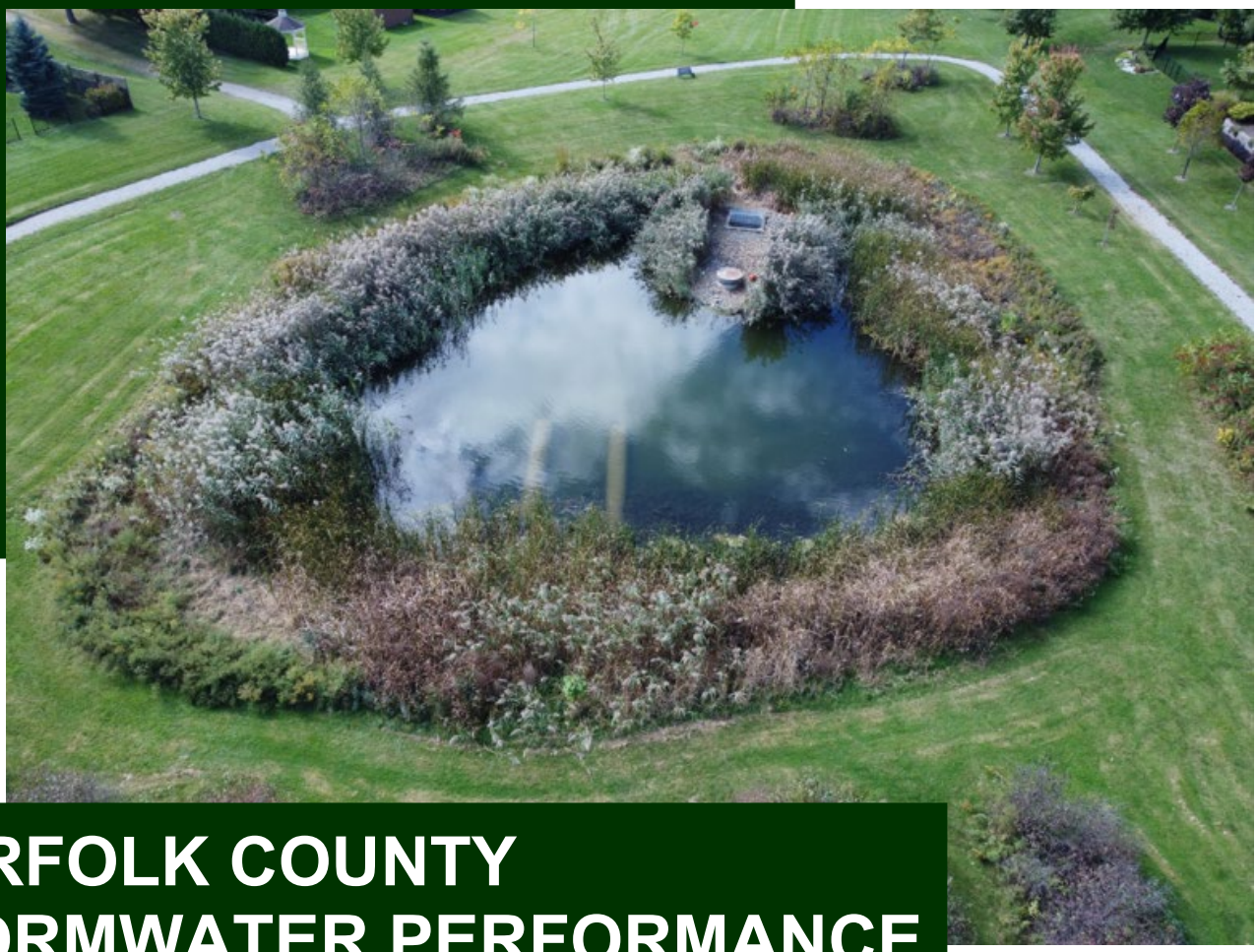

NORFOLK COUNTY STORMWATER PERFORMANCE ANNUAL REPORT 2024

CLI-ECA No. 070-S701

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1. OVERVIEW

This report has been prepared in accordance with the annual reporting requirements of the Norfolk County Urban Stormwater Management System Environmental Compliance Approval (ECA) Number: 070-S701, Issue Number 2. Schedule E, Section 5.2 of the ECA mandates the submission of an Annual Performance Report to the Director. This report covers activities undertaken from January 1, 2024, to December 31, 2024.

The Norfolk County Urban Stormwater Management (SWM) System consists of five independent systems serving the urban drainage areas of Delhi, Port Dover, Port Rowan, Simcoe, and Waterford. These systems are designed to collect, convey, and manage stormwater within the Great Lakes–St. Lawrence River Primary Watershed and the Lake Erie Secondary Watershed.

