has allowed for a 1.94% per annum increase in water revenues related to 1.94% annual projected population growth in the Municipality.

These rates have been established to provide cost recovery planning for the water system, without substantial reliance on new debt financing.

7.0 FINANCIAL PLAN

This Financial Plan includes the following projected financial statements for the Operating Authority:

- Appendix 1 - Projected Statement of Financial Position;
- Appendix 2 - Projected Statement of Operations;
- Appendix 3 - Projected Statement of Cash Flows;
- Appendix 4 - Debt Repayment Schedule.

These statements are for the study period of December 31, 2019 to December 31, 2030.

7.1 Projected Statement of Financial Position

An important feature of a water system is its net financial assets. The Projected Statement of Financial Position provides information that describes the assets, liabilities, and accumulated surplus (reserves) of the Municipality Drinking Water System. The first important indicator in determining the actual financial position of the water system is Net Financial Assets (Liabilities), which is defined as the difference between financial assets and liabilities. A position of net financial assets occurs when assets are greater than liabilities, implying that the system has the resources to finance future operations. Conversely, a net debt position occurs when liabilities exceed their assets. This situation implies that the system's future revenues must finance past transactions as well as future operations. Appendix 1 indicates that the financial plan developed by the Municipality will generate a net financial asset position from 2019 to 2030. This is important given the amortization of capital assets as described in the following paragraph. Note that the position of net financial asset is achieved from 2019 to 2024 due to the inclusion of the Reserve Water Fund as a Financial Asset. This fund is used to finance water system capital asset purchases. For the purpose of this Financial Plan, it was assumed that the Reserve Water Fund would not be used to fund capital expenditures and grow by a fixed amount each year.

Another important indicator on the Statement of Financial Position is the tangible capital asset balance (Non Financial Assets). The reporting of tangible capital assets is a requirement under PS3150 of the Public Sector Accounting Board. Prior to 2009, the costs to acquire or construct capital assets were expensed in the year in which they occurred. Effective for the statements prepared in 2009, municipalities are required to capitalize their assets and to account for their ability to provide future benefits.

In general terms, an increase in the tangible capital asset balance suggests that new assets have been acquired, and a decrease in the balance indicates the disposal, write down or use of assets.

A use of assets is usually represented by an increase in accumulated amortization due to annual amortization expenses arising as a result of allocating the cost of the asset to operations over the asset's useful life.

As described in Section 5.3, the 2019 net book value of Tangible Capital Assets is \$9.94M, but is expected to decrease to \$4.16M in 2030, due to the continued amortization of the capital assets.

Communities are presently facing major challenges in financing deferred maintenance, renewal and replacement of aging capital assets. As existing infrastructure ages and population grows, increased demands for new capital assets will place further pressures on the ability of municipalities to sustain those services. Information about the state of existing infrastructure, the lifecycle cost of its use, and the ultimate planning necessary for its replacement at the end of its lifecycle must be considered. Appendix 1 shows that, while the net book value of tangible capital assets is decreasing year to year, the net financial assets is increasing, meaning this money can be used to fund future DWS infrastructure upgrades to once again increase the value of tangible assets. This is further explained with the Accumulated Surplus in the next paragraph.

Another important indicator on this statement is the accumulated surplus. An accumulated surplus indicates that the available net resources are sufficient to provide future services. An accumulated deficit indicates that resources are insufficient to provide future services and that borrowing or rate increases are required to finance annual deficits. From Appendix 1, the financial plan indicates that the accumulated surplus will decrease from \$10,835,488 in 2019 to \$8,959,611 in 2027 before increasing once again to \$9,221,580 in 2030. The accumulated surplus is made up of reserve and reserve fund balances, contributions of tangible capital assets, and debt related transactions.

