Environmental Services

2025 Stormwater Management System Performance Report

April 2026

MARKHAM

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EXECUTIVE SUMMARY

The City of Markham (City) Stormwater Management (SWM) System is a separate municipal system designed to collect, convey, control, treat, and discharge urban stormwater to the natural environment. The system supports flood risk reduction, water quality protection, and environmental stewardship across the City's five (5) watersheds, including the Don River, Rouge River, Duffins Creek, Highland Creek, and Lake Ontario drainage areas.

This 2025 SWM Performance Report (the Report) has been prepared in accordance with the requirements of the Ministry of the Environment, Conservation and Parks (MECP) under the Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) issued in February 2025 (Approval No. 021-S701). This report fulfills the first annual performance reporting requirements for the 2025 calendar year.

In 2025, the City met its regulatory obligations and maintained compliance under the *Environmental Protection Act* and *Ontario Water Resources Act*, including the conditions of the stormwater CLI ECA. The reporting year represents the City's initial baseline for documenting SWM performance, operations, inspections, maintenance, and capital improvements under the new regulatory framework. In 2025, there were three (3) spills. All spills were promptly contained, reported to the MECP's Spills Action Centre.

Routine inspection and maintenance programs were implemented throughout the year to support system reliability and risk mitigation. In 2025, the City completed and identified deficiencies that were addressed through targeted maintenance, emergency repairs, and capital rehabilitation activities, with remaining items scheduled for follow-up.

Customer service requests related to stormwater were actively managed and tracked through the City's service request and work order systems. In 2025, the City received 408 stormwater-related complaints, primarily associated with catch basin blockages, surface ponding, winter drainage issues, and maintenance deficiencies. All complaints were investigated, and remedial actions were completed, with a small number re-assigned or deferred due to assets not yet assumed by the City.

In 2025, 17 authorized alterations to the SWM System were approved under the CLI ECA, including storm sewers, stormwater management facilities, oil grit separators, and flood control works. A review of source water protection considerations confirmed that none of the approved alterations posed a significant drinking water threat.

In 2025, the City's Supervisory Control and Data Acquisition (SCADA) system was integrated with the Enterprise Stormwater Pumping Station. This is a significant enhancement to operations as staff can remotely monitor and control operations at the pumping station.

The City also advanced several system performance improvement initiatives in 2025, including stormwater pond condition assessments and sediment removal, oil grit separator inspections and cleaning, emergency storm sewer repairs, and Closed-Circuit Television (CCTV) inspections. These actions support long-term system resilience, environmental protection, and proactive asset management.

1 INTRODUCTION

This is the first annual performance report for the City of Markham (City) Stormwater Management (SWM) System, prepared to comply with the new stormwater Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA). The City's stormwater CLI ECA (Approval 021-S701) was issued on February 14, 2025 and it requires the first annual performance reporting to be submitted to the Ministry of the Environment, Conservation and Parks (MECP) by April 30, 2026. This report covers the period of January 1 to December 31st, 2025 and it shall be posted on the City's website for public access by June 1, 2026.

The scope of this initial year performance includes system operation, performance, monitoring, inspections, maintenance, repairs, and support programs. This Report is organized to address the following aspects of the City's Management System:

1. A description of the organization and SWM system
2. An overview of the s SWM system performance and the maintenance activities carried out in reporting period
3. Calibration and maintenance on monitoring equipment
4. Complaints summary
5. Authorized alterations to the SWM system
6. Spills and discharge events summary
7. System performance improvements

1.1 Environmental Services Department Organization

The City's SWM is managed by Environmental Services in partnership with many departments across the Corporation. Environmental Services (ES) Department ensures the proper operations and maintenance of the City's SWM system. Engineering Department is responsible for planning, standardizing, approving design and inspecting new SWM infrastructure. Operations Department supports certain maintenance aspects of the City's SWM system. These groups work collaboratively and in close coordination to ensure compliance and that the system is performing as planned. Table 1 describes the primary responsibilities for the key groups.

Table 1. Departmental Responsibilities

Department/Divisions	Areas of Responsibility
Engineering Department	Engineering Review is responsible for planning watershed wide and local development and developing City stormwater design standards and guidelines. This group reviews, approves, and inspects stormwater works constructed through new development. The Infrastructure & Capital Projects group is responsible for the design and construction of Engineering Capital Projects. The group reviews, provides comments on, and issues acceptance for stormwater related design and construction reports, plans and drawings in compliance with the City's current standards, design criteria, specifications, bylaws, drawings, and other applicable guidelines and manuals.
Operations Department	Supporting stormwater maintenance activities such as clearing pond access/maintenance trails, catch basin inspections and cleaning. Repairs and adjustments to catch basins systems and maintenance holes including deficiencies to covers, lids and grading.
Business Administration – Environmental Services	Manage the City's CLI ECA program to maintain compliancy with legislative requirements. Oversee approved infrastructure alterations and reporting to MECP.
Infrastructure – Environmental Services	Design and constructs capital stormwater works associated with Environmental Services. Oversee SWM maintenance programs and implement corrective actions as required. Strategic focus on the direction and management of City-wide SWM system, including flood control remediation, erosion control and SWM ponds maintenance. Planning of infrastructure capital works, developing short- and long-term infrastructure replacement plans, updating 25-year lifecycle reserve studies and management of data.
Operations & Maintenance – Environmental Services	The Operations & Maintenance group is responsible for maintaining the pump station, vertical infrastructure capital program, Supervisory Control and Data Acquisition (SCADA), emergency response and underground sewer network.
Systems Engineering – Environmental Services	System Engineering maintain rain gauges, administer the "Private Plumbing Protection Rebate Program" as a flood reduction measure.