The Municipal SWM System includes linear infrastructure such as storm sewers, culverts, and ditches; overland flow routes; and a range of end-of-pipe treatment and storage facilities. These include stormwater management ponds, Low Impact Development (LID) features such as infiltration systems, as well as pre-treatment devices like oil and grit separators and underground storage systems.

An Environmental Compliance Approval (ECA), now referred to as a Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA), defines the terms and conditions for the operation of the County's SWM System. The CLI-ECA applies to the entire Urban SWM System in Delhi, Simcoe, Port Dover, Port Rowan, and Waterford, and includes only infrastructure owned and operated by Norfolk County. It does not apply to municipally or privately owned sewage works on industrial or commercial lands, nor to rural infrastructure outside of the urban boundaries.

2. SYSTEM CONDITION AND PERFORMANCE

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of all monitoring data, interpretation of the data, and an overview of the condition and operational performance of the authorized system and any adverse effects on the natural environment.

As described in the Overview, the Norfolk County Urban SWM System includes various stormwater infrastructure types located across five urban service areas.

Historically, monitoring activities have been completed by Norfolk County's Roads Department through routine visual inspections focused on identifying major system failures. In May 2024, Norfolk County created a dedicated Stormwater Management team, supported by three new positions, with responsibilities for stormwater asset oversight gradually transitioning from the Roads Division.

Throughout 2024, the new team initiated a comprehensive review of all available data sources and conducted field verification activities to update Norfolk County's SWM infrastructure database. This process is focused on confirming the total number and type of assets, verifying ownership status, and identifying any infrastructure requiring further investigation. This work forms the foundation for developing a routine inspection and monitoring program, which is essential to evaluating operational performance and meeting CLI-ECA requirements. Table 1 summarizes the asset verification progress made in 2024.

Table 1: Summary of Stormwater Asset Verification

Asset Type	Total in CLI-ECA	Total Mapped Assets	Total Field Verified in 2024	Percent Verified in 2024
Storm Pipe	176km	235 km	~30 km	15%
Catchbasin	-	5800	673	12%
Manhole	-	2709	281	10%
Culvert	-	41	41	100%
Inlets/Outlet	-	334	282	84%
SWM Pond	23	26	26	100%
Ditches/Swale	-	24 km	2.5 km	10%
Infiltration Trench	1	1	1	100%
Oil and Grit Separator	-	5	5	100%

Visual condition assessments were completed during field verification activities conducted in 2024. These assessments were primarily focused on stormwater management ponds and outlets, as these assets were identified as the most critical components with respect to overall system performance, if deficiencies were present. The goal was to identify any immediate maintenance or repair needs. Many sites were found to require vegetation management to maintain flow paths and re-establish access corridors. No emergency repairs or adverse environmental impacts were identified during this process. All inspection data was recorded using a GIS-based application to support future tracking, performance evaluations, and maintenance planning.

Norfolk County's current understanding of its stormwater system remains limited due to historical gaps in records and inconsistent documentation. Many assets, such as storm sewers on local streets, have only recently been identified through fieldwork and infrastructure reviews. As noted in the 2025 Asset Management Plan, condition estimates are largely based on asset age and engineering judgment. Improving the accuracy of the asset inventory and understanding system conditions will be a key focus over the next five years.

The Ministry of the Environment, Conservation and Parks (MECP) has not yet finalized its Monitoring Guidance Document. As a result, Norfolk County has not initiated formal monitoring programs and does not have monitoring data to report for the 2024 period. Routine and scheduled inspection programs for all stormwater assets will be developed and implemented within 24 months of the guidance document's release, in accordance with the CLI-ECA.

3. INTERPRETATION OF ENVIRONMENTAL TRENDS

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary and interpretation of environmental trends based on monitoring data for the previous five years. Currently, Norfolk County has no monitoring data to report for the municipal stormwater system. Prior to the issuance of the CLI-ECA, the County did not have a formalized monitoring program in place.

In the future, Norfolk County plans to implement the installation of local weather stations to support the analysis of environmental trends and assess how changing weather patterns correlate with system performance. This initiative is currently earmarked for 2027. The County has submitted funding applications to advance this timeline; however, implementation will depend on the available budget and external funding support.

4. OPERATING PROBLEMS AND CORRECTIVE ACTIONS

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of operating problems and corrective actions taken.

