# THE CORPORATION OF THE TOWNSHIP OF NORTH GLENGARRY

## Regular Meeting of Council

## Agenda

Monday, May 27, 2024, 6:00 p.m.
Council Chamber
3720 County Road 34
Alexandria, On. K0C 1A0

**THE MEETING WILL OPEN WITH THE CANADIAN NATIONAL ANTHEM**

1. CALL TO ORDER

2. DECLARATIONS OF PECUNIARY INTEREST

3. ACCEPT THE AGENDA (Additions/Deletions)

4. ADOPTION OF PREVIOUS MINUTES

   a. Regular Meeting of Council - April 29th 2024

5. DELEGATION(S)

   a. The Eastern Ontario ATV Club - Butch Thompson, Vice President

6. STAFF REPORTS

   a. Community Services Department

      1. CIP Application – 6 Main Street South in Maxville

      2. Award Contract for Ice Resurfacer

   b. Treasury Department

      1. Levying By-Law for Municipal Drain Maintenance

      2. Request for a Minor Improvement on the R.A. McLennan Drain, Real Diotte Branch and Appointment of an Engineer

   c. Public Works Department

      1. Annual Wastewater Systems Reports for Alexandria and Maxville

      2. Increase to the 2024 CCTV Sewer Budget

7. UNFINISHED BUSINESS

8. CONSENT AGENDA

   a. RRCA Welcomes New General Manager

   b. RRCA Board Meeting Highlights - May 16 2024

9. NEW BUSINESS

   a. AccessAbility Week

## 10. NOTICE OF MOTION

Next Regular Public Meeting of Council

Monday June 24th at 6:00 p.m. in the Council Chambers, 3720 County Road 34, Alexandria, Ontario.

Note:  Meetings are subject to change or cancellation.

## 11. QUESTION PERIOD

(limit of one question per person and subsequent question will be at the discretion of the Mayor/Chair).

## 12. CLOSED SESSION BUSINESS

As this matter deals with personal matters about an identifiable individual, including municipal or local board employees they may be discussed in closed session under sections 239 (2)(b) of the *Ontario Municipal Act*)

And to adopt the minutes of the Municipal Closed Session of Council meeting on April 8th 2024

## 13. CONFIRMING BY-LAW

a. By-law No. 26-2024

## 14. ADJOURN

**THE CORPORATION OF THE TOWNSHIP OF NORTH GLENGARRY**

**Regular Meeting of Council**

**Monday, April 29, 2024, 6:00 p.m.**
**Council Chamber**
**3720 County Road 34**
**Alexandria, On. K0C 1A0**

PRESENT: Mayor: Jamie MacDonald
Deputy Mayor: Carma Williams
Councillor: Jacques Massie
Councillor: Jeff Manley
Councillor: Michael Madden
Councillor: Brian Caddell
Councillor: Gary Martin

ALSO PRESENT: CAO/Clerk: Sarah Huskinson
Deputy Clerk: Jena Doonan
Director of Community Services: Anne Leduc
Director of the Building/By-law & Planning Services: Jacob Rhéaume
Director of Public Works: Timothy Wright
Treasurer & Director of Finance: Zoe Bougie

**1. CALL TO ORDER**

**2. DECLARATIONS OF PECUNIARY INTEREST**

**3. ACCEPT THE AGENDA (Additions/Deletions)**

**Resolution No. 1**

**Moved by:** Brian Caddell
**Seconded by:** Gary Martin

**THAT** the Council of the Township of North Glengarry accepts the agenda of the Regular Meeting of Council on Monday April 29 2024.

**Carried**

**4. ADOPTION OF PREVIOUS MINUTES**

**Resolution No. 2**

**Moved by:** Jacques Massie
**Seconded by:** Brian Caddell

**THAT** the minutes of the following meeting(s) be adopted as circulated.

Regular Meeting of Council - April 8 2024

**Carried**

**5. DELEGATION(S)**

a. Conservation Authority Act updates and new Regulations- Phil Barnes, Team Lead -Watershed Management

Lead Watershed Management RRCA Team member Phil Barnes updated Council on new regulations, as well as other initiatives and services they offer.

b. Community Living Glengarry - Danielle Duranceau & Réjean Boulanger

Board members Dan Giroux and Réjean Boulanger along with Danielle Duranceau provided Council with an update regarding their recent strategic planning and its next steps.

**6. STAFF REPORTS**

a. Public Works Department

1. Sole Sourcing Report – Historic Items

**Resolution No. 3**

**Moved by:** Brian Caddell
**Seconded by:** Gary Martin

**THAT** the Council of the Township of North Glengarry receives staff report No. PW2024-16, Sole Sourcing Report - Historic Items; and

**THAT** the Council of the Township of North Glengarry approves the purchasing by negotiation process for the vendors listed in Table 1 for the items listed in Appendix A.

**Carried**

2. Award of Sidewalk Reconstruction Program 2024

**Resolution No. 4**

**Moved by:** Jeff Manley
**Seconded by:** Carma Williams

**THAT** the Council of the Township of North Glengarry receives Staff Report No. PW2024-17, Award of Sidewalk Reconstruction Program 2024; and

**THAT** the Council of the Township of North Glengarry authorizes the award of the sidewalk reconstruction program for 2024 to Maylon Excavation for $96,998.00 plus HST.

**Carried**

3. Award of Lochiel Garage Roof Replacement

**Resolution No. 5**

**Moved by:** Gary Martin
**Seconded by:** Carma Williams

**THAT** the Council of the Township of North Glengarry receives Staff Report No. PW 2024-14, Award of Lochiel Garage Roof Replacement; and

**THAT** the Council of the Township of North Glengarry authorizes the award of the roof replacement to Mille Roches Construction Ltd for $90,946.00 plus HST.

**Carried**

4. Award of Dominion Watermain Project 2024

**Resolution No. 6**

**Moved by:** Carma Williams
**Seconded by:** Jeff Manley

**THAT** the Council of the Township of North Glengarry receives Staff Report No. PW 2024-18, Award of Dominion St Watermain Replacement; and

**THAT** the Council of the Township of North Glengarry authorizes the award of Dominion St Watermain Replacement to Clarence McDonald Excavation Ltd for $275,594.00 plus HST; and

**THAT** the Council of the Township of North Glengarry authorizes the increase of the Dominion St Watermain Budget from $387,758.00 to $661,594.00

**AND THAT** the Council of the Township of North Glengarry authorizes the transfer from the North Glengarry Water Reserve to cover the increase in the Dominion Street Watermain Budget.

**Carried**

5. Request to the Province to Amend Blue Box Regulation for ‘Ineligible’ Sources

**Resolution No. 7**

**Moved by:** Jeff Manley
**Seconded by:** Michael Madden

**THAT** the Council of the Township of North Glengarry receives staff report PW 2024-08, Request to the Province to Amend Blue Box Regulations for 'Ineligible' Sources; and

**THAT** the Council of the Township of North Glengarry passes the motion to request that the province amends the blue box regulation for ineligible sources as follows:

**WHEREAS** under Ontario Regulation 391/21: Blue Box producers are fully accountable and financially responsible for their products and packaging once they reach their end of life and are disposed of, for ‘eligible’ sources only; and

**WHEREAS** 'ineligible' sources which producers are not responsible for include businesses, places of worship, daycares, campgrounds, public-facing and internal areas of municipal-owned buildings, and not-for-profit organizations, such as shelters and food banks;

**AND WHEREAS** should a municipality continue to provide services to the 'ineligible' sources, the municipality will be required to oversee the collection, transportation, and processing of the recycling, assuming 100% of the costs;

**BE IT RESOLVED** that the Council of the Corporation of the Municipality of North Glengarry hereby request that the province amend Ontario Regulation 391/21: Blue Box so that producers are responsible for the end-of-life management of recycling products from all sources;

**AND FURTHER** that Council hereby request the support of all Ontario Municipalities;

**AND FURTHER** that this resolution be forwarded to the Honourable Doug Ford, Premier of Ontario, the Honourable Andrea Khanjin, Minister of the Environment, Conservation, and Parks, and the Honourable Graydon Smith, Minister of Natural Resources and Forestry, to MPP of Glengarry, Prescott, Russel, MPP Stéphane Sarrazin, and all Ontario Municipalities.

**Carried**

6. Award of Storm CCTV

**Resolution No. 8**

**Moved by:** Michael Madden
**Seconded by:** Gary Martin

**THAT** the Council of the Township of North Glengarry receives Staff Report No. PW 2024-19, Award of Storm CCTV and Cleanout 2024; and

**THAT** the Council of the Township of North Glengarry authorizes the award of the Storm CCTV and Cleanout to Hydrocam for $76,619.00 plus HST.

**Carried**

b. Community Services Department

1. Community Services Capital Projects Update & Community Garden Project

**Resolution No. 9**

**Moved by:** Michael Madden
**Seconded by:** Gary Martin

**THAT** the Council of the Township of North Glengarry receives Staff Report CS-2024-15 Community Services Capital Projects update and Community Garden Project; and

**THAT** the Council of the Township of North Glengarry authorizes the reallocation of $7,500 from the surplus Capital funds remaining from the

Glengarry Sports Palace Capital Budget towards the Community Garden Project at 199 Main Street North in Alexandria.

**Carried**

2. Economic Development Action Plan Update

**Resolution No. 10**

**Moved by:** Brian Caddell
**Seconded by:** Jeff Manley

**THAT** the Council of the Township of North Glengarry receives Staff Report CS-2024-16, Economic Development Action Plan Update for information purposes only.

**Carried**

c. Treasury Department

1. Court of Revision Appointment – Ranger Drain

**Resolution No. 11**

**Moved by:** Carma Williams
**Seconded by:** Michael Madden

**THAT** the Council of the Township of North Glengarry receives report DR-2024-01 Court of Revision Appointment – Ranger Drain; and

**THAT** By-Law 23-2024 being a by law to appoint a member of the court revision for the Ranger Municipal Drain be read a first, second and third time and enacted in open Council this 29th day of April 2024.

**Carried**

d. Planning/Building & By-law Enforcement Department

1. Zoning By-law Amendment No. Z-01-2024

**Resolution No. 12**

**Moved by:** Michael Madden
**Seconded by:** Jeff Manley

**THAT** the Council of the Township of North Glengarry adopt Zoning By-Law No. Z-01-2024; and

**THAT** by-law No. Z-01-2024 be read a first, second and third time and adopted in open Council this 29th day of April, 2024.

**Carried**

2. Zoning By-law Amendment No. Z-02-2024

**Resolution No. 13**

**Moved by:** Jeff Manley
**Seconded by:** Jacques Massie

**THAT** the Council of the Township of North Glengarry adopt Zoning By-Law No. Z-02-2024.

**THAT** by-law No. Z-02-2024 be read a first, second and third time and adopted in open Council this 29th day of April, 2024.

**Carried**

3. Zoning By-law Amendment No. Z-03-2024

**Resolution No. 14**

**Moved by:** Gary Martin
**Seconded by:** Brian Caddell

**THAT** the Council of the Township of North Glengarry adopt Zoning By-Law No. Z-03-2024.

**THAT** by-law No. Z-03-2024 be read a first, second and third time and adopted in open Council this 29th day of April, 2024.

**Carried**

**7. UNFINISHED BUSINESS**

**8. CONSENT AGENDA**

**Resolution No. 15**

**Moved by:** Jacques Massie
**Seconded by:** Michael Madden

**THAT** the Council of the Township of North Glengarry receives the item(s) from the consent agenda for information purposes only.

**Carried**

**9. NEW BUSINESS**

**10. NOTICE OF MOTION**

**11. QUESTION PERIOD**

**12. CLOSED SESSION BUSINESS**

**13. CONFIRMING BY-LAW**

**Resolution No. 16**

**Moved by:** Carma Williams
**Seconded by:** Jeff Manley

**THAT** the Council of the Township of North Glengarry adopts by-law 25-2024 being a by-law to adopt, confirm and ratify matters dealt with by Resolution; and

**THAT** By-law 25-2024 be read a first, second, third time and enacted in Open Council this 29th day of April 2024.

**Carried**

**14. ADJOURN**

**Resolution No. 17**

**Moved by:** Jacques Massie
**Seconded by:** Brian Caddell

**THERE** being no further business to discuss, the meeting was adjourned at 7:20 p.m.

**Carried**

CAO/Clerk/Deputy Clerk

Mayor/Deputy Mayor


ATV Club of Eastern Ontario Inc.

May 13, 2024 – Butch Thompson

# ATV Club of Eastern Ontario Inc.

- Not for Profit Corporation (meets monthly)
- 2,000 members
- Run by Volunteers
- Promotes Safe Operation of ATV's
- Approx. 350 km's of ATV Trails
- Member of OFATV (Ontario Federation of ATV Clubs)

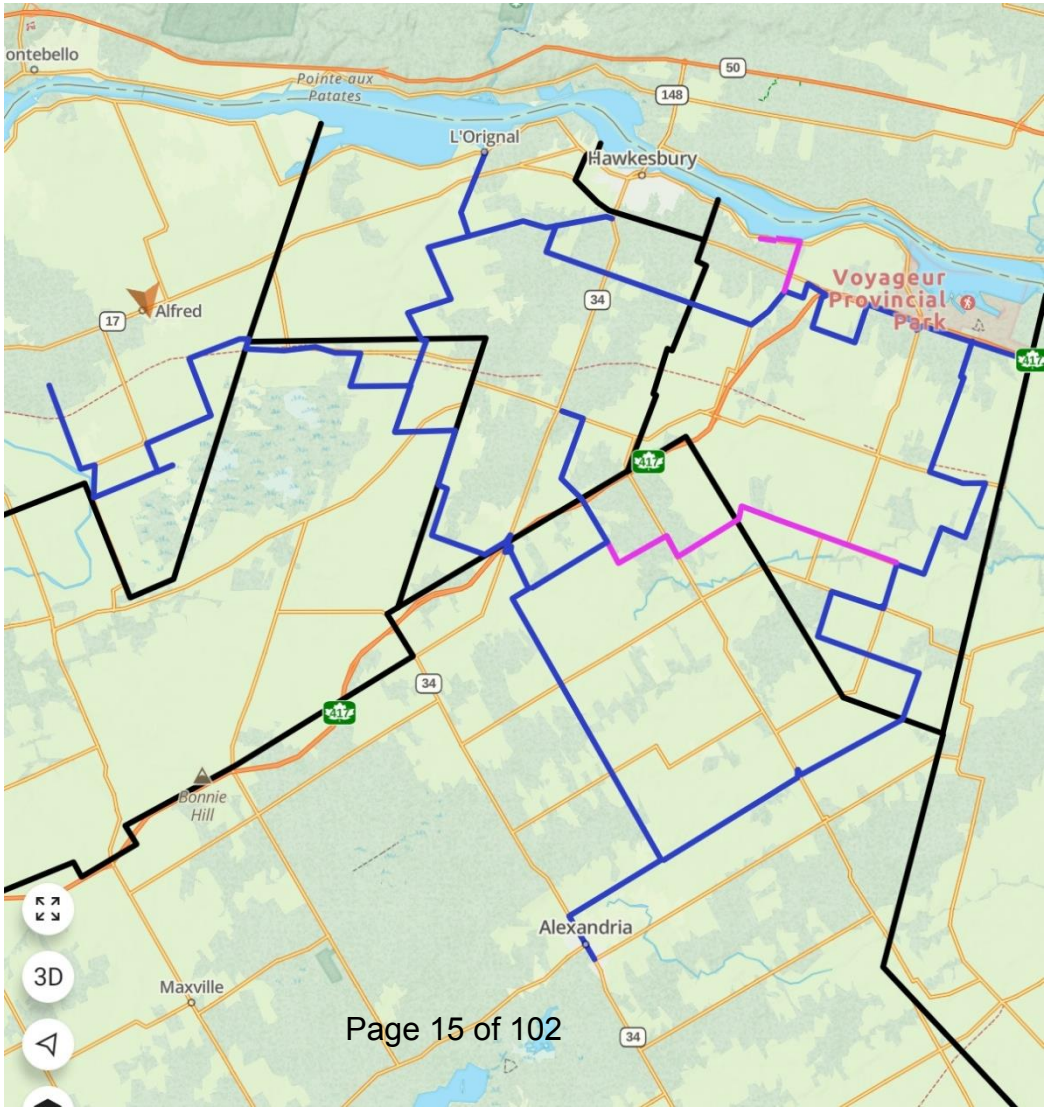
# ATVCEO Area

- Prescott & Russell
- Stormont, Dundas and / et Glengarry
- Parts of Ex-Ottawa Carleton (east of Hwy 416)
  - Ottawa River to the North
  - Saint-Lawrence River to the South
  - Ontario-Québec Border to the East
  - Hwy 416 to the West

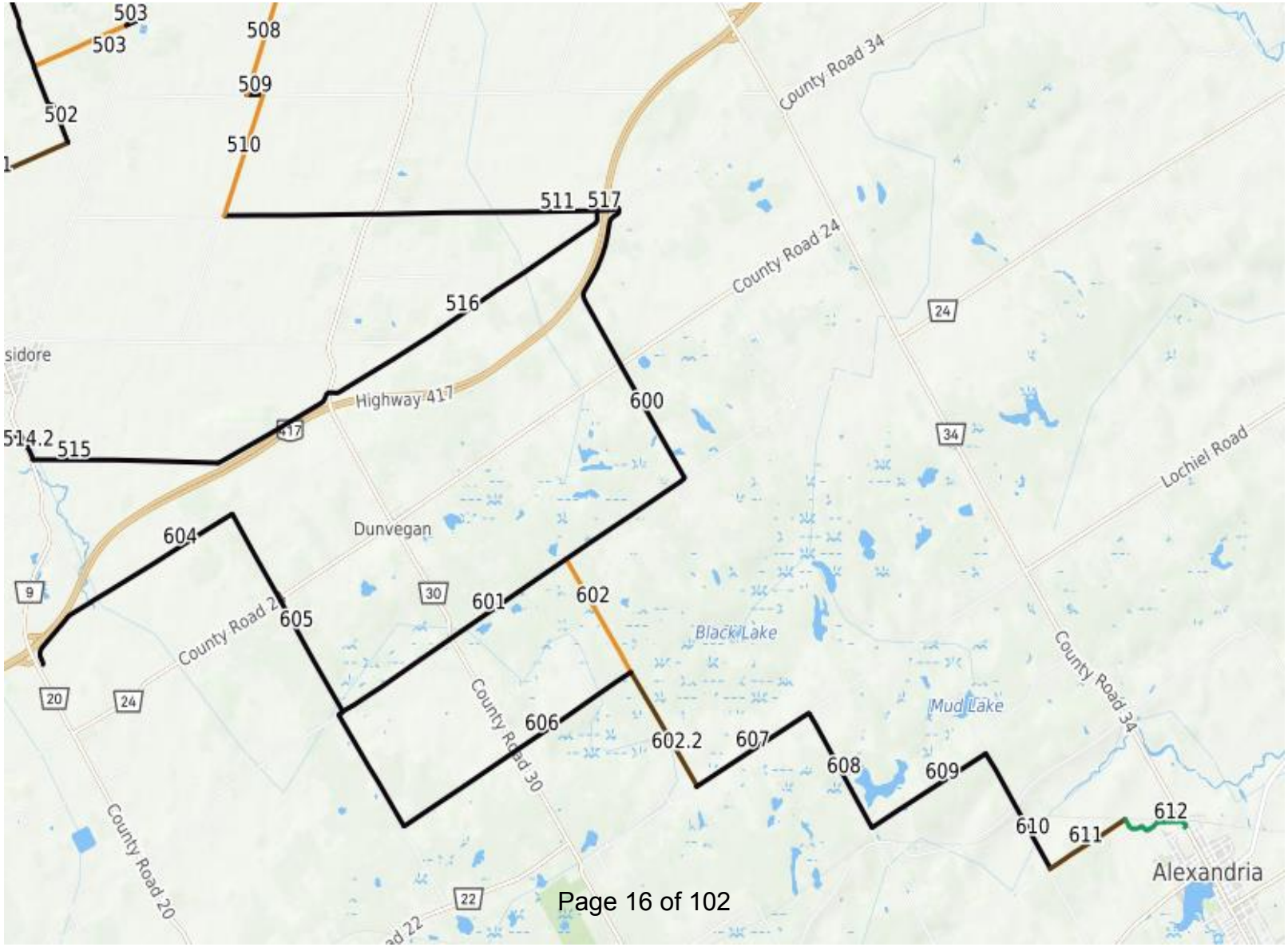
# Existing ATV Network in Ontario

# Existing ATV Network in Eastern Ontario

# Proposed ATV Network Expansion

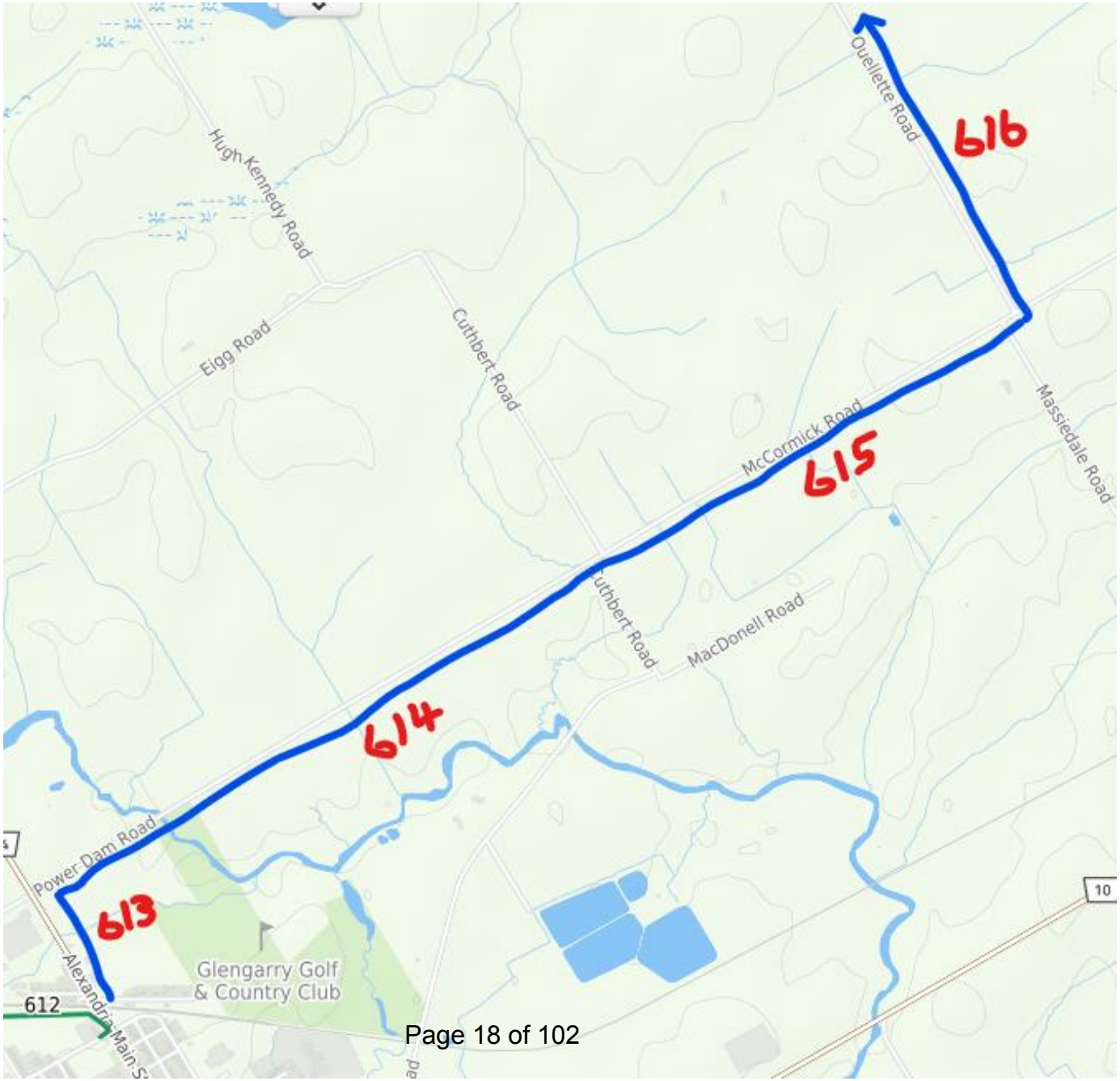


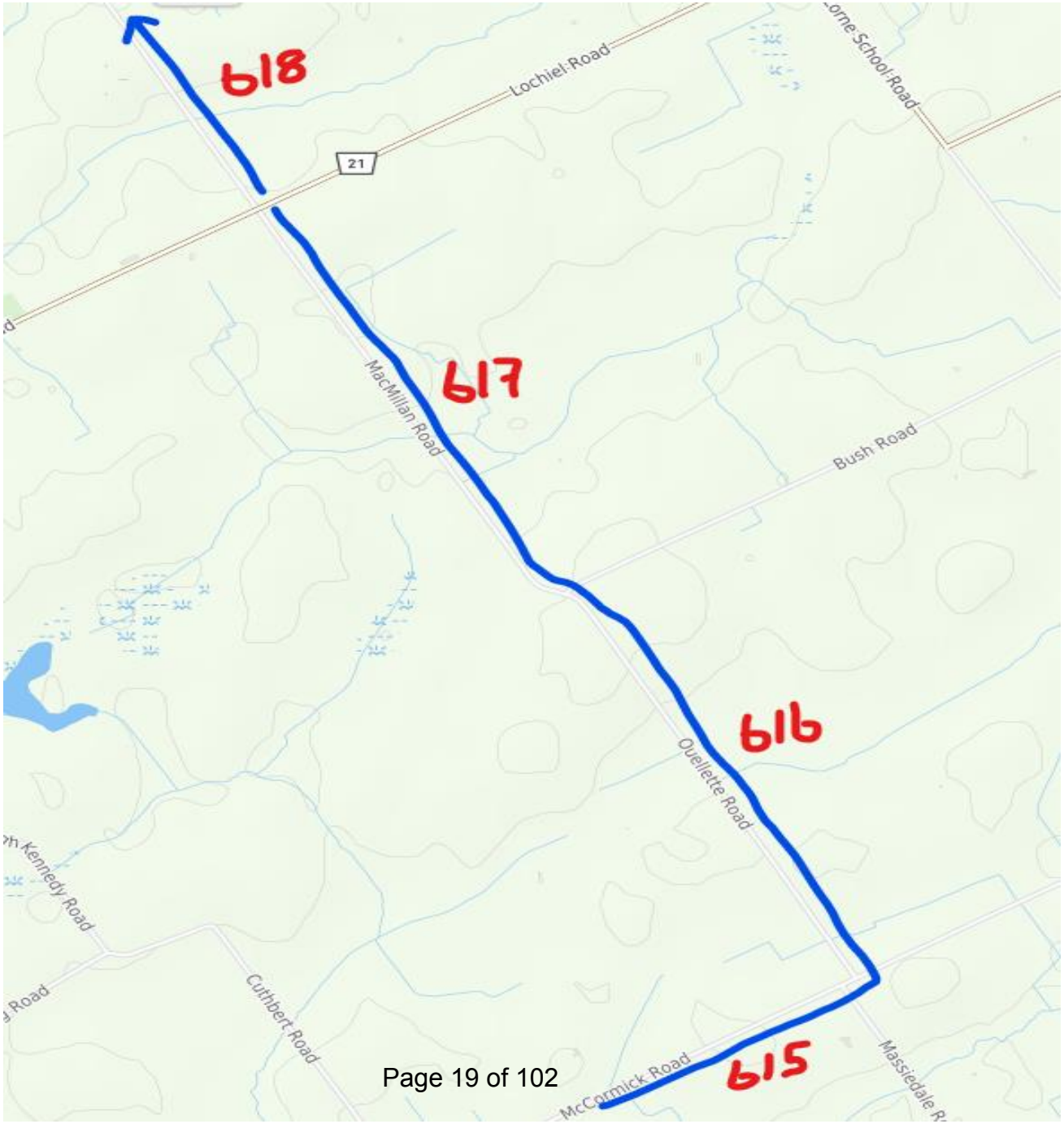
# Existing Trails - North Glengarry (600 series)