7.2 Projected Statement of Operations

The Projected Statement of Operations summarizes the revenues and expenses generated by the water system for a given period of time. The Projected Statement of Operations includes the revenues less the expenditures, arriving at the excess or net revenues over expenses. This statement includes details on the projected financial operations itemized by total revenues, total expenditures, total debt, annual surplus/deficit and the cumulative surplus/deficit projected through 2030. The annual surplus/deficit measures whether the revenues generated were sufficient to cover the expenses incurred and in turn, whether net financial assets have been maintained or depleted. An annual surplus represents funds available to the Municipality to fund non-operating expenses such as the acquisition of tangible capital assets, principal payments on debt, and transfers to replenish or grow the reserve funds.

In 2019, Total Operating Revenues were \$852,156 with Total Expenditures of \$1,286,725, leaving a 2019 annual deficit of \$398,568. This deficit is mainly related to amortization expenses which are non-cash in nature. Projected forward, the Municipality's DWS achieves an annual operating surplus of \$17,796 in 2028 and increasing thereafter through 2030 and beyond.

7.3 Projected Statement of Cash Flows

The Projected Statement of Cash Flows summarizes how the water system is expected to generate and use cash resources during the study period. The gross cash/receipts/payments are itemized by operations, financial transactions and capital transactions. The Projected Statement of Cash Flows focuses on the cash aspect of these transactions and thus is the link between cash and accrual based reporting.

Appendix 3 indicates that the cash provided by operations will be used to fund both capital asset purchases, increases in the Reserve Water Fund and long-term debt repayment. The amount of excess cash in 2019 was \$149,597 and fluctuates year to year based on projected capital expenditures. From 2020 to 2030, excess cash is expected to stay positive and reach a value of \$3,416,812 in 2030. As previously noted, this excess cash is important in funding future upgrades to the aging DWS infrastructure.

7.4 Debt Repayment Schedule

The Financial Plan includes a Debt Repayment Schedule that has been provided to demonstrate how the Municipality is using long-term debt to finance key water system improvement projects using proper fiscal management and budgeting.

As evidenced in the attached projected statements, the Municipality intends on using cash reserves to fund all planned future capital asset purchases between 2021 and 2030, and does not intend on having to extend its current long-term debt.

7.5 Summary

The financial statements reveal that the Municipality of Casselman DWS is in sound financial condition. A key component moving forward will be to properly maintain the DWS and aim to extend the service life of key pieces of infrastructure. For example, assuming a 40-year service life on \$20M worth of DWS infrastructure, by extending the service life of all infrastructure by 1 year, yearly amortization will decrease by approximately \$12,000 (\$120k over a 10-year period), thereby increasing the yearly DWS accumulated surplus by that same amount. To ensure that the DWS is kept in sound financial position, Council should continue to review the User Fee

Rates annually as part of the budget process. The Municipality will rely on revenues from long-term loans as well as user charges to fund the ongoing operating and capital costs of the DWS. Furthermore, water rates should be reviewed annually with respect to “actual versus projected” annual growth in residential, industrial, institutional and commercial accounts and resultant user charges. Lastly, long range capital renewal and major maintenance planning should also be reviewed annually as an integral component of water rate reviews.

8.0 NOTES AND ASSUMPTIONS

It is important to understand that this Financial Plan includes numerous assumptions concerning future projects, inflation, interest rates and population growth projections. Actual numbers may vary over time. The Financial Plan must be updated at a minimum every five (5) years; however, it is recommended that it be reviewed and updated more frequently (e.g., on an annual basis) to reflect changes in operating and financing costs, consumption and pricing.

The financial plan format as outlined in Section 7 closely approximates the full accrual format used by municipalities (2009 onward) on their audited financial statements. However, the financial plan is not an audited document and contains various estimates. In this regard, Section 3 (2) of O.Reg. 453/07 states the following:

“Each of the following sub-subparagraphs applies only if the information referred to in the sub-subparagraph is known to the owner at the time the financial plans are prepared:

1. Sub-subparagraphs 4 i A, B and C of subsection (1);
2. Sub-subparagraphs 4 iii A, C, E and F of subsection (1).”

The information referred to in sub-subparagraphs 4 i A, B and C of subsection (1) includes:

- A. Total financial assets;
- B. Total liabilities;
- C. Net debt.