Other City departments provide critical services to assist ES staff in ensuring compliance and adequate performance of the SWM system, including:

- **Contact Centre**– For receiving customer calls and initial dispatching of requests, primarily to the stormwater division
- **Corporate Information Technology-** For developing and maintaining City's corporately available GIS content for City assets
- **Financial Services** – For procurement and corporate financial management

- **Sustainability & Asset Management (S&AM)** – For corporate asset management and building facility maintenance

1.2 Description of the Stormwater Management System

The Management System is comprised of works for the collection and treatment of stormwater, consisting of a separate stormwater system, management facilities and pumping station. As of January 2025, the City's Management System consisted of (Table 2, Table 3, Table 4).

Stormwater Collection System – 1467 km total

- 1227 km of storm sewers
- 245 km of ditches/swales

Stormwater Management Facilities – 191 total

- 11 Low Impact Development (LID) Facilities
- 64 SWM Ponds – wet
- 52 SWM Ponds – dry
- 11 Super Pipe/Storage Facility
- 51 Sedimentation Manufactured Treatment Devices (MTD) – Oil Grit Separators (OGS)
- 1 Manufactured Treatment Devices (MTD) – Filter Unit
- 1 stormwater pumping station

Third Pipe Collection System – 25.8 km total

- 25.8 km of third pipe collection system

The City's Municipal SWM System is a separate system for stormwater within the Lake Ontario basin including:

- Don River,
- Highland Creek,
- Rouge River, and
- Duffins Creek watersheds.

The City's SWM System connects to the City of Vaughan, City of Richmond Hill and City of Toronto systems. A map of the SWM System is found in Appendix A.

Table 2. Stormwater Collection System by Length and Diameter

System Type	Pipe Diameter (mm)	Length (km)[1]	System Totals (km)[1]
Storm Sewers	Up to 250	36	-
	> 250 - 500	544	-
	> 500 - 1050	470	-
	> 1050	139	-
	Other (non. Circular)[2]	38	-
Total Storm Sewers	-	-	1227
Ditches / Swales	NA	-	240
Total System Length (km)	-	-	**1467**

[1] All numbers have been rounded to the nearest whole number. Data gathered from Markham Stormwater GIS database, March 2026.
[2] Other pipe shapes include arc, elliptical or rectangular.

Table 3. Summary of Stormwater Management Facilities by Type and Pumping Station

Facility Type	Treatment for Suspended Solids				Total Quality Control	Total Quantity Control	Total Number of Facilities
	Basic [1]	Normal [1]	Enhanced [1]	Other [2]			
Low Impact Development (LID) Facilities – Retention (infiltration, evapotranspiration, harvest)	-	-	-	-	-	11	11
Low Impact Development (LID) Facilities – Filtration	-	-	-	-	-	-	-
SWM Ponds – Wet (includes wetlands, hybrids)	3	5	51	-	59	44	64
SWM Ponds - Dry	-			52	52	52	52
Super Pipe / Storage Facility[3]	-	-	-	-	-	11	11
Manufactured Treatment Device (MTD) - Filter Unit	-	-	1	-	1	-	1
MTD - Oil and Grit Separators (OGS)		-	-	51	51	-	51
Pumping Stations	-	-	-	-	-	-	1
Other	-	-	-	-	-	-	-
Total Number of Facilities	3	5	52	103	163	118	191

Notes:
[1] Basic, normal, and enhanced treatment correspond to 60%, 70% and 80% suspended solids removal on an annual average long-term basis, respectively.
[2] Treatment levels below 60% suspended solids removal on an annual average long-term basis
[3] Includes non-conventional underground tanks

Table 4. Third Pipe Collection System

Description	Pipe Diameter (mm)	Length (km)	Quantity	System Totals (km)
Third Pipe Sewer	Up to 250	25	N/A	
Third Pipe Sewer	> 250 - 500	0.5	N/A	
Third Pipe Sewer	> 500	0.3	N/A	
Total				26
Other Infrastructure Components (e.g., storage tank)	N/A	N/A		0

*Data gathered from Markham Stormwater GIS database, March 2026.

