



**Date:** April 25, 2023

**To:** Mayor Sherry Senis and Council Members

**From:** Adam Tobin, Manager of Public Works  
R. Lane Vance, Manager of Financial Services

**Subject:** Lakefield Water & Sewer Budget 2023

**Status:** For Endorsement.

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## Recommendation

That the report related to the Lakefield Water & Sewer Budget 2023 be received for information; and

That Council adopt the Budget Compliance Report for expenses excluded from the 2023 Lakefield Water & Sewer budget as outlined in and as a requirement of Ontario Regulation 284/09; and

That the Department # 30 Lakefield Sewer and Department # 31 Lakefield Water Budget 2023 be approved as presented; and

That Council directs staff to bring back the respective water and sewer rate by-laws to increase rates by 1% effective with the July 2023 billing cycle.

## Information

Staff are pleased to present the proposed budgets for department # 30 Lakefield Sewer and department # 31 Lakefield Water for Council's consideration.

In our typical water and sewer budget process, the Township would increase rates to keep abreast of the increasing costs from Peterborough Utilities Services (PUS) for the management and operation of the respective systems. The rates were last increased in July 2022 in accordance with Council approval of the budget in April 2022.

Given increased contract amounts with PUS, it would be appropriate to increase water and sewer rates to keep current with increasing operational expenses.

This year's budget once again includes significant capital investments in the system as outlined in the Capital project Worksheets attached. While the Township has received an ICIP grant for works on Strickland Street, any additional amounts for capital are funded through the respective reserve.

## Strategic Plan Reference

*Goal # 2 - Achieve excellence in governance and service delivery.*

*Goal # 3 - Support a sustainable, balanced, and investment-ready community*

The annual budget process demonstrates *fiscal responsibility* and ensures that resources are managed responsibly and that taxpayers in the affected area continue to receive the best value for their service area charge.

## Financial Impact

Approval of the 2023 water and sewer rates as proposed will yield the following rates:

<b>Monthly Flat Rate Sewer</b>	<b>\$ 58.95</b>	<b>(up 1%)</b>
<b>Monthly Flat Rate Water</b>	<b>\$ 60.20</b>	<b>(up 1%)</b>
<b>Combined Monthly Rate</b>	<b>\$119.15</b>	

*(An increase of \$1.20 per month or less than 4 cents per day)*

## Attachments

- PSAB Compliance Report – Lakefield Water & Sewer
- Budget Narrative & Worksheet Summary - Department # 30 Lakefield Sewer
- Capital Project Sheets and Related Photos
- Budget Narrative & Worksheet Summary - Department # 31 Lakefield Water
- Capital Projects Sheets and related photos
- Reserve Summary for Lakefield Water and Sewer

*Adam Tobin*

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**Prepared By: Adam Tobin**  
**Manager of Public Works**

*R. Lane Vance*

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**Prepared By: R. Lane Vance**  
**Manager of Financial Services/Treasurer**

*Janice Lavalley*

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**Approved By: Janice Lavalley**  
**CAO**

**Township of Selwyn**  
**2023 PSAB Budget Reconciliation**  
For Ontario Regulation 284/09

<b>Description</b>	<b>Lakefield</b>
Non Water & Sewer Rates per water & sewer budgets	2,140,923
Water & Sewer Rates	2,298,011
Total Township revenues per budget	<u>4,438,934</u>
Less transfer from reserves - water & sewer budgets	-1,540,202
Less increase in Unfunded Capital	----
Less funding from Debenture Proceeds	----
Total PSAB revenues	<u>2,898,732</u>
Total Township expenses per Water & Sewer budgets	4,438,934
Add Annual Amortization (2021 updated as initial estimate)	535,605
Less TCA costs in budget (from below)	-1,709,822
Less transfer to reserves - water & sewer budgets	-1,328,701
Less reduction in unfunded capital	----
Less debt principal repayments	----
Total PSAB expenses	<u>1,936,016</u>
Annual surplus/(deficit) in PSAB format	<u>962,716</u>

**2023 Budgeted TCA Costs**

Sewer - Plant & Collection	333,711
Water - Plant & Distribution	1,376,111
Total	<u>1,709,822</u>

### Overview

This Department captures all costs related to sanitary sewer in the Lakefield service area and is funded through user fees of the respective sewer ratepayers.