The information referred to in sub-subparagraphs 4 iii A, C, E and F of subsection (1) includes:

- A. Operating transactions that are cash received from revenues, cash paid for operating expenses and finance charges;
- C. Investing transactions that are acquisitions and disposal of investments;
- E. Change in cash and cash equivalents during the year;

F. Cash and cash equivalents at the beginning and end of the year.

In order to show a balanced financial plan in a full accrual format for the Municipality, some of the items listed above have been estimated given that they do not maintain all financial asset and liability data separately for water and wastewater. Usually, this type of data is combined with the financial assets and liabilities of other departments and services given that there is not a current obligation to disclose this data separately (as there is with revenue and expenses). Additional assumptions used have been documented below:

1. Opening Accumulated Surplus for 2019:

(Equation 1):

Net Financial Assets + Net Book Value Tangible Assets = Accumulated Surplus (Closing)

(Equation 2):

Accumulated Surplus (Closing) = Accumulated Surplus (Opening) + Excess Revenues

(Equation 1 = Equation 2):

Net Financial Assets + Net Book Value Tangible Assets = Accumulated Surplus (Opening)
+ Excess Revenues

Accumulated Surplus Opening = Net Financial Assets + Net Book Value Tangible Assets
- Excess Revenues

2. Tangible Capital Assets:

- Amortization is recorded on a straight-line basis over the estimated useful life of the tangible capital asset commencing once the asset is available for productive use;
- Useful life on acquisitions is assumed to be equal to the average useful life for all assets on hand within a particular category;
- Write-offs are assumed to equal \$0 for each year in the forecast period;
- Tangible capital assets are shown on a net basis. It is assumed that disposals occur when Net Book Value = \$0 therefore:
 - Gains/losses on disposal are assumed to be \$0 (it is assumed that the historic cost is equal to accumulated amortization for all disposals);

- Information on the useful life of DWS Equipment and Building Assets was not available at the time of the study. It was therefore assumed that these assets had sufficient useful life to last until after 2030. This means that Accumulated Surplus values may be higher than shown in Appendix 1 (amortization values may be greater than initial capital expense).

APPENDIX 1

Projected Statement of Financial Position

Municipality of Casselman DWQMS Financial Plan
 Plan No. 173-301
 Projected Statement of Financial Position

