



City of Brockville Council Agenda

5:30 PM - Tuesday, November 14, 2023

City Hall, Council Chambers

Page

Motion to Move into Closed Session (5:00 pm)

THAT pursuant to *Municipal Act, 2001*, Section 239 Sub. 2 (k), Council resolve itself Closed Session, closed to the public to consider:

1. a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board. (Fulford Academy)

Closed Meeting Matter(s)

Land Acknowledgement Statement

Mayor's Remarks

Disclosure of Interest

Report of the Closed Session

THAT Council rise from the Closed Session and the Chairman report that all recommendations adopted in Closed Session, be adopted.

Adoption of Council Minutes

Nil.

Correspondence, Communication and Petitions

1. **Woman Abuse Prevention Month
(Leeds and Grenville Interval House)**

THAT the Council of the Corporation of the City of Brockville hereby proclaim November 2023 as Woman Abuse Prevention Month in the City of Brockville; and

City of Brockville
Council Meeting Agenda – Tuesday, November 14, 2023

THAT the purple LGIH flag be flown at Tunnel Bay from November 20 to December 4, 2023.

**2. Planning and Development Committee
January 2024**

THAT Council approve changing the January Planning and Development Committee meeting from January 2, 2024 to Monday, January 8, 2024.

Delegations

Nil.

Staff Reports

Nil.

Planning and Development Committee

Nil.

Budget

**1. 2023-209
2024 Budget - Water and Wastewater** 5 - 119

THAT Council approve the 2024 Water Operating Budget with total net expenses of \$3,524,087, \$3,493,603 not including Capital and;

THAT Council approve the 2024 Wastewater Operating Budget with total net expenses of \$5,162,699-\$5,138,451 not including Capital and;

THAT Council approve the Water Capital Budget totaling \$1,250,500 funded as follows:

- \$357,500 funded by water rates
- \$83,000 funded by grants
- \$810,000 funded by reserves and;

THAT Council approve the Wastewater Capital budget totaling \$975,000 funded as follows:

- \$891,000 funded by wastewater rates
- \$84,000 funded by grants and;

City of Brockville
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THAT Council approve the Water and Wastewater Rates applicable to the final approved Water and Wastewater Budgets to be in effect January 1, 2024; and

THAT the necessary by-laws be enacted.

[2023-209 - Pdf](#)

New Business - Report from Members of Council

Nil.

Unfinished Business

Nil.

Emergency Business

Nil.

By-laws

1. 077-2023
Being a By-law to Establish the 2024 General Fees and Service Charges

2. 078-2023
A By-law to Amend City of Brockville By-law 042-2021, Being a By-law to establish the maintenance, management, regulation and control of the Brockville Cemetery

Reading of the By-laws

THAT By-laws Numbered 077-2023 to 078-2023 be introduced and the same be now read a first, second and third time, signed by the Mayor and Clerk, sealed with the Seal of the Corporation and be recorded.

Confirmatory By-law

THAT By-law Number 079-2023 to confirm the Proceedings of Council at its meeting held on November 14, 2023 be read a first, second and third time, signed by the Mayor and Clerk, sealed with the Seal of the Corporation and be recorded.

Mayor's Announcements

Media Question Period

Adjournment

THAT Council adjourn its proceedings until the next regular meeting scheduled for November 28, 2023.



Staff Report

Report To:	Council
Meeting Date:	November 14, 2023
Prepared By:	Lynda Ferguson, Director of Finance & IT Services Chrissy Ward, Supervisor of Accounting Services
Report Number:	2023-209
Subject:	2024 Budget - Water and Wastewater

Recommendation

THAT Council approve the 2024 Water Operating Budget with total net expenses of \$3,524,087, \$3,493,603 not including Capital and;

THAT Council approve the 2024 Wastewater Operating Budget with total net expenses of \$5,162,699-\$5,138,451 not including Capital and;

THAT Council approve the Water Capital Budget totaling \$1,250,500 funded as follows:

- \$357,500 funded by water rates
- \$83,000 funded by grants
- \$810,000 funded by reserves and;

THAT Council approve the Wastewater Capital budget totaling \$975,000 funded as follows:

- \$891,000 funded by wastewater rates
- \$84,000 funded by grants and;

THAT Council approve the Water and Wastewater Rates applicable to the final approved Water and Wastewater Budgets to be in effect January 1, 2024; and

THAT the necessary by-laws be enacted.

Background

The budget review process started in September. Each line item was reviewed and were adjusted as necessary, first within the departments, then with a final review with Senior Management.

Through the budgeting process a detailed analysis was completed on the consumption and billing details for a 12-month period ending on September 30, 2022. This enables a scenario-based review of the effects on the water and wastewater rates for the required level of expenses.

Reserve and reserve fund levels were also taken into consideration with further contributions proposed for the 2024 budget.

Analysis

Attachment # 1 outlines the proposed 2024 Water and Wastewater operating budgets.

Water Budget

The total proposed operating expenses, before capital, of ~~\$3,687,012~~ \$3,656,528 less miscellaneous revenues of \$162,925 resulting in net expenses for the 2024 Water Operating Budget of ~~\$3,524,087~~ \$3,493,603 to be covered by the water rates. This is a decrease of ~~\$57,316~~ \$87,800 or ~~(1.6)~~ (2.45)% from 2023. The net decrease resulted from various small increases offset by various small decreases.

- Net increase decrease to wages and benefits of ~~\$1,142~~ \$29,342
- Net decrease of other expenses of \$21,458
- Net increase in miscellaneous revenues of \$37,000.

Included in the expenses is a contribution to water reserves of \$200,000. This contribution is the same as was made for 2023. The expected balance of water reserves and reserve funds at the end of 2023 is \$6.4 million.

The Water Capital Budget in total has decreased from 2023. A summary is attached.

- Gross Capital Budget decreased from \$3,830,382 to \$1,250,500.
- \$83,000 is proposed to be funded by OCIF, the Ontario Community Infrastructure Fund for asset management software.
- Two funding scenarios are being proposed for a \$810,000 watermain replacement project on King St. West, Rivers St. to Oak St.

Wastewater Budget

The total proposed expenses for the 2024 Wastewater Operating Budget, not including capital, of ~~\$5,444,957~~ \$5,420,709 less miscellaneous revenues of \$282,258 leaves ~~\$5,162,699~~ \$5,138,451 to be covered by the wastewater rates. This is an increase of ~~\$112,662~~ \$88,414, or 2.231.75% over the 2023 budget.

The main contributors to the changes are:

- Increase in wages and benefits of ~~\$80,523~~ \$56,275
- Increase of other expenses of other expenses of \$32,139
- Increase of miscellaneous revenues of \$37,001

Included in the expenses is a contribution to the wastewater reserves of \$200,000. This contribution is the same as was made for 2023. The expected balance of wastewater reserves and reserve funds at the end of 2023 is \$3.8 million.

A summary of the Wastewater Capital Budget is attached. The cash requirements changed as follows:

- The gross Wastewater Capital Budget increased by \$63,813 from \$911,187 to \$975,000 or 7%.
- The net Capital Budget funded on the wastewater rates increased by \$295,000 or 49.5%.
- \$83,000 for asset management software is proposed to be funded by a grant.

A water rate comparison was completed between Brockville, Smiths Falls, Gananoque and Prescott. Brockville water rates still rank the lowest, except for the commercial rates in Prescott.

Financial Implications

Included in this report are two rate scenarios:

Scenario 1 includes:

- \$200,000 contribution to water reserves
- \$200,000 contribution to wastewater reserves.
- Capital of \$1,167,500 on water rates
- Capital of \$891,000 on wastewater rates

Results in:

- **\$11.52 \$10.64 (\$3.84-\$3.55 per month) increase** on a minimum quarterly residential water and wastewater bill (\$146.99 to \$158.51 \$157.63)
- **\$13.24 \$12.23 (\$4.41-\$4.08 per month) increase** on an average quarterly residential water and wastewater bill (\$168.97 to \$182.22 \$181.20)
- **\$99.35 \$91.24 increase on an average 2" commercial** water meter with consumption of 375 cubic meters (\$1,324.81 to \$1,424.16 \$1,416.06)

Scenario 2 includes:

- \$200,000 contribution to water reserves
- \$200,000 contribution to wastewater reserves
- Capital of \$357,500 on water rates (\$810,000 watermain funded by reserves)
- Capital of \$891,000 on wastewater rates

Results in:

- **\$1.14 \$1.82 (\$.38 \$0.61 per month) decrease** on a minimum quarterly residential water and wastewater bill (\$146.99 to \$145.85 \$145.17)
- **\$1.31 \$2.10 (\$.44 \$0.70 per month) decrease** on an average quarterly residential water and wastewater bill (\$168.97 to \$167.67 \$166.88)
- **\$26.10 \$32.81 decrease on an average 2" commercial** water meter with consumption of 375 cubic meters (\$1,324.81 to \$1,298.71 \$1,292.01)

Policy Alignment

Council must pass the operating budgets each year and approve any necessary changes to the water and wastewater billing rates.