The system uses a combination of gravity sewer mains, coupled with five (5) local pumping stations, to collect and direct wastewater to the main pumping station. The main pumping station located on Water Street is equipped to pump wastewater through one of two forcemains to the lagoon for treatment.

The lagoon consists of an aerated south cell and a non-aerated north cell. The aerated south cell accepts sewage from the pumping station and allows for the majority of treatment through aeration and settling. The north cell operates as a polishing pond to allow for additional settling and passive chemical treatment. All treated effluent is then directed through a bank of ultraviolet lights for final disinfection and then discharged in accordance with strict provincial guidelines.

### Revenue

The sewer ratepayers of Lakefield pay their respective costs in their service area through monthly utility billings provided by Peterborough Utilities Services. The majority of ratepayers are billed by flat rate. Large commercial, industrial and institutional customers are billed based on volumes related to the water meter.

The Lakefield College School and SGS Lakefield Research are billed directly by the Township based on existing agreements that have been in place for many years. The actual rates are now updated annually based on sewer rates established by Council through by-law.

### Expenditures

The majority of the operating expenses that the Township needs to recover are those costs paid to Peterborough Utilities Services for operating & managing the system and providing related billing services. As well, monthly water and sewer billings are managed by PUS Customer Services for a flat fee per bill.

In addition to costs paid directly to PUS through agreements, additional costs are also budgeted to offset unforeseen expenses, emergency call-ins and specific capital maintenance items.

Given the significant capital expenditures over the last couple of years, reserve levels have experienced a decline, however through ongoing annual reserve contributions the sewer utility will be prepared for future expenditures planned or unexpected.

Township of Selwyn  
Water and Sewer Budget

Date: April 25 2023

**Capital Budget 2023**

Department Name: **Sewer** General Ledger Code(s): **2.30.4601.6360/6370**

Capital Project Name: **Generator Replacement - Water Street Sewage Pumping Station**

Description:

Replace existing 125 kW indoor generator with 200 kW stand alone unit.

Attachments: Photo

Supporting Rationale: Sub-Committee Support: Not Applicable

The rebuild/upgrades originally required by TSSA were estimated to be approximately 50-60% of total replacement value. Since the units were well along in their useful life, the full replacement was seen to be better value for dollar. Having regard for future upgrade requirements at the Sewage Pumping Station the generator was oversized to meet expected future demand. Due to manufacturing delays this project is a continuation of a project approved in the 2022 capital budget.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost	<u><b>\$159,448</b></u>	Costs in Current Year's Budget	<u><b>\$16,975</b></u>
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Financial Plan:

Oversizing of the generator unit will be recovered though future development charges. The remaining funding for these improvements will come from the Lakefield Sewer reserve.

Part of Long Term Replacement Schedule: Capital Project

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*

Township of Selwyn  
Water and Sewer Budget

Date: April 25, 2023

**Capital Budget 2023**

Department Name: **Sewer**

General Ledger Code(s): **2.30.4603.0000**  
*various accounts*

Capital Project Name: **Lagoon Stormwater Management Facility**

Description:

Installation of dry pond at Lagoon site including outlet pipe to drainage ditch along County Road 33. This work will be completed using Township labour and equipment.

Attachments: Photos

Supporting Rationale: Sub-Committee Support: Not applicable

The purpose of the stormwater pond is to reduce stormwater runoff peak flows to the receiving drainage system at County Road 33. This feature will be used by the County in their technical design for the reconstruction of County Road #33 - road construction planned for 2024. Treated effluent from the sewage lagoons is conveyed through the site by a piped gravity system to the south side of County Road 33, and flows westerly to the Otonabee River through a municipal outfall system that is located within the County right-of-way. Surface drainage from the sewage lagoon property is conveyed overland to a ditch inlet at County Road 33 where it is collected in a ditch inlet and conveyed westerly in combination with the effluent from the sewage lagoons.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost	<u><b>\$27,006</b></u>	Costs in Current Year's Budget	<u><b>\$15,978</b></u>
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Financial Plan:

This is a capital project and will be funded through the Lakefield Sewer Reserve.