Appendix 1

	ACTUAL	FORECAST										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
FINANCIAL ASSETS & LIABILITIES												
FINANCIAL ASSETS												
Cash and Cash Equivalents	149,597	214,945	399,854	50,197	46,694	268,595	634,245	1,072,210	1,401,288	1,990,527	2,667,685	3,416,812
Accounts Receivable	852,156	886,242	921,692	958,560	996,902	1,036,778	1,078,249	1,121,379	1,166,235	1,212,884	1,261,399	1,311,855
Water Reserve Fund, beginning of the year	1,592,118	1,620,776	1,650,776	1,680,776	1,710,776	1,740,776	1,770,776	1,800,776	1,830,776	1,860,776	1,890,776	1,920,776
Increase to Water Reserve Fund (Decrease)	28,658	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Water Reserve Fund, end of the year	1,620,776	1,650,776	1,680,776	1,710,776	1,740,776	1,770,776	1,800,776	1,830,776	1,860,776	1,890,776	1,920,776	1,950,776
Financial Assets	2,622,529	2,751,963	3,002,322	2,719,533	2,784,372	3,076,149	3,513,271	4,024,365	4,428,298	5,094,187	5,849,860	6,679,443
FINANCIAL LIABILITIES												
Accounts Payable	561,012	583,453	606,791	631,062	656,305	682,557	709,859	738,254	767,784	798,495	830,435	863,652
Long Term Debt	1,040,363	955,391	868,134	778,530	686,516	592,026	494,995	395,353	293,031	187,957	103,501	74,675
Deferred Revenue (DC Charges)	125,958	175,958	225,958	275,958	325,958	375,958	425,958	475,958	525,958	575,958	625,958	675,958
Total Financial Liabilities	1,727,333	1,714,802	1,700,883	1,685,551	1,668,779	1,650,541	1,630,812	1,609,565	1,586,773	1,562,410	1,559,894	1,614,286
Net Financial Assets (Liabilities)	895,197	1,037,161	1,301,439	1,033,982	1,115,594	1,425,608	1,882,459	2,414,800	2,841,525	3,531,777	4,289,967	5,065,157
TANGIBLE (NON-FINANCIAL) ASSETS												
Initial Capital Cost, beginning of the year	19,898,710	20,118,640	20,261,640	20,321,640	20,955,528	21,285,528	21,435,528	21,490,528	21,525,528	21,725,528	21,725,528	21,725,528
Capital Cost of Additions	219,929	143,000	60,000	633,888	330,000	150,000	55,000	35,000	200,000	-	-	55,000
Original Capital Cost, end of the year	20,118,640	20,261,640	20,321,640	20,955,528	21,285,528	21,435,528	21,490,528	21,525,528	21,725,528	21,725,528	21,725,528	21,780,528
Accumulated Amortization, beginning of the year (Amortization of Assets that have reached end of their useful life)	9,522,108	10,178,349	10,838,164	11,499,480	12,176,591	12,861,952	13,551,063	14,241,408	14,932,627	15,607,442	16,279,898	16,951,878
Amortization (assumes 40 year service life)	-	-	51	-	-	142	-	21,405	2,359	476	1,129	
Accumulated Amortization, end of the year	10,178,349	10,838,164	11,499,480	12,176,591	12,861,952	13,551,063	14,241,408	14,932,627	15,607,442	16,279,898	16,951,878	17,624,105
Net Book Value of Tangible Assets	9,940,291	9,423,476	8,822,160	8,778,937	8,423,576	7,884,465	7,249,120	6,592,900	6,118,086	5,445,630	4,773,649	4,156,423
ACCUMULATED SURPLUS												
Accumulated Surplus, Opening	11,234,056	10,835,488	10,460,637	10,123,599	9,812,919	9,539,170	9,310,073	9,131,579	9,007,701	8,959,611	8,977,407	9,063,616
Excess Revenues Over Expenses	(398,568)	(374,851)	(337,038)	(310,680)	(273,750)	(229,097)	(178,494)	(123,878)	(48,090)	17,796	86,209	157,964
Accumulated Surplus, Closing	10,835,488	10,460,637	10,123,599	9,812,919	9,539,170	9,310,073	9,131,579	9,007,701	8,959,611	8,977,407	9,063,616	9,221,580