The by-law for the rates and user fees need to be adopted accordingly to accommodate January billing.

Conclusion

Staff worked diligently through the 2024 budget process to keep expense increases to a minimum.

Council must approve the water and wastewater budgets and corresponding user fees prior to the January invoicing of the water and wastewater bills.

Approved by:

Status:

Lynda Ferguson, Director of Finance & IT
Services

Approved - 10 Nov 2023

Sandra MacDonald, City Manager/City Clerk

Approved - 10 Nov 2023

Attachments:

[2024 Water and Wastewater Capital Summary](#)

[Water Systems Capital Business Cases](#)

[Waste Water Capital Business Cases](#)

[2024 Budget Water Operating-no capital updated Nov 13 final](#)

[2024 Budget Wastewater Operating-no capital updated Nov 13 final](#)

[2024 Scenario 1 Water and Wastewater rates updated Nov 14](#)

[2024 Scenario 2 Water and Wastewater Rates updated Nov 14](#)

2024 Water and Wastewater Capital

Water Capital	Water Total Rates	Reserves	Grants	Debt	Total Project
WTP - Filter Gallery & Admin - Roof Repair	30,000	30,000			30,000
WTP - SCADA Computers	35,000	35,000			35,000
WTP - Turbidity Analyzers (2)	25,000	25,000			25,000
WTP - Filter Surface Wash / Underdrain System Study	30,000	30,000			30,000
Parkdale Reservoir - Pump House Roof Repair	7,500	7,500			7,500
Parkdale Reservoir - Reservoir Earth Works	30,000	30,000			30,000
Parkdale Reservoir - Programmable Logic Controllers (PLC's)	40,000	40,000			40,000
Parkdale Reservoir - Chlorine Analyzer (2)	20,000	20,000			20,000
Water Meter Replacement Program	50,000	50,000			50,000
Fleet - Replace Unit 21612 (2002 3/4 Ton RWD Pick Up Truck)	90,000	90,000			90,000
King Street West Watermain Replacement (Rivers to Oak)	810,000		810,000		810,000
Asset Management Software	83,000		83,000		83,000
Total	1,250,500	357,500	810,000	83,000	0 1,250,500

	Wastewater Total Rates	Reserves	Grants	Debt	Total Project
Boiler 504	320,000	320,000			320,000
UV Hydraulic Rams (Year 3 of 4)	38,000	38,000			38,000
Clarifier Coating	69,000	69,000			69,000
Digester Recirculation Pumps	21,000	21,000			21,000
Pump Station - Pump (9) Rebuilds	25,000	25,000			25,000
1/4 ton Pickup - Lab/Abatement	49,500	49,500			49,500
OC Generator Control Box	36,000	36,000			36,000
Raw Composite Samplers - Replace	11,000	11,000			11,000
Final Effluent Composite Samplers - Replace	11,000	11,000			11,000
Centrifuge 301 VFD and Backdrive - Replace	40,000	40,000			40,000
VFD (3) for RAS, Polymer and Centrate Pumps	23,500	23,500			23,500
Lift Gate and Plow for 3/4 Truck	27,000	27,000			27,000
Water Meter Replacement Program	50,000	50,000			50,000
Flanders Subdivision - Cost Sharing Agreement	70,000	70,000			70,000
Wastewater Sewer Flow Monitoring Program	100,000	100,000			100,000
Asset Management Software	84,000		84,000		84,000
Total	975,000	891,000	0	84,000	0 975,000

Water and Wastewater Capital Summary (With Watermain Project Funded by Debt)

	2,023	2,024	Change	Percent Change
Total Capital Budget-Water	3,830,382	1,250,500	(2,579,882)	(67.4)%
Total Capital Budget-Wastewater	911,187	975,000	63,813	7.00%
Water and Wastewater Combined	<u>4,741,569</u>	<u>2,225,500</u>	<u>(2,516,069)</u>	<u>(53.1)%</u>
Capital Funded by Water Rates	630,000	357,500	(272,500)	(43.3)%
Capital Funded by Wastewater Rates	596,000	891,000	295,000	49.5%
Combined Funded by Water and Wastewater Rates	<u>1,226,000</u>	<u>1,248,500</u>	<u>22,500</u>	<u>1.8%</u>



2024 Capital Budget - Business Case Form

Project: WTP - Filter Gallery & Admin Roof Repair

Department: Water Systems



Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The Water Treatment Plant Filter gallery continues to have a spot leak located at the northeast corner of the filter room. During rainfall events, the leak enters the filter room and pools a considerable amount of water on the floor around Filter 1. This leak is progressively getting worse.

The filter room is connected to the filter gallery control room that houses critical infrastructure assets such as SCADA computers, Filter 1 and 2 PLC control, low lift PLC and controls, and the main plant iHistorian backup computers that hold all SCADA trending data related to MECP compliance.

Furthermore, the leak is above a pipe gallery that houses several key infrastructure assets such as the reservoir level sensor, Filter 1 and 2 turbidity analyzers, and pressure/flow sensors.

It should be noted there is a high degree of risk to key infrastructure at and below the filter room. Any of these failures could cause damage to City owned assets resulting in considerable amounts of treatment process downtime, repair costs and consequently a risk to public health.

It is recommended that a licensed contractor assess and make the necessary repairs as per the City Procurement Policy By-law.



2024 Capital Budget - Business Case Form

Project: WTP - Filter Gallery & Admin Roof Repair

Department: Water Systems



Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WTP - Filter Gallery & Admin Roof Repair

Department: Water Systems



Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$30,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: WTP - Filter Gallery & Admin Roof Repair

Department: Water Systems



Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WTP - Scada Computers (Replacement)

Department: Water Systems



Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The Water Treatment Plant has two (2) SCADA desktop terminals plus a laptop for the On-Call Operator for after-hours operational access.

SCADA refers to System Control and Data Acquisition. The operators interface with the SCADA daily to control and make process adjustments system wide. This system is critically imperative to the water treatment plant and distribution system operation. Without them, there is a total loss of functional control through a human-machine interface and result in operators reverting to full manual control. The loss of this system would have severe and long lasting negative implications for the system as a whole.

Furthermore, this system is responsible for all data acquisition through iHistorian trending which is backed up to 2 redundant hard drives located in the Filter Gallery Room. This data is recorded 24 hours a day, 7 days a week as per O.REG 170.03 of the Ontario Municipal Safe Drinking Water Act. We are mandated to maintain and supply upon request all necessary data for Ministry inspection purposes. A loss of this data acquisition hardware would be catastrophic. These two computers were installed in 2018 and are at the end of their life cycle.

Lastly, a replacement laptop for after hours VPN access is necessary. This laptop is over 10 years old and is well past its end of life usefulness. It is currently running on Windows 7 which presents an inherent security risk due to lack of updates and serviceability. The replacement of this laptop allowing hot spot access will allow operators full system wide operational control at remote booster stations as needed. This will improve efficiency and reduce costly downtime with improved remote connect-ability.

It is recommended to replace the 2 desktop SCADA computers and laptop to maintain dependable operation control and retention of MECP mandated data.