Part of Long Term Replacement Schedule: Capital Project

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*

The proposed facility will ensure that surface drainage from the lagoon property can be feasibly conveyed within the roadside ditch in the County Road right-of-way limits.









Township of Selwyn  
Water and Sewer Budget

Date: April 25, 2023

**Capital Budget 2023**

Department Name: **Sewer**

General Ledger Code(s): **2.30.4604.6360/6370**

Capital Project Name: **Water Street Reconstruction**

Description:

Sanitary main replacement along Water Street from Burnham Street to Bridge Street.

Attachments: Photo

Supporting Rationale: Sub-Committee Support: Not Applicable

Relocation of the sanitary main during the Water Street Reconstruction project will accommodate future twin forcemain installation to Main Sewage Pumping Station, as recommended in DM Will's - Selwyn Capacity Analysis (2023)

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost	<u><b>\$390,440</b></u>	Costs in Current Year's Budget	<u><b>\$300,758</b></u>
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Financial Plan:

Costs associated with the relocation of the sanitary sewer will be recovered through future development charges. The remaining funding will come from the Lakefield Sewer Reserve.

Part of Long Term Replacement Schedule: Capital Project

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*

### Overview

This Department captures all costs related to water in the Lakefield service area and is funded through user fees of the respective water ratepayers.

The water distribution system consists of water mains, hydrants, a booster station, a standpipe and elevated storage tank (water tower). The standpipe and elevated storage tank allow the system to operate as one pressure zone, save and except a small area adjacent to the base of the standpipe which operates in isolation with assistance from the booster station.

The water treatment plant is located at Water Street North and consists of an intake from the Otonabee River, a low lift pumping system located within the water treatment plant, and a treatment process using coagulation, sedimentation, filtration and disinfection. The plant has a two-celled baffled clearwell and a high lift pumping facility discharging to the distribution system.

### Revenue

The water ratepayers of Lakefield pay their respective costs in their service area through monthly utility billings provided by Peterborough Utilities Services. The majority of ratepayers are billed by flat rate. Large commercial, industrial and institutional customers are billed based on volumes captured through water meters.

The Lakefield College School is billed directly by the Township based on an existing arrangement that has been in place for many years at the request of the Ministry of the Environment. The rates are now updated annually based on water rates established by Council through by-law.

### Expenditures

The majority of the operating expenses that the Township needs to recover are those costs paid to Peterborough Utilities Services for operating & managing the system and providing related billing services. As well, monthly water and sewer billings are managed by PUS Customer Services for a flat fee per bill.

In addition to costs paid directly to PUS through agreement, additional costs are also budgeted to offset unforeseen expenses, emergency call-ins and specific capital maintenance items.

In comparison to the sewer system, the water system typically includes more additional charges including auto-dialer call outs for fluctuating readings, watermain breaks and related restoration costs.

Township of Selwyn  
Water and Sewer Budget

Date: April 25, 2023

**Capital Budget 2023**

Department Name: **Water**

General Ledger Code(s): **2.31.4701.6360**

Capital Project Name: **Actiflo Air Scour**

Description:

Install system to add air scour cleaning capability to lamella tubes in Actiflo system.

Attachments: Photo

Supporting Rationale: Sub-Committee Support: Not Applicable

Lamella tubes are a key component to the Actiflo system at the Lakefield Water Treatment Plant. The surface area of the lamella tubes, and the angle at which they are fabricated, aid in settling the floc (particulate) out of the water before it goes to the filters. Maintaining and cleaning these tubes produces better quality of water and increases system efficiency. Adding an air scour system will be an enormous upgrade over the current system used to clean the lamella tubes.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost	<u><b>\$16,334</b></u>	Costs in Current Year's Budget	<u><b>\$16,334</b></u>
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Financial Plan:

This project is eligible for funding through the federal and provincial governments via the "Investing in Canada Infrastructure Program's (ICIP) Green Infrastructure Stream fund. Under the ICIP, the federal government contributes 40% of total cost, the provincial government contributes 33% of the total cost, and the Township contributes 27% of the total cost. Township funding to be drawn from Lakefield Water Reserves.