APPENDIX 2

Projected Statement of Operations

**Municipality of Casselman DWQMS Financial Plan
Plan No. 173-301
Projected Statement of Operations**

Appendix 2

	ACTUAL	FORECAST										
	2019 \$	2020 \$	2021 \$	2022 \$	2023 \$	2024 \$	2025 \$	2026 \$	2027 \$	2028 \$	2029 \$	2030 \$
REVENUES												
Water Meter Revenue (Fixed & Operational)	852,156	903,456	957,844	1,015,506	1,076,640	1,141,453	1,210,169	1,283,021	1,360,259	1,442,147	1,528,964	1,621,007
Grants	-	-	-	-	-	-	-	-	-	-	-	-
Earned Development Charges (DC Charges)	-	-	-	-	-	-	-	-	-	-	-	-
Other (Misc Revenue, Meter, Permit, Connection)	36,001	25,000	26,505	28,101	29,792	31,586	33,487	35,503	37,640	39,906	42,309	44,856
Total Operating Revenues	888,157	928,456	984,349	1,043,607	1,106,432	1,173,039	1,243,656	1,318,524	1,397,899	1,482,053	1,571,272	1,665,863
EXPENDITURES												
Payroll (Wages + Benefits)	90,628	90,000	92,700	95,481	98,345	101,296	104,335	107,465	110,689	114,009	117,430	120,952
OCWA Fees (including Chemicals)	314,886	335,000	345,050	355,402	366,064	377,045	388,357	400,008	412,008	424,368	437,099	450,212
Billing + Collection	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619	33,598	34,606
Professional Fees	3,521	3,500	3,605	3,713	3,825	3,939	4,057	4,179	4,305	4,434	4,567	4,704
Office Supplies	101	-	-	-	-	-	-	-	-	-	-	-
Hydro	15,000	20,000	21,000	22,050	23,153	24,310	25,526	26,802	28,142	29,549	31,027	32,578
Utilities (excl. Hydro)	7,812	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439
Cleaning + Building Maintenance Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Truck Costs	-	-	-	-	-	-	-	-	-	-	-	-
Tools + Equipment	-	-	-	-	-	-	-	-	-	-	-	-
Lab Equipment + Supplies	-	-	-	-	-	-	-	-	-	-	-	-
Postage & Courier	2,177	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	3,262	3,360
Telephone + Communication	598	616	635	654	673	693	714	736	758	780	804	828
Training + Travel	81	-	-	-	-	-	-	-	-	-	-	-
Office Equipment, Rentals + Maintenance	-	750	773	796	820	844	869	896	922	950	979	1,008
Memberships + Subscriptions	-	600	618	637	656	675	696	716	738	760	783	806
Advertising	-	-	-	-	-	-	-	-	-	-	-	-
Insurance	13,240	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	19,572	20,159
Uniforms	-	-	-	-	-	-	-	-	-	-	-	-
Chemicals (included in OCWA Fee)	-	-	-	-	-	-	-	-	-	-	-	-
Meters + Materials + Supplies	20,983	21,613	22,261	22,929	23,617	24,325	25,055	25,807	26,581	27,378	28,199	29,045
Other Services & Rents	172	177	183	188	194	200	206	212	218	225	231	238
Grants-In-Lieu	8,408	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439
Maintenance + Repairs on Distribution System	54,654	45,000	46,350	47,741	49,173	50,648	52,167	53,732	55,344	57,005	58,715	60,476
Maintenance on Water Plant	37,158	35,000	36,050	37,132	38,245	39,393	40,575	41,792	43,046	44,337	45,667	47,037
Amortization Expense	656,240	659,815	661,315	677,111	685,361	689,111	690,345	691,220	674,815	672,456	671,980	672,227
Loan Interest	36,064	27,986	25,700	23,353	20,942	18,467	15,926	13,315	10,635	7,883	5,056	2,784
Total Expenditures	1,286,725	1,303,307	1,321,387	1,354,286	1,380,182	1,402,136	1,422,150	1,442,402	1,445,989	1,464,257	1,485,063	1,507,899
Annual Surplus/Deficit	(398,568)	(374,851)	(337,038)	(310,680)	(273,750)	(229,097)	(178,494)	(123,878)	(48,090)	17,796	86,209	157,964