2024 Capital Budget - Business Case Form

Project: WTP - Scada Computers (Replacement)

Department: Water Systems



Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WTP - Scada Computers (Replacement)

Department: Water Systems ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$35,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



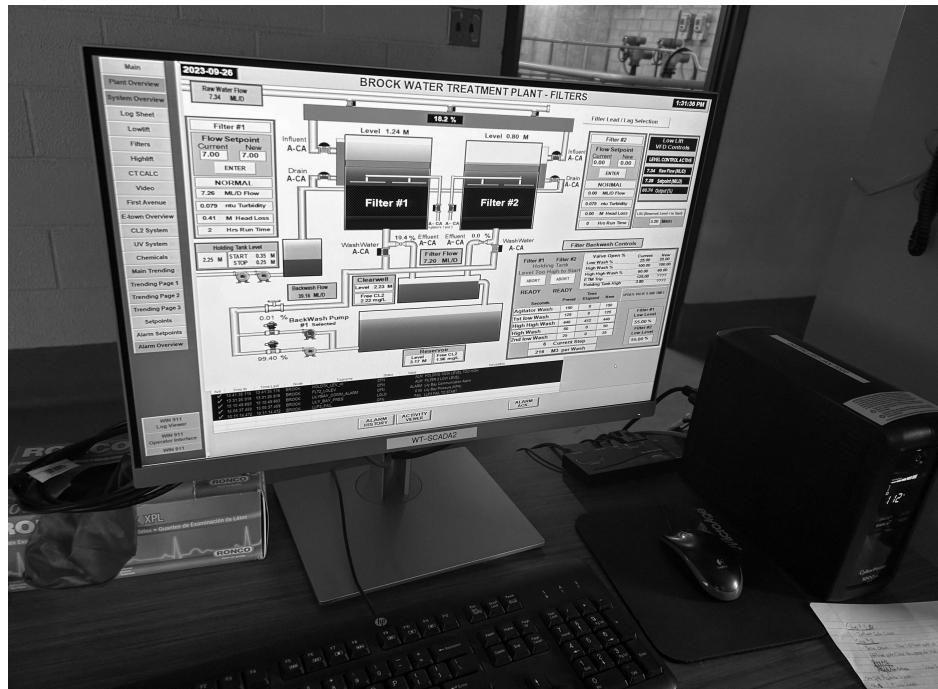
2024 Capital Budget - Business Case Form

Project: WTP - Scada Computers (Replacement)

Department: Water Systems



Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WTP - Turbidity Analyzers (2)

Department: Water Systems



Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The Water Treatment Plant has (2) outdated turbidity analyzers (1720E) for raw and treated water. They are no longer compatible with the (2) TU5300 turbidity analyzers that were installed on Filter 1 and 2 in 2021. The new TU5300 analyzers have significant advantages over the existing units. They are calibrated annually and need only a monthly verification with standards of existing newer units. Furthermore, our last calibration on the older existing units started to show signs of problems in accuracy and parts availability going forward.

It is recommended the old 1720E turbidity analyzers be upgraded to the newer compatible TU5300. This will improve operational data accuracy which relates to raw water chemical dosing and distribution water quality objectives.



2024 Capital Budget - Business Case Form

Project: WTP - Turbidity Analyzers (2)

Department: Water Systems



Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WTP - Turbidity Analyzers (2)

Department: Water Systems ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$25,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: WTP - Turbidity Analyzers (2)

Department: Water Systems



Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WTP - Filter Underdrain System Study

Department: Water Systems



Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The Water Treatment Plant has 2 filters. These are dual media filters that consist of Granular Activated Carbon (GAC) and sand on a support bed of "gravel". A support system of clay tile underdrains allow water to flow through the media and out of the filter to the clearwell/reservoir. These underdrains were installed in 1979 with a predicted life cycle of 30 years (2009).

With any aging infrastructure, it is imperative the integrity of the filter underdrains be assessed. In the event of failure, the filters would likely experience turbidity breakthrough and must be shut down immediately. This would result in serious operational issues and significant downtime to repair at unexpected costs. With only 2 filters, we would have extremely limited capacity to produce water during this repair. If both filters were to fail, we would not be able to produce water until the repairs were complete. This is a lengthy, time consuming and expensive process. With current supply chain issues, it would be highly problematic to secure necessary replacement sand, GAC media and suitable replacement underdrains in an emergency. As a result, firefighting capacity would be limited, and water restrictions may have to be put in place affecting residents and industry alike.

It is recommended a certified consultant inspect the condition of the filter underdrain system to have a more accurate assessment of our critical assets. This will also allow us to more accurately predict the likelihood of failure in the DWQMS Risk Assessment.



2024 Capital Budget - Business Case Form

Project: WTP - Filter Underdrain System Study

Department: Water Systems



Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WTP - Filter Underdrain System Study

Department: Water Systems ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$30,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025
- 2026
- 2027
- 2028 & Onward

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: WTP - Filter Underdrain System Study

Department: Water Systems



Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Roof Repair

Department: Water Systems



Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The Parkedale Reservoir Booster Station continues to have a spot leak located at the northwest corner of the station. During rainfall events, the leak enters around the drain pipes in Zone 2 of the pumping station. Consequently, the water pools on the station floor. This leak is progressively getting worse.

This pooling water creates a significant safety hazard as operators need to pass through this area to turn lights on in Zone 2. There is the potential of a slip/fall and/or electrocution grounding contact.

Furthermore, the building houses critical infrastructure necessary to provide water to both Zone 1 and 2 of the distribution system. These include multiple electric motors and pumps, VFD's, PLC's, and MCC panels. It is imperative that these assets be protected from outside weather elements ensuring the smooth and safe delivery of water.

It is recommended that a licensed contractor assess and make the necessary repairs as per the City Procurement policy By-law.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Roof Repair

Department: Water Systems



Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Roof Repair

Department: Water Systems ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$7,500

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025
- 2026
- 2027
- 2028 & Onward

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Roof Repair

Department: Water Systems



Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Reservoir Earth Works

Department: Engineering & Infrastructure

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

When the Parkedale Avenue reservoir was constructed in the early 1970's, it was built with the intention of adding a twin reservoir to the north of the current one. As a result, the roof and base of the existing reservoir is cantilevered out approximately 2.5m. This method of construction made it difficult for the backfill to be compacted properly along the north side of the reservoir. It appears that over the years the backfill has slowly settled and has now caused a void.

It is proposed that the existing layer of topsoil be stripped back, additional fill material be placed, compacted, and the topsoil placed back over the fill.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Reservoir Earth Works

Department: Engineering & Infrastructure

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of maintaining aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Reservoir Earth Works

Department: Engineering & Infrastructure

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$25,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Steven Allen

Date: September 27, 2023



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Reservoir Earth Works

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Programmable Logic Controllers (PLC's)

Department: Water Systems



Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The water treatment system uses Programmable Logic Controllers (SLC/505 PLC's) in several locations.

The Parkedale SLC/505 PLC's are no longer in production, and replacement parts have become increasingly difficult to source and more costly. These PLC's should be upgraded to ensure the booster station is able to remain in safe and compliant operation.

The Programmable Logic Controllers in use at the Brockville Water Treatment Plant (WTP) form the backbone of the automated process controls and feedback systems. The PLC's enable automated operation of the WTP unit processes, and provide the data used to monitor plant performance. Much of the data provided by these PLC systems is a requirement of the Municipal Drinking Water License (MDWL), issued by the Ministry of Environment, Conservation and Parks (MECP). The PLC platforms in use throughout the treatment and distribution systems have seen iterative upgrades in past years as part of the ongoing maintenance program at the WTP - with the Low Lift PLC having been upgraded in 2018. Upgrading the remaining PLC's within the WTP will ensure future control system upgrades can be accommodated without issues related to legacy hardware integration, and quick turnaround in event of system component failure.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Programmable Logic Controllers (PLC's)

Department: Water Systems



Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Programmable Logic Controllers (PLC's)

Department: Water Systems



Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$40,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



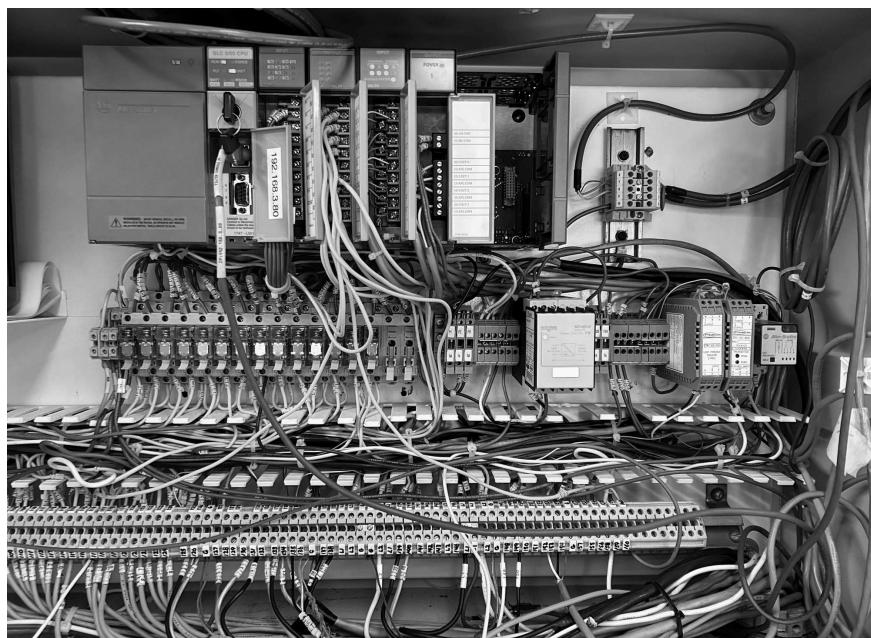
2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Programmable Logic Controllers (PLC's)

Department: Water Systems



Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Chlorine Analyzers (2)

Department: Water Systems



Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The Parkedale Reservoir/Booster Station has two older versions of chlorine analyzers (CI17).

