

Stormwater Management System 2024 Annual Report



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1. Purpose

This annual report was developed by the City of Orillia for the purpose of establishing, implementing and enforcing stormwater management. This report has been prepared as a requirement of CLI-ECA 125-S701 Schedule E Section 5.2. The report covers activities performed from January 1, 2024 through to December 31, 2024 and must be submitted to the Director on or before April 30th of each year.

2. Background

Stormwater Management facilities (SWMF's) are humanmade infrastructure designed to protect downstream property from flooding and erosion by temporarily storing runoff and improve water quality by holding pollutants and sediment, preventing its release into the environment.

To remain effective, regular inspections, maintenance and monitoring must be conducted to meet the quality and quantity design objectives. Regular inspections are also key to ensuring that acceptable public safety standards are being met.

The City of Orillia plans to have a comprehensive Monitoring Program by a Qualified Person (QP) as required by CLI-ECA 125-S701 Schedule E Condition 4.1. The Monitoring Plan is to be in effect within twenty-four (24) months of the date of the publication of the Ministry's monitoring guidance.

3. Stormwater Reporting Requirements

The following documentation is a requirement of CLI-ECA 125S701 - Section 5.2 of Schedule E as follows:

5.2.2 Summary of All Monitoring Data, Interpretation of the Data and Overview of Operational Performance of the Authorized System and any Adverse Effects

The City maintains a maintenance and repair program for storm facilities. The City will hire a QP to prepare an ongoing monitoring program for its stormwater facilities. At this time, monitoring data is unavailable. There were no reported adverse effects on the natural environment.

5.2.3 Summary and Interpretation of Environmental Trends Based on Monitoring Data for the Previous 5 Years

Monitoring data will be compiled and reported once the monitoring program is set up.

The City of Orillia currently monitors precipitation including rainfall and snow. Table 1 shows recent precipitation data. According to Environment Canada, Canada's climate is warming at twice the rate of the rest of the world. Climate trends show a steady rise in seasonal and annual temperatures, with more intense precipitation events throughout the year. Changes in Orillia include stronger windstorms, more frequent heavy rain events and warmer winters, which are affecting the community in various ways.

Table 1: Precipitation Data for Orillia

Year	Rainfall (mm)*	Snowfall (cm)**
2020	950.1	296
2021	768.0	259
2022	759.3	383
2023	1,045.4	218
2024	855.90	280

**Taken from Lake Simcoe Region Conservation Authority's Watershed Monitoring Portal.*

***Taken from the Environment and Climate Change Canada website.*

Orillia's Climate Future encompasses all the actions and planning that the City of Orillia is undertaking to reduce our environmental impact and strengthen the community's resilience to the effects of climate change.

The City is committed to taking action to combat climate change through greenhouse gas reductions and through adapting our natural, built and social systems to these new conditions. The City has developed a Climate Change Action Plan (CCAP) and the Climate Change Adaptation Strategy, as well as investments in electric vehicle charging stations and LED lighting upgrades. Established programs include waste diversion, solar energy and promoting local sustainable businesses.

Increased amounts of snowfall during the 2024/2025 winter.

Due to the increase in precipitation, the City has encountered an increased number of ditches to capacity or to overflow. Storm ponds and storm water pump stations are operating with no additional concerns at this time.

5.2.4 Summary of Operating Challenges Encountered and Corrective Actions Taken

The City did not encounter any operating challenges or concerns during the reporting year.

5.2.5 Summary of Inspections, Maintenance and Repairs carried out on any Major Structure, Equipment, Apparatus, Mechanism or Part of the Authorized System

The City maintains a maintenance and repair program for storm facilities. The frequency of maintenance and repairs for the Facility Works varies based on the activity being performed. The following outlines the maintenance and frequency on the City's stormwater collection system: Every year, each inspection is summarized into a report outlining Stormwater Management facility features that require immediate repair, routine repair, or monitoring.