**Municipality of Casselman DWQMS Financial Plan
Plan No. 173-301
Projected Statement of Operations**

Appendix 2

	ACTUAL	FORECAST										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
REVENUES												
User Charges	852,156	903,456	957,844	1,015,506	1,076,640	1,141,453	1,210,169	1,283,021	1,360,259	1,442,147	1,528,964	1,621,007
Grants	-	-	-	-	-	-	-	-	-	-	-	-
Other	36,001	25,000	26,505	28,101	29,792	31,586	33,487	35,503	37,640	39,906	42,309	44,856
Total Operating Revenues	888,157	928,456	984,349	1,043,607	1,106,432	1,173,039	1,243,656	1,318,524	1,397,899	1,482,053	1,571,272	1,665,863
EXPENDITURES												
Amortization on Tangible Capital Assets	656,240	659,815	661,315	677,111	685,361	689,111	690,345	691,220	674,815	672,456	671,980	672,227
Interest on Long-Term Debt	36,064	27,986	25,700	23,353	20,942	18,467	15,926	13,315	10,635	7,883	5,056	2,784
Salaries, Wages and Benefits	94,149	93,500	96,305	99,194	102,170	105,235	108,392	111,644	114,993	118,443	121,996	125,656
OCWA (including chemicals)	314,886	335,000	345,050	355,402	366,064	377,045	388,357	400,008	412,008	424,368	437,099	450,212
General Operating	185,385	187,006	193,016	199,227	205,644	212,277	219,131	226,216	233,538	241,107	248,932	257,020
Total Expenditures	1,286,725	1,303,307	1,321,387	1,354,286	1,380,182	1,402,136	1,422,150	1,442,402	1,445,989	1,464,257	1,485,063	1,507,899
Annual Surplus/Deficit	(398,568)	(374,851)	(337,038)	(310,680)	(273,750)	(229,097)	(178,494)	(123,878)	(48,090)	17,796	86,209	157,964



APPENDIX 3

Projected Statement of Cash Flows

Municipality of Casselman DWQMS Financial Plan
 Plan No. 173-301
 Projected Statement of Cash Flows

Appendix 3

	ACTUAL	FORECAST										
	2019 \$	2020 \$	2021 \$	2022 \$	2023 \$	2024 \$	2025 \$	2026 \$	2027 \$	2028 \$	2029 \$	2030 \$
CASH FLOWS												
OPERATIONS												
Projected Annual Surplus (Deficit)	(398,568)	(374,851)	(337,038)	(310,680)	(273,750)	(229,097)	(178,494)	(123,878)	(48,090)	17,796	86,209	157,964
Amortization (<i>Adjustment for Non-Cash Item</i>)	656,240	659,815	661,315	677,111	685,361	689,111	690,345	691,220	674,815	672,456	671,980	672,227
Decrease (Increase) in Accounts Receivable	(19,721)	(34,086)	(35,450)	(36,868)	(38,342)	(39,876)	(41,471)	(43,130)	(44,855)	(46,649)	(48,515)	(50,456)
Increase (Decrease) in Accounts Payable	66,062	22,440	23,338	24,272	25,242	26,252	27,302	28,394	29,530	30,711	31,940	33,217
Increase (Decrease) in Deferred Revenue (DC Charges)	83,802	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Cash provided by operations	387,815	323,318	362,166	403,836	448,512	496,391	547,681	602,606	661,400	724,314	791,614	862,952
FINANCING TRANSACTIONS												
Repayment of Long Term Debt (Principal)	(76,893)	(84,971)	(87,257)	(89,604)	(92,014)	(94,490)	(97,031)	(99,642)	(102,322)	(105,074)	(84,456)	(28,825)
Cash provided by financing transactions	(76,893)	(84,971)	(87,257)	(89,604)	(92,014)	(94,490)	(97,031)	(99,642)	(102,322)	(105,074)	(84,456)	(28,825)
CAPITAL TRANSACTIONS												
Capital asset purchases	(219,929)	(143,000)	(60,000)	(633,888)	(330,000)	(150,000)	(55,000)	(35,000)	(200,000)	-	-	(55,000)
Decrease (Increase) in Reserve Water Fund	(28,658)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)
Cash provided by capital transactions	(248,587)	(173,000)	(90,000)	(663,888)	(360,000)	(180,000)	(85,000)	(65,000)	(230,000)	(30,000)	(30,000)	(85,000)
SUB-TOTAL OF CASH FLOWS												
Total Cash Expenditures	(927,307)	(871,463)	(807,328)	(1,400,667)	(1,116,835)	(957,514)	(883,837)	(885,824)	(1,073,496)	(896,875)	(897,539)	(919,498)
Total Cash Revenues	888,157	928,456	984,349	1,043,607	1,106,432	1,173,039	1,243,656	1,318,524	1,397,899	1,482,053	1,571,272	1,665,863
Total Flow of Cash Equivalents	130,143	38,354	37,888	37,404	36,900	36,376	35,831	35,264	34,675	34,062	33,424	32,761
Transfer into (out of) Reserve Water Fund	(28,658)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)
Projected Increase (Decrease) in Cash and Cash Equivalents	62,335	65,347	184,909	(349,657)	(3,503)	221,901	365,650	437,964	329,078	589,240	677,158	749,127
Cash and cash equivalents, beginning of year	87,262	149,597	214,945	399,854	50,197	46,694	268,595	634,245	1,072,210	1,401,288	1,990,527	2,667,685
Cash and Cash Equivalents, end of year	149,597	214,945	399,854	50,197	46,694	268,595	634,245	1,072,210	1,401,288	1,990,527	2,667,685	3,416,812