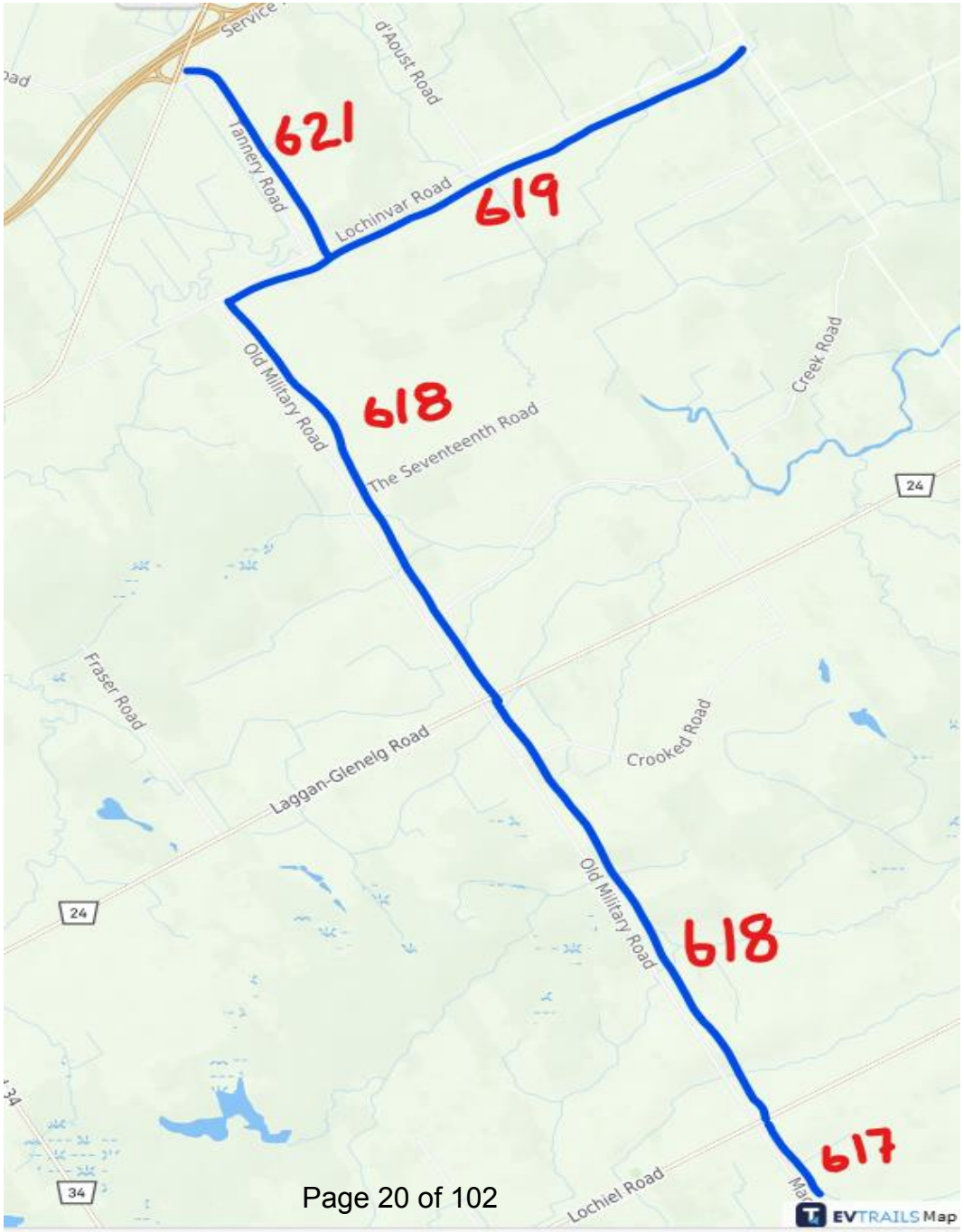


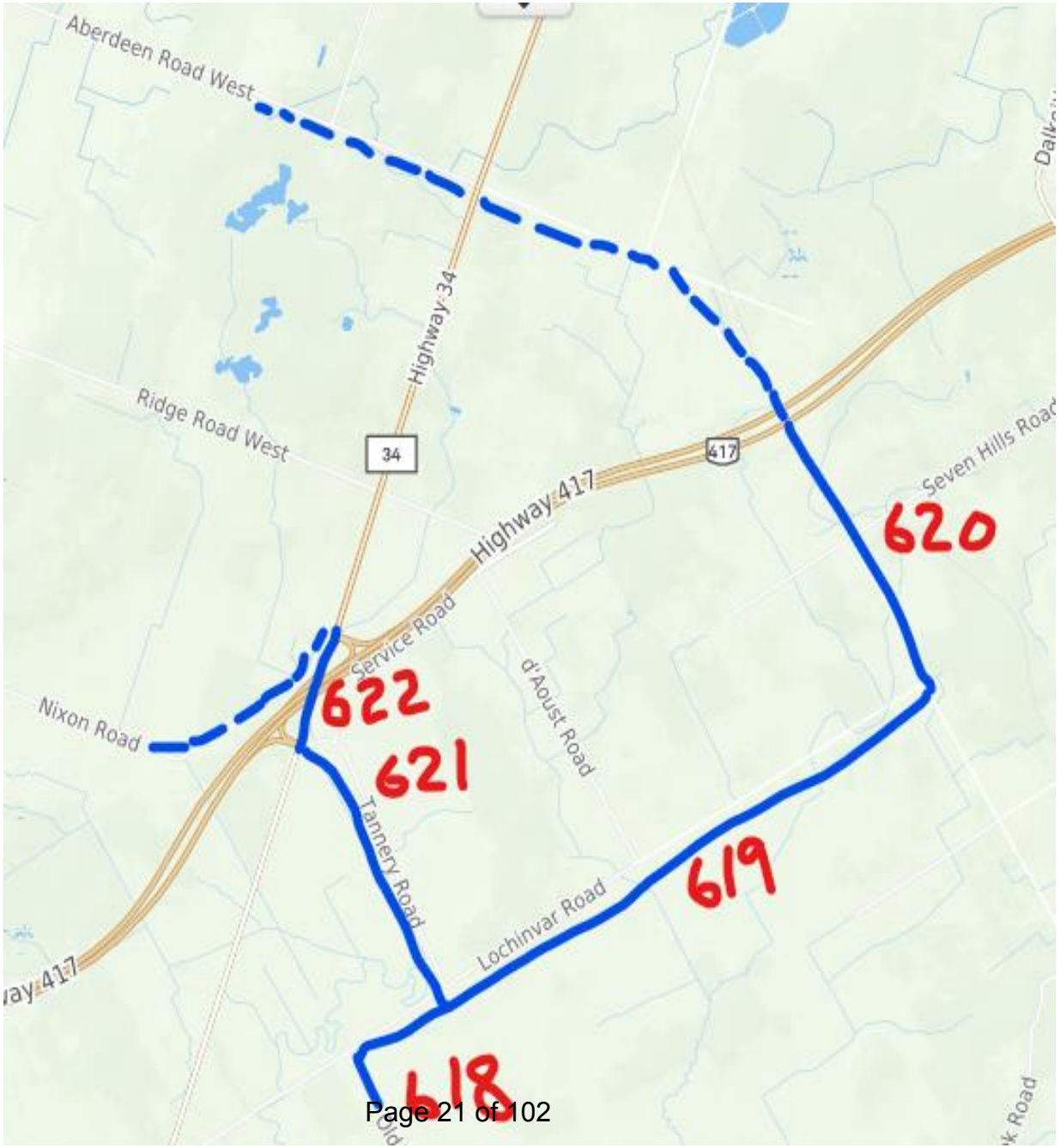
# Proposed Trails – North Glengarry

| Trail # | Trail / Route | From | T0 | Distance |
|---|---|---|---|---|
| | | | | |
| 613 | CR 34 / Main St | McDougal St W | Power Dam Rd | 665m |
| 614 | Power Dam Rd | CR 34 | McCormick Rd | 2.7K |
| 615 | McCormick Rd | Power Dam Rd | Ouellette Rd | 2.0K |
| 616 | Ouellette Rd | McCormick Rd | Bush Rd | 2.13K |
| 617 | McMillian Rd | Ouellette Rd | CR 21 | 2.2K |
| 618 | Old Military Rd | CR 21 | Lochinvar Rd | 8.73K |
| 619 | Lochinvar Rd | Old Military Rd | Aberdeen Rd | 4.78K |
| 620 | Aberdeen Rd | Lochinvar | Newton Rd (VLKH) | 3.45K |
| 621 | Tannery Rd | Lochnivar | CR 34 | 2.0K |
| 622 | CR 34 | Tannery Rd | Nixon Bdry Rd | 753m |
| | | | | |
| | | | approx. | 29.5Kms |
| | | | | |
| | | | | |


Ouellette Road
616
Hugh Kennedy Road
Eigg Road
Cuthbert Road
McCormick Road
615
Massiedale Road
Cuthbert Road
MacDonell Road
614
Power Dam Road
613
Glengarry Golf
& Country Club
612
10


618
617
616
615
Lochiel Road
21
MacMillan Road
Bush Road
Ouellette Road
Cuthbert Road
McCormick Road


621
619
618
618
617
Tannery Road
Lochinvar Road
d'Aoust Road
Old Military Road
The Seventeenth Road
Creek Road
Fraser Road
Laggan-Glenelg Road
Crooked Road
Old Military Road
Lochiel Road
24
24
34
EVTRAILS Map


Aberdeen Road West
Highway 34
Ridge Road West
34
417
Highway 417
Seven Hills Road
620
Service Road
622
621
d'Aoust Road
Nixon Road
Tannery Road
Lochinvar Road
619
618

# Signage


Stay on Authorized
ATV TRAILS
SENTIER VTT


TRAIL
CLOSED


ATVCEO Trails
- 305 -
304
307
Sentiers CVTTEO


TRAIL
ENDS

# QuadOn App

- Enables access to the approved trail network
- Trail number and status (open/closed),
- Points of Interests (e.g. gas stations, restaurants, motels, scenic spots, parking lots and other services)
- Does not require cell service or WIFI
- Uses the mobile device's built-in GPS

# Approvals Required

- United Counties Prescott-Russell
- The Nation Township
- Township of East Hawkesbury
- Township of Champlain
- Township of North Glengarry
- Town of Hawkesbury

# Thank You

**https://atv-vtteo.org/**

# Questions?

**STAFF REPORT TO COUNCIL** **Report No: CS-2024-18**

**May 27, 2024**

From: Anne Leduc – Director of Community Services

RE: CIP Application – 6 Main Street South in Maxville

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**Recommended Motion:**

THAT Council receives Staff Report CS-2024-18; and

THAT Council approves the Community Improvement Plan Project for 6 Main Street South, Maxville, Ontario, as submitted by the property owners Cheryl and Ronald Latimer.

- Program B – Building Improvement Grant representing a matching grant of 50% up to a maximum of $7,500.00 for two façades visible from the street.
- Program C - Commercial Signage, Civic Address Signage and Commercial Awning Grant Program for the Commercial Awning component representing a matching grant of 50% up to a maximum of $2,500.00.
- Program E – Building Permit Grant representing a grant equal to 100% of the eligible building permit fees to a maximum of $467.40.
- Program G – Municipal Loan Program of $10,000.00.

Total Grants: $10,467.40
Total Loan: $10,000.00

**Background / Analysis:**

The property is located at 6 Main Street South in Maxville and is the home to Muir's Bakery on the main floor and one residential apartment on the second floor.

- Supply and install nine (9) white windows on the second floor of the West and South façades.
- Cap wood window frames with white aluminum.
- Replace two (2) front doors. The windows will have white grills and the doors will be painted burgundy.
- Replace "Quarterbell" awning with new steel armature and material. The awning will be burgundy, and the name "Muir's Bakery" will be printed on the material in white.
- Re-install lighting under the awning.
- Re-install original Muir's Bakery signage.
- Building Permit $467.40

**The estimated total cost of the project is $34,317.40**.

Additional work:

- Ground Floor windows, trim and stone sills will be painted white.
- The quote for the awning excludes shipping costs.

**<u>Program B</u> – Provides a matching grant of 50% up to $5,000.00 for one façade and $7,500.00 for two façades visible from the street**

- Applicant was only able to obtain one quote for the proposed work

| Contractors | Element | $ before tax | 50% | Eligible |
|---|---|---|---|---|
| **<u>Windows & Doors</u>** | | | | |
| Apple Hill Construction | 9 windows, capping of window frames, 2 doors | 23,200.00 | 11,600.00 | Yes |
| | | | | **Max. eligible** |
| | **TOTAL Eligible Expenses** | **$23,200.00** | **$11,600.00** | **$7,500.00** |

**Program B – total eligible expenses are $7,500.00**

**<u>Program C</u> - Provides a matching grant for awnings of 50% up to a maximum of $2,500.00**

- Applicant was only able to obtain one quote for the proposed work

| | | | | |
|---|---|---|---|---|
| **<u>Awning</u>** | | | | |
| **Ray Jans Windows & Doors** | • Design Quarterbell awning – new armature and burgundy material with Muir's Bakery lettering on the front. | 10,855.00 | 5,427.50 | Yes |
| | | | | **Max. eligible** |
| | **TOTAL Eligible Expenses** | **$10,855.00** | **$5,427.50** | **$2,500.00** |

**Program C – total eligible expenses are $2,500.00**

**<u>Program E</u> – Provides a matching grant of 100% up to a maximum of $750.00 for the building permit.**

**Program E – total eligible amount is $467.40**

**Current Photos of the Property**

**Front View**

**View driving north on Main Street**

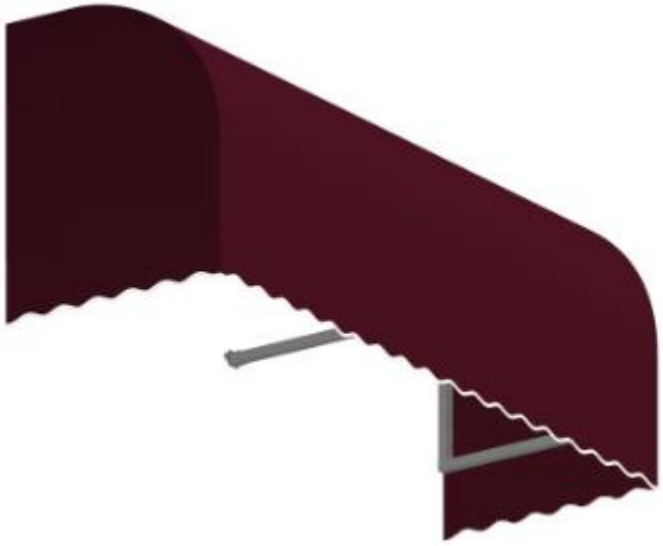
**Elements for the project**

**Doors* with white grills inside windows**

*Doors identical to picture but are factory painted burgundy

**Double-hung windows in white**

**New Awning model**



- Replace “Quarterbell” awning with new steel armature and material. The awning will be burgundy, and the name “Muir’s Bakery” will be printed on the material in white.
- Re-install lighting under the awning.

- **Final art will be sent to Committee prior to approval to go to production.**

Burgundy

Material swatch

**Concept Drawing of New Façade ***


*Please note that doors will have white grills inside the windows.

**Program G – CIP Municipal Loan Program – Provides an interest-free loan to property owners to help finance the restoration, repair, or renovation of the façade of a building that faces a street, park or public gathering space up to a maximum of $10,000.00 and not to surpass the total cost of the project once other grants are factored in.**

| | |
|---|---|
| Project Costs – Doors, Windows, Awning & Building Permit | |
| **Total Project Estimate** | **$34,317.40** |
| • Program B Grants<br>• Program C Grants<br>• Program E Grant | ($7,500.00)<br>($2,500.00)<br>($467.40) |
| **Portion of project estimate remaining** | **$23,850.80** |

**Program G – total eligible amount is $10,000.00**

The Arts, Culture and Heritage Committee met on May 21, 2024 to review the CIP for 6 Main Street South in Maxville and recommends that Council approves this project.

## Alternatives:

**Option 1: Recommended –** THAT Council approves the Community Improvement Plan Project for 6 Main Street South, Maxville, Ontario, as submitted by the property owners Cheryl and Ronald Latimer.

- Program B – Building Improvement Grant representing a matching grant of 50% up to a maximum of $7,500.00 for two façades visible from the street.

- Program C - Commercial Signage, Civic Address Signage and Commercial Awning Grant Program for the Commercial Awning component representing a matching grant of 50% up to a maximum of $2,500.00.
- Program E – Building Permit Grant representing a grant equal to 100% of the eligible building permit fees to a maximum of 467.40.
- Program G – Municipal Loan Program of $10,000.00.

Total Grants: $10,467.40
Total Loan: $10,000.00
**Or**
**Option 2: Not recommended –** THAT Council does not approve this project.

**Financial Implications:**

Council has approved the 2024 budget which allocates funds for the Community Improvement Plan Program.

A $10,467.40 grant derived from GL 1-4-1950-3702 would be attributed to the Community Improvement Plan project for the property located at 6 Main Street South, Maxville.

**Attachments & Relevant Legislation:**

Relevant Legislation: North Glengarry Community Improvement Plan

**Others Consulted:**

**Zoe Bougie – Director of Finance**
**Ainsley Hunt – Economic Development Officer**

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Reviewed and Approved by:
Sarah Huskinson, CAO/Clerk

**STAFF REPORT TO COUNCIL** **Report No: CS-2024-19**

**May 27, 2024**

From: Anne Leduc – Director of Community Services

RE: Award Contract for Ice Resurfacer

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**Recommended Motion:**

THAT Council receives Staff Report CS-2024-19;

THAT Council approves the supply and delivery of one (1) electric Engo Ice Wolf Ice Resurfacer in the amount of $186,198.00 plus HST;

THAT Council authorizes the Mayor and the CAO to enter into a contract with Engo Equipment Sales Inc. for purchase of this equipment; and

THAT this purchase shall be included and funded through the 2025 Capital Budget.

**Background / Analysis:**

On March 25, 2024, Council authorized the Capital Expenditure of $175,000.00 for the purchase of a self-propelled ice resurfacer as part of the Maxville & District Sports Complex' 2025 Capital Budget.

A Request for Tender was issued on March 26, 2024, with a closing date of April 26, 2024. Staff requested bidders to offer pricing on an electric ice resurfacer and on an electric edger. The supply and installation of electric charging units for the ice resurfacer and the electric edger were to be included in the submission prices.

**Ice Resurfacer** - Three (3) bids were received. The chart below summarizes the qualified bids and the total price listed includes the supply, delivery and freight charges for the units.

| ICE RESURFACER | Cost | Leveler Cost | TOTAL |
|---|---|---|---|
| **Engo** | $186 198.00 | Included in base price | **$ 186 198.00** |
| **Zamboni** | $211 988.00 | $ 22 600.00 | **$ 234 588.00** |
| **Resurfice** | $180 568.35 | $ 20 882.40 | **$ 201 450.75** |

**Electric edger** - Three (3) bids were received. The chart below summarizes the qualified bids and the total price listed includes the supply, delivery and freight charges for the units.

| EDGER | Cost | TOTAL |
|---|---|---|
| **Engo** | $6 102.00 | **$6 209.40** |
| **Zamboni** | $7 062.50 | **$7 186.80** |
| **Resurfice** | $7 102.05 | **$7 227.05** |

Seeing that the amount for the ice resurfacer surpassed the initial expectation of $175,000.00, staff propose to postpone the purchase of the electric edger at this time. Only the ice resurfacer will be purchased for a total cost of $186,198.00.

In its 2023-2027 Corporate Strategy, Council directed staff to promote and encourage environmental stewardship in the Township. The purchase of an electric ice resurfacer would be in line with this Council mandate. As well, as part of its reporting obligations to the Province of Ontario, under the Ontario Regulation 507/18: Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans, the Township of North Glengarry is required to report on the steps it takes to increase energy efficiency and reduce energy costs and greenhouse emissions. The following are the reporting parameters for the Township:

1. A description of current and proposed measures for conserving and otherwise reducing energy consumption and managing its demand for energy.
2. A revised forecast of the expected results of the current and proposed measures.
3. A report of the actual results achieved.
4. A description of any proposed changes to be made to assist the public agency in reaching any targets it has established or forecasts it has made.

Staff expects to have the contract signed and the deposit issued in early June 2024 with a planned delivery for January 2025.

**Alternatives:**

**Option 1 – Recommended -** That Council approves the supply and delivery of one (1) electric Engo Ice Wolf Ice Resurfacer for the Maxville & District Sports Complex in the amount of $186,198.00 plus HST funded through the 2025 Capital Budget.

**OR**

**Option 2 – Not Recommended -** That Council declines awarding the contract.

**Financial Implications:**

At the March 25, 2024, Council authorized the Capital Expenditure of $175,000.00 for the purchase of a self-propelled ice resurfacer as part of the Maxville & District Sports Complex' 2025 Capital Budget. The 2025 Capital Budget amount will be adjusted to $186,198.00 plus HST.

**Attachments & Relevant Legislation:**

- Relevant Legislation – O. Reg. 507/18: Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans
- Reference – Staff Report CS-2024-12 – 2025 Pre-approval of Capital Expenditure – Ice Resurfacer

**Others Consulted:**
Zoe Bougie – Director of Finance
Nicholas Hansen – Lead Hand – Glengarry Sports Palace

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Reviewed and Approved by:
Sarah Huskinson, CAO/Clerk

**STAFF REPORT TO COUNCIL** **Report No: DR-2024-02**

**May 27, 2024**

From: Zoe Bougie – Director of Finance/Treasurer

RE: Levying By-Law for Municipal Drain Maintenance

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**Recommended Motion:**
THAT the Council of the Township of North Glengarry receives report DR-2024-02 Levying By-Law for Municipal Drain Maintenance;

AND THAT By-Law 24-2024 be read a first, second and third time and enacted in open Council this 27th day of May 2024.

**Background / Analysis:**
Throughout 2023, eight municipal drains were maintained. In accordance with the Drainage Act, R.S.O. 1990, the maintenance and repair of municipal drains is to be borne by the upstream benefitting property owners, road authority, railways and utilities, less grants received for the work completed. The total cost of drain maintenance to be levied is $47,186.45 [Table 1]. Of this amount, $31,603.82 will be charged to landowners and the remaining amount will be charged to the specified authorities as per Table 2.

In North Glengarry, requests for drain maintenance and repair are initiated by a property owner. Property owners pay for the costs of drain maintenance and repair on their property taxes the year following the completion of work. Agricultural property owners that meet the Ontario Ministry of Agriculture and Rural Affairs (OMFRA) qualifications as being an agricultural property will be eligible for a grant up to one third of their costs. The Township of North Glengarry will apply for the grant on behalf of property owners and will bill net of this grant. Any property that was assessed less than $5.00 will not be billed.

| 2024 Drain Maintenance Charges | | | |
|---|---|---|---|
| Ref. Number | Drain Name | Description of Maintenance | Total Amount |
| LOCD2401 | Lacombe Drain | Bottom cleanout and erosion control performed by the Township of East Hawkesbury. | $3,311.11 |
| LOCD2402 | Lower McRae Drain | Bottom cleanout and brushing of the bank slope. | $13,064.85 |
| LOCD2403 | McLeod Creek Drain | Nuisance beaver control and erosion control performed by the Nation Municipality. | $4,277.63 |
| LOCB2401 | R.G. Scott Drain, Branch | Beaver management at outlet. | $1,054.99 |
| LOCD2404 | Ralph McIntosh Drain | Culvert replacement charged to landowner as per engineer's report. | $3,736.04 |
| LOCD2405 | Sabourin Drain | Bottom cleanout and brushing of the bank slope. | $8,907.77 |
| LOCD2406 | Slater-Fraser Drain | Pump house maintenance costs. | $1,504.55 |
| LOCD2407 | Upper McRae Drain | Bottom cleanout and brushing of the bank slope. | $11,329.51 |
| **Total** | | | **$47,186.45** |

*Table 1*

| 2024 Breakdown of Charges | |
|---|---|
| Organization | Amount |
| OMFRA Agricultural Grant | $11,644.88 |
| C.N.R. | $18.17 |
| Landowner's Share | $31,603.82 |
| Under $5.00 | $63.37 |
| Township Beaver Grant | $361.73 |
| Township of North Glengarry Roads | $2,608.58 |
| United Counties of SD&G | $412.41 |
| MTO | $473.49 |
| **Total** | **$47,186.45** |

*Table 2*

Staff hope to minimize any confusion regarding drainage assessments by sending information prior to the charge being placed on the tax bill. All property owners who will be receiving a charge will receive a letter by mail indicating the name of the drain, the work that was performed, the total cost of maintenance and their share of the total cost. Additionally, staff will include an OMFRA fact sheet explaining what a municipal drain is and how assessments are determined.

**Alternatives:**
The alternative to not billing out the drain maintenance and repair costs is that costs incurred for drain maintenance and repair will be borne by the general tax levy.

**Financial Implications:**
The Township of North Glengarry has paid all outstanding invoices for drain maintenance and is now recuperating these costs.

**Attachments & Relevant Legislation:**
By-Law 24-2024

**Others Consulted:**

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Reviewed and Approved by:
Sarah Huskinson, CAO/Clerk

**THE CORPORATION OF THE TOWNSHIP OF NORTH GLENGARRY**

**BY-LAW NO 24-2024**

**BEING** A BY-LAW TO AUTHORIZE THE LEVYING OF THE COST OF MAINTENANCE COMPLETED ON THE MUNICIPAL DRAINS LISTED HEREIN.

**REFERENCE: Section 74 of the Drainage Act, R.S.O. 1990, c. d.17**

**WHEREAS** maintenance was performed on the following drains:

1. Lacombe Drain
2. Lower McRae Drain
3. McLeod Creek Drain
4. R.G. Scott Drain, Branch
5. Ralph McIntosh Drain
6. Sabourin Drain
7. Slater-Fraser Drain
8. Upper McRae Drain

**AND WHEREAS** the maintenance included the following:

1. Bottom cleanout
2. Bank brushing
3. Erosion control
4. Culvert replacement
5. Pump house maintenance
6. Beaver management

**AND WHEREAS** the total cost of maintenance was $47,186.45.

**THEREFORE** the Council of the Corporation of the Township of North Glengarry enacts as follows:

1. That the Drainage Superintendent proceeded with the maintenance on the following drains according to the existing plan and profile of said drain.
2. That the actual cost of $47,186.45 for maintaining these municipal drains be assessed to the upstream landowners in proportions determined by the engineer's report as described in the schedule of assessments.
3. That all charges to landowners be placed on the 2024 tax bill for the July and September installment dates. After which time an interest rate of 1.25% per month will be added to the principal which may be outstanding after such time.
4. That all other organizations be sent an invoice for their share of the assessment.
5. That owners with assessments totaling $5.00 or less will not be charged.

**READ a first, second and third time and passed in Open Council this 27th day of May, 2024.**

| | |
|---|---|
| **CAO/Clerk/Deputy Clerk** | **Mayor/Deputy Mayor** |

I hereby certify this to be a true copy of By-Law No. 24-2024, and that such By-Law is in full force and effect.

| | |
|---|---|
| **Date Certified** | **CAO/Clerk/Deputy Clerk** |

**STAFF REPORT TO COUNCIL** **Report No: DR-2024-03**

**May 27, 2024**

From: Zoe Bougie – Director of Finance/Treasurer

RE: Request for a Minor Improvement on the R.A. McLennan Drain, Real Diotte Branch and Appointment of an Engineer

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**Recommended Motion:**
THAT the Council of the Township of North Glengarry receives report DR-2024-03 Request for a Minor Improvement on the R.A. McLennan Drain, Real Diotte Branch and Appointment of an Engineer;

AND THAT Council accept the request for a minor improvement on the R.A. McLennan Drain, Real Diotte Branch;

AND THAT Shade Group be appointed as the Drainage Engineer for this project.

**Background / Analysis:**
The Township of North Glengarry received a Section 78(5) request, dated May 2, 2024, through the Drainage Act for a minor improvement to the R.A. McLennan Drain, Real Diotte Branch. The request was received from the owner of the property, Ferme Lavigne Inc.

The improvement involves the installation of a new 30-foot culvert to connect two fields bisected by the municipal drain branch.

As part of the minor improvement process through the Drainage Act, notifications will only be provided to the owner and the regulating authorities. No costs are assessed to any other party other than the requestor/owner.

Staff recommend the appointment of Shade Group as the drainage engineer for this work.

**Alternatives:**
N/A

**Financial Implications:**
The requesting landowner is responsible for all costs.

**Attachments & Relevant Legislation:**
Section 78(5) Minor Improvement Request
Proposed Culvert Location
Minor Improvement Process Flow Chart

**Others Consulted:**
Monica Shade, P. Eng., Shade Group Inc.

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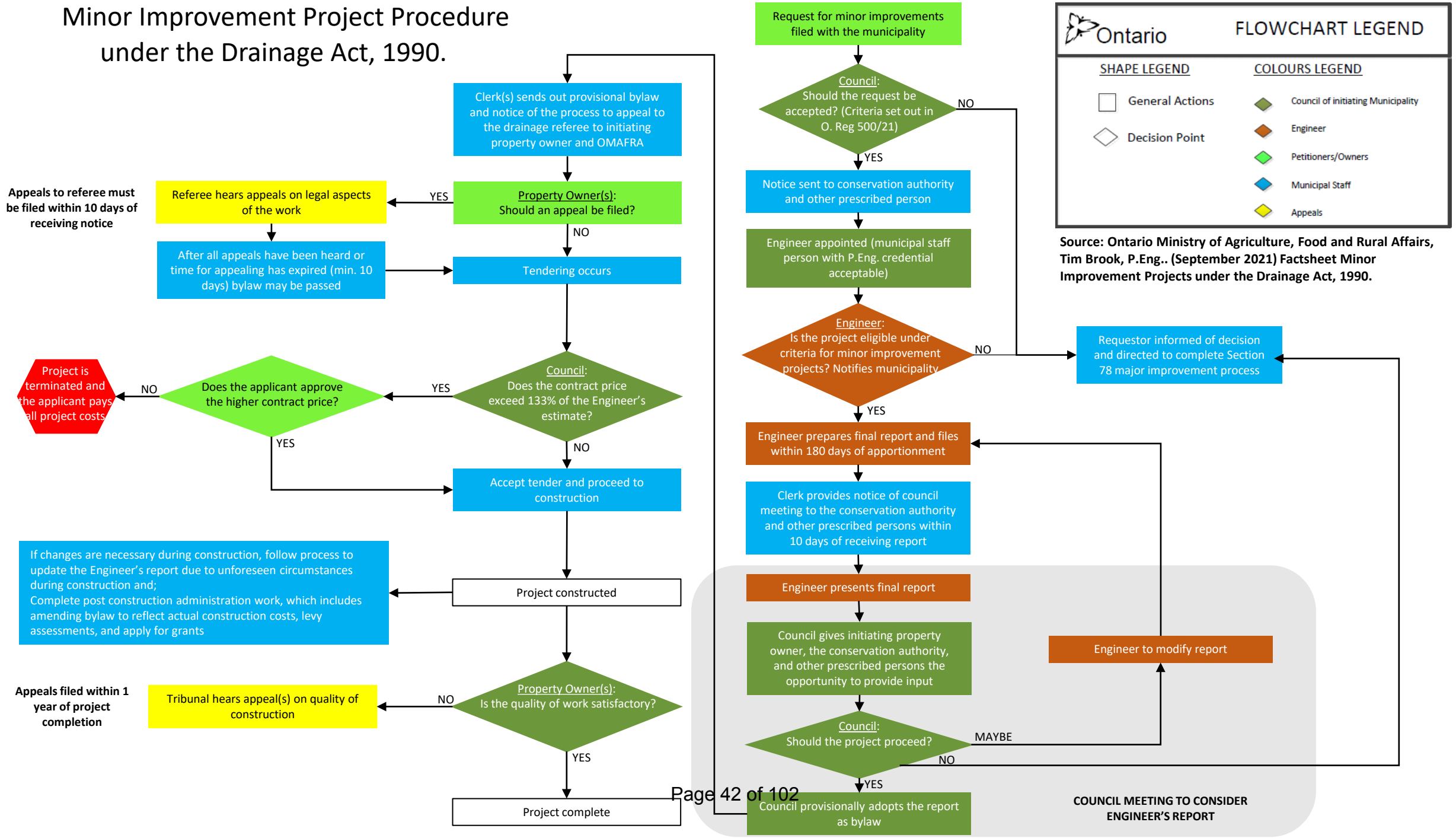
Reviewed and Approved by:
Sarah Huskinson, CAO/Clerk

# Minor Improvement Project Procedure under the Drainage Act, 1990.




**Source: Ontario Ministry of Agriculture, Food and Rural Affairs, Tim Brook, P.Eng.. (September 2021) Factsheet Minor Improvement Projects under the Drainage Act, 1990.**

Ontario

Ministry of Agriculture, Food and Rural Affairs

# Notice of Request for Drain Minor Improvement *Drainage Act*, R.S.O. 1990, c. D.17, subs. 78 (5)

To: The Council of the Corporation of the Township of North Glengarry

Re: R.A. McLennan Drain, Real Diotte Branch
(Name of Drain)

**In accordance with section 78 (5) of the *Drainage Act*, take notice that I, as owner of land affected, request that the above mentioned drain be improved.**

☑ The work being requested is a Minor Improvement Project

**I believe that the project being requested meets all the following criteria for a minor improvement project:**

- The property owner initiates the improvement on an individual property or two or more adjacent properties that are owned by the same person or the owners are related parties;
- The property owner is paying for costs of the activity, which includes, without limitation engineering construction, contingency costs, incremental future maintenance and eligible municipal administrative costs unless that person and the municipality in which the activity is taking place agree otherwise;
- Carrying out the activity does not require construction access from neighbouring properties or the person initiating the activity has obtained the consent for the construction access from all applicable owners of the neighbouring properties prior to beginning the activity and has provided such proof of consent to the municipality as part of the application to carry out the activity;
- The activity will not result in any changes as to how future repair and maintenance costs are allocated to other property owners in the watershed;
- The activity does not change drainage capacity or erosion potential;
- The activity does not result in the existing drainage works being enclosed; and
- The activity does not take place within any wetlands.