These chlorine analyzers are no longer sold. Migrating to a newer generation of equipment will ensure continued service and support of this critical equipment. Furthermore, two new analyzers will then be compatible with the 4 water treatment plant analyzers installed April 2023. This will result in cost efficiencies for annual calibrations, ordering parts and/or maintenance items.

The replaced analyzers will be retained as spare parts for emergency replacements if needed.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Chlorine Analyzers (2)

Department: Water Systems



Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Chlorine Analyzers (2)

Department: Water Systems ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$20,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025
- 2026
- 2027
- 2028 & Onward

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: Parkedale Reservoir - Chlorine Analyzers (2)

Department: Water Systems



Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure ▾

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The water meters installed through the City's previous meter replacement program are beginning to fail.

Gradually, throughout the 10-15 year life-cycle of meters, their ability to accurately detect and measure water flow declines. In extreme cases, the meter can stop working altogether.

Associated with these meters is a battery-operated transmitter used to send readings to a mobile handheld device. After said battery has died, the ability to transmit readings is nil. Therefore, it can be assumed to some extent, the City is not billing for all water and wastewater usage, and is losing revenue.



2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure ▾

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

By replacing 10% of the residential water meters annually, the City can prevent all residential meters coming due for replacement at the same time. This helps to ensure the use of water can be accurately measured, accounted for and billed.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from both the Water (\$50,000) and Wastewater (\$50,000) Rates.

Total Project Budget: \$1,750,000

Is this a multi-year project? Yes ▾

If yes, select the Capital Budget Years

- 2025
- 2026
- 2027
- 2028 & Onward

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024:	<u>100,000</u>	2025:	<u>150,000</u>	2026:	<u>175,000</u>
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2027:	<u>175,000</u>	2028 & Onward:	<u>175,000</u>
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Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Fleet - Replace Unit 21612 3/4 Ton Truck

Department: Engineering & Infrastructure ▾

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

Unit 21614 (2X4 3/4 ton truck) is at the end of its life-cycle. Recommendation is to replace with 4X4 3/4 ton truck. This truck will be a front line vehicle used during everyday operations, maintenance, and emergency response situations.

The truck is to be equipped with specialty tools, such as valve and curb stop keys enabling operators to respond to water emergencies and complete tasks in a timely manner. It will be equipped with a tool box and back rack to allow for storage of tools and the securing of materials such as PVC pipe. A lift-gate will be installed to aid staff in lifting heavy equipment such as jumping jacks or materials like gate valves and watermain fittings. The cab will be equipped with a 360 degree amber beacon to make staff more visible during day and night operation while working in or around roadways.



2024 Capital Budget - Business Case Form

Project: Fleet - Replace Unit 21612 3/4 Ton Truck

Department: Engineering & Infrastructure ▾

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

The addition of 4X4 capabilities is to allow more versatility and maneuverability for better access to unmaintained roadways and right-of-ways year-round, all while being able to haul heavy operational equipment such as the valve turning/vacuum trailer and/or hydrant repair trailer.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Fleet - Replace Unit 21612 3/4 Ton Truck

Department: Engineering & Infrastructure ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Water rates.

Total Project Budget: \$95,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: Fleet - Replace Unit 21612 3/4 Ton Truck

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: King Street West Watermain Replacement

Department: Engineering & Infrastructure

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The proposed work includes the reconstruction of the watermain. The north lane of the existing roadway will be reconstructed including granular material, asphalt pavement, concrete curb and gutter, where it is disturbed by the installation of the new watermain. The south lane will be milled and paved as part of the 2025 ACPM in order to match the new pavement.



2024 Capital Budget - Business Case Form

Project: King Street West Watermain Replacement

Department: Engineering & Infrastructure

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

The watermain on King Street West was constructed in 1915. The 150 mm diameter watermain is made of cast iron. With infrastructure of this age and material, there are inherited health and safety problems. Older cast iron watermains are known to be susceptible to interior encrustation which leads to low chlorine residuals. As well, through daily operations, the interior incrustation becomes loose and released into the system. This causes high levels of suspended solids and undesirable water colour.

Over the years the encrustation gradually increases to the point where the hydraulic capacity of the pipe is limited. The ability of the system to provide sufficient water for firefighting is compromised putting the public at risk. The 150 mm cast iron watermain is being replaced with a 300 mm PVC watermain. This main is also to be a secondary feeder main from the water treatment plant to eventually connect to Cedar Street in 2025. This secondary feeder watermain will assist in providing water to the city should the the feeder main become inoperable.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: King Street West Watermain Replacement

Department: Engineering & Infrastructure

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

The proposed funding source of this project is from the Water reserves.

Total Project Budget: \$810,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Steven Allen

Date: September 27, 2023



2024 Capital Budget - Business Case Form

Project: King Street West Watermain Replacement

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.



King St. West



King St. West



Old Watermain



2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

Currently the City is not in an optimal position to advance Asset Management activities due to a shortfall in modern software and data housing. In the past, the City had partially implemented Central Square's subsidiary Work Tech for asset and work management. As of July 1, 2023, Work Tech is no longer supported by Central Square. Because of this the City will need to make an investment to obtain another software solution.

This project will achieve 2 objectives:

- 1) Create one location to house all the City's assets and asset maintenance activity, which will streamline work processes, asset planning, and reporting.
- 2) Advance the City's Asset Management maturity and achieve compliance with Ontario Regulation 588/17 under Infrastructure for Jobs and Prosperity Act, 2015, S.O. c. 15.

The desired outcome is an integrated Asset and Work Management Solution that includes:

- On-line service requests,
- Work orders,
- Field mobile data collection,
- Asset inventory,
- Fleet management,
- inventory management,
- inspections,
- condition tracking,
- asset replacement,
- performance life-cycle modeling,
- capital planning,
- tangible capital asset accounting and financial reporting.



2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

The timing of this project has an advantage, as there are solution options available that specialize in Municipal Asset Management and focus on the requirements under Ontario Regulation 588/17. The ideal solution should be able to host the asset inventory including facilities, linear assets, vertical assets, fleets, etc. The system should have integration into the financial system and GIS system.

In addition, this is opportunity to take full advantage of modern robust technology trends, e.g. cloud platforms, that would enable the City to stay agile and well positioned to move with upgrades. Many of our neighboring municipalities have moved in this direction.

Leveraging a robust cloud platform will allow the City to achieve 2 objectives in moving asset management activities forward:

- 1) Flexibility of data access through the cloud allows for work to be done remotely, e.g. in the field, and in the office environment.
- 2) Less demand on internal IT staff resources to keep digital infrastructure up-to-date as service providers are responsible for upgrades to the system architecture. This offers a seamless experience for the end user and reduces downtime risk.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

Advancement of Asset Management activities and compliance with Ontario Regulation 588/17 under Infrastructure for Jobs and Prosperity Act, 2015, S.O. 2015, c. 15.



2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

Proposing to fund the purchase through grants.

Total Project Budget: \$250,000

Is this a multi-year project? Yes _____

If yes, select the Capital Budget Years

- 2025
- 2026
- 2027
- 2028 & Onward

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: <u>\$250,000</u>	2025: <u>\$30,000</u>	2026: <u>\$30,000</u>
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2027: <u>\$30,000</u>	2028 & Onward: <u>\$30,000</u>
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Project Manager: Virginia Adams **Date:** Sept. 28, 2023



2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.



2024 Capital Budget - Business Case Form

Project: WPCC - Boiler 504 Replacement

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The scope of this project is to replace the dual-fuel boiler at the Water Pollution Control Centre (WPCC).

The WPCC has two anaerobic digesters that produce methane gas as a byproduct of the solids digestion process. This gas is then burned by a methane boiler which heats a hot water loop used for heating of the digester that needs to maintain a temperature of 35-38 degrees Celsius. The hot water loop is also used for heaters located throughout the pre-expansion buildings. The main source of the hot water loop are two natural gas boilers, but the methane gas burned reduces the WPCC's reliance on natural gas.