During the 2024 reporting period, Norfolk County addressed a number of operating problems identified through flooding complaints, infrastructure reviews, field inspections, and CCTV investigations. In each case, corrective actions were taken in an appropriate and timely manner, based on the severity of the issue and operational needs. Where necessary, work was completed immediately, and in some cases, plans were developed for future resolution where long-term solutions or capital coordination were required.

Table 2 summarizes the operating problems identified in 2024 and the corresponding actions taken to restore or maintain system function.

Additional maintenance and repair activities that supported overall system performance are summarized within Section 5, Table 4 of this report. These actions were generally routine in nature and did not stem from specific operating problems.

Table 2 – Summary of Operating Problems and Corrective Actions

Asset Type	Location	Operating Problem	Description of Issue	Corrective Action
Manhole	McCall Crescent, Simcoe	Infrastructure Failure	Manhole frame and grate dislodged due to surcharging during a major rain event.	County staff completed a full frame and grate replacement and resurfaced the immediate area.
Storm Pipe	Thomson Road, Simcoe	Flooding Complaint	Storm lateral had intruded into the main storm sewer, causing a blockage.	County staff inspected the system using camera equipment and retained a contractor to complete a proper reconnection.
Storm Pipe	Crosier Street, Delhi	Infrastructure Damage	CCTV inspection revealed four crossbores through the storm sewer (2 gas, 2 fibre).	County staff coordinated with utility companies. One gas crossbore was removed and the storm pipe repaired. The remaining two fibre crossbores are scheduled for resolution in 2025.
Storm Pipe	Adams Avenue, Delhi	Infrastructure Damage	Storm main was blocked due to tree root intrusion, resulting in localized roadway flooding.	County staff performed a camera inspection, identified tree root intrusion, flushed the system, and removed the obstruction.
Storm Pipe	McNab Street and Regent Street, Port Dover	Cross Connection	Through the County's I&I Program as part of the Sanitary CLI-ECA, a cross connection was identified with our storm system outletting into our sanitary system	County staff along with a consultant leading the program carried out a full inspection to confirm the cross connection and developed a plan to have the storm system disconnected. The work is scheduled to be completed in 2025.
Catchbasin	Andrew Street, Port Dover	Flooding Complaint	Catchbasin was obstructed due to accumulated debris.	County staff removed the obstruction and restored full function.
Catchbasin	Green Street, Waterford	Flooding Complaint	Two drywells were no longer functioning due to age and lack of maintenance.	Drywells were hydrovacced multiple times in 2024. A permanent replacement and drainage solution is scheduled for 2025.
SWM Pond	Newport Lane, Port Dover	Flooding Complaint	Riser structure was plugged and no longer functioning per design.	County staff unplugged the riser structure and routinely checked SWM Pond to ensure it was operating normally. Capital project scheduled for 2025.

5. INSPECTIONS, MAINTENANCE AND REPAIRS

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of inspections, maintenance and repairs carried out on any major structure, equipment, apparatus, mechanism or part of the authorized system.

During the 2024 reporting period, Norfolk County staff completed a total of 352 condition inspections on SWM assets. These were performed through a combination of visual inspections and closed-circuit television (CCTV) analysis. Inspection data was recorded using GIS-based field tools. Priority was given to SWM ponds, outlets, and locations with known concerns or public complaints. Table 3 summarizes inspections completed by Norfolk County staff in 2024.

Maintenance and repair activities were identified through both proactive field inspections and reactive service calls. A total of 3789 maintenance and repair activities were completed in 2024. These were tracked through a work order system and forwarded to the appropriate department or contractor for response. Follow-up work was documented and monitored where necessary to confirm resolution. Table 4 summarizes the maintenance and repair activities completed in 2024 by Norfolk County staff or contracted service providers.

Some routine, seasonal maintenance activities that benefit the SWM System are not included in the above totals. These are historically tracked under roads or parks operations and include actions such as grass cutting, tree trimming, garbage collection near SWM features, street sweeping, and catch basin grate cleaning. These tasks support system flow and reduce sediment and debris entering the system.