APPENDIX 4

Debt Repayment Schedule

**Municipality of Casselman DWQMS Financial Plan
Plan No. 173-301
Debt Repayment Schedule**

Appendix 4

	ACTUAL	FORECAST										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
2015 LOAN (WAS 2003) - WTP UPGRADES												
Balance @ beginning of year	396,704	364,256	330,914	296,675	261,516	225,410	188,333	150,259	111,160	71,010	29,780	-
Total Payments	43,140	43,140	43,140	43,140	43,140	43,140	43,140	43,140	43,140	43,140	30,581	-
Principal	32,448	33,342	34,239	35,160	36,106	37,077	38,074	39,098	40,150	41,230	29,780	-
Interest @ 2.69%	10,692	9,798	8,902	7,981	7,035	6,064	5,066	4,042	2,990	1,910	801	-
2015 LOAN (WAS 2004) - WTP UPGRADES												
Balance @ beginning of year	377,745	346,914	315,254	282,743	249,358	215,074	179,869	143,716	106,591	68,467	29,317	-
Total Payments	40,991	40,991	40,991	40,991	40,991	40,991	40,991	40,991	40,991	40,991	30,106	-
Principal	30,831	31,659	32,511	33,385	34,284	35,206	36,153	37,125	38,124	39,149	29,317	-
Interest @ 2.69%	10,160	9,332	8,480	7,606	6,708	5,786	4,838	3,866	2,867	1,842	789	-
2011 LOAN - SOUTH OF 417 UPGRADES												
Balance @ beginning of year	342,806	329,193	309,223	288,716	267,657	246,031	223,824	201,020	177,602	153,554	128,860	103,501
Total Payments	28,825	28,825	28,825	28,825	28,825	28,825	28,825	28,825	28,825	28,825	28,825	28,825
Principal	13,613	19,970	20,507	21,059	21,625	22,207	22,804	23,418	24,048	24,695	25,359	26,041
Interest @ 4.44%	15,212	8,855	8,318	7,766	7,200	6,618	6,021	5,407	4,777	4,131	3,466	2,784
<i>Principal, total for year</i>	76,893	84,971	87,257	89,604	92,014	94,490	97,031	99,642	102,322	105,074	84,456	28,825
<i>Interest, total for year</i>	36,064	27,986	25,700	23,353	20,942	18,467	15,926	13,315	10,635	7,883	5,056	2,784
<i>Total Loan Balance, end of year</i>	1,040,363	955,391	868,134	778,530	686,516	592,026	494,995	395,353	293,031	187,957	103,501	74,675
TOTAL PAYMENT	112,957	112,957	112,957	112,957	112,957	112,957	112,957	112,957	112,957	112,957	89,512	31,609