The current dual fuel (natural gas & methane gas) boiler was installed in 2004 and is at the end of its life. Investing in a new boiler offers many advantages, including energy efficiency, improved reliability, enhanced safety, and reduced dependence on natural gas and the rising costs. This aligns with sustainability goals of using less energy and improves operational performance.



2024 Capital Budget - Business Case Form

Project: WPCC - Boiler 504 Replacement

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Boiler 504 Replacement

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$320,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 26, 2023



2024 Capital Budget - Business Case Form

Project: WPCC - Boiler 504 Replacement

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WPCC - Hydraulic Rams - Year 3 of 4

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The scope of this project is to replace the Hydraulic ram system on one of the four banks of UV lights. These units are passed their 10-year life cycle and have already experienced failure on several of the units.

The UV system consists of two channels, each with two banks of bulbs. Each bank consists of twelve rows of 8 bulbs. One channel and one bank are always in service.

To ensure the effluent leaving the plant meets the plant's Environmental Compliance Approval (ECA), it is necessary for the bulbs to remain clean and free of debris that may reduce the intensity of the bulbs. To remove the build-up of material on the bulbs, a hydraulic ram system operates on a timer whereby a wiper for each bulb wipes the entirety of the bulb. Without this action the bulbs are free to build up particulates and algae thereby reducing the disinfection of the water.

This is the 3rd year of a 4-year replacement program.



2024 Capital Budget - Business Case Form

Project: WPCC - Hydraulic Rams - Year 3 of 4

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Hydraulic Rams - Year 3 of 4

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$81,000

Is this a multi-year project? Yes

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: \$38,000 2025: \$43,000 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 25, 2023

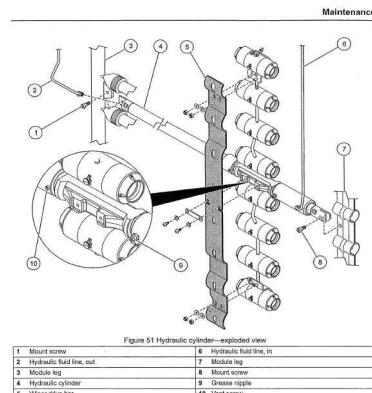
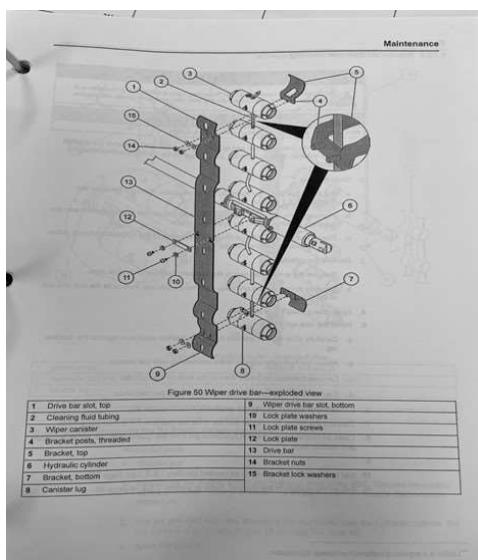


2024 Capital Budget - Business Case Form

Project: WPCC - Hydraulic Rams - Year 3 of 4

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.



7.7.2.4 Apply grease to the hydraulic cleaning cylinder

Required tools

- Grease gun

1. Disconnect the module power and hydraulic lines at the PDC. Remove the module from the channel. Refer to section 7.3.2 on page 85 for UV Module disconnection procedure.

2. Use the provided Allen key to remove the vent screw from the hydraulic cylinder. Set the screw in a safe place (Figure 51 on page 109, Item 10).

3. Apply the grease.

Original Instructions

109



2024 Capital Budget - Business Case Form

Project: WPCC - Clarifier Channel Coating

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The scope of this project is to repair the effluent channel on the three secondary clarifier's. The secondary clarifier's have a rotating brush assembly that helps keep algae and other floating solids off the weirs, and over time this has caused the concrete to be worn, exposing aggregate and re-bar.

The secondary clarifier's are the 2nd last step in the wastewater process where the mixed liquor suspended solids (MLSS) separates from the treated liquid stream. This treated water flows over v-notched weirs, into an effluent channel and then flows to the UV building. During this treatment process floating solids are collected by a skimmer arm, and attached to this arm are brushes that wipe the channel walls for algae. The brushes have worn the concrete down to expose the aggregate and re-bar.

This project will repair the worn channels by applying a solids epoxy coating that will provide protection against abrasion, protect against moisture penetration, and prevent adhesion of substances like algae.



2024 Capital Budget - Business Case Form

Project: WPCC - Clarifier Channel Coating

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of maintaining aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Clarifier Channel Coating

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$69,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____

2025: _____

2026: _____

2027: _____

2028 & Onward: _____

Project Manager: Brandon Goddard

Date: September 25, 2023



2024 Capital Budget - Business Case Form

Project: WPCC - Clarifier Channel Coating

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WPCC - Digester Recirculation Pumps Rebuild

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The digester recirculation pumps have reached their Operations & Maintenance guideline for replacement of the mechanical seals, bearings, and o-rings. Furthermore the impeller and volute wear liners have reached their life expectancy and need replacement.

The (2) digester recirculation pumps operate on a 24 hour, 7 day a week schedule. On alternating days one pump will mix sludge in a digester tank, and the other will push sludge throughout the plant where it will pick up the raw sludge to feed and fill the digester. Should one of these pumps fail, the pump would be out of service until replacement parts could be sourced and installed, which can be weeks at a time.



2024 Capital Budget - Business Case Form

Project: WPCC - Digester Recirculation Pumps Rebuild

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of maintaining aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Digester Recirculation Pumps Rebuild

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$21,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 25, 2024



2024 Capital Budget - Business Case Form

Project: WPCC - Digester Recirculation Pumps Rebuild

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Pump Stations - Rebuild of Sulzer Pumps (9)

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The (9) pump station sites with Sulzer pumps have all reached their O&M guideline for replacement of the mechanical seals, bearings, and o-rings which are found in a basic repair kit from Sulzer. All Sulzer pumps will be serviced with these kits to ensure proper reliability and operating capacity.

The Operation & Maintenance manuals for the Sulzer pumps indicate they are due for a rebuild of the internal components. If any of the components, most notably the mechanical seal, were to fail the pump would be out of service leaving the station with only one pump and facing downtime for the length of delivery time which is currently 2-7 weeks. With the purchase and installation of the basic rebuild kits, the stations can continue to operate appropriately and with redundancy that is needed. This is the second year in a two year project.



2024 Capital Budget - Business Case Form

Project: Pump Stations - Rebuild of Sulzer Pumps (9)

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of maintaining aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Pump Stations - Rebuild of Sulzer Pumps (9)

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$25,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** _____

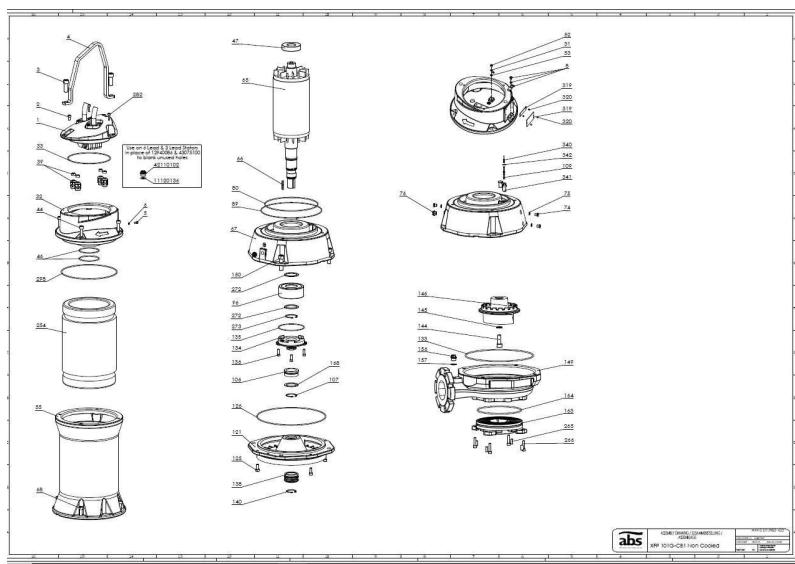


2024 Capital Budget - Business Case Form

Project: Pump Stations - Rebuild of Sulzer Pumps (9)

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WPCC - Lab/Abatement 1/4 ton Vehicle

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The scope of this project is to replace Unit 20906, a two-wheel drive van, with a new 1/4 ton 4x4 vehicle to be used by staff for monitoring and sampling purposes for both the city and the Ministry of Environment, Conservation and parks (MECP).