Stormwater Ponds have three different types of inspections:

1. Safety Check Inspections were conducted monthly in 2024. The City noted that monthly inspections were adequate as there were no notable changes to support the frequency. Safety inspections ensure infrastructure, such as valves, fences, and

visible inlets / outlets have not been damaged. Due to challenges during the winter months, not all tasks outlined in the Safety Check may be completed. There were no major safety concerns raised during the reporting year.

2. Special Inspections occur after a significant rainfall (greater to or equal to 25 mm) event occurs that has the potential to flush significant amounts of materials into the ponds, or lead to capacity shortfalls.
3. Full Inspections occur twice per year and encompass a full check of the infrastructure, sediment loading through depth measurements and operational checks.

A Summary of stormwater pond inspection results is found in Tables 2 to 7. Corrective actions will be addressed as part of the implementation of the maintenance plan that will be developed in 2025 through the stormwater pond assessment project.

Table 2: Champlain Stormwater Pond Asset ID#8058	
Monitoring Notes	<p>South Forebay - Phragmites and other vegetation should be removed to maintain proper water flow and prevent obstruction. Pipe at the inlet (5x1000 CSP) appears damaged; further inspection is recommended. Additional rip rap could be added to enhance stability. Monitor vegetation growth to prevent overgrowth.</p> <p>West Forebay - Vegetation cover is approximately 70-80%, with significant phragmites presence. Outfall pipe from MH889 identified; further assessment needed. Other observations could not be completed due to high water levels.</p> <p>Wetland Pond - Vegetation cover is approximately 55-60%, with a notable presence of phragmites. High water levels observed; monitor for potential impact.</p>
Routine Repair	<p>South Forebay phragmites and other vegetation should be removed to maintain proper water flow and prevent obstruction. West Forebay - Vegetation should be cleared, particularly phragmites at outfall pipes, to ensure unimpeded water movement.</p> <p>Wetland Pond - Phragmites should be removed to prevent overgrowth and maintain ecosystem balance.</p>
Immediate Repair	<p>Access Road at Mulcahy Court -The fence surrounding the pump station is damaged and currently obstructing access from public land. Immediate repairs are required to restore accessibility and maintain security.</p>

Corrective Actions	West Forebay - Phragmites need to be removed as a priority to prevent further encroachment and potential blockages.
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Table 3: Dancy Stormwater Pond Asset ID#8059	
Monitoring Notes	<p>General - Bell/Rogers access panel on the boulevard in front of the gate should be monitored for any issues.</p> <p>Detention Pond Vegetation cover is approximately 90%, with a significant presence of phragmites. Some algae present; monitor for excessive growth.</p> <p>Inflow Point Area is slightly boggy due to vegetation holding water. Outlet Pipe Not inspected due to dense vegetation and high-water levels.</p>
Routine Repair	<p>General: Excessive vegetation on the fence requires clearing. The gate lock is heavily rusted, making it difficult to open and close; maintenance or replacement is recommended.</p> <p>Inflow Point: Overgrown vegetation on the berm should be removed to improve water flow.</p>
Immediate Repair	Pond Buffer: Vegetation needs to be cleared out immediately to maintain proper drainage and ecosystem function.
Corrective Actions	Bell is aware and installed in utility corridor at this time is not an immediate concern. Noted for awareness. Vegetation concerns are to be addressed in a long-term maintenance planning project.

Table 4: Fitton's Stormwater Pond Asset ID#8068	
Monitoring Notes	Detention Pond Vegetation: Approximately 40% vegetation coverage. Inflow Point: Minor accumulation of sediment observed. Outlet Weir Structure: Rip rap is slightly disturbed, with some woody growth present.
Routine Repair	General: Vegetation on the gate needs to be cleared for proper access and operation.
Immediate Repair	N/A
Corrective Actions	N/A