**The project can be completed with access from:**

☑ The requestor property

☐ My neighbour's property and written permission has been granted and attached to this Notice of Request for Minor Drain Improvements form.

☐ The municipal road right-of-way

**a. As owner of land requesting the minor improvement described below, I hereby request pursuant to subsection 78 (5) of the *Drainage Act* that the minor improvement project described immediately below be approved. I acknowledge responsibility for all costs of the minor improvement project, even if the minor improvement project does not proceed.**

Provide a more specific description of the proposed drain improvement you are requesting

We would like to add a wide cross over between our two fields which will ensure that we no longer have to use the neighbours alley nor go through her field to get to ours.

## Property Owners

- Requestors of minor improvement projects become financially responsible as soon as they sign a request and it is accepted by council as a minor improvement project.
- Your municipal property tax bill will provide the property description and parcel roll number.
- In rural areas, the property description should be in the form of (part) lot and concession and civic address.
- In urban areas, the property description should be in the form of street address and lot and plan number, if available.

Property Description
Ste-Anne Rd (adjacent of #22080)
CON 3 PT LOT 5

| Ward or Geographic Township | Parcel Roll Number |
|---|---|
| Lochiel | 0111 016 00713002.0000 |

If the property is owned in partnership, all partners must be listed. If the property is owned by a corporation, list the corporation's name and the name and corporate position of the authorized officer. Only the owner of the property may request a drain improvement.

I hereby request approval for the minor improvement project for the land described above and acknowledge my/our financial obligations.

## Ownership

**Corporation** **If you need to provide additional information, please attach along with this form.**

**Corporation (The individual with authority to bind the corporation must sign the form)**

| Name of Signing Officer (Last, First Name) (Type/Print) | Position Title |
|---|---|
| Lavigne, Jean-Pierre | treasurer |

Name of Corporation
Ferme Lavigne Inc

I have the authority to bind the Corporation.

| Signature | Date (yyyy/mm/dd) |
|---|---|
| Jean-Pierre Lavigne | 2024/05/02 |

**Enter the mailing address and primary contact information of property owner below:**

| Last Name | First Name | Middle Initial |
|---|---|---|
| Lavigne | Jean-Pierre | |

**Mailing Address**

| Unit Number | Street Number | Street Name | PO Box |
|---|---|---|---|
| | 270 | Concession 9 | |

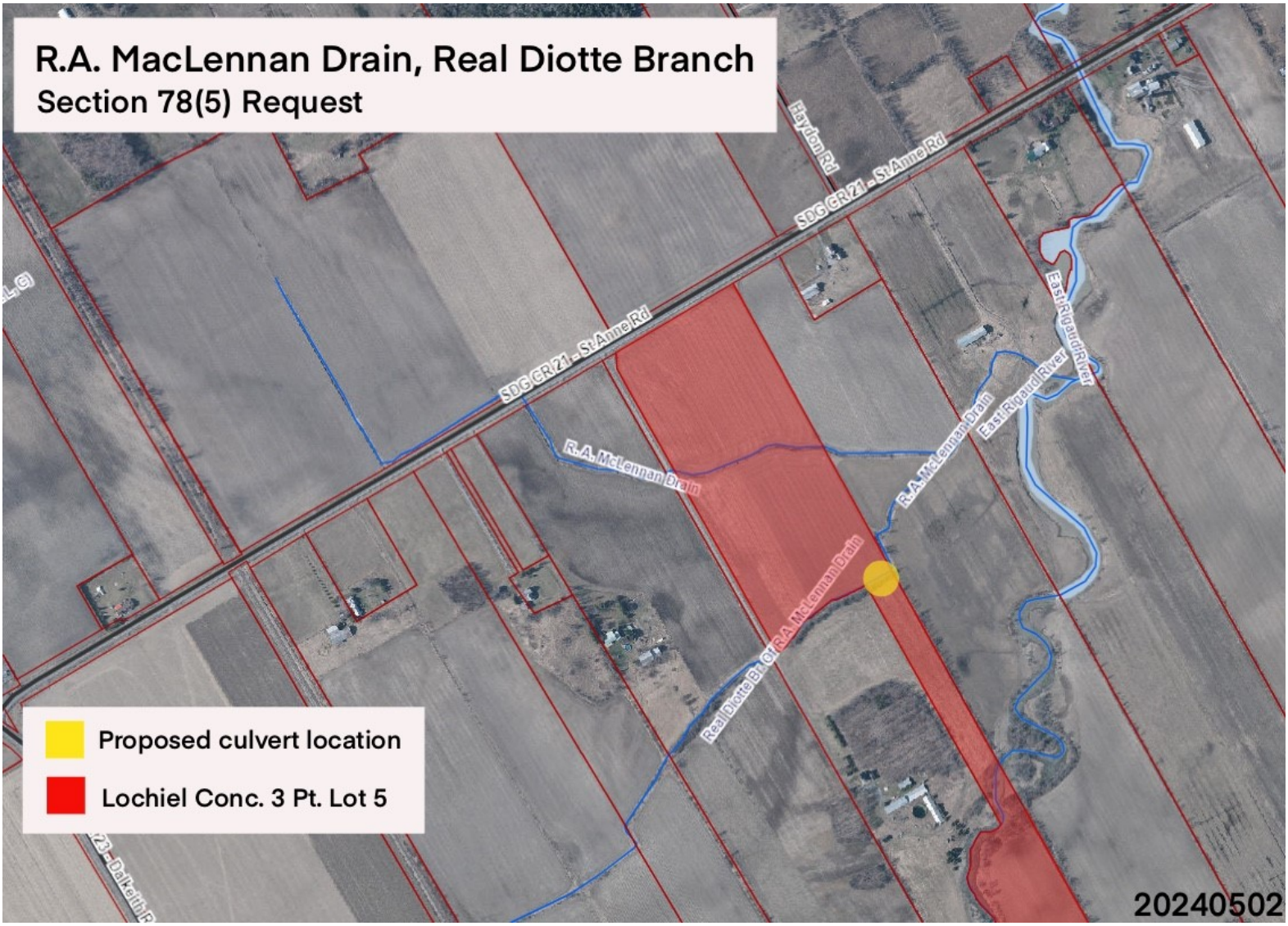
| City/Town | Province | Postal Code |
|---|---|---|
| Ste-Anne-de-Prescott | Ontario | K0B 1M0 |

| Telephone Number | Cell Phone Number (Optional) | Email Address (Optional) |
|---|---|---|
| 438-874-1592 | 438-874-1593 | jpshana@gmail.com |

To be completed by recipient municipality:

Notice filed this 2 day of May 20 24

| Name of Clerk (Last, First Name) | Signature of Clerk |
|---|---|
| Huskinson, Sarah | |


R.A. MacLennan Drain, Real Diotte Branch
Section 78(5) Request
Haydon Rd
SDG GR 21 - St Anne Rd
SDG GR 21 - St Anne Rd
East Rigaud River
East Rigaud River
R.A. McLennan Drain
R.A. McLennan Drain
R.A. McLennan Drain
Real Diotte Br. Of R.A. McLennan Drain
Proposed culvert location
Lochiel Conc. 3 Pt. Lot 5
20240502

**STAFF REPORT TO COUNCIL** **Report No: PW 2024-15**

**May 13, 2024**

From: Timothy Wright, Director of Public Works

RE: Annual Wastewater Systems Reports for Alexandria and Maxville

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**Recommended Motion:**

THAT Council receives Staff Report No. PW 2024-15, Annual Wastewater Systems Reports for Alexandria and Maxville for information purposes only.

**Background / Analysis:**
Staff have prepared the annual reports for the Alexandria Wastewater System and the Maxville Wastewater System, as per the requirements within the Environmental Compliance Approvals (ECA) for each system.

The attached annual reports were sent to the Ministry of the Environment and posted to the North Glengarry Township's website for public access, as part of the Township's obligation.

**Financial Implications:**
N/A

**Attachments & Relevant Legislation:**
- Alexandria Wastewater System 2022 Annual Report
- Maxville Wastewater System 2022 Annual Report
- Annual Drinking Water Systems Annual Report to Council

**Others Consulted:**
Angela Cullen, Compliance Coordinator
Dean McDonald, Environmental Services Manager

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Reviewed and approved by:

Sarah Huskinson, CAO/Clerk

# Alexandria Wastewater System

## 2023 Annual Report

## Contents


A. System Overview
B. Performance Assessment
C. Groundwater Monitoring
D. Operational Problems Summary
E. Maintenance Summary
F. Effluent Quality Control and Assurances
G. Flow Measurements and Equipment Calibration
H. Effluent Objectives
I. Lagoon Cell Sludge Accumulation
J. Complaints
K. By-Pass, Overflow, Spill or Abnormal Discharge Event
L. Other
    - ESO 2000 Summary
        i. Equipment Summary
    - Authorized System Alterations
        i. Alterations Summary
    - Efforts to Reduce System Overflows
        i. Collection System Inspection, Repair and Remediation Summary
    - Proposed Construction of Works Update
        i. Status Update

Appendix A: Wastewater Treatment Works Performance Results
Appendix B: Sludge Monitoring
Appendix C: Annual By-Pass Report
Appendix D: Groundwater Well Monitoring

## A. System Overview

*Summary of all system components and designations.*

The Alexandria wastewater system is owned and operated by the Corporation of the Township of North Glengarry. The sewage system is comprised of a class 2 wastewater collection system and a class 2 continuous discharge treatment facility. The system was originally constructed in the late 1960's with various upgrades throughout the years to improve capacity and treatment.

The wastewater systems operate under 2 Environmental Compliance Approvals (ECA). ECA # 181-W601, issued in October 2023 for all municipal sewage collection systems located within the North Glengarry Township boundaries and ECA # 9873-BQ6LTR, issued in 2021 for the Alexandria Sewage Works, which outlined the proposed upgrades, current conditions and transitional monitoring requirements over a 5-year period. To date no work has been started or completed at the Lagoon system to increase design capacity.

The collection system is comprised of approximately 25.0kms of sanitary sewage collection piping and force mains of various sizes, with approximately 1585 service connections, 3 sanitary lift stations and 1 main pumping station.

The treatment system is a conventional facultative lagoon system comprised of an aeration cell, followed by coagulant addition for phosphorous removal, 3 facultative cells that run-in series towards a disinfection and dechlorination chamber, which finally discharges to and unnamed drain prior to entering the Delisle river. Sodium Hypochlorite is used to disinfect the treated wastewater, while sodium bisulfate is used to dechlorinate the effluent wastewater prior to discharge into the receiver.

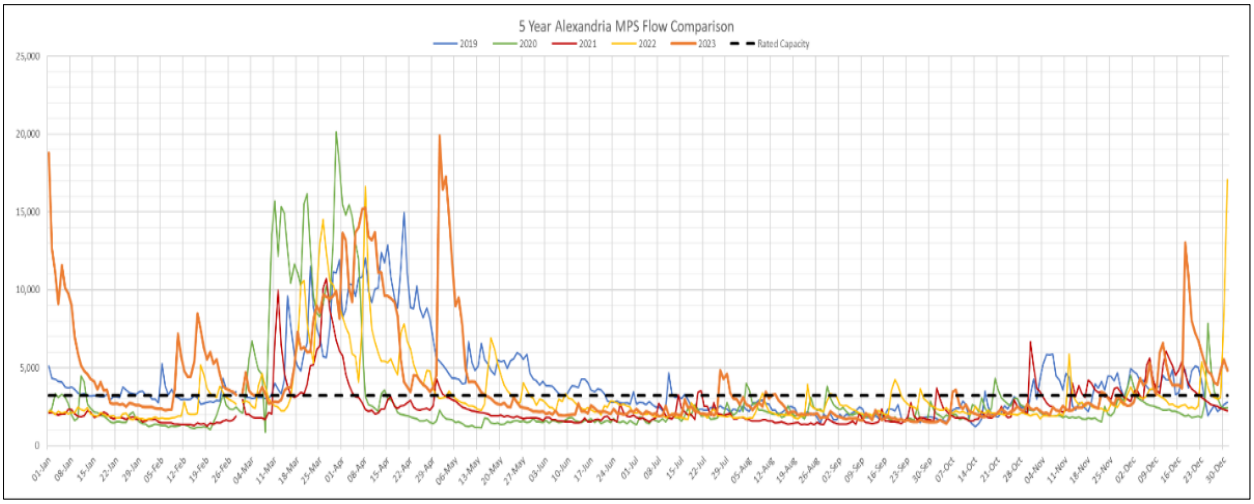
## B. Performance Assessment

*Summary and interpretation of all influent and imported sewage, monitoring data, and a comparison to the effluent limits outlined in condition 7, including an overview of success and adequacy of works.*

During the 2023 calendar year 1,480,848 $m^3$ of raw untreated sewage was directed towards the Alexandria Lagoon Treatment Facility, based on the metered effluent flows from the main pumping station. This sewage is mainly comprised of residential and commercial waste, as well as a seasonal RV dumping station, which is only in service between May 15-October 15 annually. Flow trending throughout 2023 was observed to be higher than the previous year total flows, but historical trending indicated that the flows were similar to the 2019 values, see Figure 1 below.

There were no noted incidents of surface water from the Garry River system entering the wet well and no leachate was introduced into the system upstream of the main station during this reporting period. Historically the system has observed significant inflow and infiltration but has made efforts over the last few years to reduce or eliminate the infiltration through spot repairs and system CCTV inspections.

*Figure 1: 5-yr Main Station Flow Comparison*




Overall, the system operated well throughout 2023 and produced final effluent that met the Provincial ECA Design Objectives, Effluent Compliance Limits and Federal Wastewater Systems Effluent Limits. As an effort to review the characteristic and historical trending of the sewage concentration and treatment efficiency, 5-year sampling comparisons were tabulated below.

The imported landfill leachate monitoring only started in 2021 and sampling is completed on a monthly and quarterly frequency during hauling. As previously mentioned, no leachate was imported into the system during 2023, so no sampling was done. Results from 2021 and 2022 indicated little change to the leachate strength during the spring program.

*Table 1: 5-year Imported Leachate Result Comparison (Schedule D):*

| Parameter | Imported Sewage Annual Average Concentration | | | | |
|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 |
| $BOD_5$ | n/r | n/r | 3 mg/L | 3 mg/L | n/r |
| TSS | n/r | n/r | 3 mg/L | 5 mg/L | n/r |
| TP | n/r | n/r | 0.08 mg/L | 0.02 mg/L | n/r |
| TKN | n/r | n/r | 11.6 mg/L | 16.6 mg/L | n/r |
| Boron | n/r | n/r | 0.825 mg/L | 0.837 mg/L | n/r |
| Cobalt | n/r | n/r | 0.005 mg/L | 0.0006 mg/L | n/r |
| Magnesium | n/r | n/r | 16.8 mg/L | 17.2 mg/L | n/r |
| Manganese | n/r | n/r | 0.058 mg/L | 0.069 mg/L | n/r |
| Potassium | n/r | n/r | 20.7 mg/L | 18.7 mg/L | n/r |
| Strontium | n/r | n/r | 0.740 mg/L | 0.773 mg/L | n/r |
| Bis (2-ethylhexyl) Phthalate | n/r | n/r | < 5 µg/L | 5 µg/L | n/r |

The influent sewage was sampled monthly and when compared the results to previous years, the influent sewage strength is comparable, which indicates no significant changes or abnormal discharges into the collection system.

*Table 2: 5-year Influent Sewage Sampling Result Comparison (Schedule D):*

| Parameters | Influent Sewage Annual Average Concentration | | | | |
|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 |
| $BOD_5$ | 222 mg/L | 160 mg/L | 116 mg/L | 108 mg/L | 90 mg/L |
| TSS | 174 mg/L | 300 mg/L | 269 mg/L | 306 mg/L | 209 mg/L |
| TP | 2.53 mg/L | 3.33 mg/L | 3.25 mg/L | 3.11 mg/L | 2.70 mg/L |
| TKN | 20.65 mg/L | 20.80 mg/L | 20.65 mg/L | 20.76 mg/L | 16.94 mg/L |

The aeration outfall was sampled weekly and monthly, as per the minimum requirements per parameter. When the results were compared to previous years, a significant drop in $CBOD_5$ can be noted indicating good BOD reductions and some treatment shortfalls may be noted in the nitrification treatment cycle.

*Table 3: 5-year Aerated Cell Effluent Sampling Result Comparison (Schedule D):*

| Effluent Parameter | Aerated Cell Annual Average Concentration | | | | |
|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 |
| $CBOD_5$ | 86 mg/L | 21 mg/L | 16 mg/L | 15 mg/L | 15 mg/L |
| TSS | 196 mg/L | 70 mg/L | 83 mg/L | 117 mg/L | 92 mg/L |
| TP | 2.73 mg/L | 1.36 mg/L | 1.64 mg/L | 2.41 mg/L | 2.13 mg/L |
| Total Ammonia (N) | 4.96 mg/L | 9.73 mg/L | 8.53 mg/L | 8.62 mg/L | 4.91 mg/L |
| Nitrite | 0.09 mg/L | 0.26 mg/L | 0.65 mg/L | 0.98 mg/L | 1.11 mg/L |
| Nitrate | 0.25 mg/L | 1.97 mg/L | 4.02 mg/L | 2.49 mg/L | 4.19 mg/L |
| pH | 7.53 | 7.59 | 7.56 | 7.66 | 7.57 |
| Temperature | 11.4°C | 11.6°C | 12.7°C | 11.5°C | 12.5°C |

The final effluent discharge was sampled and tested on a weekly frequency, as per the ECA minimum requirements. All calculated annual averages for 2023 were found to be well below the design objectives, please refer to section H and Appendix A for further discussion on 2023 results. When compared to previous results, treatment efficiencies have improved over time.

*Table 4: 5-year Final Effluent Sampling Sewage Comparison (Schedule D):*

| Effluent Parameter | Lagoon Effluent Annual Average Concentration | | | | |
|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 |
| $CBOD_5$ | 18.9 mg/L | 7.2 mg/L | 3.3 mg/L | 3.7 mg/L | 3.8 mg/L |
| TSS | 24.3 mg/L | 9.9 mg/L | 4.7 mg/L | 6.5 mg/L | 6.0 mg/L |
| TP | 0.44 mg/L | 0.22 mg/L | 0.15 mg/L | 0.19 mg/L | 0.14 mg/L |
| Total Ammonia (N) | 5.15 mg/L | 6.39 mg/L | 4.83 mg/L | 4.79 mg/L | 2.91 mg/L |
| TKN | 9.74 mg/L | 8.84 mg/L | 7.15 mg/L | 7.34 mg/L | 4.73 mg/L |
| Nitrite | 0.09 mg/L | 0.13 mg/L | 0.12 mg/L | 0.15 mg/L | 0.06 mg/L |
| Nitrate | 0.94 mg/L | 0.67 mg/L | 0.45 mg/L | 0.29 mg/L | 0.43 mg/L |
| E. Coli *(geometric mean density)* | 4.1 cfu/100mL | 0 cfu/100mL | 1.3 cfu/100mL | 2.0 cfu/100mL | 2.0 cfu/100mL |
| Total Chlorine Residual | 0.01 mg/L | 0.01 mg/L | 0.00 mg/L | 0.00 mg/L | 0.00 mg/L |
| Dissolved Oxygen | 7.07 mg/L | 7.95 mg/L | 9.16 mg/L | 8.15 mg/L | 8.58 mg/L |
| pH | 7.53 | 7.49 | 7.80 | 7.64 | 7.62 |
| Temperature | 9.5°C | 11.4°C | 12.6°C | 11.3°C | 12.0°C |
| Un-ionized Ammonia | 0.25 mg/L | 0.07 mg/L | 0.05 mg/L | 0.06 mg/L | 0.03 mg/L |

## C. Groundwater Monitoring

*Summary and interpretation of all ground water monitoring data*

A groundwater monitoring plan was prepared in 2012 by McIntosh Perry and submitted to the MOE, and as part of monitoring requirements, the Township had the 2 monitoring wells installed and developed on March 5, 2013. Background results taken on March 6, 2013 are used to compare the more recent results in order to indicate the potential impact on the surrounding environment.

Operational staff sample annually in March and the 2023 results were similar to previous findings, in that no major impacts were observed in the downstream results. There was a noted increase in upstream nitrate, but no other parameters were elevated. It should be noted the total ammonia was inadvertently left off sampling request, but historically the downstream samples have been gradually increasing since 2017. Please refer to Table 5 below for summary and Appendix D for full summary of results.

*Table 5: Groundwater Monitoring Well Sampling Program:*

| Parameter | Monitoring Well #1 | | Monitoring Well #2 | |
|---|---|---|---|---|
| | Background results (March 6, 2013) | 2023 Sampling Results (March 07, 2023) | Background results (March 6, 2013) | 2023 Sampling Results (March 07, 2023) |
| TOC | 8 mg/L | 6.2 mg/L | 15.2 mg/L | 3.3 mg/L |
| TP | 3.8 mg/L | 0.73 mg/L | 0.47 mg/L | 0.40 mg/L |
| TKN | 0.83 mg/L | 0.70 mg/L | 1.12 mg/L | 0.40 mg/L |
| Total Ammonia (N) | < 0.01 mg/L | n/a | 0.22 mg/L | n/a |
| Nitrite | < 0.1 mg/L | < 0.05 mg/L | 0.5 mg/L | < 0.05 mg/L |
| Nitrate | < 0.1 mg/L | 0.05 mg/L | <0.1 mg/L | 0.57 mg/L |
| E. coli | <2 cfu/100 mL | 0 /100 mL | <2 cfu/100 mL | 0/100 mL |

## D. Operational Problems

*Description of any operating problems encountered, and corrective actions taken.*

Collection System:

- Well level monitoring equipment failure due to internal relay board.
  - A secondary float system was used to maintain operations until defective parts were replaced.
- Float issues causing pump to not run as per design.
  - Cleaned and/or adjusted floats to return to normal operations.
- Pump operation issues or failures.
  - Backwash pumps due to air lock caused by performed maintenance.
  - Reset, reverse, or pull pump to remove debris from impeller and restore operations.
  - Unplanned utility power failure.
    - Hydro One repaired external issues, generator or pump installed to maintain operations until repairs completed.
  - Pump position misalignment due to defective guiderails.
    - Replace defective units and proactively replace other pump guiderails to prevent reoccurrence.

- Generator issues
  - Radiator replaced due to slow leak.
  - Breaker trip causing pump failure during power outage, reset to restore operations.
    - External contractor inspected generator to determine cause of underperformance.
    - Installed auxiliary fuel pump which was causing performance issues.
- Alarm panel failure to communicate.
  - External contractor replaced defective equipment to restore communications.

Treatment System:

- Aerator Failure
  - Replaced defective coupler and restore operations.
- Chemical dosage pump issue or loss of dosing.
  - Electrical failure due to power surge from utility power failure
    - Remove defective pump and replace it with spare unit until original pump was repaired and reinstalled.
  - Chemical leak from dosing pump.
    - switch over to back-up pump to maintain operations.
    - pump removed and repaired before reinstallation and placed back into service.
  - Pump air lock.
    - switch over chemical tank and prime all lines in order to remove air.
  - Fitting damage due to corrosion
    - change all defective equipment and material after the chemical dosing pump.
- Chemical dosage line blockage.
  - Transfer injection to spare lines and thaw affected lines to restore chemical dosing.
  - Install a new heat tracer to prevent reoccurrence.
- Unplanned utility power failure
  - Hydro One repaired external issues, generator installed to maintain chemical dosing operations until repairs completed.

## E. Maintenance

*Summary of all maintenance carried out on any structure, equipment, apparatus, mechanism, or thing forming part of the works.*

Collection System:

- Preventative Maintenance Program.
  - schedule and forms at all stations, as required.
  - tasks completed as scheduled.
- Monthly pest control at various sites.
- Bi-annual calibration of all gas monitoring equipment.
- Annual level monitoring and flow measurement calibrations.
- Annual generator maintenance and load testing.
- Annual wet well cleaning at all stations.

Treatment System:

- Preventative Maintenance program
  - schedule and forms at all stations, as required.
  - tasks completed as scheduled.
- Replace chemical dosing lines.
  - change line diameter to prevent crystallization.

- Monthly pest control.
- Annual analyzers, level monitoring and flow measurement calibrations.

### F. Effluent Quality Control and Assurance

*Summary of any effluent quality assurance or control measures undertaken in the reporting period.*

All parameter sampling was performed within provincial and federal guidelines by licensed operational staff, as per internal SOP. Staff are internally trained to ensure techniques and procedures are followed and testing is performed.

An internal weekly sampling schedule with sign off, is used to communicate to all operational staff sampling requirements and timelines. All sampling requirements are reviewed annually to ensure scheduling is up to date and in-line with provincial and federal requirements. As per the ECA requirement, the sampling date was rotated from Wednesdays to Tuesdays during the 2023 reporting period.

Effluent quality control and assurance measures were undertaken by the accredited certified laboratories, Caduceon Environmental and AGAT, who are contracted to complete all sample analysis for the Township of North Glengarry.

### G. Flow Measurement and Equipment Calibration

*Summary of the calibration and maintenance carried out on all effluent monitoring equipment.*

Annual calibrations on the detection units (pumping station level indicators and chemical tank level indicators), and flow sensing devices (magmeter, miltronics, etc.) were completed by St-Laurent Instrumentation between November and December 2023. All handheld and benchtop analyzers were calibrated by ClearTech in July 2023. No issues were noted in regard to the operation of the equipment.

### H. Effluent Objectives

*Description of effort made, and results achieved in meeting the effluent objectives of condition 6.*

The wastewater sewage works ECA is conditional on proposed system upgrades and contains descriptions and provisions for existing and post-construction works. At this time, no construction has been started or completed, so the effluent design objectives and limits have not transitioned from the “prior to completion of construction” values found in schedule B and Schedule C.

Monthly discharge effluent monitoring showed that the effluent design objectives and limits were met and greatly exceeded during this reporting period. Table 6 shows a monthly summary of these parameters. Please refer to Appendix A for a full summary of flows, sampling quality analysis for the Alexandria Sewage Treatment Works. All municipal utility monitoring program reports were sent into the environmental monitoring and reporting branch of the Ministry of the Environment electronically for each month.

*Table 6: Monthly Average Final Effluent Sampling Summary*

| | $CBOD_5$ (mg/L) | TSS (mg/L) | TP (mg/L) | Total Chlorine Residual (mg/L) | pH Min | pH Max | E. Coli (geometric mean density) (organisms/100 mL) |
|---|---|---|---|---|---|---|---|
| *Concentration Limits* | *30* | *40* | *0.5 mg/L* | *0.2 mg/L* | *6.0* | *9.5* | *< 200* |
| *Concentration Objective* | *25* | *25* | *0.4 mg/L* | *non-detect* | *6.5* | *8.5* | *< 150* |
| January | 3.2 | 4.6 | 0.15 | 0.00 | 7.00 | 8.07 | 5.8 |
| February | 3.8 | 6.3 | 0.20 | 0.00 | 7.05 | 7.89 | 1.9 |
| March | 3.8 | 7.5 | 0.26 | 0.00 | 6.95 | 8.67 | 5.6 |
| April | 4.8 | 12.0 | 0.17 | 0.00 | 7.68 | 8.32 | 8.9 |
| May | 3.0 | 3.6 | 0.10 | 0.00 | 7.45 | 8.27 | 1.3 |
| June | 6.5 | 7.0 | 0.10 | 0.00 | 7.30 | 8.31 | 1.0 |
| July | 3.0 | 3.5 | 0.11 | 0.00 | 7.30 | 8.64 | 1.2 |
| August | 3.0 | 4.2 | 0.06 | 0.00 | 7.01 | 8.20 | 1.0 |
| September | 4.0 | 5.0 | 0.05 | 0.00 | 7.00 | 7.61 | 1.0 |
| October | 3.0 | 3.8 | 0.10 | 0.00 | 7.18 | 7.92 | 1.8 |
| November | 3.8 | 4.0 | 0.16 | 0.00 | 7.53 | 7.91 | 1.2 |
| December | 3.8 | 11.0 | 0.20 | 0.00 | 7.00 | 8.63 | 1.7 |

Quarterly monitoring included acute lethality for rainbow trout and daphnia, as per Federal WSER and Provincial ECA requirements. All samples were found to not be acutely lethal, and no additional sampling was required during this reporting period.