Part of Long Term Replacement Schedule: Capital Project

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*



Lamella tubes after two weeks of operation



Lamella tubes after cleaning with air scour  
(Photos courtesy of Lee Schmidt, Manager of Water & Wastwater,

Township of Selwyn  
Water and Sewer Budget

Date: 25/04/2023

**Capital Budget 2023**

Department Name: **Water** General Ledger Code(s): **2.31.4701.6360**

Capital Project Name: **Generator Replacement - Lakefield Water Treatment Plant**

Description:

Replace existing 100 kW indoor diesel generator with new 200 kW stand alone model.

Attachments: **Photo**

Supporting Rationale: Sub-Committee Support: Not applicable

The rebuild/upgrades originally required by TSSA were estimated to be approximately 50-60% of total replacement value. Since the units were well along in their useful life, the full replacement was seen to be better value for dollar. Having regard for future upgrade requirements at the Water Treatment Plant the generator was oversized to meet expected future demand. Due to manufacturing delays this project is a continuation of a project approved in the 2021 capital budget.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost	<u><b>\$130,762</b></u>	Costs in Current Year's Budget	<u><b>\$67,569</b></u>
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Financial Plan:

Oversizing of the generator unit will be recovered though future development charges. The remaining funding for these improvements will come from the Lakefield Water reserve.

Part of Long Term Replacement Schedule: Capital Project

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*

Generator system replacement at these facilities will improve emissions as new units are built to current standards.







Township of Selwyn  
Water and Sewer Budget

Date: April 25, 2023

**Capital Budget 2023**

Department Name: **Water**

General Ledger Code(s): **2.31.4701.6360**

Capital Project Name: **Modulating Valve Replacements**

Description:

Replacing two filter effluent modulating valves at Lakefield Water Treatment Plant

Attachments: **Photo**

Supporting Rationale: **Sub-Committee Support: Not applicable**

There are two existing filter effluent modulating valves that have not been replaced. These models have reached end of usefull life and the manufacturer does not support the hardware for these units anymore.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost

**\$21,200**

Costs in Current Year's Budget

**\$21,200**

Financial Plan:

This project is eligible for funding through the federal and provincial governments via the "Investing in Canada Infrastructure Program's (ICIP) Green Infrastructure Stream fund. Under the ICIP, the federal government contributes 40% of total cost, the provincial government contributes 33% of the total cost, and the Township contributes 27% of the total cost. The remaining funds will be drawn from the Lakefield Water Reserves.

Part of Long Term Replacement Schedule: **Capital Project**

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*



New style, manufacturer = Auma. Filter #1



Old style, manufacturer = Rotork. Filter #2





Township of Selwyn  
Water and Sewer Budget

Date: April 25, 2023

**Capital Budget 2023**

Department Name: **Water**

General Ledger Code(s): **2.31.4704.6370**

Capital Project Name: **Strickland Street Design and Engineering**

Description:

Engineering and detailed design services for the replacement of existing watermain on Strickland Street from Queen Street to Prospect Street, including a section of Prospect Street.