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Table 5: Inch Stormwater Pond Asset ID#8057	
Monitoring Notes	General: Road is gravel and unstable due to ongoing construction at nearby site. Permanent Pool - 20 -30 % vegetation cover, cattails and phragmites present. significant woody growth and vegetation on berm.
Routine Repair	Significant Phragmites and vegetation overgrowth in easement area. Pond Buffer - Vegetation clearing required. Permanent Pool - Phragmites present, no frame on CB outlet. Dry Pond - 60%-70% coverage of phragmites and other forms of vegetation. East Forebay - vegetation % is around 50%-60% coverage. outfall pipes need sediment cleared, sediment at headwall MH 1471.
Immediate Repair	Regional Storm Spillway - fence wire on the ground and not connected to fence poles, vegetation on gabion on structure and in the outlet. Outlet grate needs immediate repair. Pipes rusted under roadway.
Corrective Actions	Inch Pond is being retrofitted in 2025. Vegetation concerns are to be addressed in a long-term maintenance planning project.

Table 6: Toboggan Hill Stormwater Pond Asset ID#8063	
Monitoring Notes	General - Lock slightly rusted. Outfall Point - Leaf litter and debris. Overflow Channel - Can't see gabion due to leaf litter and vegetation growth. Dry Pond - Accumulation of leaf litter.
Routine Repair	Outlet Point - Rip rap/gabion not visible. Overflow Channel - Vegetation present. Inflow Point - Vegetation present
Immediate Repair	Tree hanging over resident's house was removed
Corrective Actions	Vegetation concerns are to be addressed in a long-term maintenance planning project.

Table 7: University Stormwater Pond Asset ID#8067	
Monitoring Notes	East Forebay - Chipping to headwall (inflow point MH 1688), rip rap slightly damaged, vegetation on headwall fence that need to be maintained (inflow point MH 1400). Permanent Pool - Phragmites. Southwest Outlet (1) - significant vegetation. Emergency Spillway (near outlet 2) - Minor vegetation. West

	Forebay - Phragmites, vegetation in rip rap (at inflow point from MH 1694)
Routine Repair	East Forebay - A lot of vegetation (on north and south flow overflow), vegetation and sediment (outfall pipes). Overland flow channel (East Forebay) - A lot of vegetation. Inflow Point from MH 1400 (East Forebay) - wood skid and sediment in outfall pipe, vegetation in rip rap. Inflow Point from MH 1430 (East Forebay) - Vegetation in rip rap. Permanent Pool - A lot of vegetation. West Forebay - A lot of vegetation, 95-100 % cover, lots of cattails and phragmites (inflow point MH 1694).
Immediate Repair	Pond Buffer - A lot of overgrown vegetation impacting the function of the pond. East Forebay - A lot of sediment in the outfall pipe (inflow point MH 1430)
Corrective Actions	Vegetation concerns are to be addressed in a long-term maintenance planning project. Rip-rap to be addressed during storm pond clean out.

Stormwater Pump Stations:

Monthly Inspections are conducted by the City's Water/Wastewater Treatment Operators monthly. Storm Pump Station inspections include the following criteria:

1. Visual inspection of wet well, and outfall
2. Run all pumps in hand and record pump hours
3. Top up all oilers, test Racor alarm once per week, check 3ph monitor

The Cedar Island Storm Pump Station had the following maintenance work completed in 2024:

- Repair of the Pump Station outlet
- Addition of check valve to the pump to prevent back siphonage

Storm (Super) Pipe / Storage Facility

Storm storage (super) pipes provide added storage and controlled flow release to the environment. Three of the six storage pipes underwent maintenance and cleaning services in 2024.

Oil Grit Separators

The City maintains 12 Oil Grit Separators (OGS's) to the City's knowledge. In 2024, four OGS units underwent maintenance and cleaning services.

The City discovered an additional 10 OGS's that were not identified in the CLI-ECA in 2024 and early 2025 so two Director Notifications were submitted to the Ministry upon discovery.