*Table 7: Acute Lethality Testing Summary*

| Date | Rainbow Trout Lethality Result (%) | Comment | Daphnia Lethality Result (%) | Comment |
|---|---|---|---|---|
| 17-Jan-2023 | 10 | Pass | 0 | Pass |
| 25-Apr-2023 | 0 | Pass | 0 | Pass |
| 18-Jul-2023 | 0 | Pass | 0 | Pass |
| 17-Oct-2023 | 10 | Pass | 0 | Pass |

Additional quarterly monitoring has been undertaken by the Water Works Department since 2019, due to previous adverse results consistently noted under ice cover. In response to this event, a technical memo was prepared by McIntosh Perry in consultations with Wood Environment & Infrastructure Solutions and sent to Environment Canada in June. The recommended actions included continued testing for lethality, metals, inorganic and VOC sampling quarterly until upgrades are completed and commissioned.

The summary in Table 8 below lists all results that exceeded the Provincial Water Quality Objectives. As per the technical memo, the parameters listed do not appear to cause lethality, as most results were lower than 2019 values and lethality was not observed during the testing periods. It is believed that treatment short-circuiting occurred through the aeration chamber

and intermittent aerator failures attributed to the previous exceedances. Measures have been put into place to prevent the short-circuiting until repairs can be completed.

*Table 8: Additional Metal, Inorganic and VOC Elevated Results*

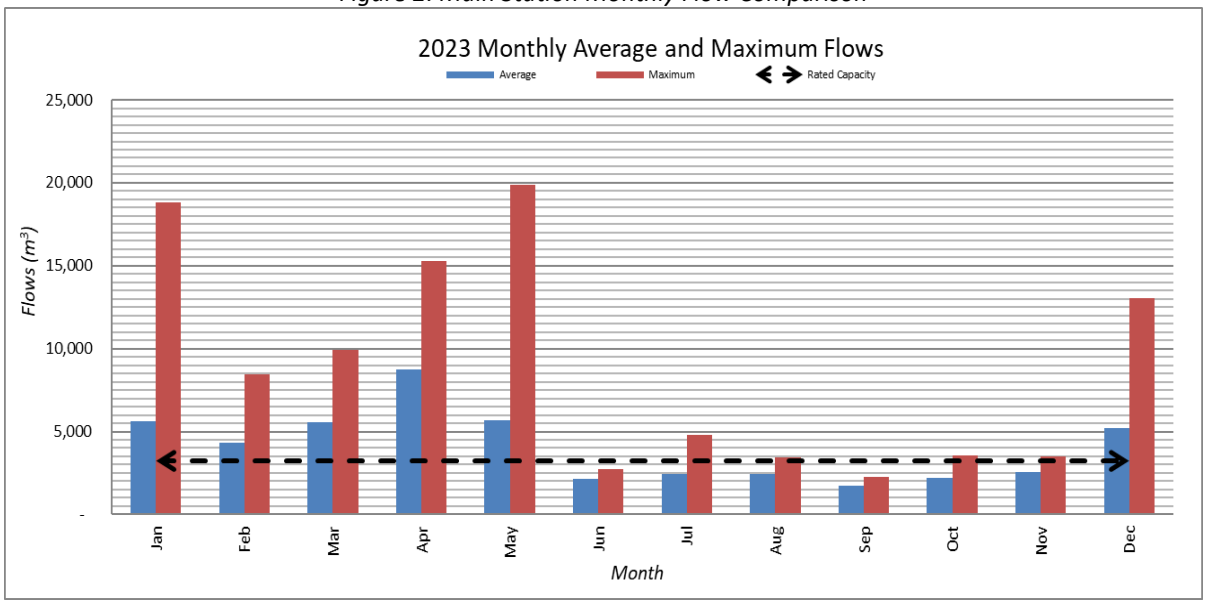
| Parameter | Last Adverse | | 2023 Result (mg/L) | | | | |
|---|---|---|---|---|---|---|---|
| | Date | Result | PWQO Standard | Q1 | Q2 | Q3 | Q4 |
| Toluene (µg/L) | 28-Oct-2022 | 2.01 | 0.8 | 0.48 | 0.66 | < 0.20 | < 0.20 |
| Un-Ionized Ammonia (mg/L) | 25-Apr-2023 | 0.047 | 0.02 | 0.101 | 0.047 | 0.007 | 0.009 |
| Total Phosphorus (mg/L) | 04-Mar-2020 | 0.31 | * | 0.11 | 0.02 | < 0.02 | < 0.02 |
| Dissolved Aluminum (mg/L) | 22-Mar-2020 | 0.078 | 0.075 mg/L | 0.031 | 0.042 | 0.018 | 0.015 |
| Total Cobalt (mg/L) | 17-Mar-2021 | 0.0014 | 0.0009 mg/L | < 0.0005 | < 0.0005 | < 0.0005 | < 0.0005 |
| Total Coper (mg/L) | 2-Apr-2020 | 0.028 | 0.005 mg/L | 0.003 | 0.002 | 0.001 | 0.002 |
| Total Silver (mg/L) | 19-Jan-2022 | 0.0002 | 0.0001 mg/L | < 0.0001 | < 0.0001 | < 0.0001 | < 0.0001 |
| Total Zinc (mg/L) | 19-Jan-2022 | 0.050 | 0.03 mg/L | 0.029 | 0.028 | < 0.020 | < 0.020 |

*Interim standard at this time, evidence is insufficient to develop a firm objective general guideline established

There were no reports made in regard to floating or settleable solids or that the wastewater contained oil or any other substance that created a visible film, sheen, foam, or discolouration to the receiving waters.

Annual flow summaries indicate a calculated average daily flow of 4,057m$^3$/day, which represents 125% of the total rated capacity for this facility, which is out of compliance. The flows have increased 27% from the previous year and have been gradually increasing over the last 3 years, despite continued efforts to reduce infiltration and inflow. The observed maximum daily flow for the year was reported to be 19,897m$^3$/day, which was reported at the beginning of May, coinciding with a major rain event and the tail end of spring melt conditions. Other significant impacting factors on flows were after 4 separate large rain events outside of the spring melt. Please refer to figure 2 below and to Appendix A for a full summary of flows for the Alexandria Sewage Treatment Works.

*Figure 2: Main Station Monthly Flow Comparison*



## I. Lagoon Cell Sludge Accumulation

*Tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and summary of the locations to where the sludge was disposed.*

A Sludge Management Plan was created by McIntosh Perry and put into place in 2008. As part of monitoring methods, it is recommended sludge levels are to be collected annually by staff. The levels in all 3 cells were measured on October 13, 2023. Based on recorded values, the sludge levels have increased 2.7% in cells A and 9.5% in cell B, but decreased 2% in Cell C. The warning triggers for total sludge volume have been exceeded in Cell B and C, which is consistent with previous years observations.

Efforts to reduce sludge levels in Cell B were restarted in 2021 by contracting Bishop Water for a multi-year Geotube project. During this reporting period no sludge removal was completed due to an excessive amount of vegetation growth within the cell berms during the planned work period, where removal would have created greater time delays and additional inhibitive cost restraints. The work plan going forward will be targeted to starting work in the spring to ensure this issue does not reoccur. Minimal amounts of dewatering were observed from the Geotubes between May and October, nonetheless the water collected from the trench was recycled back into lagoon at Cell B via small sump pump. The dewatering effluent quality was not analyzed nor was the pumped volume tracked.

*Table 9: Desludging Operation Summary*

| Week | BDT | Volume Pumped | Total Polymer Usage | Average Polymer Dosage |
|---|---|---|---|---|
| | | $m^3$ | L | kg/BDT |
| N/A | | | | |
| **Total** | | | | |

## J. Complaints

*Summary of any complaints received during the reporting period and any steps taken to address the complaints.*

There were only about a dozen received complaints from homeowners, the majority of these complaints were in regard to sewer lateral back-up. In most cases, the issues were on the homeowner's side resulting in private contracted services. In a few cases the laterals were inspected through CCTV, and services were repaired, or arrangements were made to repair by township if the problem was found to be on township side.

## K. Bypass, Overflow, Spill, Abnormal Discharge Events

*Summary of all bypasses, spills, or abnormal discharge event.*

There were four primary overflow events reported during 2023. All events were observed in the wastewater collection system at the identified overflow point and coincided with significant rain events and equipment failures. The overflows were reported to the EOHU and SAC, and samples were collected as per requirements and reports were submitted as required. The total annual volume for overflows was estimated to be 10,353$m^3$, with 7,909$m^3$ being metered and 2,444$m^3$ estimated. A summary of the report submission can be found in table below, please refer to Appendix C for an overflow breakdown and report.

*Table 10: Overflow Report Submission Summary*

| # Event | Date | Reported to | Reference Number | Location |
|---|---|---|---|---|
| 1 | 05-April-2023 | ☒ Ministry of Health<br>☒ Spills Action Center | 1-34P251 | Alexandria Main Pumping Station |
| 2 | 05-April-2023 | ☒ Ministry of Health<br>☒ Spills Action Center | 1-34JV14 | Bishop Pumping Station |
| 3 | 01-May-2023 | ☒ Ministry of Health<br>☒ Spills Action Center | 1-3FQZFB | Alexandria Main Pumping Station |
| 4 | 01-May-2023 | ☒ Ministry of Health<br>☒ Spills Action Center | 1-3FPH7L | Alexandria Manhole 160<br>(Centre St Overflow 2) |

Quarterly reports for bypasses and overflows are now required to be submitted to Ministry of the Environment inspector as per the ECA.

*Table 11: Quarterly Bypass and Overflow Report Submission Summary*

| Quarter | Month | Year | By-Pass Occur | Overflow Occur | Submitted to MECP | Report Name |
|---|---|---|---|---|---|---|
| 1 | January-March | 2023 | N | N | 13-Apr-2023 | 2023-ALX WWS-Bypass and Overflow_ Q1 |
| 2 | April-June | 2023 | N | Y | 11-Jul-2023 | 2023-ALX WWS-Bypass and Overflow_ Q2 |
| 3 | July- September | 2023 | N | N | 12-Aug-2023 | 2023-ALX WWS-Bypass and Overflow_ Q3 |
| 4 | October- December | 2023 | N | N | 07-Feb-2024 | 2023-ALX WWS-Bypass and Overflow_ Q4 |

## L. Other

*Any other information the District Manager requires from time to time.*

### EOS 2000

#### i. Equipment Summary

*The date of installation and removal of the EOS-2000 unit within each unit*

The EOS unit was not installed or operated during this reporting period, so as such there was no additional monitoring completed.

### Authorized System Alterations

#### i. Alterations Summary

*A summary of all alterations within the reporting period as authorized by the ECA, including all alterations that pose a significant drinking water threat.*

There were no alterations or additions to the collection or treatment systems during this reporting period.

### Efforts to Reduce System Overflows

#### i. Collection System Inspection, Repair and Remediation Summary

*A summary of all works completed within the reporting period as authorized by the ECA, including all projects undertaken, PPCP updates and an assessment of the effectiveness of these actions.*

Work to reduce infiltration and inflow continued throughout this period. The engineering firm EVB was contracted to complete an Inflow and Infiltration analysis study, including an overview of all pumping stations and their current capacities. This will assist in identifying areas of concern and help with future work planning.

Multiple CCTV inspections were completed in various areas of suspected or known infiltration, such as the northeast section, along Garry River and the intersection of St James St and Dominion St South, to determine the levels of infiltration. Contractors were hired to reline 2 sections of 600mm sanitary collection mains along the Garry River, as well as to complete spot repairs in collection

system in various areas to prevent further inflow. These repairs were completed along Kenyon ST West as identified during the CCTV work completed in 2021.

**Proposed Construction of Works Update**

**i. Status Update**

*A summary of any changes or update to the schedule for the completion of the construction and commissioning operation of major process(es) / equipment groups in the Proposed Works.*

Proposed works were anticipated to be constructed and commissioned within 5 years of the issuance of the current ECA (February 2021). For any delay beyond the time frame requires an application to amend the approval at a minimum of 6 months prior to ECA expiry. To date no construction work has been tendered or started at this site.

# NORTH GLENGARRY WATER WORKS

## WASTEWATER TREATMENT WORKS PERFORMANCE RESULTS

**Municipality:** *North Glengarry* **Year:** *2023*

**Project:** *Alexandria STP* **Receiving Stream:** *Delisle River*

**Description:** *1 Pumping Station, 1 Aerated Cell, 3 Facultative Cells* **Design Capacity:** *3237 $m^3$/day*

*Continuous Discharge with Phosphorous Removal*

| MONTH | Flows | | | Biochemical $O_2$ Demand | | | Suspended Solids | | | Phosphorus | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Flows ($m^3$) | Average Daily Flow ($m^3$) | Maximum Daily Flow ($m^3$) | Average Raw $CBOD_5$ (mg/L) | Average Effluent $CBOD_5$ (mg/L) | Percent Removal (%) | Average Raw SS (mg/L) | Average Effluent SS (mg/L) | Percent Removal (%) | Average Raw TP (mg/L) | Average Effluent TP (mg/L) | Percent Removal (%) |
| Jan | 174,545 | 5,630 | 18,817 | 84.0 | 3.2 | 96.2 | 130.0 | 4.6 | 96.5 | 1.73 | 0.15 | 91.2 |
| Feb | 121,512 | 4,340 | 8,471 | 42.0 | 3.8 | 91.1 | 20.0 | 6.3 | 68.8 | 0.65 | 0.20 | 68.8 |
| Mar | 172,704 | 5,571 | 9,918 | 125.0 | 3.8 | 97.0 | 128.0 | 7.5 | 94.1 | 2.96 | 0.26 | 91.1 |
| Apr | 262,673 | 8,756 | 15,285 | 116.0 | 4.8 | 95.9 | 220.0 | 12.0 | 94.5 | 2.21 | 0.17 | 92.5 |
| May | 175,841 | 5,672 | 19,897 | 85.0 | 3.0 | 96.5 | 230.0 | 3.6 | 98.4 | 2.50 | 0.10 | 95.8 |
| Jun | 64,535 | 2,151 | 2,728 | 34.0 | 6.5 | 80.9 | 82.0 | 7.0 | 91.5 | 1.48 | 0.10 | 93.1 |
| Jul | 76,195 | 2,458 | 4,815 | 139.0 | 3.0 | 97.8 | 380.0 | 3.5 | 99.1 | 4.66 | 0.11 | 97.6 |
| Aug | 75,598 | 2,439 | 3,451 | 134.0 | 3.0 | 97.8 | 292.0 | 4.2 | 98.6 | 4.31 | 0.06 | 98.6 |
| Sep | 52,024 | 1,734 | 2,277 | 61.0 | 4.0 | 93.4 | 98.0 | 5.0 | 94.9 | 1.66 | 0.05 | 97.3 |
| Oct | 67,387 | 2,174 | 3,578 | 52.0 | 3.0 | 94.2 | 250.0 | 3.8 | 98.5 | 2.88 | 0.10 | 96.4 |
| Nov | 76,542 | 2,551 | 3,475 | 173.0 | 3.8 | 97.8 | 590.0 | 4.0 | 99.3 | 6.70 | 0.16 | 97.7 |
| Dec | 161,293 | 5,203 | 13,039 | 35.0 | 3.8 | 89.3 | 86.0 | 11.0 | 87.2 | 0.60 | 0.20 | 67.1 |
| **Total** | **1,480,848** | | | | | | | | | | | |
| **Average** | | **4,057** | | **90.0** | **3.8** | **94** | **208.8** | **6.0** | **93** | **2.70** | **0.14** | **91** |
| **Maximum** | | | **19,897** | **173** | **6.5** | **98** | **590.0** | **12.0** | **99** | **6.70** | **0.26** | **99** |
| **Criteria** | | ***3,237*** | | | ***30*** | | | ***40*** | | | ***0.50*** | |

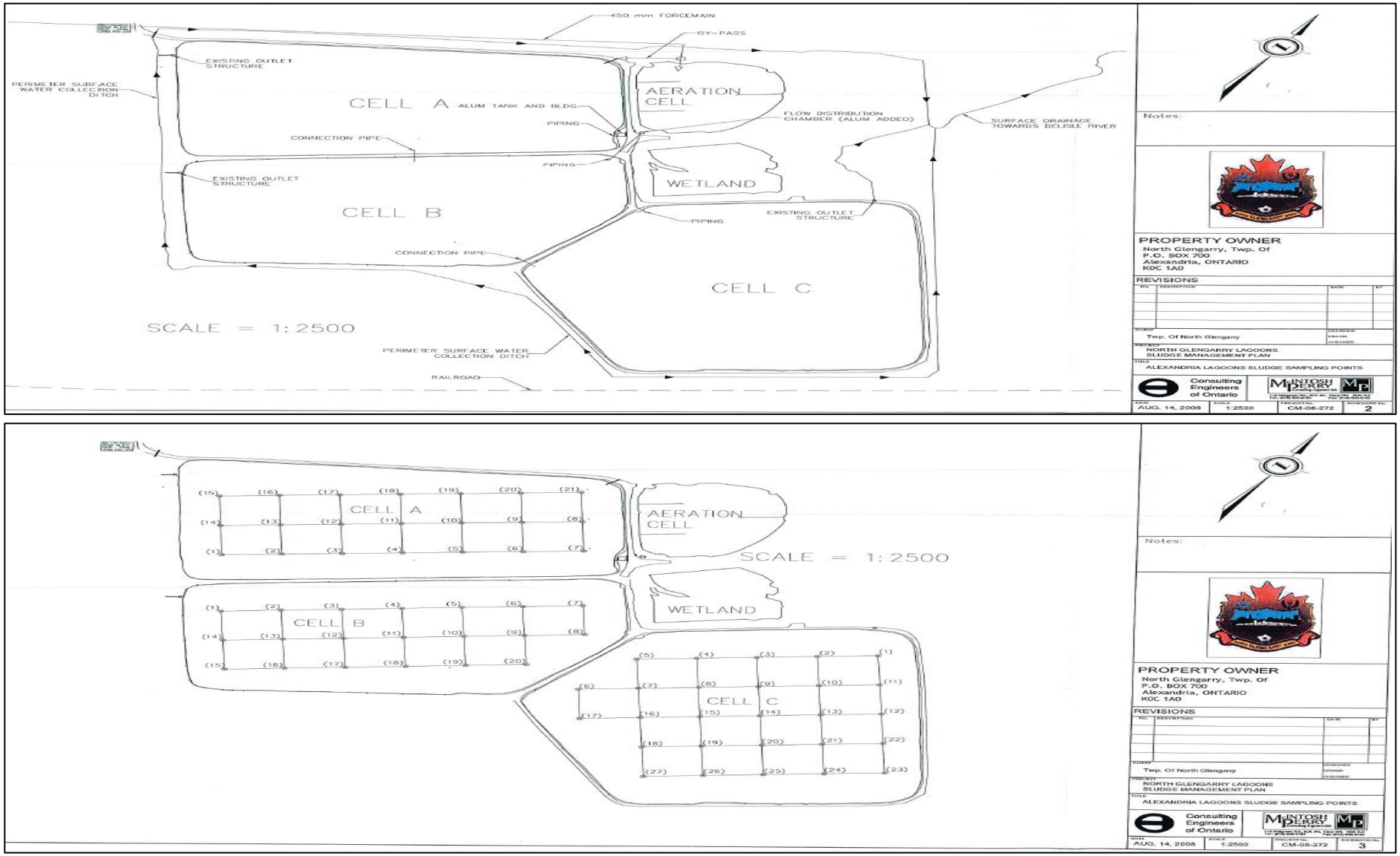
# NORTH GLENGARRY WATER WORKS
## WASTEWATER TREATMENT PERFORMANCE RESULTS
## 2023

| MONTH | Ammonia | | | TKN | | | Nitrite | | | Nitrate | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average Raw Ammonia (mg/L) | Average Effluent Ammonia (mg/L) | Percent Removal (%) | Average Raw TKN (mg/L) | Average Effluent TKN (mg/L) | Percent Removal (%) | Average Raw Nitrite (mg/L) | Average Effluent Nitrite (mg/L) | Percent Removal (%) | Average Raw Nitrate (mg/L) | Average Effluent Nitrate (mg/L) | Percent Removal (%) |
| **Jan** | n/a | 5.79 | | 10.00 | 7.96 | 20.4 | n/a | 0.11 | | n/a | 0.8 | |
| **Feb** | n/a | 7.49 | | 8.90 | 8.10 | 9.0 | n/a | 0.06 | | n/a | 0.1 | |
| **Mar** | n/a | 7.49 | | 17.50 | 13.08 | 25.3 | n/a | 0.05 | | n/a | 0.1 | |
| **Apr** | n/a | 2.73 | | 10.60 | 4.50 | 57.5 | n/a | 0.06 | | n/a | 1.0 | |
| **May** | n/a | 0.17 | | 13.80 | 1.14 | 91.7 | n/a | 0.05 | | n/a | 0.4 | |
| **Jun** | n/a | 0.23 | | 20.60 | 1.20 | 94.2 | n/a | 0.06 | | n/a | 0.4 | |
| **Jul** | n/a | 0.38 | | 24.90 | 1.75 | 93.0 | n/a | 0.06 | | n/a | 0.3 | |
| **Aug** | n/a | 0.21 | | 22.80 | 1.34 | 94.1 | n/a | 0.05 | | n/a | 0.5 | |
| **Sep** | n/a | 0.07 | | 19.40 | 1.03 | 94.7 | n/a | 0.08 | | n/a | 0.1 | |
| **Oct** | n/a | 1.92 | | 18.40 | 3.00 | 83.7 | n/a | 0.06 | | n/a | 0.1 | |
| **Nov** | n/a | 4.57 | | 29.40 | 6.80 | 76.9 | n/a | 0.06 | | n/a | 0.5 | |
| **Dec** | n/a | 4.79 | | 7.00 | 8.25 | -17.9 | n/a | 0.05 | | n/a | 0.9 | |
| **Total** | | | | | | | | | | | | |
| **Average** | | 2.99 | | 16.94 | 4.85 | 60 | | 0.06 | | | 0.43 | |
| **Maximum** | | 7.49 | | 29.4 | 13.08 | 95 | | 0.11 | | | 1.01 | |
| **Criteria** | | | | | | | | | | | | |

# NORTH GLENGARRY WATER WORKS
## WASTEWATER TREATMENT PERFORMANCE RESULTS
## 2023

| MONTH | Hydrogen Sulphide | | | E. coli | | | pH | | | Temp | $Cl_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average Raw $H_2S$ (mg/L) | Average Effluent $H_2S$ (mg/L) | Percent Removal (%) | Average Raw E.coli (cts/100ml) | Average Effluent E.coli (cts/100ml) | Percent Removal (%) | Minimum Effluent pH | Average Effluent pH | Maximum Effluent pH | Average Effluent Temp (°C) | Average Effluent $Cl_2$ (mg/L) |
| **Jan** | n/a | 0.01 | | n/a | 5.83 | | 7.00 | 8.07 | 7.31 | 4.18 | 0.00 |
| **Feb** | n/a | 0.00 | | n/a | 1.90 | | 7.05 | 7.89 | 7.46 | 5.10 | 0.00 |
| **Mar** | n/a | 0.00 | | n/a | 5.61 | | 6.95 | 8.67 | 7.59 | 3.75 | 0.00 |
| **Apr** | n/a | 0.00 | | n/a | 8.85 | | 7.68 | 8.32 | 7.94 | 8.88 | 0.00 |
| **May** | n/a | 0.00 | | n/a | 1.32 | | 7.45 | 8.27 | 7.94 | 14.02 | 0.00 |
| **Jun** | n/a | 0.00 | | n/a | 1.00 | | 7.30 | 8.31 | 7.97 | 20.70 | 0.00 |
| **Jul** | n/a | 0.00 | | n/a | 1.19 | | 7.30 | 8.64 | 7.92 | 23.88 | 0.00 |
| **Aug** | n/a | 0.00 | | n/a | 1.00 | | 7.01 | 8.20 | 7.53 | 20.76 | 0.00 |
| **Sep** | n/a | 0.00 | | n/a | 1.00 | | 7.00 | 7.61 | 7.36 | 20.03 | 0.00 |
| **Oct** | n/a | 0.00 | | n/a | 1.82 | | 7.18 | 7.92 | 7.51 | 12.12 | 0.00 |
| **Nov** | n/a | 0.00 | | n/a | 1.19 | | 7.53 | 7.91 | 7.71 | 5.28 | 0.00 |
| **Dec** | n/a | 0.00 | | n/a | 1.68 | | 7.00 | 8.63 | 7.81 | 6.23 | 0.00 |
| **Total** | | | | | | | | | | | |
| **Average** | | 0.00 | | | 2.0 | | 7.62 | 7.62 | 7.62 | 13.06 | 0.00 |
| **Maximum** | | 0.01 | | | 8.9 | | 8.68 | 8.68 | 8.68 | 26.80 | 0.00 |
| **Criteria** | | | | | ***200*** | | ***6.0*** | ***6.5 - 8.5*** | ***9.5*** | | ***0.02*** |

Sludge Monitoring Points Identification



## Sludge Sampling Point Volume Index

| Cell A- Sample Point Sludge Volume $m^3$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Sludge Volume ($m^3$) | Warning Trigger | Sludge Volume % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | | | | | | | | | |
| 29-Oct-19 | 933 | 609 | 797 | 996 | 605 | 1391 | 4436 | 3810 | 1276 | 668 | 567 | 466 | 506 | 1018 | 1413 | 864 | 1008 | 708 | 878 | 919 | 1899 | | | | | | | 25766 | | 49.1 |
| 05-Jun-20 | 1236 | 927 | 876 | 1520 | 1132 | 2309 | 3013 | 3404 | 709 | 972 | 668 | 466 | 770 | 837 | 1599 | 1173 | 1238 | 1049 | 1021 | 1240 | 1189 | | | | | | | 27347 | | 52.2 |
| 28-Oct-20 | 670 | 1271 | 743 | 1127 | 1395 | 1784 | 3794 | 631 | 466 | 628 | 466 | 304 | 405 | 972 | 1487 | 864 | 634 | 655 | 902 | 1667 | 793 | | | | | | | 21660 | | 41.3 |
| 11-Nov-22 | 787 | 742 | 1142 | 865 | 1264 | 2047 | 3710 | 2548 | 770 | 466 | 871 | 162 | 446 | 724 | 1190 | 1173 | 922 | 1520 | 1258 | 1560 | 1941 | | | | | | | 26104 | | 49.8 |
| 13-Oct-23 | 933 | 583 | 1009 | 1520 | 2317 | 2047 | 3850 | 2322 | 1175 | 972 | 567 | 770 | 243 | 837 | 1562 | 988 | 1094 | 1389 | 285 | 1560 | 1523 | | | | | | | 27544 | | 52.5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

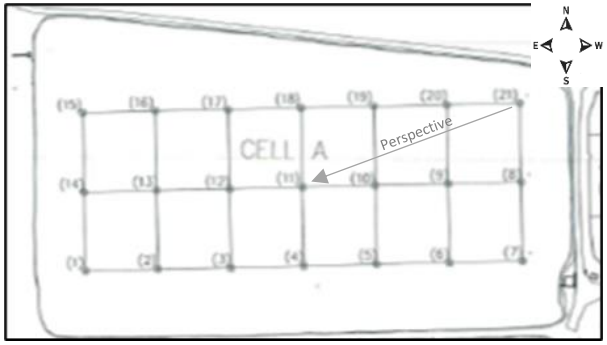
| Cell B- Sample Point Sludge Volume $m^3$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Sludge Volume ($m^3$) | Warning Trigger | Sludge Volume % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | | | | | | | | | |
| 29-Oct-19 | 2349 | 1934 | 2334 | 2892 | 3173 | 3964 | 5042 | 3458 | 2693 | 2187 | 1377 | 1013 | 1276 | 1345 | 1152 | 1631 | 1769 | 2246 | 2173 | 3176 | | | | | | | | 47184 | Total Sludge Volume High | 92.6 |
| 04-Jun-20 | 2048 | 1792 | 2109 | 2892 | 4296 | 3271 | 4244 | 2987 | 1883 | 2491 | 2045 | 1053 | 749 | 1627 | 1348 | 1007 | 1691 | 2162 | 2370 | 2220 | | | | | | | | 44286 | Total Sludge Volume High | 86.9 |
| 28-Oct-20 | 1897 | 2076 | 2419 | 2274 | 3959 | 4047 | 4244 | 2717 | 2288 | 1316 | 1114 | 1175 | 810 | 1236 | 1152 | 1367 | 2549 | 2303 | 2963 | 4718 | | | | | | | | 46625 | Total Sludge Volume High | 91.5 |
| 04-Nov-22 | 2349 | 512 | 928 | 2892 | 4296 | 4518 | 4563 | 1078 | 1377 | 1377 | 1175 | 1073 | 567 | 1236 | 2010 | 1727 | 1509 | 2050 | 1467 | 1789 | | | | | | | | 38493 | Total Sludge Volume High | 75.5 |
| 13-Oct-23 | 2319 | 1422 | 2897 | 2892 | 4072 | 4103 | 4084 | 2313 | 2693 | 2592 | 1377 | 1762 | 1154 | 1453 | 1642 | 1247 | 1353 | 1460 | 1044 | 1419 | | | | | | | | 43298 | Total Sludge Volume High | 85.0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

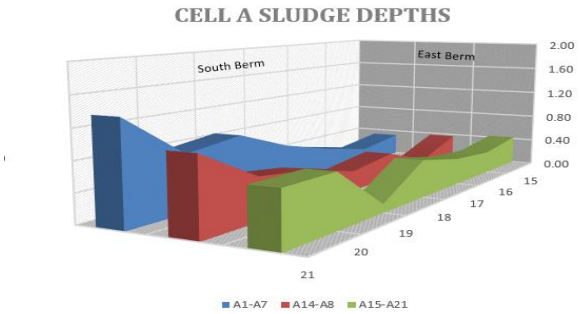
| Cell C- Sample Point Sludge Volume $m^3$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Sludge Volume ($m^3$) | Warning Trigger | Sludge Volume % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | | | |
| 28-Oct-19 | 3516 | 3292 | 3717 | 3542 | 4517 | 3237 | 2795 | 2086 | 1701 | 1175 | 2921 | 1469 | 770 | 668 | 871 | 1073 | 2433 | 2378 | 1175 | 1175 | 1478 | 1980 | 2531 | 1699 | 1510 | 1587 | 2414 | 57706 | Total Sludge Volume High | 87.2 |
| 04-Jun-20 | 3578 | 3097 | 4276 | 5424 | 4920 | 2558 | 1883 | 1235 | 1377 | 1114 | 1867 | 3910 | 1073 | 1013 | 1175 | 2592 | 2174 | 2902 | 972 | 1073 | 972 | 1767 | 2836 | 1523 | 1624 | 1751 | 2911 | 61595 | Total Sludge Volume High | 93.1 |
| 28-Oct-20 | 3361 | 3041 | 3046 | 3819 | 4248 | 2105 | 2187 | 1377 | 1276 | 871 | 1603 | 713 | 1377 | 466 | 830 | 1681 | 1181 | 1573 | 1215 | 972 | 871 | 702 | 1128 | 1318 | 1367 | 1176 | 1349 | 44854 | Total Sludge Volume High | 67.8 |
| 11-Nov-22 | 3516 | 3990 | 3940 | 4373 | 4248 | 2784 | 2086 | 1580 | 1883 | 1478 | 2262 | 1577 | 851 | 851 | 1377 | 2086 | 3142 | 2727 | 1175 | 972 | 972 | 2086 | 2073 | 1816 | 1054 | 2681 | 2024 | 59602 | Total Sludge Volume High | 90.1 |
| 13-Oct-23 | 3516 | 3013 | 3018 | 4373 | 4785 | 2988 | 1478 | 1073 | 1276 | 1580 | 1691 | 1793 | 1154 | 851 | 1154 | 1559 | 2528 | 2517 | 1175 | 1478 | 1175 | 2512 | 2683 | 1816 | 1624 | 1833 | 3657 | 58300 | Total Sludge Volume High | 88.1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Note:** if a Sample Point Volume or the Total Sludge Volume is underlined, this signifies that the volume of sludge in that section is high and action might be required to obtain a uniform distribution.