Table 3 – Summary of Inspections

Asset Type	Inspection Type	Total Completed
Catchbasin	Visual Inspection	23
Ditch/Swale	Visual Inspection	4
Inlet/Outlet	Visual Inspection	284
Manhole	Visual Inspection	13
Stormwater Pond	Visual Inspection	24
Storm Pipe	CCTV Inspection	4

Table 4 – Summary of Maintenance and Repairs

Asset Type	Maintenance or Repair Activity	Total Completed
Catchbasin	Vegetation Management	2
Catchbasin	Catchbasin Cleaning	3714
Catchbasin	Catchbasin Lid Repair/Replacement	21
Culvert	Flushing	1
Culvert	Culvert Repair/Replacement	2
Infiltration System	Flushing	2
Inlet/Outlet	Excavation	2
Inlet/Outlet	Vegetation Management	33
Manhole	Manhole Lid Repair/Replacement	6
Manhole	Vegetation Management	2
Open Ditch	Excavation	~510m of open ditch
Open Ditch	Vegetation Management	~510m of open ditch
Storm Pipe	Pipe repair	2

6. CALIBRATIONS AND MAINTENACE OF MONITORING EQUPIMENT

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of the calibration, maintenance, and repairs on monitoring equipment.

Norfolk County does not currently have any stormwater monitoring equipment in operation that required calibration, maintenance, or repair during the 2024 reporting period.

7. PUBLIC COMPLAINTS

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of complaints related to sewage works and the steps taken to address them.

Norfolk County staff document complaints received via phone, email, or in person through the County's work order system. Members of the public can also submit requests and complaints through an online portal, which automatically generates a case for review. Once a work order is created, it is assigned to the appropriate division for investigation and resolution.

In 2024, Norfolk County received 24 complaints related to the Urban SWM System. Table 5 summarizes the complaints and actions taken to address them.

Table 5 – Summary of Complaints and Actions Taken

Nature of Complaint	Total Complaints	Action Taken
Flooding	20	Inspections were completed by Norfolk County staff. Actions taken by Norfolk County include additional CCTV inspections, scheduled follow-up monitoring, obstruction removals, and flushing. Some complaints required no additional actions.
Catchbasin Maintenance or Repair	3	Inspections were completed by Norfolk County staff. Actions taken by Norfolk County include obstruction removals and scheduling non-emergency repairs for 2025.
Culvert Maintenance	1	An inspection was completed by Norfolk County staff. The culvert was flushed to restore drainage.

8. PRE-AUTHORIZED ALTERATIONS TO THE SYSTEM

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of alterations made to the authorized system, authorized by the approval, including alterations that pose a drinking water threat.

Table 6 summarizes all pre-authorized alterations made in 2024. No alterations posed a threat to drinking water.

Table 6 – Summary of Alterations to Authorized System

Project Name	Location	Project Description
Colborne Street Reconstruction	Colborne Street from Union Street to Windham Street, Simcoe	Replacement of existing storm sewer with a new, larger diameter storm sewer to improve system capacity. Work includes new trunk mains, upgraded laterals and catch basins, including a split connection to the outfalls at Crystal Lake, west of Wellington Park.

Table 6 – Summary of Alterations to Authorized System - Continued

Project Name	Location	Project Description
Talbot Street Reconstruction	Talbot Street from Chapel Street to Young Street, Simcoe	Replacement of existing storm sewer with a new, larger diameter storm sewer to improve system capacity. Work includes new trunk mains, upgraded laterals and catch basins, with full system upgrades extending from Talbot Arena to Chapel Street.
Homewood Avenue Reconstruction	Homewood Road from Victoria Street to Oakwood Road, Simcoe	Replacement of existing storm sewer with a new, larger diameter storm sewer to improve system capacity. Work includes new laterals and curbline catch basins from Oakwood Avenue to Homewood Road.
Potts Road Reconstruction	Potts Road from Victoria Street to 50m south of Oakwood Road, Simcoe	Replacement of existing storm sewer with a new, larger diameter storm sewer to improve system capacity. Work includes new laterals and curbline catch basins from Oakwood Avenue to Potts Road.
Brown Street Reconstruction	Brown Street from Main Street to Wellington, Waterford	Replacement of existing storm sewer with a new, larger diameter storm sewer to improve system capacity. Work includes new trunk mains, upgraded laterals and catch basins, and installation of underground storage with infiltration to manage flows until the final outlet is rebuilt in 2026.
James Street Reconstruction	James Street from Church Street to 200m north of Talbot Road, Delhi	Replacement of existing storm sewer with a new, larger diameter storm sewer to improve system capacity. Work includes multiple new trunk mains, upgraded laterals, and curbline catch basins to support intersection improvements and long-term performance.
Old Highway 24, Waterford Storm Connection	Old Highway 24, Waterford	New storm sewer connection to support development site on Thompson Road W.

9. SPILLS AND DISCHARGE EVENTS

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of spills and abnormal discharge events.