Attachments: Photos

Supporting Rationale: Sub-Committee Support: Not applicable

The section of watermain under Strickland Street between Queen Street and Prospect Street has had multiple watermain breaks over the years and leads to red water complaints during flushing season. Installed in 1955, it is near / at end of useful life.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost	<u><b>\$48,082</b></u>	Costs in Current Year's Budget	<u><b>\$48,082</b></u>
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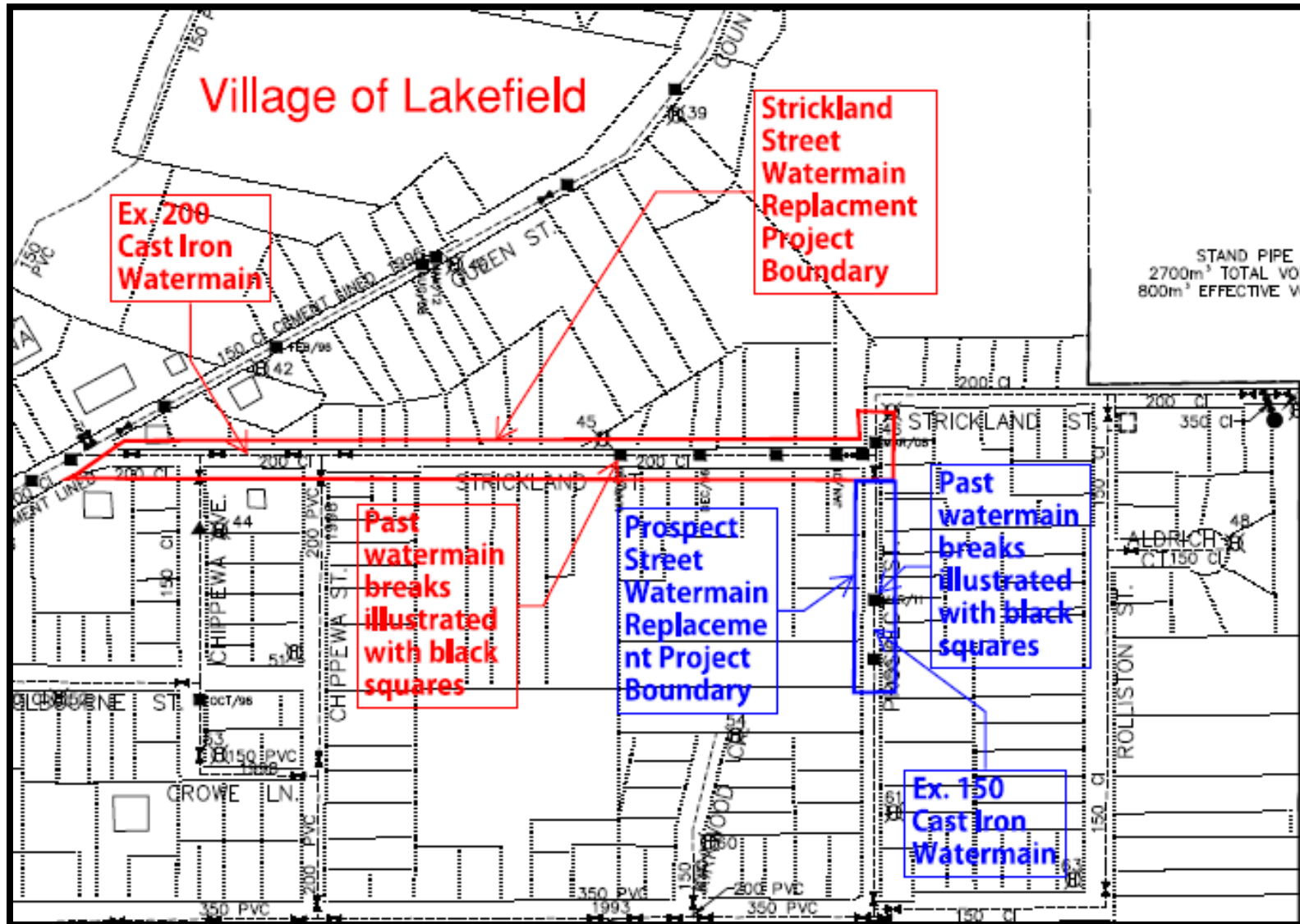
Financial Plan:

This project is eligible for funding through the federal and provincial governments via the "Investing in Canada Infrastructure Program's (ICIP) Green Infrastructure Stream fund. Under the ICIP, the federal government contributes 40% of total cost, the provincial government contributes 33% of the total cost, and the Township contributes 27% of the total cost. The remaining funds will be drawn from the Lakefield Water Reserves.

Part of Long Term Replacement Schedule: Capital Project

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*



Township of Selwyn  
Water and Sewer Budget

Date: April 25, 2023

**Capital Budget 2023**

Department Name: **Water**

General Ledger Code(s): **2.31.4701.6360**

Capital Project Name: **Water Treatment Plant Updates**

Description:

Necessary upgrades to the Lakefield Water Treatment Plant (WTP), specifically the low lift pumps (which move water pumped in to the plant from the river), high lift pumps (water pumped from the WTP into the distribution system), and the high lift header (common pipe that receives water from the high lift pumps to deliver to the distribution network).