## Sludge Volume Profile

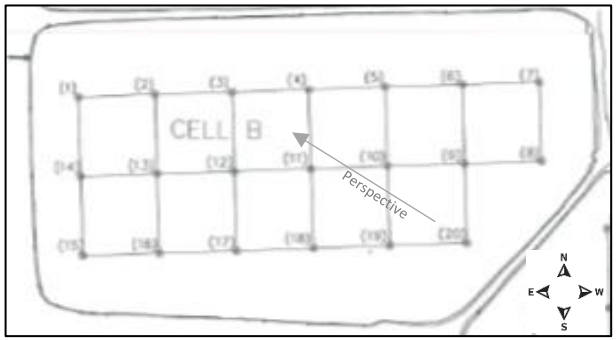
### CELL A

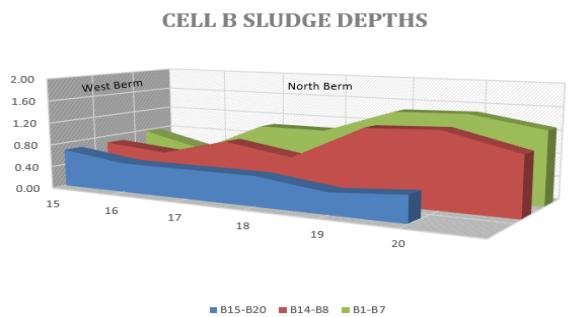



- Last depth reading: October 13, 2023.
- Cell volume calculated to be 52.5%.
- Sludge volume increased 2.7% from 2022 values.
- 6 locations exceeded trigger levels:
  - 5, 6, 7, 8, 20, 21
- Highest volume note in south-west corner of cell.

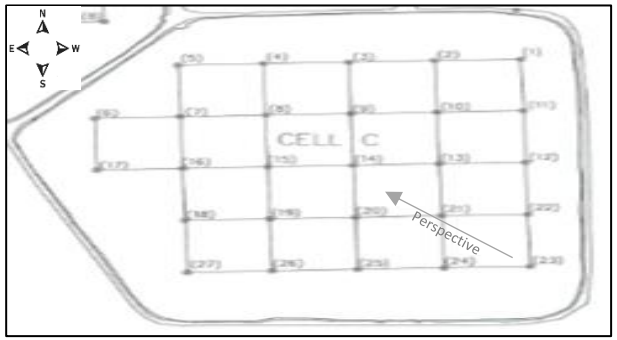
### CELL B

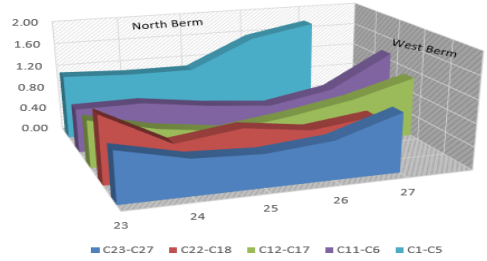



- Last depth reading: October 13, 2023.
- Cell volume calculated to be 85.0%.
- Sludge volume increased 9.5% from 2022 values.
- 12 locations exceeded trigger levels:
  - 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15
- Highest volume located in north-east corner of cell.

### CELL C




- Last depth reading: October 13, 2023.
- Cell volume calculated to be 88.1%.
- Sludge volume reduced 2.0% from 2022 values.
- 20 locations exceeded trigger levels:
  - 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 16, 17, 18, 20, 22, 23, 24, 26, 27
- Highest volume located in north-east corner of cell.

*1.0- Provide the following information for each bypass that occurred at each sewage pumping station or treatment plant bypass location for the reporting year. Start with a new line for each event.*

## Facility Name: Alexandria WWTP
## Report Year: 2023

| Date | Location | Type (1) | Start Time | Duration | Volume | Disinfect (2) | Reason Code (3) | Sample Results | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| dd-mmm-yyyy | | | | Hrs | $m^3$ | | | $BOD_5$ (mg/L) | SS (mg/L) | TP (mg/L) | E. Coli (mg/L) |
| 05-Apr-2023 | Bishop Pumping Station | P | 17:45 | 53.78 | 2000 | N | 1 | 4.4 | 14.9 | 0.17 | 93000 |
| 05-Apr-2023 | Alx Main Pumping Station | P | 17:14 | 40 | 6023 | N | 1 & 3 | 8.1 | 19.9 | 0.29 | 79500 |
| 01-May-2023 | Alx Main Pumping Station | P | 4:35 | 7.91 | 1886 | N | 1 | 11.0 | 43.0 | 0.3 | |
| 01-May-2023 | Alx Manhole 160 | P | 6:50 | 3:50 | 444 | N | 1 | 10.0 | 33.0 | 0.6 | |
| 05-Apr-2023 | Bishop Pumping Station | P | 17:45 | 53.78 | 2000 | N | 1 | 4.4 | 14.9 | 0.17 | 93000 |

Comments Area for Pumping Stations and Plant Bypasses:

| Type (1) | | Disinfect (2) | Reason Code (3) |
|---|---|---|---|
| *P: Primary* | *the discharge of raw sewage subject to no treatment* | *Y: Yes* | *1: Heavy Precipitation* |
| *S: Secondary* | *excludes grit removal and/or chlorination* | *N: No* | *2: Snow Melt* |
| | *the discharge of sewage that has undergone solids removal at the primary clairifiers but bypassed the secondary treatment process* | *U: Unknown* | *3: Equipment Failure* |
| | | | *4: Equipment Maintenance* |
| | | | *5: Sewer Problems* |
| | | | *6: Power Failure* |
| | | | *7: Exceed Design* |
| | | | *8: Other* |

*2.0- Pumping Station and Plant Bypass Monthly Summary*

**Facility Name: Alexandria WWTP**

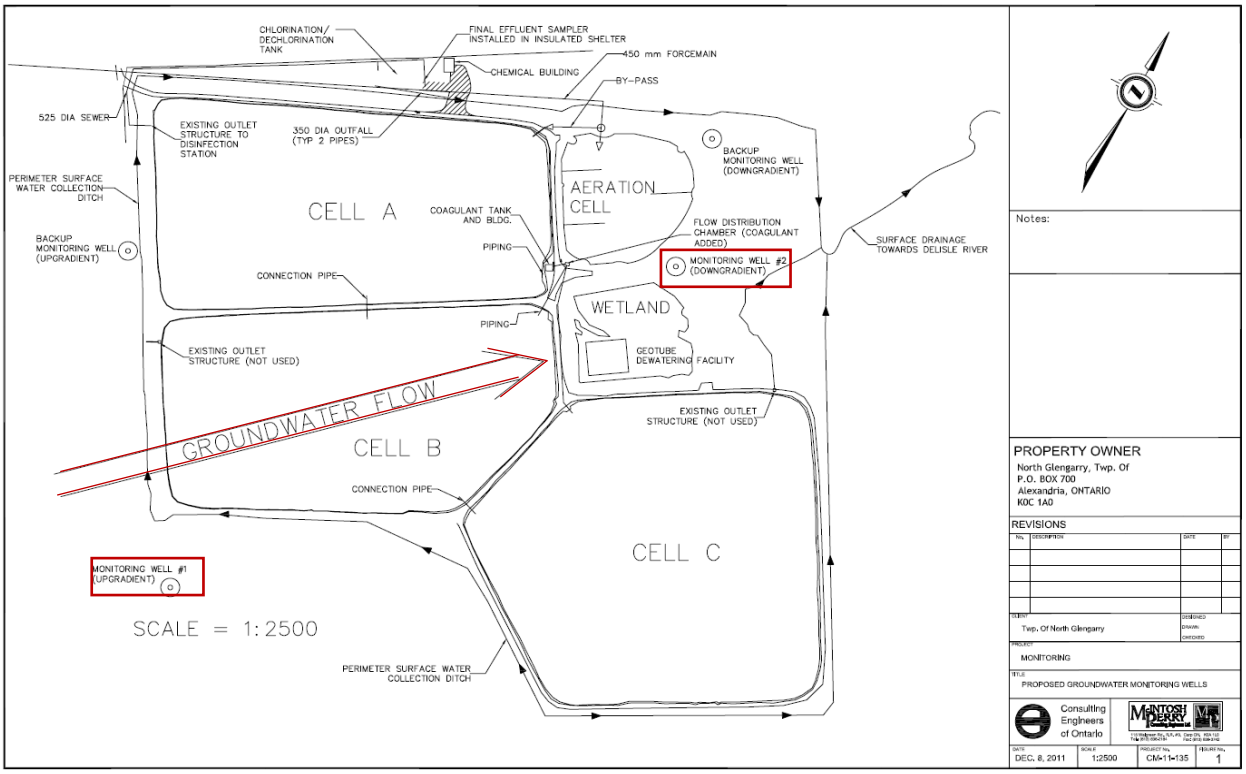
| Month | Primary Bypass | | | Secondary Bypass | | |
|---|---|---|---|---|---|---|
| | No. of Days (days) | Duration (hours) | Volume ($m^3$) | No. of Days (days) | Duration (hours) | Volume ($1000m^3$) |
| January | 0 | | | 0 | | |
| February | 0 | | | 0 | | |
| March | 0 | | | 0 | | |
| April | 2.25 | 93.78 | 8023 | 0 | | |
| May | 0.5 | 14.07 | 2330 | 0 | | |
| June | 0 | | | 0 | | |
| July | 0 | | | 0 | | |
| August | 0 | | | 0 | | |
| September | 0 | | | 0 | | |
| October | 0 | | | 0 | | |
| November | 0 | | | 0 | | |
| December | 0 | | | 0 | | |
| Total | 2.75 | 107.9 | 10352.9 | 0 | 0 | 0 |

*AADF: Annual Average Daily Flow* | *% of AADF= ((Volume of Bypass/ADDF)/365)*100*

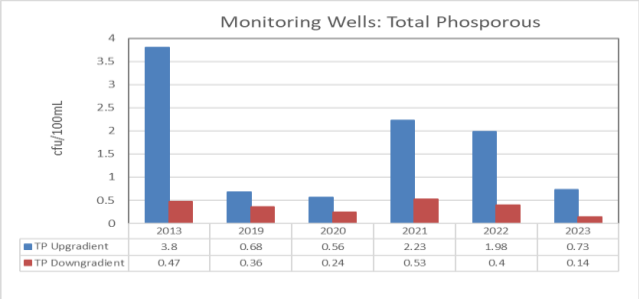
**AADF($m^3$/d) = 4,057*

$$\frac{\text{Volume of Bypass as \% of AADF*}}{\text{Daily Flow}} = 0.70\%$$

## Alexandria Monitoring Well Location

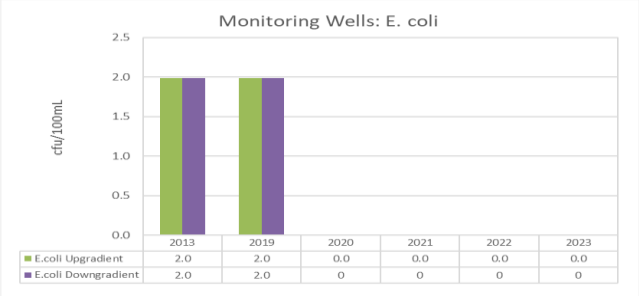



## Alexandria Monitoring Sampling Results



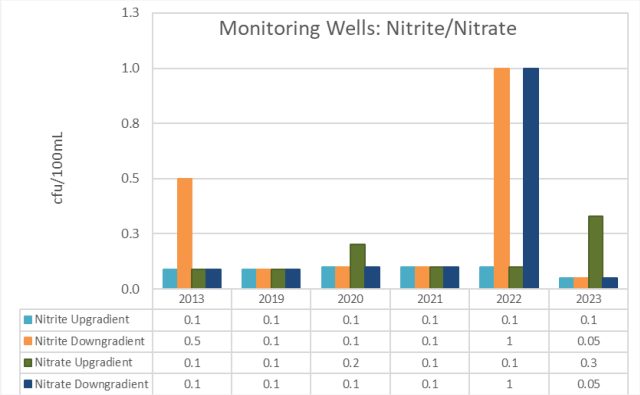

Total Phosphorous in the downgradient well was found to be consistent lower than the result from the upgradient well results, which indicates little to no impact from the lagoon system.

Please note the initial sample results from 2013 and the last 5 years are only displayed.




E. coli has not been detected in the downgradient well and the upgradient well since 2019, which demonstrates that the lagoons have no impact on surrounding areas.

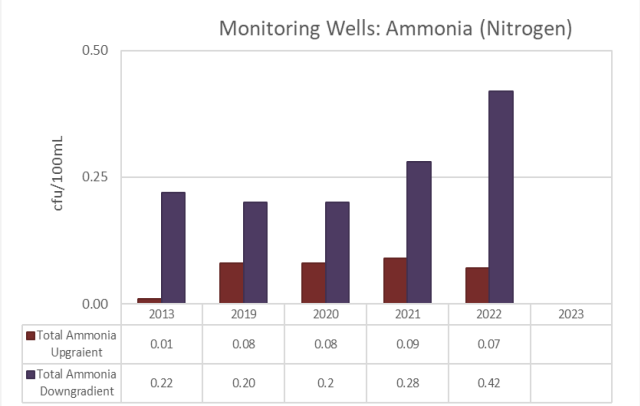
Please note results in 2019 were < 2 cfu/100mL, *(represented by a reading of 2.0)*.




| | 2013 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| Nitrite Upgradient | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nitrite Downgradient | 0.5 | 0.1 | 0.1 | 0.1 | 1 | 0.05 |
| Nitrate Upgradient | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.3 |
| Nitrate Downgradient | 0.1 | 0.1 | 0.1 | 0.1 | 1 | 0.05 |

Nitrite/Nitrate samples have been below detection in most samples results. However, results from 2023 nitrate levels were increased, but these results were still minimal. Further testing may indicate if this parameter is impacting the surrounding areas,

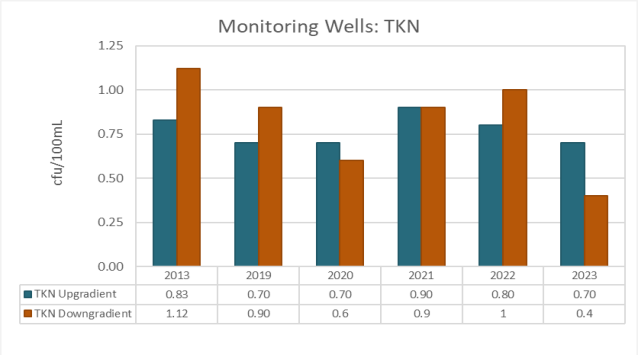
Please note although the 2022 levels appear to be increased levels were noted however these results were <1mg/L, so represented by 1.




| | 2013 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| Total Ammonia Upgraient | 0.01 | 0.08 | 0.08 | 0.09 | 0.07 | |
| Total Ammonia Downgradient | 0.22 | 0.20 | 0.2 | 0.28 | 0.42 | |

No sampling was completed in 2023, but historical trending results from the downgradient well results have been marginal in nature, but all results are higher than the upgradient samples. The sampling results indicate possible influence, but impact would be minimal based on results.

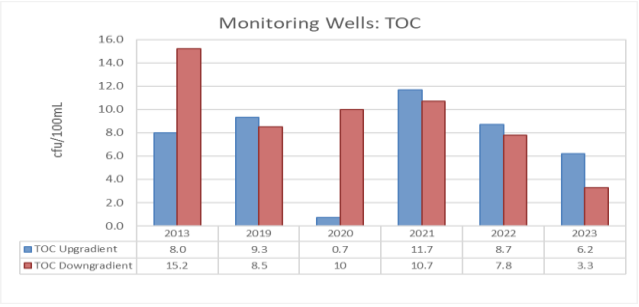
It is also worth noting surrounding area is agricultural, which may also be a source of nitrogen.




| | 2013 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| TKN Upgradient | 0.83 | 0.70 | 0.70 | 0.90 | 0.80 | 0.70 |
| TKN Downgradient | 1.12 | 0.90 | 0.6 | 0.9 | 1 | 0.4 |

As historical trending has displayed intermittent increases in both upstream and downstream samples, the TKN values from 2023 are well below the upstream samples. Overall, samples are marginal in nature.

It is also worth noting surrounding area is agricultural, which may also be a source of nitrogen.




| | 2013 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| TOC Upgradient | 8.0 | 9.3 | 0.7 | 11.7 | 8.7 | 6.2 |
| TOC Downgradient | 15.2 | 8.5 | 10 | 10.7 | 7.8 | 3.3 |

TOC sampling results were found to be lower in the downgradient well and significantly lower than the initial sample results. The annual reading appears to fluctuate over the last few years, but have been decreasing over the last 5 years.

It should be noted that all results are based on observed testing, and not from a hydrogeological standpoint.

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# Township of North Glengarry

## Maxville Wastewater System

## 2023 Annual Report

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    ii. Pre-Discharge Monitoring
    iii. Spring Discharge Monitoring
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4. **Maintenance Summary**
5. **Effluent Quality Control and Assurance**
6. **Flow Measurement and Equipment Calibration**
7. **Effluent Objectives**
8. **Sludge Accumulation**
9. **Complaints**
10. **By-pass, Overflow, Spill or Abnormal Discharge Event**
11. **Other**

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**Efforts to Reduce System Overflows**
    i. Collection System Inspection, Repair and Remediation Summary

**Appendix A: Wastewater Treatment Works Performance Report**
**Appendix B: Sludge Monitoring Report**
**Appendix C: Annual Discharge Report**
**Appendix D: Maxville System Magmeter Flow Comparison**

## 1. Performance Assessment

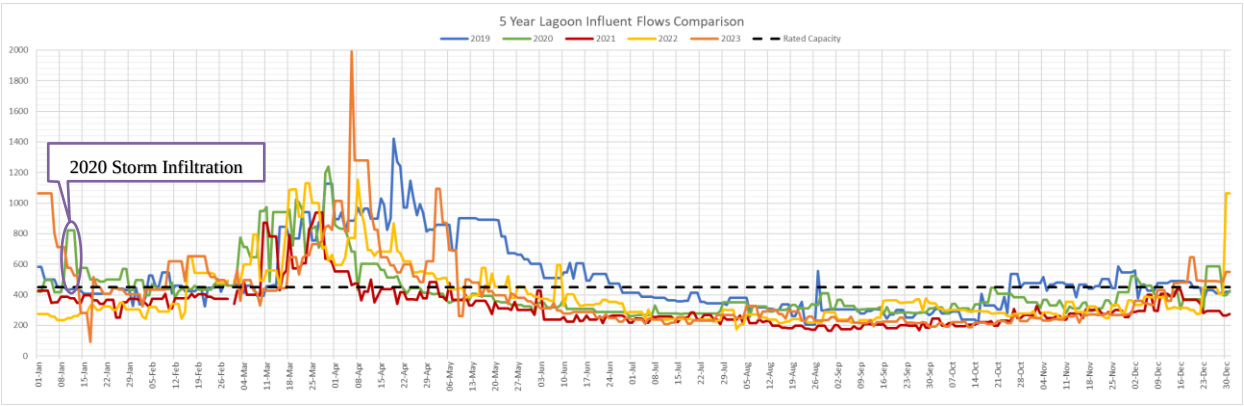
*Summary and interpretation of all monitoring data collected in accordance with condition 10 and a comparison to the effluent limits outlined in condition 7, including an overview of the success and adequacy of the works.*

The Wastewater System servicing the village of Maxville, Ontario is comprised of a class 2 collection system and a class 1 treatment lagoon system. The collection system is comprised of an interconnected network of sanitary service laterals, sanitary sewage mains, sanitary manholes, sewage force mains and pumping stations used to collect and transport wastewater to the treatment lagoon system. The treatment lagoons consist of a coagulant dosing system, 2 facultative lagoon cells, and chambers for both the influent and effluent flows. The influent wastewater flows are directed into one of the two lagoon cells and are dosed year-round with coagulant to aid in reducing phosphorus levels. The influent flow are rotated between cells each year by operational staff as a part of the maintenance program. The wastewater is treated through natural biological means and only discharged annually, coinciding with the Spring Thaw and peak flows conditions of the West branch of the Scotch River, as per the Environmental Compliance Approval conditions.

The influent wastewater flows entering the lagoon system is metered by a Magmeter, located prior to the Influent Splitter Chamber, and during the 2023 calendar year, 149,550m$^3$ of untreated raw sewage was directed into the Maxville Lagoon system for treatment. There were no additional wastewater sources discharging into the system throughout this calendar year and growth to the system is very limited, however it has been noted the total influent flows have increased slightly since 2022.

Additionally, there were no CCTV inspection programs completed observed during this year, but the engineering firm have been engaged to complete an environmental assessment on the lagoon system due to the elevated rated capacity.

*Figure 1: 5yrs Lagoon Influent Flow Comparison*

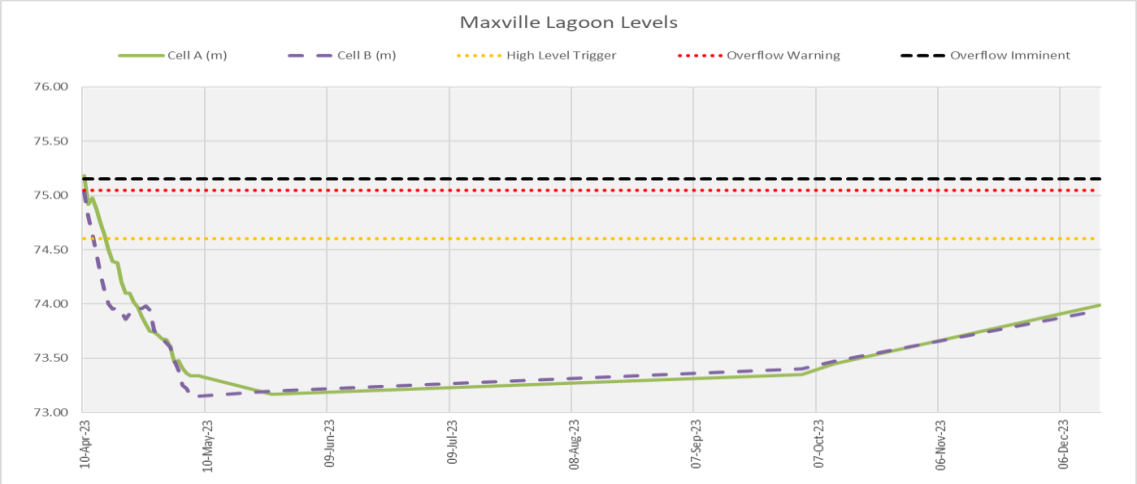



The system operated well throughout 2023, with the raw sewage strength remaining similar to previous years, as per Table 1. The annual discharge began within 14-days of the pre-monitoring sampling, monitoring of the discharge was completed daily by operational staff and sampling was completed on five occasions at 3 sites. The required mixing ratio was always maintained based on the flow monitoring, and pH was always within allowable limits. The final effluent sampling results were well within the limits with the exception of the last TSS sample. Although the annual average for TSS was below the provincial limit of 30mg/L, it did exceed the federal limit of 25mg/L and the provincial average waste loading limit of 4,932kgs. Please see subsections below for a full summary of results and refer to Appendix A for a full summary of all flows, raw influent and treated effluent results.

The lagoon levels in each cell are monitored to ensure the cell capacities are not exceeded and no discharge will occur outside of the allowed discharge period. A high-water level trigger has been set at 76% capacity or 74.60m, at which point the township will implement a contingency plan to prevent overflow. During the 2023

calendar year the monitoring starting just before the seasonal discharge period, daily throughout the discharge and monthly outside of the discharge period when the cells were not covered by ice. No issues or concerns were noted during this period, and the levels in both cells were found to now be equalized.

*Figure 2: Annual Lagoon Levels*




### i. Raw Sewage Monitoring

Condition 10 (3) of the ECA requires monthly raw sewage sampling at the Main Station for $CBOD_5$, Total Suspended Solids (TSS) and Total Phosphorus (TP). All sampling was completed as per conditions listed above; no additional samples were taken during 2023. Although TSS and TP results are slightly increased from previous years for most parameters, the sewage strength appears to be consistent with previous finding indicating not much variation in the inflowing sewage strength. Please refer to Appendix A for a full summary of the raw quality analysis.

*Table 1: Annual Average Raw Sewage Monitoring Comparison*

| Year | Annual Average Result | | |
|---|---|---|---|
| | $BOD_5$ (mg/L) | TSS (mg/L) | TP (mg/L) |
| 2023 | 75.5 | 355.5 | 5.27 |
| 2022 | 104.6 | 201.4 | 4.22 |
| 2021 | 183.1 | 170.5 | 4.12 |
| 2020 | 83.9 | 127 | 3.92 |
| 2019 | 112.3 | 222.2 | 3.32 |

### ii. Pre-Discharge Monitoring

Condition 10(3) of the ECA requires the sampling and analysis of $BOD_5$, TSS and TP in each lagoon cell within 14 days prior to discharge commencement, which is performed to ensure that the effluent limits of each parameter are met prior to discharge. The table below summarizes the dates samples were taken and sample results within the 14-day period. In 2023 a total of 2 sets of samples were taken prior to the commencement of the discharge, all results indicated effluent sewage did not require additional treatment prior to discharge.

*Table 2: Pre-Discharge Sampling Summary*

| Sampling Locations | Cell A | | | Cell B | | |
|---|---|---|---|---|---|---|
| Effluent Parameters (mg/L) | $BOD_5$ | TSS | TP | $BOD_5$ | TSS | TP |
| ECA Effluent Limit (mg/L) | 30 | 30 | 1 | 30 | 30 | 1 |
| 27-Mar-23 | 5 | 10 | 0.32 | 4 | 13 | 0.36 |
| 28-Mar-23 | 4 | 7 | 0.17 | 3 | 5 | 0.11 |

### iii. Spring Discharge Monitoring

The 2023 annual spring discharge was a non-stop flow over 29-day period, within a calculated 675.9hrs. The discharge was started on Monday April 10, 2023, and was shut down on Monday May 8, 2023, with a total effluent volume of 268,031$m^3$ discharged into the West Branch of the Scotch River. Throughout the discharge, daily flow monitoring was completed to ensure the flows remained within the allowable 3:1 mixing ratio.