Unit 20906 was taken out of service a couple years ago and since then the Lab and Abatement staff have shared collections and treatment vehicles when available.

Purchasing a vehicle for Lab and Abatement staff will enhance the efficiency and effectiveness of their work and they will not have to wait until a vehicle becomes available to respond to a request or complete their work. Currently there are 9 union operational staff and 3 non union staff that share 6 vehicles.

Having a dedicated vehicle for Lab and Abatement staff ensures they can respond swiftly to urgent situations such as environmental hazards or pollution incidents. This reduced response time can help mitigate risks and minimize the impact of environmental issues.

Lab and Abatement staff work can involve the use of specialized equipment and tools such as monitoring devices, cleanup gear, samplers, sampling tools. A dedicated vehicle can transport this equipment, ensuring that staff are always prepared for their tasks and reduce the need to offload tools from the operator dedicated vehicles.

The Chief Operator is tasked to respond to site during regular and after hours. Having a vehicle to share with Lab and Abatement staff would also help with response time, and having proper tools ready to be used.

With the current uncertainty in the automotive industry, this vehicle has been budgeted for a new purchase but consideration will also be given to gently used.



2024 Capital Budget - Business Case Form

Project: WPCC - Lab/Abatement 1/4 ton Vehicle

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Lab/Abatement 1/4 ton Vehicle

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$49,500

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 25, 2023



2024 Capital Budget - Business Case Form

Project: WPCC - Lab/Abatement 1/4 ton Vehicle

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.



2024 Capital Budget - Business Case Form

Project: WPCC - OC Generator Control Box

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The Operations Centre (OC) Generator control box has reached its end of life and requires an upgraded version to prevent future failures of the generator.

This project was approved for in the 2023 Capital Budget for \$25,000. When Cummins was contacted to start this project, they reviewed the quote given during 2022 and noticed several key components for this project were omitted such as multiple days for technicians to install the control box and the need for a backup generator to be installed to take the place of the WPCC generator.

The 2024 budget amount will allow this project to be completed with all the necessary aspects considered.



2024 Capital Budget - Business Case Form

Project: WPCC - OC Generator Control Box

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - OC Generator Control Box

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$61,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 25, 2023



2024 Capital Budget - Business Case Form

Project: WPCC - OC Generator Control Box

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WPCC - Raw & Final Composite Samplers

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The scope of this project is to replace the raw influent and final effluent composite samplers at the WPCC.

Samples of wastewater are taken, over a 24 hour period, from four sections of the plant; the head of the plant (raw), the head of the primary tanks (primary head), the end of the primary tanks (primary effluent), and the end of the plant (final effluent). This is done through a sampler system that has programmable functions for the frequency and duration of samples that are needed to be taken.

The WPCC is governed by an Environmental Compliance Approval which dictates the sampling it must complete which are: samples must be conducted on the raw sewage and the final effluent. Samples are taken from the primary tanks to depict nutrient removal and process efficiency throughout the wastewater process. Brockville's WPCC is also a proud partner in Ontario's wastewater surveillance initiative with Ottawa University in its COVID monitoring of raw wastewater.

These sampler units have a refrigeration unit to help regulate the temperature of the samples. Currently these units are approaching 12 years of age, and the maintenance is surpassing the value of the unit.



2024 Capital Budget - Business Case Form

Project: WPCC - Raw & Final Composite Samplers

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Raw & Final Composite Samplers

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$22,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 25, 2023



2024 Capital Budget - Business Case Form

Project: WPCC - Raw & Final Composite Samplers

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WPCC - Centrifuge 301 VFD & Backdrive Replacement

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The scope of this project is to purchase and install the current model variable frequency drive (VFD) from Rockwell (Allen-Bradley) on Centrifuge #301.

The WPCC dewateres sludge daily via its centrifuges, ranging in amount from 70,000 liters per day to 105,000 liters per day. In order for the centrifuge to run, it is controlled by a VFD, which allows the centrifuge to ramp up and down the motor during operation. Without the VFD, the unit is unable to function, and without the centrifuge the WPCC would be forced to haul liquid sludge at an elevated cost.

The current VFD was installed in 2011, is currently obsolete and cannot be serviced by Rockwell. As of September 2023, deliver dates for new VFD's are April 2024.



2024 Capital Budget - Business Case Form

Project: WPCC - Centrifuge 301 VFD & Backdrive Replacement

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Centrifuge 301 VFD & Backdrive Replacement

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$40,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: _____ **Date:** _____

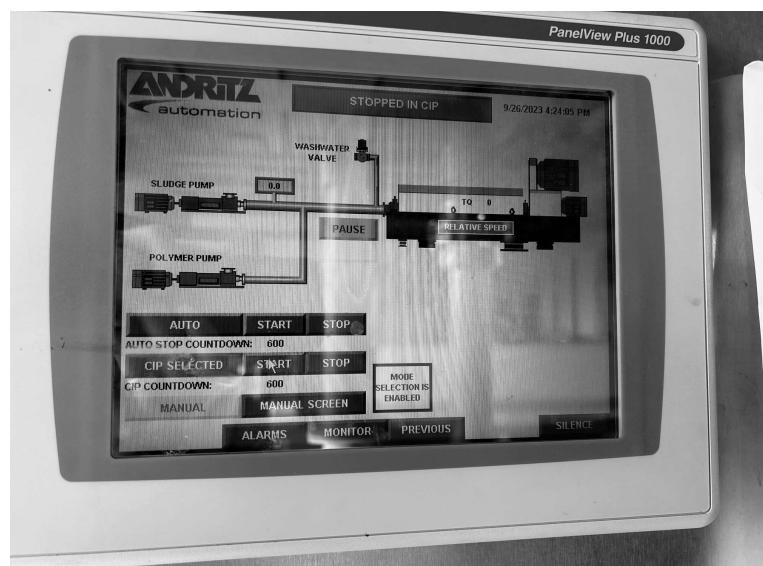


2024 Capital Budget - Business Case Form

Project: WPCC - Centrifuge 301 VFD & Backdrive Replacement

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Variable Frequency Drives - Polymer, Centrate, RAS pumps

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The proposed project is for the replacement of the variable frequency drive (VFD) on the polymer, centrate and RAS process pumps at the Water Pollution Control Centre (WPCC). Each system has a primary VFD and a second one for redundancy. It is being proposed to replace primary ones in one year and redundant ones in the following year.

The WPCC has started to experience faults in some of its VFD's, such as the units for the polymer system, the centrate pump, and the RAS pump. Each of these units are nearing their end of life stage and require replacement. Currently, the supply company has stock of the current units installed and it is advantageous to purchase these units before stock runs out. These units are regarded as being very reliable, and the new design is larger and would require modification of the current MCC cabinets the VFD's are installed in causing a larger expenditure.



2024 Capital Budget - Business Case Form

Project: Variable Frequency Drives - Polymer, Centrate, RAS pumps

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Variable Frequency Drives - Polymer, Centrate, RAS pumps

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$48,500

Is this a multi-year project? Yes

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: \$23,500 2025: \$25,000 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 26, 2023

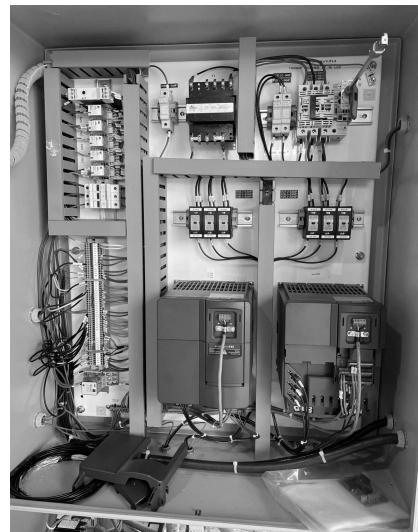


2024 Capital Budget - Business Case Form

Project: Variable Frequency Drives - Polymer, Centrate, RAS pumps

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: WPCC - Snow Plow and Liftgate for 2500 Truck

Department: Waste Water Systems

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The scope of this project is to outfit a new 2500 series truck with a snow plow and lift-gate.

In 2022, two vehicles outfitted with plows, were budgeted for and ordered in January. Unfortunately, the order was cancelled by Ford in December of 2022. The vehicles were then re-ordered in 2023 but were over budget by \$19,575, and this price did not include a snow plow or lift-gate.

A liftgate is important for the Wastewater Division in lifting heavy equipment into the truck such as pumps, motors, welding carts and other such heavy equipment. Currently, the WPCC has 2 trucks outfitted with a lift-gate.