Ditches, Culverts and Drainage:

Inspections are conducted when complaints are received about ditches, culverts and drainage. Of note:

- A culvert inspection involves a visual inspection for obstructions, joint or seam issues, buildup of debris, obstruction to the flow of water and/or odour.
- A ditch inspection involves a visual inspection for obstructions, buildup of garbage and sediment, obstruction to the flow of water and/or odour.
- A drainage inspection involves a visual inspection of the property for any changes in elevation or construction that may have caused the issue. If the issue is on private property the City may suggest as a best management improvement to address the issue ex. swale, french drain or diverting water alternatively.

Stormwater Continual Improvement Initiatives:

As per CLI-ECA 125-S701 Schedule E Condition 3.3, signage to stormwater pond facilities identified in Schedule B were installed in 2024. The number of signs installed at each stormwater pond are as follows:

- 5 installed at Champlain Stormwater Pond Asset ID#8058
- 3 installed at University Stormwater Pond Asset ID#8067
- 1 installed at Inch Stormwater Pond Asset ID#8057. A second sign is to be installed at the inlet once the residential construction in the area is finished.
- 1 installed at Dancy Stormwater Pond Asset ID#8059
- 1 installed at Fitton's Stormwater Pond Asset ID#8068
- 1 installed at Toboggan Hill Stormwater Pond Asset ID#8063

5.2.6 Summary of the Calibration and Maintenance and Repairs on Monitoring Equipment

The City of Orillia does not have any monitoring equipment overseeing the stormwater system.

5.2.7 Summary of Complaints Related to Sewage Works During Reporting Period and Steps Taken to Address Complaint

The City received 105 complaints for culverts, ditches, and drainage issues during 2024, which was down from 126 complaints in 2023. The Environmental Officer conducts the following steps to address complaints:

- Reviews the mapping to recommend maintenance.

- Determines if the City or the owner is required to conduct the maintenance. If it is deemed as the City, a CityWide Work Order is generated and assigned to the appropriate staff (e.g. Roads Business Unit) to complete the work.

The breakdown of the stormwater complaints is shown in Table 8.

Table 8: Stormwater Complaints

Year	Stormwater Complaints		
	Culverts and Ditches	Drainage	Total
2023	121	4	126
2024	107	5	112

5.2.8 Summary of Alterations to the Authorized System, Authorized by the Approval including a List of Alterations that Pose a Drinking Water Threat

Alterations conducted during 2024 were as follows:

- Removal of storm pipe on Borland St (153m of 300mm diameter pipe) between Peter St to Lawrence Ave.
- Installation of storm pipe on Borland St (151m of 300mm diameter pipe) between Peter St to Lawrence Ave.
- Removal of storm pipe on Laclie St phase 2 (25m of 250mm, 62m of 300mm, 152m of 375mm, 89m of 450mm and 7m of 525mm diameter pipe) between 257 Laclie St to Parkhurst Cres.
- Installation of storm pipe on Laclie St phase 2 (107m of 300mm, 293m of 375mm, 350m of 450mm and 17m of 525m diameter pipe) between 257 Laclie St to Parkhurst Cres.

5.2.9 Summary of Spills or Abnormal Discharge Event

There were not any spills with impacts to storm infrastructure reported in 2024.

5.2.10 Summary of Actions Taken, Timelines to Improve or Correct Performance of Authorized System

The City has budgeted for stormwater pond assessments in 2025 for four of its wet ponds to determine the cost and schedule of maintaining these ponds over the next decade. A consultant is being hired to perform this work in 2025.

5.2.11 Summary of the Status of Actions for the Previous Reporting Year.

Actions taken to address recommendations identified in the previous reporting year include:

1. Signage has been installed at the City's stormwater ponds.

2. The City budgeted for hiring a consultant in 2025 to assess four of its wet storm ponds to determine maintenance needs and costs over the next decade.

4. Recommendations

The following are recommended for 2025:

1. Conduct the stormwater pond assessments.
2. Should the Ministry of the Environment, Conservation and Parks release its guidance document for stormwater pond monitoring, plan to budget for developing this plan by a Qualified Person.