*Table 3: Discharge Flow Summary*

| Date | Start Time | Total hours | River Flow ($m^3/s$) | Discharge Rate ($m^3/s$) | Mixing Ratio (3:1) | Discharge Amount ($m^3$) |
|---|---|---|---|---|---|---|
| | (from Sting Ray) | (calculated) | (calculated) | (calculated) | (calculated) | (from Sting Ray) |
| 10-Apr-23 | 10:19 | | 1.629 | 0.213 | 7.65 : 1 | |
| 11-Apr-23 | 12:34 | 26.25 | 1.296 | 0.205 | 6.32 : 1 | 18,860.51 |
| 12-Apr-23 | 9:08 | 20.56 | 1.212 | 0.205 | 5.91 : 1 | 14,274.72 |
| 13-Apr-23 | 8:10 | 23.03 | 0.895 | 0.195 | 4.59 : 1 | 15,764.96 |
| 14-Apr-23 | 10:27 | 26.28 | 0.621 | 0.195 | 3.18 : 1 | 17,405.51 |
| 15-Apr-23 | 8:05 | 21.63 | 0.430 | 0.141 | 3.05 : 1 | 14,594.97 |
| 16-Apr-23 | 11:04 | 26.98 | 0.409 | 0.135 | 3.03 : 1 | 14,370.35 |
| 17-Apr-23 | 9:02 | 21.96 | 0.237 | 0.075 | 3.16 : 1 | 11,367.44 |
| 18-Apr-23 | 8:58 | 23.93 | 0.446 | 0.145 | 3.08 : 1 | 6,045.36 |
| 19-Apr-23 | 8:41 | 23.71 | 0.166 | 0.055 | 3.02 : 1 | 12,193.99 |
| 20-Apr-23 | 9:19 | 24.63 | 0.205 | 0.067 | 3.06 : 1 | 5,151.80 |
| 21-Apr-23 | 8:11 | 22.86 | 0.199 | 0.065 | 3.06 : 1 | 5,484.45 |
| 22-Apr-23 | 9:49 | 25.63 | 0.212 | 0.068 | 3.12 : 1 | 5,938.29 |
| 23-Apr-23 | 10:23 | 24.56 | 0.213 | 0.068 | 3.13 : 1 | 5,789.45 |
| 24-Apr-23 | 12:17 | 25.90 | 0.291 | 0.091 | 3.20 : 1 | 6,210.74 |
| 25-Apr-23 | 9:44 | 23.45 | 0.382 | 0.125 | 3.06 : 1 | 6,679.69 |
| 26-Apr-23 | 11:22 | 25.63 | 0.344 | 0.111 | 3.10 : 1 | 11,206.60 |
| 27-Apr-23 | 8:46 | 21.40 | 0.287 | 0.095 | 3.02 : 1 | 8,171.55 |
| 28-Apr-23 | 8:39 | 23.88 | 0.207 | 0.068 | 3.04 : 1 | 7,668.18 |
| 29-Apr-23 | 9:32 | 24.88 | 0.244 | 0.076 | 3.21 : 1 | 5,805.26 |
| 30-Apr-23 | 10:26 | 24.90 | 0.333 | 0.108 | 3.08 : 1 | 6,736.92 |
| 01-May-23 | 8:32 | 22.10 | 4.676 | 0.200 | 23.38 : 1 | 8,490.54 |
| 02-May-23 | 8:03 | 23.48 | 2.449 | 0.200 | 12.25 : 1 | 16,179.53 |
| 03-May-23 | 8:38 | 24.58 | 1.909 | 0.158 | 12.08 : 1 | 16,004.14 |
| 04-May-23 | 8:05 | 23.45 | 1.315 | 0.160 | 8.22 : 1 | 13,298.55 |
| 05-May-23 | 8:07 | 24.03 | 0.829 | 0.053 | 15.64 : 1 | 8,962.25 |
| 06-May-23 | 9:17 | 25.16 | 0.569 | 0.021 | 27.10 : 1 | 2,603.58 |
| 07-May-23 | 11:51 | 26.56 | 0.330 | 0.014 | 23.57 : 1 | 1,717.93 |
| 08-May-23 | 12:19 | 24.46 | 0.285 | 0.010 | 29.72 : 1 | 1,053.25 |

Condition 10(2) of the ECA requires that during the discharge the lagoon effluent is to be sampled at a minimum of 4 times per cell based on the % draw down. Samples are to be collected at the start of the discharge, at 33%, at 67% and on the final day. During the 2023 discharge, samples were collected 5 times

from a single point at the discharge outfall, as the cell discharges are blended before being released. The effluent discharge was also tested for acute lethality, as per federal requirements. As per the above statement the only issue observed was an elevated TSS result on the last sample. There were no operational issues noted or observed sedimentation during the sampling. Please refer to section 7 and Appendix A for further information.

## 2. Groundwater and Surface Water Monitoring

*Summary and Interpretation of all groundwater monitoring data.*

Condition 10(3) of the current ECA addresses the requirements of the monitoring program. Sampling is to be performed annually, semi-annually or three times per year depending on the parameter, as per Table 6-Groundwater Monitoring and Table 7-Surface Water Monitoring. JP2G Consultants in association with the Greer Galloway Group was retained by the Township to complete the annual monitoring program for the Maxville lagoon system. An annual report is submitted to the Ministry of Environment and to the Township upon completion each calendar year.

As per the report, *the groundwater flow direction is east-northeast, consistent with historical findings and results indicate that the lagoons are having some impacts on the groundwater in the area. However, the results were well within the compliance requirements of the MOECC B-7 guideline and no potable groundwater users are within the area immediately downgradient of the site. The surface water results indicated the lagoons do not appear to have significantly impacted the water quality in the West Branch of the Scotch River and the results observed in river were significantly outside the concentrations measured in the eastern cell of the lagoons (2022 results).*

## 3. Operational Problems

*A description of any operating problems encountered and corrected.*

Collection System:

- Pump failure at Manor Station
  - multiple refurbishments on a single pump due to on-going failure issues.
  - pump was taken out of service in early 2024 and replacement pump is on-site to be installed once system upgrades are completed.
- Rail System Failure at Manor Station
  - replacement of defective equipment.
- Level float failure
  - replacement of defective equipment.

Treatment System:

- Generator
  - replace defective battery.
  - internal error code inspection and repair.
- Central equalization valve partial blockage
  - external flushing truck utilized to remove blockage from pipe.

## 4. Maintenance

*Summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism, or thing forming part of the Works.*

Collection System:

- Annual generator maintenance in April and December
- Annual station wet well cleaning completed in August.
- Monthly emergency generator testing, no issues noted.

- Monthly alarm signal testing.
- Monthly pest control monitoring, no issues noted.

Treatment System:

- Annual flow meter calibration in April 2023.
- Monthly pest control monitoring at equipment building, no issues noted.
- Cleaned influent chamber in May 2023.

## 5. Effluent Quality Control and Assurance

*Summary of any effluent quality assurance or control measures undertaken in the reporting period*

All sampling was performed within provincial guidelines by licensed operators, as per internal SOP's. Sampling schedules with sign off are also used to ensure that operational staff are aware of sampling requirements and timeline as per the ECA and Federal requirements.

Effluent quality control and assurances measures were undertaken by the MOE certified laboratory, Caduceon Environmental Laboratories and AGAT Laboratories, which conducts analysis for the Township.

## 6. Flow Measurement and Calibration

*Summary of the calibration and maintenance carried out on all effluent monitoring equipment.*

Annual calibration was completed by St- Laurent Instrumentation in December 2023. Calibrations were performed on all level detection units (pumping station levels and chemical tank levels), and flow sensing devices (magmeters, miltronics, etc.).

## 7. Effluent Objectives

*A description of efforts made, and results achieved in meeting the effluent objectives of condition 6.*

Sampling was completed five times throughout the discharge period and the annual average concentrations were all below the provincial ECA effluent limits, however the annual average TSS was found to exceed the provincial objectives, the Federal Wastewater System Effluent Regulations limit, and the provincial annual average waste loading limits. The last results reported for TSS was well above the allowable concentration limits, the exceedances were reported as required. This sample was the last sample taken prior to discharge shut down, there was no notation of abnormal observances during sampling or an indication the sample had an increased suspended solid appearance. An acute lethality sample was taken at the midpoint of the discharge, and the results indicated the sample was not acutely lethal. Please refer to the tables below for the summary results. A full discharge summary can be found in Appendix C.

*Table 4: Provincial and Federal Effluent Sampling Results*

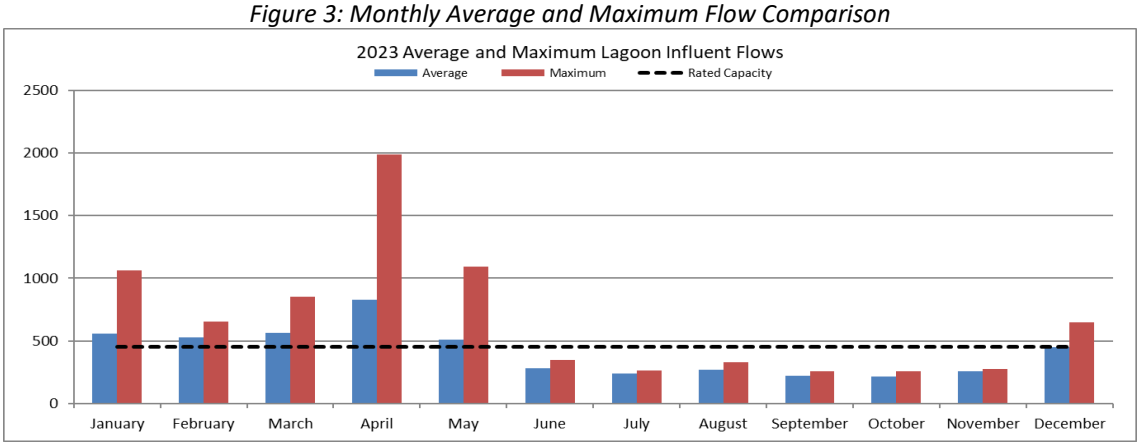
| Effluent Parameter | $CBOD_5$ | TSS | TP | pH | Acute Lethality |
|---|---|---|---|---|---|
| *Provincial Effluent Limits (mg/L)* | *30* | *30* | *1* | *6.0 - 9.5* | |
| *Federal Effluent Limits (mg/L)* | *25* | *25* | | | *50 %* |
| 10-Apr-2023 | 3 | 11 | 0.35 | 7.11 | |
| 18-Apr-2023 | 6 | 14 | 0.30 | 7.53 | 0 |
| 20-Apr-2023 | 28 | 10 | 0.34 | 8.19 | |
| 25-Apr-2023 | 9 | 16 | 0.30 | 7.75 | |
| 8-May-2023 | 3 | 84 | 0.54 | 7.75 | |
| **2023 Maxville Average Concentration** | **9.8** | **27** | **0.37** | **7.02 - 8.26** | **0** |

*Table 5: Provincial Calculated Waste Loading Results*

| Effluent Parameter | $CBOD_5$ | TSS | TP | pH |
|---|---|---|---|---|
| Provincial Average Waste Loading Limits (kgs) | 4932 | 4932 | 164 | |
| 2023 Maxville Average Waste Loading (kgs) | 2626.7 | 7236.8 | 98.1 | |

The annual average daily flow for 2023 was calculated to be 411$m^3$/day, and the maximum daily flow for the year was reported to be 1,990$m^3$/day. This represents 91.2% of the total rated capacity, which is within the rated capacity of this facility. Please refer to the chart below and to Appendix A for a full summary of flows, for the Maxville Sewage Treatment Works. The flow values displayed below are based on the lagoon influent flows.

*Figure 3: Monthly Average and Maximum Flow Comparison*




There were no reports made in regard to floating or settleable solids within the wastewater effluent. There were also no reports made that the effluent wastewater contained oil or any other substance that created a visible film, sheen, foam or discolouration to the receiving waters.

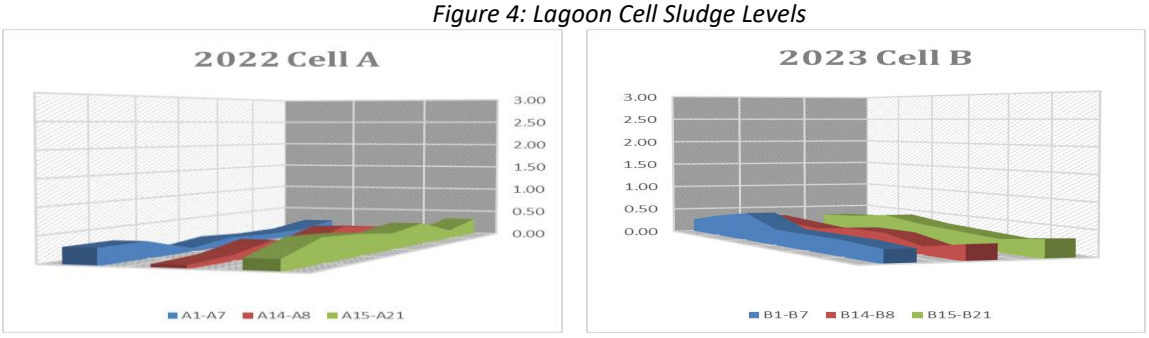
## 8. Sludge Accumulation

*A tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed.*

A Sludge Management Plan was created by McIntosh Perry and put into place in 2008. As part of the monitoring methods, it is recommended that sludge level should be taken annually.

Sludge levels in Cell B were collected on October 19, 2023, but levels in Cell A were not taken due to low water levels. As per the report, no points exceeded the volume/depth elevation as per setpoints developed through the plan but the total sludge volume in Cell B exceeded the trigger warning. It was also noted that warning triggers were also exceeded at Cell B outfall and as such the sludge should be removed or dispersed as per recommendations. The Township is to determine if any action is required.

*Figure 4: Lagoon Cell Sludge Levels*



## 9. Complaints

*Summary of any complaints received during the reporting period and any steps taken to address the complaints.*

There were no complaints within this reporting period from the wastewater system.

## 10. Bypass, Overflow, Spill or Abnormal Discharge Event

*A summary of all bypasses, overflow, spill, abnormal discharge events.*

There were no bypasses, overflows, spills, or abnormal discharge events in 2023.

## 11. Other

*Any other information the District Manager requires from time to time.*

### Authorized System Alterations

#### i. Alterations Summary

*A summary of all alterations within the reporting period as authorized by the ECA ,including all alterations that pose a significant drinking water treat.*

There were no alterations or additions to the collection or treatment system during this reporting period.

### Efforts to Reduce System Overflows

#### i. Collection System Inspection, Repair and Remediation

*A summary of all work completed within the reporting period as authorized by the ECA, including all projects undertaken, PPCP updates and an assessment of the effectiveness of these actions.*

This system does not have a recorded history of overflows to natural environment. The of engineering firm EVB was contracted to complete an Inflow and Infiltraion analysis study, including an overview of all pumping station and their current capacities. This will assist in identifying areas of concerns and help with future work planning.

## NORTH GLENGARRY WATER WORKS

## WASTEWATER TREATMENT WORKS PERFORMANCE RESULTS

**Municipality:** North Glengarry

**Year:** 2023

**Project:** Maxville WWTP

**Receiving Stream:** West Branch Scotch River

**Description:** 1 Pumping Station, 2 Facultative Cells
Seasonal Discharge with Phosphorous Removal

**Design Capacity:** 450 $m^3$/day

| MONTH | Flows | | | | | | Biochemical Oxygen Demand | | | | Suspended Solids | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Influent Flow ($m^3$) | Average Daily Influent Flow ($m^3$) | Maximum Daily Influent Flow ($m^3$) | Total Effluent Flow ($m^3$) | Average Daily Effluent Flow ($m^3$) | Maximum Daily Effluent Flow ($m^3$) | Average Raw $BOD_5$ (mg/L) | Average Effluent $CBOD_5$ (mg/L) | Percent Removal (%) | Average $CBOD_5$ Waste Loading (kgs) | Average Raw TSS (mg/L) | Average Effluent TSS (mg/L) | Percent Removal (%) | Average TSS Waste Loading (kgs) |
| January | 17,382 | **561** | 1,062 | | | | 84 | | | | 120 | | | |
| February | 14,799 | **529** | 653 | | | | 77 | | | | 115 | | | |
| March | 17,428 | **562** | 854 | | | | 45 | | | | 120 | | | |
| April | 24,888 | **830** | 1,990 | 208,211 | 9,915 | 18,861 | 51 | 12 | 77 | 2,394 | 190 | 13 | 93 | 2,655 |
| May | 15,863 | **512** | 1,092 | 59,819 | 8,546 | 16,180 | 24 | 3 | 88 | 179 | 310 | 84 | 73 | 5,025 |
| June | 8,398 | 280 | 348 | | | | 156 | | | | 450 | | | |
| July | 7,348 | 237 | 266 | | | | 129 | | | | 160 | | | |
| August | 8,410 | 271 | 328 | | | | 61 | | | | 700 | | | |
| September | 6,704 | 223 | 257 | | | | 106 | | | | 580 | | | |
| October | 6,741 | 217 | 260 | | | | 73 | | | | 350 | | | |
| November | 7,687 | 256 | 278 | | | | 75 | | | | 330 | | | |
| December | 13,902 | 448 | 646 | | | | 33 | | | | 600 | | | |
| **Total** | 149,550 | | | 268,030 | | | | | | | | | | |
| **Average** | 12,462 | 411 | | 134,015 | 9,231 | | 76 | 10 | | 2,627 | 335 | 27 | | **7,237** |
| **Maximum** | 24,888 | | 1,990 | 208,211 | | 18,861 | 156 | | | | 700 | | | |
| **Criteria** | | ***450*** | | | | | | ***30*** | | ***4932*** | | ***30*** | | ***4932*** |

## NORTH GLENGARRY WATER WORKS
## WASTEWATER TREATMENT WORKS PERFORMANCE RESULTS
## *2023*

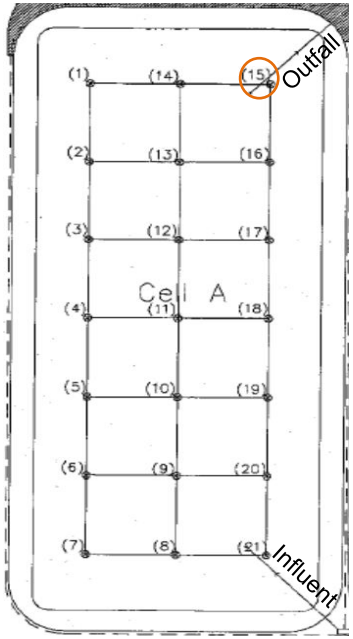
| MONTH | Phosphorus | | | | Total Kjeldahl Nitrogen | | | Nitrite | | | Nitrate | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average Raw TP (mg/L) | Average Effluent TP (mg/L) | Percent Removal (%) | Average TP Loading (kgs) | Average Raw TKN (mg/L) | Average Effluent TKN (mg/L) | Percent Removal (%) | Average Raw Nitrite (mg/L) | Average Effluent Nitrite (mg/L) | Percent Removal (%) | Average Raw Nitrate (mg/L) | Average Effluent Nitrate (mg/L) | Percent Removal (%) |
| **January** | 2.10 | | | | | | | | | | | | |
| **February** | 2.23 | | | | | | | | | | | | |
| **March** | 2.47 | | | | | | | | | | | | |
| **April** | 2.11 | 0.32 | 85 | 67 | | 11.70 | | | | | | | |
| **May** | 2.17 | 0.54 | 75 | 32 | | 3.60 | | | | | | | |
| **June** | 7.80 | | | | | | | | | | | | |
| **July** | 5.75 | | | | | | | | | | | | |
| **August** | 8.90 | | | | | | | | | | | | |
| **September** | 7.24 | | | | | | | | | | | | |
| **October** | 7.17 | | | | | | | | | | | | |
| **November** | 7.15 | | | | | | | | | | | | |
| **December** | 4.98 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | | |
| **Average** | 5.01 | 0.37 | | 98 | | 7.65 | | | | | | | |
| **Maximum** | 8.90 | | | | | 11.70 | | | | | | | |
| **Criteria** | 9.70 | 0.38 | | | | | | | | | | | |

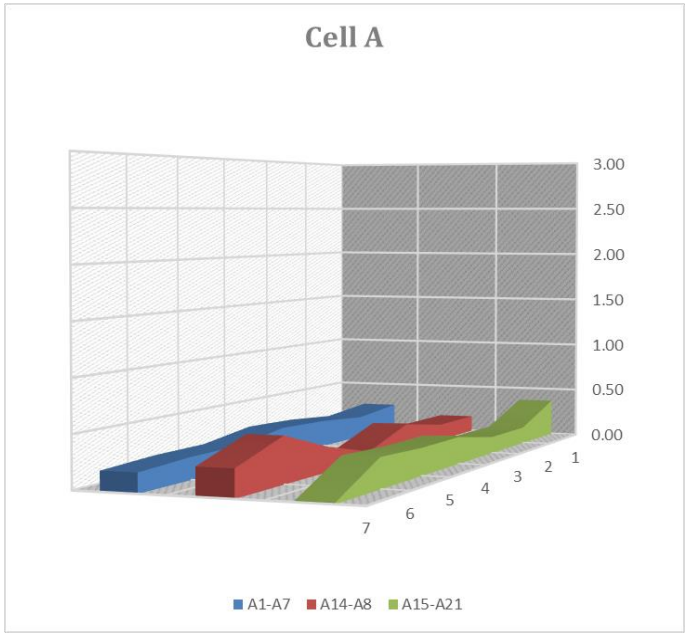
## NORTH GLENGARRY WATER WORKS
## WASTEWATER TREATMENT WORKS PERFORMANCE RESULTS
## *2023*

| MONTH | Total Dissolved Solids | | | O-Phosphate | | | Ammonia | | | E-Coli | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average Raw TDS (mg/L) | Average Effluent TDS (mg/L) | Percent Removal (%) | Average Raw O-Phosphate (mg/L) | Average Effluent O-Phosphate (mg/L) | Percent Removal (%) | Average Raw Ammonia (mg/L) | Average Effluent Ammonia (mg/L) | Percent Removal (%) | Average Raw E.Coli (mg/L) | Average Effluent E.Coli (mg/L) | Percent Removal (%) |
| **January** | | | | | | | | | | | | |
| **February** | | | | | | | | | | | | |
| **March** | | | | | | | | | | | | |
| **April** | | | | | | | | 5.0 | | | 2,286.7 | |
| **May** | | | | | | | | 1.3 | | | 180.0 | |
| **June** | | | | | | | | | | | | |
| **July** | | | | | | | | | | | | |
| **August** | | | | | | | | | | | | |
| **September** | | | | | | | | | | | | |
| **October** | | | | | | | | | | | | |
| **November** | | | | | | | | | | | | |
| **December** | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| **Average** | | | | | | | | 3.2 | | | 1,233 | |
| **Maximum** | | | | | | | | 5.0 | | | 2,287 | |
| **Criteria** | | | | | | | | | | | | |

# 2022 Annual Cell A Sludge Reports

| Maxville | Cell A-Sample Point Sludge Volume ($m^3$) | | | | | | | | | | | | | | | | | | | | | Total Sludge Volume ($m^3$) | Total Sludge Volume (%) | Warning Trigger [2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | | | |
| 12-Nov-08 | 1754 | 271 | 624 | 458 | 937 | 791 | 545 | 715 | 608 | 608 | 608 | 608 | 608 | 1038 | 356 | 624 | 624 | 937 | 937 | 624 | 1446 | 15,717 | 62 | Total Sludge Volume is Elevated |
| 22-Apr-09 | 356 | 312 | 312 | 562 | 312 | 146 | 711 | 392 | 203 | 608 | 1215 | 871 | 810 | 254 | 284 | 728 | 312 | 312 | 937 | 416 | 1067 | 11,119 | 44 | |
| 27-Apr-10 | 711 | 416 | 583 | 520 | 416 | 271 | 237 | 0 | 101 | 263 | 263 | 304 | 101 | 415 | 237 | 271 | 167 | 416 | 520 | 416 | 711 | 7,340 | 29 | |
| 07-Oct-10 | 237 | 354 | 312 | 208 | 250 | 312 | 284 | 277 | 405 | 243 | 1337 | 243 | 142 | 2076 | 356 | 458 | 354 | 312 | 312 | 208 | 284 | 8,963 | 36 | |
| 08-Dec-11 | 0 | 0 | 0 | 0 | 0 | 312 | 237 | 277 | 203 | 142 | 0 | 0 | 0 | 0 | 119 | 146 | 42 | 312 | 354 | 1186 | 1114 | 4,442 | 18 | |
| 24-Oct-12 | 119 | 104 | 146 | 0 | 146 | 42 | 166 | 115 | 101 | 41 | 0 | 101 | 203 | 231 | 47 | 42 | 104 | 42 | 42 | 104 | 356 | 2,249 | 9 | |
| 06-Oct-14 | 521 | 395 | 291 | 271 | 291 | 395 | 427 | 438 | 81 | 446 | 162 | 344 | 284 | 438 | 616 | 437 | 479 | 458 | 333 | 500 | 403 | 8,010 | 32 | |
| 06-Nov-15 | 379 | 437 | 1478 | 229 | 541 | 437 | 498 | 369 | 324 | 324 | 527 | 628 | 628 | 600 | 379 | 541 | 749 | 645 | 1082 | 749 | 379 | 11,923 | 47 | |
| 07-Nov-16 | 403 | 125 | 458 | 333 | 229 | 562 | 142 | 369 | 324 | 446 | 446 | 446 | 446 | 507 | 24 | 562 | 354 | 458 | 458 | 250 | 261 | 7,600 | 30 | |
| 29-Oct-19 | 687 | 458 | 458 | 500 | 229 | 500 | 332 | 323 | 527 | 425 | 648 | 547 | 344 | 738 | 569 | 604 | 604 | 604 | 562 | 770 | 853 | 11,279 | 45 | |
| 28-Oct-20 | 450 | 437 | 437 | 604 | 541 | 437 | 616 | 600 | 911 | 486 | 182 | 527 | 324 | 369 | 24 | 604 | 541 | 541 | 333 | 333 | 877 | 10,174 | 40 | |
| 11-Nov-22 | 521 | 250 | 250 | 354 | 146 | 666 | 759 | 161 | 223 | 547 | 243 | 648 | 446 | 161 | 759 | 354 | 874 | 666 | 874 | 978 | 521 | 10,400 | 41 | |



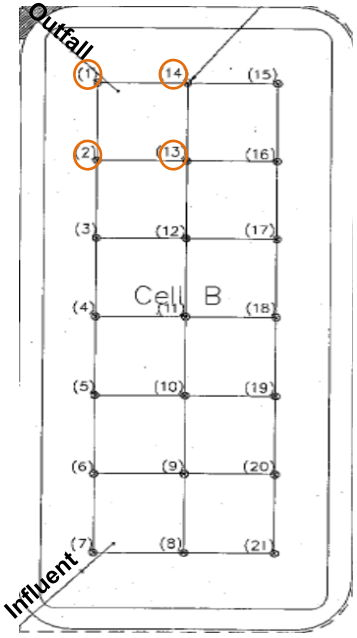



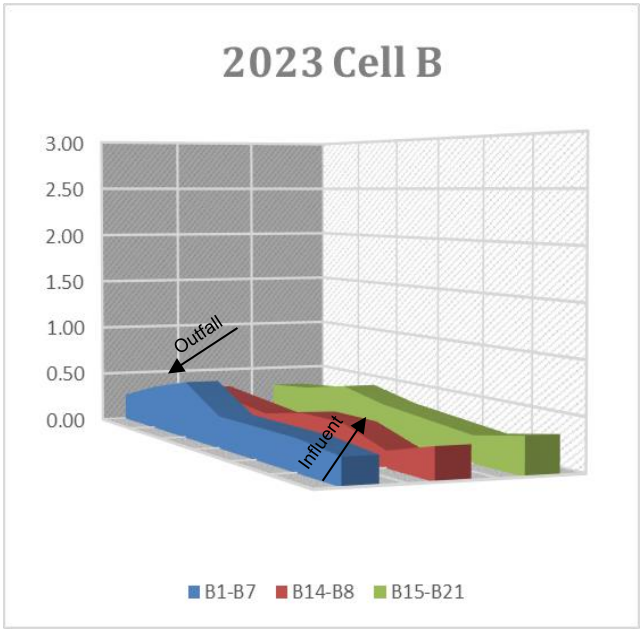

Triggers and Suggested Actions

- Sludge depth measurements were not completed due to low water levels observed in October
- All results displayed are from 2022.

# 2023 Annual Cell B Sludge Reports

| Maxville | Cell B-Sample Point Sludge Volume ($m^3$) | | | | | | | | | | | | | | | | | | | | | Total Sludge Volume ($m^3$) | Total Sludge Volume (%) | Warning Trigger [2] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | | | |
| 12-Nov-08 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 22-Apr-09 | 1422 | 312 | 354 | 624 | 624 | 791 | 1185 | 507 | 405 | 304 | 203 | 770 | 446 | 1268 | 1304 | 624 | 937 | 1249 | 687 | 1145 | 1730 | 16,890 | 67 | Total Sludge Volume is Elevated |
| 27-Apr-10 | 474 | 312 | 583 | 479 | 312 | 167 | 308 | 346 | 101 | 0 | 304 | 0 | 405 | 185 | 853 | 479 | 104 | 312 | 208 | 208 | 237 | 6,376 | 25 | |
| 07-Oct-10 | 356 | 104 | 250 | 250 | 104 | 208 | 284 | 231 | 304 | 304 | 203 | 243 | 243 | 0 | 119 | 146 | 458 | 312 | 354 | 146 | 356 | 4,972 | 20 | |
| 08-Dec-11 | 0 | 0 | 354 | 312 | 354 | 312 | 1967 | 231 | 446 | 142 | 142 | 101 | 668 | 0 | 166 | 208 | 146 | 520 | 562 | 312 | 521 | 7,464 | 30 | |
| 24-Oct-12 | 237 | 208 | 250 | 208 | 146 | 208 | 166 | 346 | 243 | 142 | 304 | 142 | 203 | 161 | 166 | 146 | 104 | 146 | 104 | 146 | 237 | 4,011 | 16 | |
| 06-Oct-14 | 640 | 333 | 666 | 479 | 541 | 395 | 593 | 254 | 263 | 263 | 81 | 101 | 284 | 392 | 403 | 520 | 458 | 187 | 479 | 208 | 593 | 8,133 | 32 | |
| 06-Nov-15 | 640 | 458 | 333 | 333 | 229 | 229 | 735 | 369 | 225 | 20 | 243 | 344 | 344 | 623 | 640 | 354 | 125 | 354 | 770 | 229 | 261 | 7,857 | 31 | |
| 07-Nov-16 | 284 | 354 | 354 | 562 | 354 | 562 | 521 | 277 | 243 | 344 | 344 | 547 | 446 | 623 | 166 | 21 | 562 | 562 | 354 | 354 | 877 | 8,710 | 35 | |
| 29-Oct-19 | 924 | 125 | 333 | 562 | 291 | 395 | 379 | 969 | 648 | 425 | 324 | 446 | 385 | 969 | 616 | 333 | 500 | 562 | 500 | 708 | 379 | 10,772 | 43 | |
| 28-Oct-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 14-Nov-22 | 806 | 541 | 645 | 812 | 812 | 624 | 735 | 554 | 628 | 527 | 628 | 527 | 527 | 484 | 782 | 708 | 645 | 770 | 541 | 645 | 972 | 13,911 | 55 | Total Sludge Volume is Elevated |
| 19-Oct-23 | 616 | 895 | 1166 | 645 | 645 | 645 | 616 | 715 | 324 | 628 | 628 | 425 | 527 | 715 | 735 | 749 | 957 | 749 | 645 | 541 | 853 | 14,420 | 57 | Total Sludge Volume is Elevated |




Triggers and Suggested Actions

- Sludge depth completed on October 19, 2023 by operational staff.
- Currently Cell A is at 57% of allowable volume, which is a 2% increase from 2022.
- No single point location exceeded sludge depth triggers, but the total cell volume and 3 locations at the outfall exceeded the warning trigger.