The Wastewater Division is responsible for snow removal at its facilities including the WPCC, (11) pump stations, and leachate station at the City's landfill.



2024 Capital Budget - Business Case Form

Project: WPCC - Snow Plow and Liftgate for 2500 Truck

Department: Waste Water Systems

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Wastewater System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: WPCC - Snow Plow and Liftgate for 2500 Truck

Department: Waste Water Systems

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from the Wastewater rates.

Total Project Budget: \$27,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Brandon Goddard **Date:** September 26, 2023



2024 Capital Budget - Business Case Form

Project: WPCC - Snow Plow and Liftgate for 2500 Truck

Department: Waste Water Systems

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure ▾

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

The water meters installed through the City's previous meter replacement program are beginning to fail.

Gradually, throughout the 10-15 year life-cycle of meters, their ability to accurately detect and measure water flow declines. In extreme cases, the meter can stop working altogether.

Associated with these meters is a battery-operated transmitter used to send readings to a mobile handheld device. After said battery has died, the ability to transmit readings is nil. Therefore, it can be assumed to some extent, the City is not billing for all water and wastewater usage, and is losing revenue.



2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure ▾

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

By replacing 10% of the residential water meters annually, the City can prevent all residential meters coming due for replacement at the same time. This helps to ensure the use of water can be accurately measured, accounted for and billed.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This is part of the Water System program of replacing aging infrastructure in accordance with the City's Asset Management Plan.



2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure ▾

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.
If applicable, please note the name of the group for any grants or third-party fundraising.

It is proposed to fund this purchase from both the Water (\$50,000) and Wastewater (\$50,000) Rates.

Total Project Budget: \$1,750,000

Is this a multi-year project? Yes ▾

If yes, select the Capital Budget Years

- 2025
- 2026
- 2027
- 2028 & Onward

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024:	<u>100,000</u>	2025:	<u>150,000</u>	2026:	<u>175,000</u>
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2027:	<u>175,000</u>	2028 & Onward:	<u>175,000</u>
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Project Manager: Clay Sluytman **Date:** Sept. 26, 2023



2024 Capital Budget - Business Case Form

Project: Water Meter Replacement Program

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Rockford Forest Subdivision - Cost Sharing

Department: Engineering & Infrastructure

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

This work includes the City's portion of the work to complete sewers to service future connections to Hillcrest Drive, and the roadway extension tie-ins at Laurier Blvd. This work was completed by the developer to service the Rockford Forest Subdivision.



2024 Capital Budget - Business Case Form

Project: Rockford Forest Subdivision - Cost Sharing

Department: Engineering & Infrastructure

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

The work completed by the developer was for this cost sharing was part of the subdivision agreement and was completed in 2023. In accordance with the subdivision agreement the cost is to be paid by the City to the developer the following fiscal year.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

This project fulfills the City's commitment to provide infrastructure for future development and growth.



2024 Capital Budget - Business Case Form

Project: Rockford Forest Subdivision - Cost Sharing

Department: Engineering & Infrastructure

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

To be funded from General Tax Rate \$70,000 and from the Waste Water Fund \$75,000.

Total Project Budget: \$145,000

Is this a multi-year project? No

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: _____ 2025: _____ 2026: _____

2027: _____ 2028 & Onward: _____

Project Manager: Steven Allen

Date: September 26, 2023



2024 Capital Budget - Business Case Form

Project: Rockford Forest Subdivision - Cost Sharing

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.





2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Project Description & Rationale: Describe all critical elements and how this project will enhance City operations. Examples: addressing safety concerns, improving quality of life for residents.

Currently the City is not in an optimal position to advance Asset Management activities due to a shortfall in modern software and data housing. In the past, the City had partially implemented Central Square's subsidiary Work Tech for asset and work management. As of July 1, 2023, Work Tech is no longer supported by Central Square. Because of this the City will need to make an investment to obtain another software solution.

This project will achieve 2 objectives:

- 1) Create one location to house all the City's assets and asset maintenance activity, which will streamline work processes, asset planning, and reporting.
- 2) Advance the City's Asset Management maturity and achieve compliance with Ontario Regulation 588/17 under Infrastructure for Jobs and Prosperity Act, 2015, S.O. c. 15.

The desired outcome is an integrated Asset and Work Management Solution that includes:

- On-line service requests,
- Work orders,
- Field mobile data collection,
- Asset inventory,
- Fleet management,
- inventory management,
- inspections,
- condition tracking,
- asset replacement,
- performance life-cycle modeling,
- capital planning,
- tangible capital asset accounting and financial reporting.



2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Additional Comments: Please use the section below for any additional comments which are important to or aid in describing the Project Description & Rationale on Page 1.

The timing of this project has an advantage, as there are solution options available that specialize in Municipal Asset Management and focus on the requirements under Ontario Regulation 588/17. The ideal solution should be able to host the asset inventory including facilities, linear assets, vertical assets, fleets, etc. The system should have integration into the financial system and GIS system.

In addition, this is opportunity to take full advantage of modern robust technology trends, e.g. cloud platforms, that would enable the City to stay agile and well positioned to move with upgrades. Many of our neighboring municipalities have moved in this direction.

Leveraging a robust cloud platform will allow the City to achieve 2 objectives in moving asset management activities forward:

- 1) Flexibility of data access through the cloud allows for work to be done remotely, e.g. in the field, and in the office environment.
- 2) Less demand on internal IT staff resources to keep digital infrastructure up-to-date as service providers are responsible for upgrades to the system architecture. This offers a seamless experience for the end user and reduces downtime risk.

Initiative Alignment: Please briefly indicate how your business case aligns with Council directives or existing plans for the City of Brockville. Examples: Strategic Plan, Work plans, Asset Management Plan.

Advancement of Asset Management activities and compliance with Ontario Regulation 588/17 under Infrastructure for Jobs and Prosperity Act, 2015, S.O. 2015, c. 15.



2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Funding Sources: Please list all applicable funding sources, including any grants or fundraising.

If applicable, please note the name of the group for any grants or third-party fundraising.

Proposing to fund the purchase through grants.

Total Project Budget: \$250,000

Is this a multi-year project? Yes

If yes, select the Capital Budget Years

- 2025**
- 2026**
- 2027**
- 2028 & Onward**

Amount per year: Please list the amount to be budgeted per year. If the project does not extend past the 2024 Capital Budget, the section can be left blank.

2024: <u>\$250,000</u>	2025: <u>\$30,000</u>	2026: <u>\$30,000</u>
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2027: <u>\$30,000</u>	2028 & Onward: <u>\$30,000</u>
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Project Manager: Virginia Adams **Date:** Sept. 28, 2023



2024 Capital Budget - Business Case Form

Project: Asset and Work Management Software

Department: Engineering & Infrastructure

Reference Items: Please copy any photos or diagrams into the space below. If there is not enough room, additional reference items can be submitted alongside this form to the Finance Department.

2024 Water Operating Budget-revised Not Including Capital

	2023 Budget	2024 Budget	Change
Water			
Revenue	(125,925)	(162,925)	29.38%
Expense			
Administration			
Contracted Services	4,700	5,000	6.38%
Other Expenses	22,158	21,425	-3.31%
Wages and Benefits	82,528	84,859	2.82%
Administration Total	109,386	111,284	1.74%
Debt Charges	48,492	81,513	68.10%
Engineering			
Other Expenses	8,945	9,950	11.24%
Wages and Benefits	154,913	167,512	8.13%
Engineering Total	163,858	177,462	8.30%
Finance			
Other Expenses	186,446	188,138	0.91%
Transfers To/From Reserves	223,332	200,000	-10.45%
Wages and Benefits	368,896	347,075	-5.92%
Finance Total	778,674	735,213	-5.58%
Water Distribution Maintenance			
Contracted Services	136,000	131,000	-3.68%
Other Expenses	137,650	135,850	-1.31%
Wages and Benefits	928,630	917,586	-1.19%
Water Distribution Maintenance Total	1,202,280	1,184,436	-1.48%
Water Treatment			
Contracted Services	72,000	69,000	-4.17%
Other Expenses	692,857	669,246	-3.41%
Water Treatment Total	1,404,638	1,366,620	-2.71%
Expense Total	3,707,328	3,656,528	-1.37%
Water Total	3,581,403	3,493,603	-2.45%