Attachments: **Photos**

Supporting Rationale: **Sub-Committee Support: Not Applicable**

Two low lift pump upgrades including addition of variable frequency drives (VFD) will improve plant operations and position this system well for future demands. The addition of the VFD will allow the pump motors to run at optimal speeds to obtain the desired flow rate. Currently the pumps run start/stop, with the output flow rate controlled by a modulating valve. Current high lift pumps are nearing end of life, it has been indicated that refurbishment of these pumps is approximately 75% of their replacement value. It is recommended that the existing pumps are replaced and consideration given to future demands when sizing replacement pumps. The high lift header has developed leaks on some of the welds and flanges, replacement of these sections is recommended to coincide with the high lift pump work.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery & support a sustainable, balanced and investment-ready community.

Estimated Total Project Cost	<b><u>\$479,108</u></b>	Costs in Current Year's Budget	<b><u>\$479,108</u></b>
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Financial Plan:

This project is eligible for funding through the federal and provincial governments via the "Investing in Canada Infrastructure Program's (ICIP) Green Infrastructure Stream fund. Under the ICIP, the federal government contributes 40% of total cost, the provincial government contributes 33% of the total cost, and the Township contributes 27% of the total cost. Township funding to be drawn from Lakefield Water Reserves, and future development charges.

Part of Long Term Replacement Schedule: **Capital Project**

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*

Adding VFDs to the low lift pumps will permit optimal energy use (and therefore savings).

# Water Treatment Plant Updates

2023







Township of Selwyn  
Water and Sewer Budget

Date: April 25, 2023

**Capital Budget 2023**

Department Name: **Water**

General Ledger Code(s): **2.31.4704.6360/6370**

Capital Project Name: **Water Street Reconstruction**

Description:

Installation of 300mm watermain from north of Reid Street (approximately in front of St. Paul the Apostle Church) through to Bridge St. Will connect to 300mm watermain that was installed in 2022 as part of this project.

Attachments: **Photos**

Supporting Rationale: **Sub-Committee Support: Not Applicable**

Completing the extension of the watermain from Concession to Bridge Street will provide redundant feeds to both the river and bridge crossings, increasing reliability and available flow of drinking water to the west side of the river.

Strategic Plan/Related Plans Reference:

Achieve excellence in governance and service delivery.

Estimated Total Project Cost	<u><b>\$1,662,179</b></u>	Costs in Current Year's Budget	<u><b>\$743,818</b></u>
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Financial Plan:

Oversizing of the watermain will be recovered through future development charges. The remaining funding will be covered through the Lakefield Water Reserves.

Part of Long Term Replacement Schedule: **Capital Project**

Other Key Considerations:

*(accessibility, impact on future operations, annual savings, etc.)*

The watermain from Concession St. to King St. will be a new loop to tie in with the water plant and provide the redundant feed noted above. Final lift of asphalt will be applied in 2024.

Township of Selwyn  
 Lakefield Sewer and Water Reserves  
 Budget Working Paper - Interest Calculation

4. a) Attach.

Dept. #	Details	Balance Jan. 1, 2023	Transfers Into Reserves	(revenue) Transfers from Reserves	(capital) Transfers from Reserves	Balance Dec. 31, 2023
<u>Working Funds:(Accumulated Revenue)</u>						
Dept. 30	Lakefield Sewer	95,952	119,634	-95,952		119,634
Dept. 31	Lakefield Water	146,677	209,067	-146,677		209,067
	<b>Total Working Funds</b>	<b>242,629</b>	<b>328,701</b>	<b>-242,629</b>	<b>0</b>	<b>328,701</b>
<u>Specific Reserves:</u>						
Dept. 30	Lakefield Sewer	1,032,904	450,000		-333,711	1,149,193
Dept. 31	Lakefield Water	4,957,416	550,000		-963,862	4,543,554
	<b>Total Reserves</b>	<b>5,990,320</b>	<b>1,000,000</b>	<b>0</b>	<b>-1,297,573</b>	<b>5,692,747</b>
	<b>Grand Total</b>	<b>6,232,949</b>	<b>1,328,701</b>	<b>-242,629</b>	<b>-1,297,573</b>	<b>6,021,448</b>

Sewer Interest Income 34,476  
 Water Interest Income 136,307

for revenues