# 2023 Annual Outfall Summary

| Triggers | Monitoring Point | Warning [1] - Sludge Depth Exceeds Trigger on | Monitoring Point | Warning [1] - Sludge Depth Exceeds Trigger on | Monitoring Point | Warning [1] - Sludge Depth Exceeds Trigger on | Monitoring Point | at the Cell A outfall, Cell B |
|---|---|---|---|---|---|---|---|---|
| Cell A | 13 | 12-Nov-08 | 14 | 12-Nov-08 | 15 | | 16 | 12-Nov-08 |
| | 13 | 22-Apr-09 | 14 | | 15 | | 16 | 22-Apr-09 |
| | 13 | | 14 | | 15 | | 16 | |
| | 13 | | 14 | 07-Oct-10 | 15 | | 16 | |
| | 13 | | 14 | | 15 | | 16 | |
| | 13 | | 14 | | 15 | | 16 | |
| | 13 | | 14 | | 15 | 06-Oct-14 | 16 | |
| | 13 | 06-Nov-15 | 14 | 06-Nov-15 | 15 | | 16 | 06-Nov-15 |
| | 13 | | 14 | | 15 | | 16 | 07-Nov-16 |
| | 13 | | 14 | 29-Oct-19 | 15 | | 16 | 29-Oct-19 |
| | 13 | | 14 | | 15 | | 16 | 28-Oct-20 |
| | 13 | | 14 | | 15 | 11-Nov-22 | 16 | |
| | 13 | | 14 | | 15 | | 16 | |
| Cell B | 1 | | 2 | | 13 | | 14 | |
| | 1 | 22-Apr-09 | 2 | | 13 | | 14 | 22-Apr-09 |
| | 1 | | 2 | | 13 | | 14 | |
| | 1 | | 2 | | 13 | | 14 | |
| | 1 | | 2 | | 13 | 08-Dec-11 | 14 | |
| | 1 | | 2 | | 13 | | 14 | |
| | 1 | 06-Oct-14 | 2 | | 13 | | 14 | |
| | 1 | 06-Nov-15 | 2 | | 13 | | 14 | 06-Nov-15 |
| | 1 | | 2 | | 13 | | 14 | 07-Nov-16 |
| | 1 | 29-Oct-19 | 2 | | 13 | | 14 | 29-Oct-19 |
| | 1 | | 2 | | 13 | | 14 | |
| | 1 | 14-Nov-22 | 2 | 14-Nov-22 | 13 | 14-Nov-22 | 14 | |
| | 1 | 19-Oct-23 | 2 | 19-Oct-23 | 13 | 19-Oct-23 | 14 | 19-Oct-23 |

**Triggers and Suggested Actions**

| | |
|---|---|
| _____ | Note [2]: If a sample point is underlined, this signifies that the volume/depth of a sludge in that section of the cell is elevated and action might be required to obtain a uniform sludge distribution |
| *1* | Trigger depth of 0.25 m near outlet is exceeded **Removal or Dispersal of sludge may be required** |
| *2* | More than half the *Total Sludge Volume* (*25,170 m3*) noted on the ECA is estimated in each cell **Depending on location of elevated sludge depths, removal or dispersal of sludge may be required** |
| *3* | The trigger sludge depths (see *Sample Points Area* sheet) is exceeded in this cell **At an individual locations, the sludge depth in more than 1/3 of the working depth in the cell (1.8 m); sludge removal or dispersal may be required** |

# Maxville Spring Discharge 2023

May 2023

Township of North Glengarry
Water Works Department
Prepared by Angela Cullen

# Maxville Spring Discharge
# 2023 Annual Report

## *Discharge Summary*

The annual spring discharge met all requirements of set out in ECA#5368-8PPQA2 under section 9 (Special Operations), as listed below.

- The discharge was targeted to start during Spring peak flows as observed in the West Branch of the Scotch River.
- The annual discharge was continuously run over 29 days from Monday April 10, 2023 until Monday May 8, 2023.
- The discharge effluent flows were maintained to ensure discharge to river mixing ratio was never less than 3.02:1.

Summaries of the annual spring discharge totals and daily flow observations can be found in the tables listed below.

| Parameter | Total |
|---|---|
| Total Days Discharged | 29 |
| Total Hours Discharged | 675.9 |
| Total Amount Discharge to Creek ($m^3$) | 268,031 |
| Average Daily Flow to Discharge ($m^3$) | 9,573 |

| Date | Start Time | Total hours | River Flow $m^3/s$ | Discharge Rate $m^3/s$ | Mixing Ratio (3:1) | Discharge Amount $m^3$ |
|---|---|---|---|---|---|---|
| | (from Sting Ray) | (calculated) | (calculated) | (calculated) | (calculated) | (from Sting Ray) |
| 10-Apr-23 | 10:19 | | 1.629 | 0.213 | 7.65 : 1 | |
| 11-Apr-23 | 12:34 | 26.25 | 1.296 | 0.205 | 6.32 : 1 | 18,860.51* |
| 12-Apr-23 | 9:08 | 20.56 | 1.212 | 0.205 | 5.91 : 1 | 14,274.72 |
| 13-Apr-23 | 8:10 | 23.03 | 0.895 | 0.195 | 4.59 : 1 | 15,764.96* |
| 14-Apr-23 | 10:27 | 26.28 | 0.621 | 0.195 | 3.18 : 1 | 17,405.51* |
| 15-Apr-23 | 8:05 | 21.63 | 0.430 | 0.141 | 3.05 : 1 | 14,594.97* |
| 16-Apr-23 | 11:04 | 26.98 | 0.409 | 0.135 | 3.03 : 1 | 14,370.35 |
| 17-Apr-23 | 9:02 | 21.96 | 0.237 | 0.075 | 3.16 : 1 | 11,367.44 |
| 18-Apr-23 | 8:58 | 23.93 | 0.446 | 0.145 | 3.08 : 1 | 6,045.36** |
| 19-Apr-23 | 8:41 | 23.71 | 0.166 | 0.055 | 3.02 : 1 | 12,193.99 |
| 20-Apr-23 | 9:19 | 24.63 | 0.205 | 0.067 | 3.06 : 1 | 5,151.80 |
| 21-Apr-23 | 8:11 | 22.86 | 0.199 | 0.065 | 3.06 : 1 | 5,484.45 |
| 22-Apr-23 | 9:49 | 25.63 | 0.212 | 0.068 | 3.12 : 1 | 5,938.29 |
| 23-Apr-23 | 10:23 | 24.56 | 0.213 | 0.068 | 3.13 : 1 | 5,789.45** |
| 24-Apr-23 | 12:17 | 25.90 | 0.291 | 0.091 | 3.20 : 1 | 6,210.74 |
| 25-Apr-23 | 9:44 | 23.45 | 0.382 | 0.125 | 3.06 : 1 | 6,679.69 |
| 26-Apr-23 | 11:22 | 25.63 | 0.344 | 0.111 | 3.10 : 1 | 11,206.60 |
| 27-Apr-23 | 8:46 | 21.40 | 0.287 | 0.095 | 3.02 : 1 | 8,171.55 |
| 28-Apr-23 | 8:39 | 23.88 | 0.207 | 0.068 | 3.04 : 1 | 7,668.18** |

| Date | Start Time | Total hours | River Flow $m^3/s$ | Discharge Rate $m^3/s$ | Mixing Ratio (3:1) | Discharge Amount $m^3$ |
|---|---|---|---|---|---|---|
| | (from Sting Ray) | (calculated) | (calculated) | (calculated) | (calculated) | (from Sting Ray) |
| 29-Apr-23 | 9:32 | 24.88 | 0.244 | 0.076 | 3.21 : 1 | 5,805.26 |
| 30-Apr-23 | 10:26 | 24.90 | 0.333 | 0.108 | 3.08 : 1 | 6,736.92 |
| 01-May-23 | 8:32 | 22.10 | 4.676 | 0.200 | 23.38 : 1 | 8,490.54 |
| 02-May-23 | 8:03 | 23.48 | 2.449 | 0.200 | 12.25 : 1 | 16,179.53* |
| 03-May-23 | 8:38 | 24.58 | 1.909 | 0.158 | 12.08 : 1 | 16,004.14* |
| 04-May-23 | 8:05 | 23.45 | 1.315 | 0.160 | 8.22 : 1 | 13,298.55 |
| 05-May-23 | 8:07 | 24.03 | 0.829 | 0.053 | 15.64 : 1 | 8,962.25 |
| 06-May-23 | 9:17 | 25.16 | 0.569 | 0.021 | 27.10 : 1 | 2,603.58 |
| 07-May-23 | 11:51 | 26.56 | 0.330 | 0.014 | 23.57 : 1 | 1,717.93 |
| 08-May-23 | 12:19 | 24.46 | 0.285 | 0.010 | 29.72 : 1 | 1,053.25 |

**Note1: on a 1-minute filter was used to calculate daily total due to flow discrepancies in data log*
***Note2: flows were adjusted due to minor battery issues.*

## *Sampling Summary*

All pre-discharge monitoring requirements were met prior to commencement, as listed in Table 4 under condition 10 (Monitoring and Recording),

- 1 set of samples were taken from each cell on March 27, 2023, and March 28, 2023.
- $CBOD_5$, TSS and TP results were found to be well below the effluent objectives and limits.

The discharge was started 14 days after the pre-monitoring sampling. All discharge monitoring requirements were met as listed in Table 5 under condition 10 (Monitoring and Recording).

- Sampling was completed on 5 occasions at 3 separate locations (upstream of discharge, at the discharge outfall and 500m downstream of discharge confluence area).
- All sampling results, with the exception of the TSS were well below the objectives and limits.
  - The TSS annual average result was below the ECA limit, however the annual waste loading result was found to have exceeded the ECA limit. This was caused by a single sample result, which was 2.8 times higher than the ECA limit, causing an increased annual average.
- Sampling was also completed for acute lethality to meet the requirements for the Federal Wastewater Systems Effluent Regulation. The sample result indicated 0% mortality, meaning the effluent was not acutely lethal to rainbow trout.

| Parameter | # Samples Taken | ECA Parameter Limits (mg/L) | Average Reading (mg/L) | ECA Average Waste Loading Limits (Kgs) | Average Waste Loading (kgs) | Result Adverse | Mortality % |
|---|---|---|---|---|---|---|---|
| Discharge Outfall | | | | | | | |
| $CBOD_5$ | 5 | **30** | 9.8 | **4932** | 2626.7 | N | |
| T.S.S | 5 | **30** | 27.0 | **4932** | **7236.8** | Y | |
| T.P. | 5 | **1** | 0.37 | **164** | 98.1 | N | |
| pH | 29 | | 7.11 - 8.19* | | | | |
| Acute Lethality | 1 | | | | | | 0 |
| Upstream | | | | | | | |
| $CBOD_5$ | 5 | | 3.2 | | | | |
| T.S.S | 5 | | 10.6 | | | | |
| T.P. | 5 | | 0.15 | | | | |
| pH | 5 | | 6.95 - 8.18* | | | | |

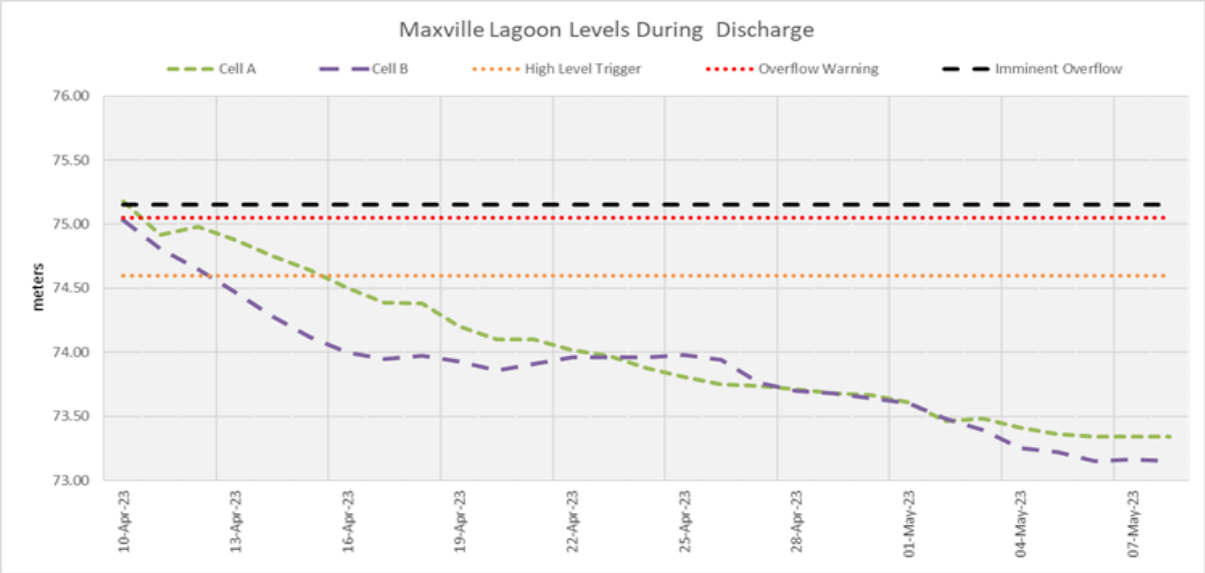
| Parameter | # Samples Taken | ECA Parameter Limits (mg/L) | Average Reading (mg/L) | ECA Average Waste Loading Limits (Kgs) | Average Waste Loading (kgs) | Result Adverse | Mortality % |
|---|---|---|---|---|---|---|---|
| Downstream | | | | | | | |
| $CBOD_5$ | 5 | | 3.2 | | | | |
| T.S.S | 5 | | 9.4 | | | | |
| T.P. | 5 | | 0.12 | | | | |
| pH | 5 | | 6.91 - 8.84* | | | | |

| Date | Discharge pH (grab sample) | Discharge Dissolved Oxygen mg/L (grab sample) | Discharge Temperature °C (grab sample) | Discharge TSS Sample mg/L (grab sample) | Discharge TSS Loading kg (calculated) | Discharge $CBOD_5$ Sample mg/L (grab sample) | Discharge $CBOD_5$ Loading kg (calculated) | Discharge TP Sample mg/L (grab sample) | Discharge TP Loading kg (calculated) | Discharge Acute Lethality % (grab sample) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10-Apr-23 | 7.11 | 3.00 | 5.5 | 11 | | 3 | | 0.35 | | |
| 11-Apr-23 | 7.02 | 4.83 | 12.2 | | 207.47 | | 56.58 | | 6.60 | |
| 12-Apr-23 | 7.23 | 4.17 | 8.2 | | 157.02 | | 42.82 | | 5.00 | |
| 13-Apr-23 | 7.44 | 2.45 | 7.2 | | 173.41 | | 47.29 | | 5.52 | |
| 14-Apr-23 | 7.14 | 2.72 | 11.3 | | 191.46 | | 52.22 | | 6.09 | |
| 15-Apr-23 | 7.17 | 5.16 | 12.0 | | 160.54 | | 43.78 | | 5.11 | |
| 16-Apr-23 | 7.14 | 4.47 | 12.4 | | 158.07 | | 43.11 | | 5.03 | |
| 17-Apr-23 | 7.37 | 3.41 | 15.1 | | 125.04 | | 34.10 | | 3.98 | |
| 18-Apr-23 | 7.53 | 4.90 | 8.8 | 14 | 84.64 | 6 | 36.27 | 0.3 | 1.81 | 0 |
| 19-Apr-23 | 7.43 | 4.67 | 8.9 | | 170.72 | | 73.16 | | 3.66 | |
| 20-Apr-23 | 8.19 | 6.30 | 9.3 | 10 | 51.52 | 28 | 144.25 | 0.34 | 1.75 | |
| 21-Apr-23 | 7.39 | 4.25 | 9.7 | | 54.84 | | 153.56 | | 1.86 | |
| 22-Apr-23 | 8.24 | 6.48 | 12.3 | | 59.38 | | 166.27 | | 2.02 | |
| 23-Apr-23 | 8.06 | 8.14 | 13.3 | | 57.89 | | 162.10 | | 1.97 | |
| 24-Apr-23 | 8.22 | 9.69 | 12.0 | | 62.11 | | 173.90 | | 2.11 | |
| 25-Apr-23 | 7.75 | 11.91 | 11.3 | 16 | 106.88 | 9 | 60.12 | 0.3 | 2.00 | |
| 26-Apr-23 | 8.12 | 9.54 | 11.4 | | 179.31 | | 100.86 | | 3.36 | |
| 27-Apr-23 | 8.26 | 9.83 | 10.4 | | 130.74 | | 73.54 | | 2.45 | |
| 28-Apr-23 | 7.53 | 8.75 | 11.6 | | 122.69 | | 69.01 | | 2.30 | |
| 29-Apr-23 | 8.17 | 8.44 | 14.3 | | 92.88 | | 52.25 | | 1.74 | |
| 30-Apr-23 | 7.97 | 8.95 | 12.0 | | 107.79 | | 60.63 | | 2.02 | |
| 01-May-23 | 7.84 | 8.48 | 10.7 | | 135.85 | | 76.41 | | 2.55 | |
| 02-May-23 | 7.78 | 9.19 | 9.7 | | 258.87 | | 145.62 | | 4.85 | |
| 03-May-23 | 7.94 | 8.29 | 11.3 | | 256.07 | | 144.04 | | 4.80 | |
| 04-May-23 | 7.68 | 7.70 | 10.2 | | 212.78 | | 119.69 | | 3.99 | |
| 05-May-23 | 7.68 | 7.47 | 11.6 | | 143.40 | | 80.66 | | 2.69 | |
| 06-May-23 | 7.65 | 7.76 | 17.1 | | 41.66 | | 23.43 | | 0.78 | |
| 07-May-23 | 7.93 | 8.87 | 21.7 | | 27.49 | | 15.46 | | 0.52 | |
| 08-May-23 | 7.75 | 8.95 | 12.4 | 84 | 88.47 | 3 | 3.16 | 0.54 | 0.57 | |
| ***ECA Limit*** | ***6.0-9.5*** | | | ***30*** | ***4932*** | ***30*** | ***4932*** | ***1*** | ***164*** | ***50*** |
| *# Samples* | *17* | *17* | *17* | *6* | *16* | *6* | *16* | *6* | *16* | *1* |
| **Minimum** | 7.02 | 2.45 | 5.5 | 10 | 27.5 | 3 | 3.2 | 0.30 | 0.52 | 0 |
| **Average** | | 6.85 | 11.5 | 27 | 129.3 | 10 | 80.5 | 0.37 | 3.11 | 0 |
| **Maximum** | 8.26 | 11.91 | 21.7 | 84 | 258.9 | 28 | 173.9 | 0.54 | 6.60 | 0 |

## *Lagoon Levels*

Lagoon cell levels were measured from Cell A and Cell B in April, prior to discharge commencement and a discrepancy between the cell heights were noted, in which Cell A was 0.15m higher than Cell B. This is consistent with previous finding back to late August 2022. The cell levels were monitored daily throughout the discharge period and summarized in Table below.

| Discharge Period | | |
|---|---|---|
| Parameter | Cell A | Cell B |
| Discharge Start | 75.18 | 75.03 |
| Discharge End | 73.34 | 73.86 |
| Total Difference | 1.84 | 1.17 |
| Average Daily Discharge | -0.07 | -0.07 |

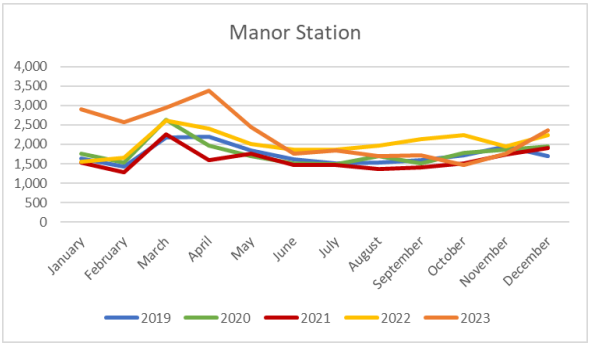



## *Issues*

Observed issues noted during this discharge period were minor in nature and include the following:

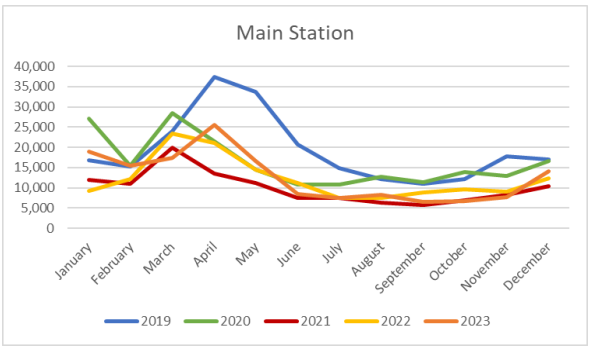
- Minor battery issues, causing loss of trending for short periods of time, based on flow logs periods were estimated.
- Minor issues with data collection and flow loss, 1 minute filter was applied to compensate for trending drop-out.
- As per operational staff, foam intermittently observed at discharge outfall, caused by effluent flow velocity and discharge outfall configuration. Once flows were below 100L/s foaming was no longer observed.
    - foam never noted near mixing zone.
- No noted issues in ERIS e-logs.
- 2 days after the discharge was completed, the interconnecting piping was flushed to remove any blockage and debris so cell levels can equalize, as previously observed.

## System Station Flow Comparisons



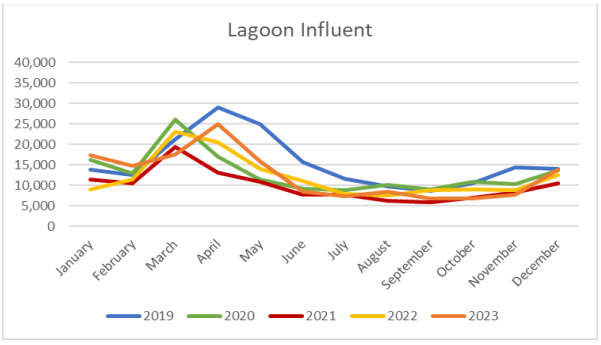

**Manor Station**

| Month | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| January | 1,636 | 1,755 | 1,531 | 1,562 | 2,894 |
| February | 1,417 | 1,530 | 1,272 | 1,654 | 2,566 |
| March | 2,181 | 2,633 | 2,259 | 2,605 | 2,952 |
| April | 2,201 | 1,966 | 1,588 | 2,401 | 3,380 |
| May | 1,843 | 1,695 | 1,766 | 2,017 | 2,437 |
| June | 1,617 | 1,501 | 1,466 | 1,859 | 1,750 |
| July | 1,507 | 1,497 | 1,465 | 1,863 | 1,844 |
| August | 1,535 | 1,693 | 1,375 | 1,963 | 1,704 |
| September | 1,590 | 1,500 | 1,417 | 2,127 | 1,724 |
| October | 1,712 | 1,786 | 1,507 | 2,233 | 1,475 |
| November | 1,937 | 1,857 | 1,733 | 1,943 | 1,762 |
| December | 1,690 | 1,955 | 1,903 | 2,244 | 2,360 |
| Annual | 20,866 | 21,367 | 19,284 | 24,471 | 26,850 |



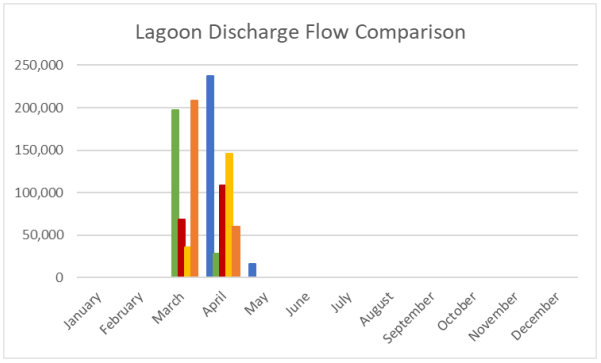

**Main Station**

| Month | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| January | 16,875 | 27,201 | 12,056 | 9,161 | 18,864 |
| February | 15,266 | 15,535 | 11,010 | 12,113 | 15,457 |
| March | 23,932 | 28,496 | 19,874 | 23,348 | 17,430 |
| April | 37,403 | 21,512 | 13,432 | 21,067 | 25,509 |
| May | 33,625 | 14,503 | 11,144 | 14,431 | 16,720 |
| June | 20,617 | 10,729 | 7,483 | 11,150 | 8,514 |
| July | 14,803 | 10,843 | 7,525 | 7,560 | 7,431 |
| August | 12,063 | 12,729 | 6,291 | 7,504 | 8,280 |
| September | 10,919 | 11,457 | 5,773 | 8,924 | 6,559 |
| October | 12,079 | 13,929 | 6,924 | 9,673 | 6,665 |
| November | 17,706 | 12,937 | 8,289 | 8,993 | 7,692 |
| December | 16,922 | 16,586 | 10,500 | 12,276 | 14,105 |
| Annual | 232,210 | 196,457 | 120,301 | 146,199 | 153,227 |




**Lagoon Influent**

| Month | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| January | 13,737 | 16,293 | 11,389 | 8,918 | 17,382 |
| February | 12,586 | 12,904 | 10,444 | 11,502 | 14,799 |
| March | 21,265 | 26,004 | 19,383 | 23,010 | 17,428 |
| April | 28,994 | 17,037 | 13,113 | 20,501 | 24,888 |
| May | 24,903 | 11,349 | 10,914 | 14,075 | 15,863 |
| June | 15,693 | 9,161 | 7,697 | 11,090 | 8,398 |
| July | 11,550 | 8,784 | 7,663 | 7,812 | 7,348 |
| August | 9,772 | 10,186 | 6,305 | 7,453 | 8,410 |
| September | 8,600 | 9,085 | 5,788 | 8,872 | 6,704 |
| October | 10,483 | 10,909 | 6,987 | 9,019 | 6,741 |
| November | 14,329 | 10,252 | 8,288 | 8,811 | 7,687 |
| December | 14,069 | 13,577 | 10,442 | 12,552 | 13,902 |
| Annual | 185,980 | 155,542 | 118,413 | 143,615 | 149,550 |

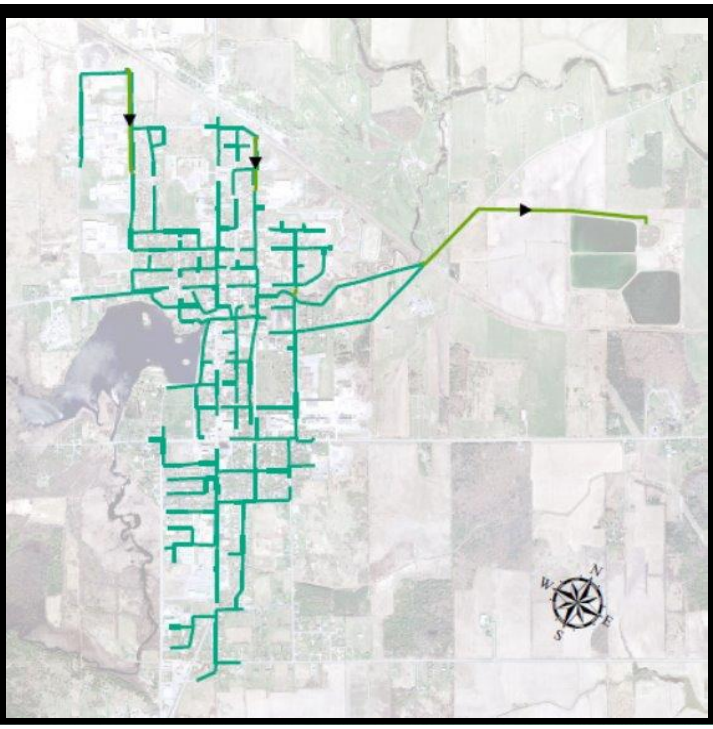



**Lagoon Effluent**

| Month | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| January | | | | | |
| February | | | | | |
| March | | 197,008 | 68,556 | 35,885 | 208,211 |
| April | 237,322 | 28,306 | 109,050 | 145,729 | 59,819 |
| May | 15,872 | | | | |
| June | | | | | |
| July | | | | | |
| August | | | | | |
| September | | | | | |
| October | | | | | |
| November | | | | | |
| December | | | | | |
| Annual | 253,194 | 225,314 | 177,606 | 181,614 | 268,031 |

# ANNUAL WASTEWATER SYSTEMS REPORT TO COUNCIL

- Alexandria WWS
- Maxville WWS



## ALEXANDRIA

- Wastewater Collection
- Wastewater Treatment System

# ALEXANDRIA WASTEWATER SYSTEM

## System Rating

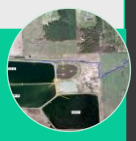
- Class 2 Continuous Discharge Wastewater System
- Separate Sewer System
  - No leachate was received at MPS during this period.
- ECA 181-W601 (valid until 2027)
  - Collection system only
- ECA 9873-BQ6LTR (valid until 2026)
  - Condition all works constructed within 5 years of issuance
- Under Fisheries Act Directive (2019)
  - Action to be taken to prevent reoccurrence of adverse conditions
- Currently undergoing Pump Needs study through EVB

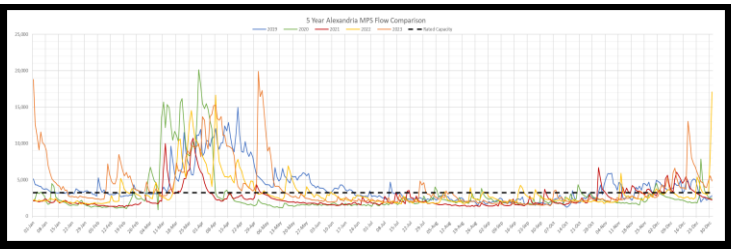
## Collection System

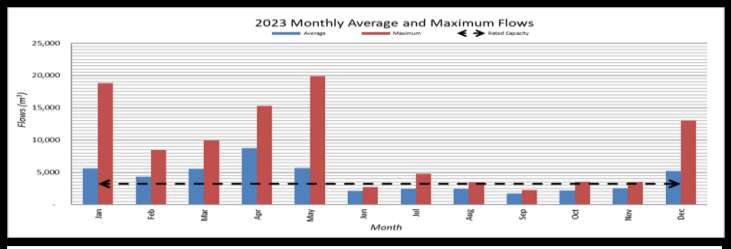
- 25kms of collection piping and force mains
- 1585 service connections
- 3 sanitary lift stations
- 1 Pumping Station (MPS)

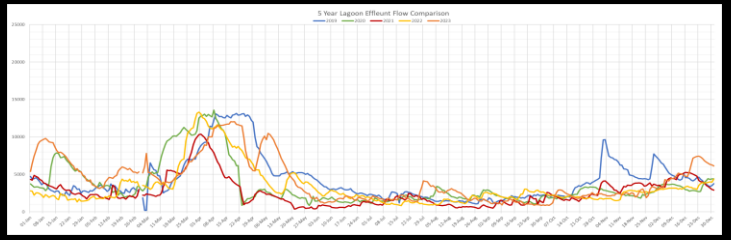
## Treatment Lagoons

- Aeration followed by 3 Facultative Treatment Cells
  - run in series
- Chemical treatment for phosphorus
  - Coagulant
- Disinfection and Dichlorination Chamber
  - Sodium Hypochlorite is disinfectant
  - Sodium Bisulfate is dechlor agent






## FLOW SUMMARY

### Raw Influent Sewage

- Metered Volume: 1,480,848m³
  - Includes flows from RV Dumping Station *(seasonal operation from May 15-Oct 15)*
  - No leachate from Alexandria Landfill
  - Capacity Rating: 3237 m³/day
    - Currently at 125% of the rated system capacity

| | |
|---|---|
| Maximum Daily Flow | 19,897m³/day |
| Average Daily Flow | 4,057m³/day |

- Flow are slightly increased from 2022 values
  - Significant increased flows were observed in January, February, March, April and December which coincided with significant rainfall and snow melt events
- 4 Overflow Event in collection system.
  - All events caused by significant rainfall events, and 1 event was also caused by mechanical equipment failure.
  - All events occurred at designated overflow points.