2024 Wastewater Operating Budget-revised Not Including Capital

	2023 Budget	2024 Budget	Change
Wastewater			
Revenue	(245,257)	(282,258)	15.09%
Expense			
Administration			
Other Expenses	14,705	14,705	0.00%
Wages and Benefits	82,528	84,859	2.82%
Administration Total	97,233	99,564	2.40%
Debt Charges	567,048	567,048	0.00%
Engineering			
Contracted Services	15,000	15,000	0.00%
Other Expenses	9,390	10,660	13.53%
Wages and Benefits	162,358	175,037	7.81%
Engineering Total	186,748	200,697	7.47%
Finance			
Other Expenses	188,901	205,527	8.80%
Transfers To/From Reserves	216,430	200,000	-7.59%
Wages and Benefits	366,330	344,111	-6.07%
Finance Total	771,661	749,638	-2.85%
Leachate			
Contracted Services	1,100	1,500	36.36%
Other Expenses	27,000	25,000	-7.41%
Leachate Total	28,100	26,500	-5.69%
Main Pumping Station			
Contracted Services	10,000	10,000	0.00%
Other Expenses	265,700	277,900	4.59%
Main Pumping Station Total	275,700	287,900	4.43%
Pumping Stations			
Contracted Services	20,000	20,000	0.00%
Other Expenses	57,000	55,000	-3.51%
Pumping Stations Total	77,000	75,000	-2.60%
Wastewater Collection			
Contracted Services	91,500	97,000	6.01%
Other Expenses	42,100	47,100	11.88%
Wages and Benefits	188,735	198,016	4.92%
Wastewater Collection Total	322,335	342,116	6.14%
Water Pollution Control Plant			
Contracted Services	294,900	300,100	1.76%
Other Expenses	1,242,866	1,286,240	3.49%
Wages and Benefits	1,431,703	1,485,906	3.79%
Water Pollution Control Plant Total	2,969,469	3,072,246	3.46%
Expense Total	5,295,294	5,420,709	2.37%
Wastewater Total	5,050,037	5,138,451	1.75%

Scenario	1	Watermain Capital project on Water Rates	
		Residential-Quarterly	Residential-Quarterly
Flat Charge		Minimum Bill	Average Bill
Consumption		2023	2023
Total Water Charge		59.91	59.91
Wastewater		0.00	8.96
Total Bill		<u>27</u>	<u>35</u>
Quarterly \$\$ Change		<u>59.91</u>	<u>68.87</u>
Monthly \$\$ Change		<u>87.08</u>	<u>100.10</u>
		<u>1.45</u>	<u>1.45</u>
		<u>146.99</u>	<u>168.97</u>
Flat Charge		10.64	12.23
Consumption		3.55	4.08
Total Water Charge			
Wastewater		7.24%	7.24%
Total Bill			
Quarterly \$\$ Change			
Monthly \$\$ Change			
Commercial 2" Meter-Monthly			
Flat Charge		2023	2024
Consumption		181.59	186.13
Total Water Charge		<u>375</u>	<u>426.65625</u>
Wastewater		<u>416.25</u>	<u>612.79</u>
total Bill		<u>597.84</u>	<u>803.27</u>
Monthly \$\$ Change		<u>726.97</u>	<u>1,416.06</u>
		<u>1.216</u>	<u>1,3108</u>
		<u>1,324.81</u>	<u>91.24</u>
			6.89%

Water and Wastewater Rates Scenario	1	2023	2024			
Fixed Rates						
5/8"		19.97	20.47			
3/4"		34.05	34.90			
1"		56.76	58.18			
1.5"		113.49	116.33			
2"		181.59	186.13			
3"		340.48	348.99			
4"		567.48	581.67			
6"		1134.96	1163.33			
Flat Rate Charges						
Flat Rate -Comm 3		92.90	95.22			
FLAT WATER RES - 4 ROOM		28.01	28.71			
FLAT WATER RES-5 ROOM		33.36	34.19			
FLAT WATER RES-6 ROOM		38.23	39.19			
FLAT WATER RES-7 ROOM		42.91	43.98			
FLAT WATER RES-8 ROOM		47.67	48.86			
HYDRANT METER		2.28	2.34			
Multi-Res		9.52	9.76			
Variable Rates for 5/8" Meters		9 Cubic meters per month included				
	2023	1.12				
	2024	1.15				
Variable Rates for Meters Larger than 5/8"						
Monthly	Rate levels	500	500	2,500	6,500	>10000
	2023	1.11	0.85	0.61	0.64	0.41
	2024	1.14	0.87	0.63	0.66	0.42
Quarterly		1,500	1,500	7,500	19,500	>30000
	2023	1.11	0.85	0.61	0.64	0.41
	2024	1.14	0.87	0.63	0.66	0.42
Wastewater Rates		2023	2024			
For All Meters Greater Than 5/8":		1.216	1.31085			
For All 5/8" Meters		1.4535	1.56687			
Special Rate codes						
SC20-WC13		0.976	1.05213			
SC21-WC21		0.976	1.05213			
SC22-WC22		0.976	1.05213			
SC23-WC23		0.976	1.05213			
SC24		0.976	1.05213			

Scenario

2

Watermain Capital project on Funded by Reserves

Residential-Quarterly

Residential-Quarterly

	Minimum Bill	
Flat Charge	2023	2024
Consumption	59.91	49.13
Total Water Charge	27	0.00
Wastewater	59.91	49.13
Total Bill	1.45	87.08
Quarterly \$\$ Change		1.95
Monthly \$\$ Change	146.99	96.04

	Minimum Bill	
Flat Charge	2023	2024
Consumption	59.91	49.13
Total Water Charge	27	0.00
Wastewater	59.91	49.13
Total Bill	1.45	87.08
Quarterly \$\$ Change		1.95
Monthly \$\$ Change	146.99	96.04

	Average Bill	
Flat Charge	2023	2024
Consumption	59.91	49.13
Total Water Charge	35	8.96
Wastewater	68.87	7.35
Total Bill	1.45	100.10
Quarterly \$\$ Change		1.95
Monthly \$\$ Change	168.97	110.40

	Average Bill	
Flat Charge	2023	2024
Consumption	59.91	49.13
Total Water Charge	35	8.96
Wastewater	68.87	7.35
Total Bill	1.45	100.10
Quarterly \$\$ Change		1.95
Monthly \$\$ Change	168.97	110.40

Commercial 2" Meter-Monthly

	2023		2024	
Flat Charge	181.59		148.90	
Consumption	375	416.25	341.325	
Total Water Charge		597.84	490.23	
Wastewater	1.216	726.97	801.78	
total Bill		1,324.81	1,292.01	
Monthly \$\$ Change			-32.81	

	2023		2024	
Flat Charge	181.59		148.90	
Consumption	375	416.25	341.325	
Total Water Charge		597.84	490.23	
Wastewater	1.216	726.97	801.78	
total Bill		1,324.81	1,292.01	
Monthly \$\$ Change			-32.81	

Water and Wastewater Rates Scenario	2	2023	2024			
Fixed Rates						
5/8"		19.97	16.38			
3/4"		34.05	27.92			
1"		56.76	46.54			
1.5"		113.49	93.06			
2"		181.59	148.90			
3"		340.48	279.19			
4"		567.48	465.33			
6"		1134.96	930.67			
Flat Rate Charges						
Flat Rate -Comm 3		92.90	76.18			
FLAT WATER RES - 4 ROOM		28.01	22.97			
FLAT WATER RES-5 ROOM		33.36	27.36			
FLAT WATER RES-6 ROOM		38.23	31.35			
FLAT WATER RES-7 ROOM		42.91	35.19			
FLAT WATER RES-8 ROOM		47.67	39.09			
HYDRANT METER		2.28	1.87			
Multi-Res		9.52	7.81			
Variable Rates for 5/8" Meters		9 Cubic meters per month included				
	2023	1.12				
	2024	0.92				
Variable Rates for Meters Larger than 5/8"						
Monthly	Rate levels	500	500	2,500	6,500	>10000
	2023	1.11	0.85	0.61	0.64	0.41
	2024	0.91	0.70	0.50	0.52	0.34
Quarterly		1,500	1,500	7,500	19,500	>30000
	2023	1.11	0.85	0.61	0.64	0.41
	2024	0.91	0.70	0.50	0.52	0.34
Wastewater Rates		2023	2024			
For All Meters Greater Than 5/8":		1.216	1.63552			
For All 5/8" Meters		1.4535	1.95496			
Special Rate codes						
SC20-WC13		0.976	1.31272			
SC21-WC21		0.976	1.31272			
SC22-WC22		0.976	1.31272			
SC23-WC23		0.976	1.31272			
SC24		0.976	1.31272			