One spill was reported in 2024 on West Street in Simcoe, located on private property upstream of Norfolk County's SWM System. The incident was addressed by the property owner in accordance with applicable regulations. County staff conducted visual inspections of the downstream SWM infrastructure, including the outlet, and no impacts to the municipal system were observed. The spill was professionally remediated, and staff continued to monitor the downstream system until remediation was complete.

No abnormal discharge events were reported during the 2024 reporting period.

10. SUMMARY OF ACTIONS AND PROPOSED IMPROVEMENTS

Schedule E, Section 5.2.5 of the CLI-ECA requires a summary of actions taken and timelines to improve or correct the performance of the authorized system.

In 2024, Norfolk County undertook several internal initiatives to support the long-term effectiveness of the stormwater management program. These included new staffing resources, training programs, technological upgrades, and improvements to data tracking systems. The County also initiated planning for future inspection programs and asset management strategies that will support compliance with CLI-ECA monitoring and reporting expectations.

In addition, several capital and operational activities have been planned or initiated to improve the physical condition, function, and environmental performance of stormwater infrastructure. These include sediment surveys, pond cleanouts, and targeted improvements to inspection and maintenance programs.

Table 7 summarizes physical and operational improvements that support the health and performance of the stormwater system. Table 8 outlines program-level improvements related to administration, staffing, and system tracking.

Table 7 – Summary of System Health Improvements

Improvement Activity	Details	Timeline
Capital Improvement Projects – Road Reconstruction	Continue to support capital reconstruction projects with pre- and post-construction inspections, while delivering recommendations and suggestions based on routine maintenance inspections.	Ongoing
SWM Facility Signage	Develop and install signage per Schedule E of the CLI-ECA to improve reporting and visibility to the public.	2025
Invasive Species Monitoring and Control	Expanded Phragmites control program; exterminator licensing obtained to support ongoing efforts.	2025
Storm Sewer CCTV Inspection Program	Develop a 5-year CCTV inspection plan. Repairs to be prioritized based on findings from 2024 inspections.	2026
SWM Pond Sediment Survey Program	Consultant-led condition assessments and sediment surveys to inform a 10-year capital plan.	Review in 2025, Plan for 2026
Capital Improvement Projects – SWM Pond Cleanouts	Three facilities identified for remediation based on prior inspection results.	2025

Table 8 – Summary of Program Improvements

Improvement Activity	Details	Timeline
Improve Staff Support	In 2024, Norfolk County created a new Stormwater Management Group with 3 full-time staff consisting of a Project Manager, Stormwater Technologist, and a Stormwater Operator. A second Stormwater Operator will be brought on board in 2025 to help fulfill inspections, repairs, and maintenance activities related to the stormwater system.	2024–2025
Staff Training	Staff received specialized training to support advancements in the program related to Advanced Spills Management, Drone Pilot Licenses, and Exterminator Licenses. Training continues in 2025.	2024–Ongoing
Technological Advancements	Purchased iPads, GIS licenses (ESRI), RTK GPS units for data collection, and gas detectors to support field operations and improve data accuracy.	2024–2025

Table 8 – Summary of Program Improvements - Continued

Improvement Activity	Details	Timeline
Work Order Tracking	Developed and implemented a work order system specific to stormwater systems for both public reporting and internal work order management for maintenance and repairs.	2024–2025
SWM System Asset Data Improvements	Completed field verification of assets and reviewed all data sources within GIS databases to improve asset record accuracy.	2024–Ongoing
Stormwater Design Criteria	Update design criteria for stormwater management systems.	Targeted for 2025
Storm Sewer By-law	Review and update the storm sewer by-law.	Targeted for 2025
Private Connection Process	Review and improve internal processes to streamline connections to the stormwater system and implement a tracking process.	Targeted for 2025
Culvert Inspection Program	Develop and implement a culvert inspection program.	Initiate in 2025
Manhole Inspection Program	Develop a 10-year inspection plan for manholes.	Initiate in 2025
SWM Facility Inspection and Maintenance Program	Conduct basic annual inspections of assumed facilities to ensure proper function and performance.	Initiate in 2025
Catchbasin Cleaning Program	Transition toward GIS-based inspection and digital documentation.	Initiate in 2025/2026
Outfall Inspection and Maintenance Program	Develop a 5-year inspection and maintenance plan for outfalls.	Initiate in 2025/2026
Weather Stations	Install a basic weather station network to assist with data-driven inspections and help meet MECP inspection requirements.	Targeted for 2027

11. STATUS OF PREVIOUSLY REPORTED ACTIONS

Schedule E Section 5.2.5 of the CLI-ECA requires a summary of the status of actions for the previous reporting year.

Norfolk County has no previously reported actions to review in the 2024 annual report.