### Treated Wastewater Effluent

- Metered Volume: 1,539,737m³
- No issues noted with flow during this time, no treatment bypasses or overflows from the lagoon system

# SAMPLING AND ANALYSIS

| | $CBOD_5$ (mg/L) | Total Suspended Solids (mg/L) | Total Phosphorous (mg/L) | Total Chlorine Residual (mg/L) | pH (Min) | pH (Max) | E. Coli (geometric mean density) (organisms/100 mL) | Acute Lethality % mortality | |
|---|---|---|---|---|---|---|---|---|---|
| *Concentration Limits* | *30* | *40* | *0.5 mg/L* | *0.2 mg/L* | *6.0* | *9.5* | *< 200* | *50 % mortality* | |
| *Concentration Objective* | *25* | *25* | *0.4 mg/L* | *non-detect* | *6.5* | *8.5* | *< 150* | *T* | *D* |
| January | 3.2 | 4.6 | 0.15 | 0.00 | 7.00 | 8.07 | 5.8 | 0 | 10 |
| February | 3.8 | 6.3 | 0.20 | 0.00 | 7.05 | 7.89 | 1.9 | | |
| March | 3.8 | 7.5 | 0.26 | 0.00 | 6.95 | 8.67 | 5.6 | | |
| April | 4.8 | 12.0 | 0.17 | 0.00 | 7.68 | 8.32 | 8.9 | 0 | 0 |
| May | 3.0 | 3.6 | 0.10 | 0.00 | 7.45 | 8.27 | 1.3 | | |
| June | 6.5 | 7.0 | 0.10 | 0.00 | 7.30 | 8.31 | 1.0 | | |
| July | 3.0 | 3.5 | 0.11 | 0.00 | 7.30 | 8.64 | 1.2 | 0 | 0 |
| August | 3.0 | 4.2 | 0.06 | 0.00 | 7.01 | 8.20 | 1.0 | | |
| September | 4.0 | 5.0 | 0.05 | 0.00 | 7.00 | 7.61 | 1.0 | | |
| October | 3.0 | 3.8 | 0.10 | 0.00 | 7.18 | 7.92 | 1.8 | 0 | 10 |
| November | 3.8 | 4.0 | 0.16 | 0.00 | 7.53 | 7.91 | 1.2 | | |
| December | 3.8 | 11.0 | 0.20 | 0.00 | 7.00 | 8.63 | 1.7 | | |
| **Annual Average** | **3.8** | **6.0** | **0.14** | **0.00** | **6.95** | **8.67** | **2.0** | **n/r** | |

- All results were within provincial and federal annual compliance limits
- All quarterly sampling was completed as required and no adverse results were observed
- Annual monitoring well sampling was completed in March 2023
  - All results are comparable to previous findings
  - Minor influence potential from total ammonia, TKN (organic nitrogen) , but further investigation would be needed to confirm, if ever required.

# TREATEMENT CELL SLUDGE VOLUME MONITORING

## Cell A

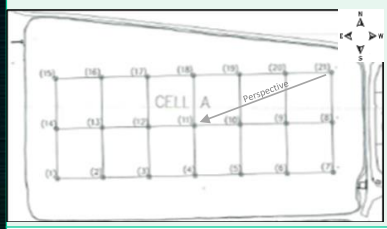
- Last depth reading: October 13, 2023.
- Cell volume calculated to be 52.5%.
- Sludge volume increased 2.7% from 2022 values.
- 6 locations exceeded trigger levels:
  - 5, 6, 7, 8, 20, 21
- Highest volume note in south-west corner of cell.

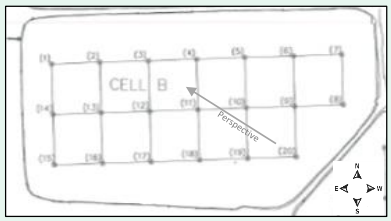
## Cell B

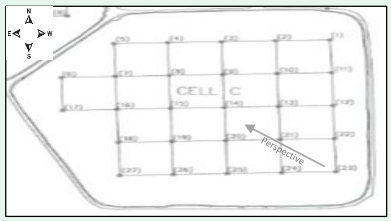
- Last depth reading: October 13, 2023.
- Cell volume calculated to be 85.0%.
- Sludge volume increased 9.5% from 2022 values.
- 12 locations exceeded trigger levels:
  - 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15
- Highest volume located in north-east corner of cell.

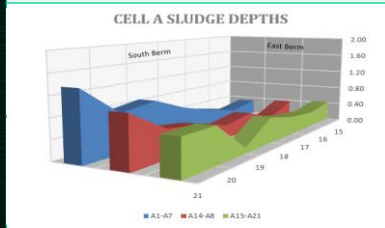
## Cell C

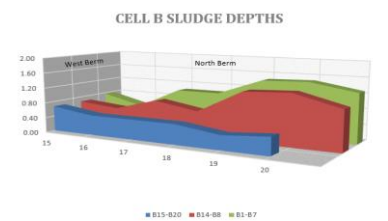
- Last depth reading: October 13, 2023.
- Cell volume calculated to be 88.1%.
- Sludge volume reduced 2.0% from 2022 values.
- 20 locations exceeded trigger levels:
  - 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 16, 17, 18, 20, 22, 23, 24, 26, 27
- Highest volume located in north-east corner of cell.

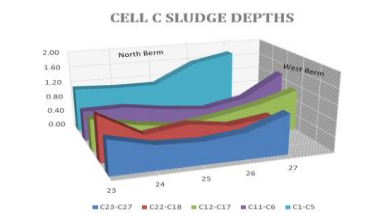


# Operational Issues

| | | | |
|---|---|---|---|
| Collection System | Well Level Monitoring Equipment | -Caused by equipment failure. | -Float system used to maintain operations.<br>-New monitor installed |
| | Pump Operation Issues | -Debris in impeller or grease build-up on floats preventing operation. | -Floats and Pumps removed and cleaned |
| | | -Loss of flow due to pump misalignment or air lock after cleaning. | -Pump backwashed and guiderails replaced. |
| | | -Breaker Failure | -Caused by lack of fuel, installed auxiliary fuel pump and reset breakers |
| | Utility Failure (Hydro) | -Unplanned failure from utility source | -pumps or generators installed to maintain operations |
| | Alarm Panel Failure | -Communication Failure | -Replaced defective boards and communicator |
| Treatment System | Aerator Failure | -Coupler failure during operation | -Replaced coupler and restore operations |
| | Chemical Dosing Pump Issues | -Electrical failure due to utility power surge | -replace with spare unit |
| | | -Dosing loss due to corrosion or leaks in pumping system | -Repair or replace fittings |
| | | -Dosing loss due to injection line blockage | -Thaw or replace defective lines |
| | Utility Failure (Hydro) | -Unplanned failure from utility source | -generators installed to maintain operations |

# SLUDGE REMOVAL PROJECT

- Bishop Water contracted through a multiple-phase contract to remove and process sludge into Geotubes for treatment and dewatering.
- Geotubes installed in 2021, after being relocated to new area on the Lagoon property after decommissioning the pre-existing tubes.
- Scheduling issues prevented on-site sludge collection work this year.
  - All water from geotubes was returned into the lagoons for treatment

**Bishop Water 2022 Work Summary Report**

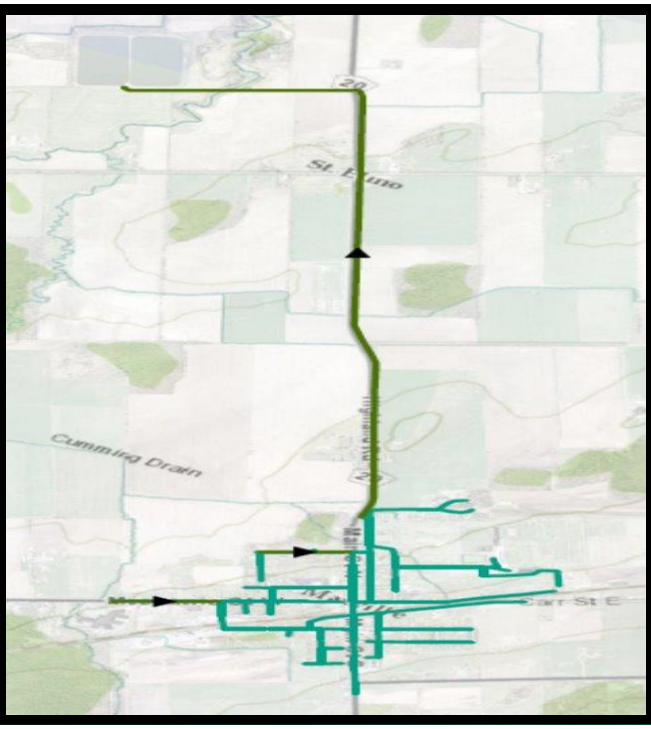
| Week | BDT | Volume Pumped | Total Polymer Usage | Average Polymer Dosage |
|---|---|---|---|---|
| | | $m^3$ | L | kg/BDT |
| Week 1 | 57.07 | 2,211.75 | 334.98 | 5.87 |
| Week 2 | 31.41 | 1,551.94 | 160.80 | 5.12 |
| Total | 88.48 | 3,763.69 | 495.78 | 5.60 |

BDT: bone dry ton

**Bishop Water 2023 Work Summary Report**

| Week | BDT | Volume Pumped | Total Polymer Usage | Average Polymer Dosage |
|---|---|---|---|---|
| | | $m^3$ | L | kg/BDT |
| Week 1 | n/a | | | |
| Total | n/a | | | |

BDT: bone dry ton




## MAXVILLE

- Wastewater Collection
- Wastewater Treatment System

## MAXVILLE WASTEWATER SYSTEM

### System Rating

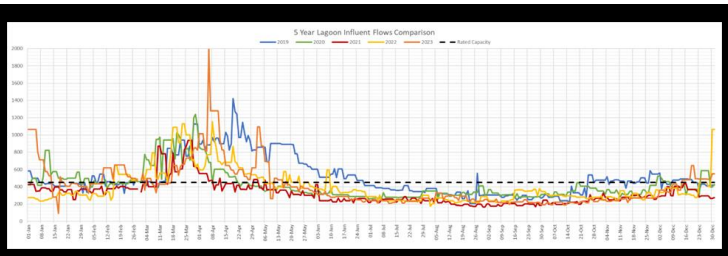
- Class 1 Seasonal Discharge Wastewater System
- Separate Sewer System
- ECA 181-W601 (valid until 2027)
  - Collection system only
- ECA 5368-8PPQA2
(valid until amended or revoked)

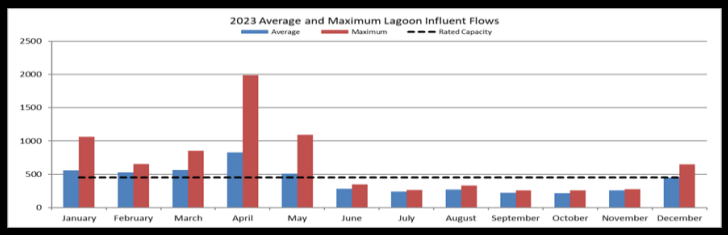
### Collection System

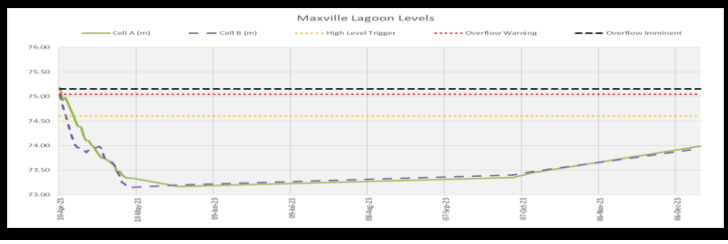
- 13kms of collection piping and force mains
- 450 service connections
- 1 sanitary lift station
- 1 Pumping Station

### Treatment Lagoons

- 2 Facultative Treatment Cells
  - run in parallel
- Chemical treatment for phosphorus
  - Coagulant
- Seasonal Discharge to coincide with West Branch of Scotch River Peak Flows




# FLOW SUMMARY

### Raw Influent Sewage

- Metered Volume: 149,550m$^3$
  - Capacity Rating: 450 m$^3$/day
    - Currently at 91.2% of the rated system capacity

| | |
|---|---|
| Maximum Daily Flow | 1,990m$^3$/day |
| Average Daily Flow | 411m$^3$/day |

- Flow are slightly increased from 2022 values
  - Significant increased flows were observed in January, March, May and December which coincided with significant rainfall and snow melt events.
- No bypass event noted during this reporting season

### Treated Wastewater Effluent

- Metered Volume: 268,031m$^3$
- Spring Discharge completed over 29-day period from April 10 until May 8
- No issues noted with flow during this time, no treatment bypasses or overflows from the lagoon system

# SAMPLING AND ANALYSIS

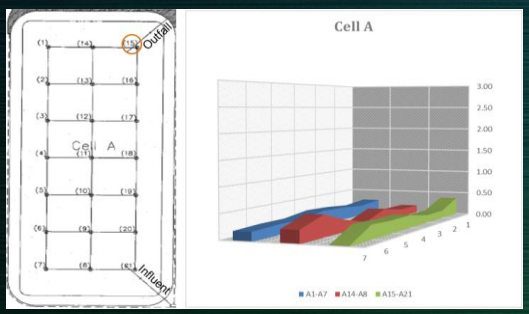
| Parameters | CBOD$_5$ (mg/L) | Total Suspended Solids (mg/L) | Total Phosphorous (mg/L) | pH | Acute Lethality % mortality |
|---|---|---|---|---|---|
| *Provincial Concentration Limits* | *30* | *30* | *1* | *6.0 - 9.5* | |
| *Federal Concentration Limits* | *25* | *25* | | | *50* |
| 10-Apr-2023 | 3 | 11 | 0.35 | 7.11 | |
| 18-Apr-2023 | 6 | 14 | 0.30 | 7.53 | 0 |
| 20-Apr-2023 | 28 | 10 | 0.34 | 8.19 | |
| 25-Apr-2023 | 9 | 16 | 0.30 | 7.75 | |
| 8-May-2023 | 3 | 84 | 0.54 | 7.75 | |
| **Annual Average** | **9.8** | **27** | **0.37** | **7.02 - 8.26** | **n/r** |

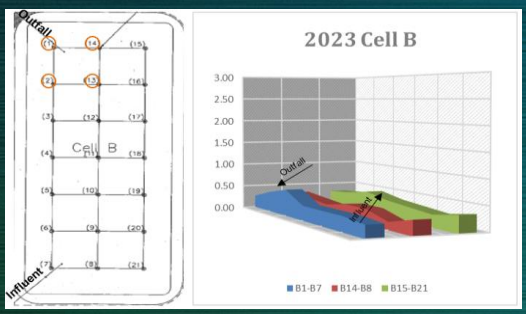
| Effluent Parameter | CBOD$_5$ | TSS | TP |
|---|---|---|---|
| Provincial Average Waste Loading Limits (kgs) | 4932 | 4932 | 164 |
| 2022 Maxville Average Waste Loading (kgs) | 2626.7 | 7236.8 | 98.1 |

- Annual Spring Discharge Monitoring
  - Both cells were discharged, and water was blended before final discharge outfall
  - Samples were taken 5 times from discharge outfall to ensure we met sampling requirements in ECA
  - All results, except for TSS, were within provincial and federal annual compliance limits
    - TSS annual average exceeded federal limit
      - Report of exceedance was completed.
    - TSS waste loading exceeded provincial limit
- Groundwater Monitoring
  - Completed by JP2G Consultants in association with Greer Galloway Group
    - includes groundwater sampling: May and October
    - includes surface water sampling: May, August and October
  - Results indicate there is minor impact on groundwater, however results are well below limits and no potable wells within immediate area downstream.
  - Results also indicated there was no observed impact on surface water.

## TREATEMENT CELL SLUDGE VOLUME MONITORING

| Cell A | Cell B |
|---|---|
| • Sludge depth measurements were not completed due to low water levels observed in October<br>• All results displayed are from 2022. | • Sludge depth completed on October 19, 2023, by operational staff.<br>• Currently Cell A is at 57% of allowable volume, which is a 2% increase from 2022.<br>• No single point location exceeded sludge depth triggers, but the total cell volume and 3 locations at the outfall exceeded the warning trigger |




# Operational Issues

| | | |
|---|---|---|
| Collection System | Pump Operation Issues | -multiple failures, pump sent out for repair<br>-new pump was purchased in 2024 |
| | Station Guide Rails | -replaced defective guardrails |
| | Level Float Issues | -replaced defective float |
| Treatment System | Central Equalization Valve | -after spring discharge was completed, Hydrovac used to remove partial blockage |
| | Generator | -Replaced defective battery<br>-internal code, contractor brought in to repair and inspect unit. |

**STAFF REPORT TO COUNCIL** **Report No: PW 2024-21**

**May 27, 2024**

From: Timothy Wright, Director of Public Works

RE: Increase to the 2024 CCTV Sewer Budget

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**Recommended Motion:**

THAT the Council of the Township of North Glengarry receive report PW 2024-21 Increase to the 2024 CCTV Sewer Budget;

AND THAT Council increase the budget for Sewer CCTV and Flushing for 2024 to $110,000.00.

**Background / Analysis:**
At the March 25, 2024, Regular Meeting of Council, Council approved the award of the 2024 Sanitary Sewer CCTV Work to HydroCam for $54,450.00 +HST (Report No. PW 2024-12). Staff noted that additional work may be completed at the provisional price up to the budgeted amount of $90,000.00.

The Township inspects the sanitary system over a two-year period every four years. After further review, staff are recommending that Council take advantage of the competitive pricing and extend the scope of work to accomplish the remaining half of the sanitary inspections this year. This would result in no sanitary inspections next year. HydroCam has agreed to continue the work at the same rate as what was tendered.

At the tendered price, staff anticipate the total project cost will be approximately $110,000 for the entire sanitary system versus $180,000.00 ($90,000.00 through the 2024 Capital Budget and $90,000.00 anticipated through the 2025 Capital Budget). This would result in savings of roughly $70,000.00 over the two-year period.

**Alternatives:**
Tender the remaining work next year as planned.

**Financial Implications:**
As part of the 2024 Capital Budget, Council approved $90,000.00. Originally, the tendered price for the section of work scheduled for 2024 was $54,450.00. Due to the competitive pricing, staff are recommending that the budget be increased to $110,000.00 to accommodate the remaining

sanitary inspection work. The additional $20,000.00 will be financed through the North Glengarry Sewer Reserve.

**Attachments & Relevant Legislation:**

**Others Consulted:**
Dean McDonald, Environmental Services Manager
Zoe Bougie, Director of Finance/Treasurer

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Reviewed and Approved by:
Sarah Huskinson, CAO/Clerk

**Raisin Region Conservation Authority**
18045 County Road 2, P.O. Box 429, Cornwall, ON K6H 5T2 Tel: 613-938-3611 Fax: 613-938-3221 **www.rrca.on.ca**

## MEMORANDUM

**To:** Township of North Glengarry Council, CAO and Clerk
**From:** Bryan McGillis, RRCA Board of Directors Chair
**Date:** May 9, 2024
**Subject:** RRCA Welcomes New General Manager

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The Raisin Region Conservation Authority's (RRCA) Board of Directors is pleased to announce that Alison McDonald is set to become the conservation authority's new General Manager on June 3, 2024, following the upcoming retirement of the current RRCA General Manager, Richard Pilon. McDonald presently serves as the Managing Director of Approvals at South Nation Conservation.


Alison McDonald

Alison McDonald's extensive experience in leading high performing teams, managing complex regulatory programs, and fostering positive stakeholder relationships makes her an excellent addition to the RRCA. Her expertise in strategic direction, operational oversight, and fiscal responsibility will ensure the RRCA continues to provide high-value natural resource management programs and services to the municipalities in its watershed jurisdiction.

The RRCA Board of Directors also express their deep gratitude to outgoing General Manager Richard Pilon for his remarkable 37-year career at local conservation authorities, including seven years of dedicated service as General Manager. His contributions in this role have been instrumental in enhancing the RRCA's work to protect people and property from natural hazards, conserve environmentally significant land, protect municipal drinking water at the source, foster land stewardship, and provide recreation and eco-tourism opportunities.

To help provide a seamless transition, Alison McDonald and Richard Pilon will work side-by-side during the month of June. Richard retires on June 28.

Should you have any questions, please contact Bryan McGillis at bmgillis@southstormont.ca.

**Raisin Region Conservation Authority**
18045 County Road 2, P.O. Box 429, Cornwall, ON K6H 5T2 Tel: 613-938-3611 Fax: 613-938-3221 **www.rrca.on.ca**

**MEMORANDUM**

**To:** Township of North Glengarry Council, CAO, and Clerk
**From:** Lisa Van De Ligt, Team Lead, Communications and Stewardship
**Date:** May 21, 2024
**Subject:** RRCA Board of Directors meeting highlights (May 16, 2024)

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The Raisin Region Conservation Authority (RRCA) Board of Directors consists of eight representatives from the RRCA's five member municipalities: City of Cornwall and Townships of North Glengarry, South Glengarry, South Stormont, and North Stormont.

Following every Board meeting, councils, CAOs and clerks of the RRCA's five member municipalities are sent meeting highlights and the date of the next meeting. The RRCA Board meets monthly (except for July, August, and December, unless a special meeting is called).

**May 16, 2024 RRCA Board of Directors Meeting Highlights:**

- Approved minutes from the April 18, 2024 meeting can be found at http://www.rrca.on.ca/governance.
- Board received an update on the *Conservation Authorities Act* and associated regulatory changes. RRCA staff have been collaborating with other eastern Ontario conservation authorities to prepare an updated regulation policies manual and regulations mapping to ensure compliance with the new regulations. Meetings will be scheduled with municipalities over the next few months to discuss and review the updated policies and regulations.
- Board approved updated flood hazard mapping and regulation limit for the Eastman Drain in the Township of South Stormont and City of Cornwall.
- Board approved the submission of six funding applications to support conservation area enhancements (invasive species management and forest restoration), Drinking Water Source Protection Program outreach, and St. Lawrence River at Cornwall/Akwesasne Remedial Action Plan initiatives.

**Next RRCA Board meeting date: June 20, 2024**

Easter Seals Ontario
Helping Kids with Physical Disabilities Succeed

EASTER SEALS Red Shirt Day™

May 10, 2024

Mayor Jamie MacDonald
Sent via email: ecdev@northglengarry.ca

**Re.: National AccessAbility Week and Red Shirt Day™ 2024**

I'm writing to ask if you will join me in making a pledge to commit to creating a fully accessible and inclusive society that honours and values people of all abilities during National AccessAbility Week and Red Shirt Day™.

**National AccessAbility Week is Sunday, May 26 to Saturday, June 1, 2024**. This annual event allows us to come together to celebrate the valuable contributions and leadership of Canadians with disabilities.

The **Red Shirt Day™** of Action for Accessibility and Inclusion, established by Easter Seals Canada in 2019, takes place this year on **Wednesday, May 29.** On this day, people across Canada wear red to show their support and solidarity for persons and families of those living with disabilities.

Over the past year, we have made significant progress and have had great success in raising awareness and identifying actionable steps to create more accessible and inclusive communities. Our collaborative efforts have included participation from over 20 Ontario school boards, 62 Ontario MPs and MPPs, 14 Ontario municipalities, numerous high-profile figures, and dedicated individuals. We are excited to continue this important initiative and invite you to participate by:

- **Declaring May 26 to June 1, 2024 as National AccessAbility Week** and sharing the declaration on your websites, newsletters, and social media feeds. Don't forget to tag @EasterSealsON.
- **Recognizing May 29, 2024 as the Red Shirt Day™** of Action for Accessibility and Inclusion and encouraging all staff to wear a red shirt, making a pledge toward greater accessibility, and posting to social media. You can use hashtags #RedShirtDay and #RedForAccessAbility and tag @EasterSealsON.
- **Engaging your staff, community, and local disability and advocacy groups** to determine how you can contribute to supporting efforts to create greater accessibility and inclusion for Canadians living with disabilities.

Since 1922, Easter Seals Ontario has been a leading voice for children and youth with physical disabilities. Our enduring commitment to the well-being and empowerment of individuals with disabilities drives us to champion important initiatives like National AccessAbility Week and Red Shirt Day™. By participating in these impactful events, you are not only acknowledging the challenges faced by Canadians with disabilities but also committing to being part of the solution.

I look forward to working together to foster a more inclusive society where every individual has the opportunity to thrive. You can learn more about Red Shirt Day™ at RedShirtDay.org and Easter Seals Ontario at EasterSeals.org.

Sincerely,

Kevin J. Collins
President & CEO
Easter Seals Ontario

# THE CORPORATION OF THE TOWNSHIP OF NORTH GLENGARRY

## BY-LAW 26-2024
### FOR THE YEAR 2024

**BEING A BY-LAW TO ADOPT, CONFIRM AND RATIFY MATTERS DEALT WITH BY RESOLUTION.**

**WHEREAS** s. 5(3) of the *Municipal Act, 2001*, provides that the powers of municipal corporation are to be exercised by its Council by by-law; and

**WHEREAS** it is deemed expedient that the proceedings, decisions and votes of the Council of the Corporation of the Township of North Glengarry at this meeting be confirmed and adopted by by-law;

**THEREFORE,** the Council of the Corporation of the Township of North Glengarry enacts as follows:

1. **THAT** the action of the Council at its regular meeting of May 27th 2024, in respect to each motion passed and taken by the Council at its meetings, is hereby adopted, ratified and confirmed, as if each resolution or other action was adopted, ratified and confirmed by its separate by-law and;

2. **THAT** the Mayor and the proper officers of the Township of North Glengarry are hereby authorized and directed to do all things necessary to give effect to the said action, or to obtain approvals where required, and except where otherwise provided, The Mayor and the Clerk are hereby directed to execute all documents necessary in that behalf and to affix the corporate seal of the Township to all such documents.

3. **THAT** if due to the inclusion of a particular resolution or resolutions this By-law would be deemed invalid by a court of competent jurisdiction then Section 1 to this By-law shall be deemed to apply to all motions passed except those that would make this By-law invalid.

4. **THAT** where a “Confirming By-law” conflicts with other by-laws the other by-laws shall take precedence. Where a “Confirming By-Law” conflicts with another “Confirming By-law” the most recent by-law shall take precedence.

**READ** a first, second and third time, passed, signed and sealed in Open Council this 27th day of May 2024.

_____ _____

**CAO/Clerk / Deputy Clerk** **Mayor / Deputy Mayor**

I, hereby certify that the forgoing is a true copy of By-Law No. 26-2024, duly adopted by the Council of the Township of North Glengarry on the 27th day of May 2024.

_____ _____

**Date Certified** **CAO/Clerk / Deputy Clerk**