1.3 Asset Management Program

The City of Markham has developed its 2025 Asset Management Plan (AMP) in alignment with the Ontario Regulation 588/17 (O.Reg.588/17). The Plan provides an overview of the asset management practices and processes undertaken by the City to provide services to its residents and businesses, as well as maintain the assets that support these services in a state of good repair.

The 2025 AMP provides detailed analysis on the following areas related to stormwater assets:

- State of the Infrastructure
- Levels of Service
- Risk Management Strategy
- Lifecycle Management Strategy

ES is responsible for City's stormwater collection, conveyance, and treatment of runoff. To carry out this function, ES plans and implements various programs regularly with a holistic approach and with a focus on criticality and condition-based assessments. Please see Table 5, Table 6, Table 7, and Table 8 for more information on these programs.

The successful implementation of these programs assists the reduction of risks associated with infrastructure, reliability of provision of services, and compliance with regulatory requirements.

2 PERFORMANCE OVERVIEW

2.1 System Condition, Performance & Summary of Monitoring Data

Not applicable at this time. The future system monitoring plan will be developed and implemented in accordance with the MECP guidelines (yet to be released) and ECA requirements.

2.2 Summary of Environmental Trends – 5-Years

Not applicable for the initial report.

2.3 Summary of Operations, Inspections, Maintenance, and Repairs

The implementation of routine inspection programs is critical in identifying damage or concerns within existing stormwater infrastructure, allowing for the timely repair and maintenance prior to the escalation of these problems. Table 5 and Table 6 outline the general inspection activities that take place throughout the year. Regularly scheduled maintenance of various system components supports the proper operation and overall functionality of the SWM system. Maintenance activities and repairs are identified by inspections, scheduled programs, and unplanned circumstances. A summary of maintenance, response, and repair activities is provided for each category in Table 7 for SWM facilities and Tables 8 and 9 for the Enterprise pumping station.

Table 5. Summary of Stormwater System Inspection Program

Facility/Asset Type	Inspection	Frequency	Target	Total Inspected	Defects/Issues Found
Wet SWM Pond	Visual Inspection	Annual	64	62	5
Wet SWM Pond	Bathymetric Survey	Rotating	4-8	8	NA
Dry SWM Pond	Visual Inspection	Annual	52	51	1
LID Facilities	Visual Inspection	Bi-annual	11	NA	NA
Superpipe/ Storage Facility	Structural Inspection	TBD	TBD	0	TBD
Filtration MTD	Visual Inspection	Annual	1	1	0
Sedimentation MTD	Visual Inspection Sediment/oil measurement	Annual	52	52	12
Storm Sewers	Closed-Circuit Television (CCTV)	Every 10 years (one cluster per year)	111 km	109.3 km	Gr5: 59 spots Gr4: 53 spots Gr3: 238 spots
Catch basin	Visual Inspection	Annual	12,265	11,842	65
Outfalls	Visual Inspection [1]	Annual for high-risk sites	53	64	6

[1] Through erosion inspection program

Table 6. Summary of Pumping Station Inspection Program

Inspection	Frequency	Target	Total Inspected	Defects/ Issues Found
Station Check Activities • Operational monitoring of generator and pump records • Alarms and power failure testing of generator, level sensor and floats • Inspections and housekeeping of interior and exterior components including building condition • Documentation and follow-up of deficiencies	Weekly	1 station building, 3 pumps, 1 SCADA system, 1 generator, 1 level sensor, 4 floats	1 station building, 3 pumps, 1 SCADA system, 1 generator, 1 level sensor, 4 floats	0
SCADA Maintenance	Monthly	1	1	0
Generator Load Testing	Semi-annual	1	1	0
Electrical Safety Authority (ESA) testing	Annual	1	1	0
Electrical inspections and megger test	Bi-annual	1	1	0
Pump and Motor Inspection by contractor	Every 5 years	0	0	0
Station Condition Assessment	Every 10 years	0	0	0

Table 7. Summary of Stormwater System Maintenance and WO Completed by Repair and Response Program

Facility/Asset Type	Preventative Maintenance Activities	Preventative Maintenance Frequency	Repair/ Response	Total WO Repaired	Total WO Carried Over
Wet SWM Pond	Garbage Removal, Grate Clearing	As Needed	Fence Repair, Outlet Flushing	5	0
Wet SWM Pond	Garbage Removal, Grate Clearing	As Needed	Sediment Removal	2	0
Dry SWM Pond	Garbage Removal, Grate Clearing, Weeding and Vegetation Maintenance, Media Replacement/ Cleaning	As Needed	Grading, Erosion Repair	1	0
LID Facilities	Flushing	As Needed	Cleanout Flushing, Restoration	1	0
Filtration MTD	Parts Replacement	As Needed	Filter Replacement	NA	NA
Sedimentation MTD	Sewer Cleaning/Flushing	As Needed	Sediment Removal	10	2[1]
Storm Sewers	Inlet/Outlet Cleaning	As Needed	Sewer Lining	CIPP full lining: 315m CIPP spot lining: 7 spots	CIPP full lining: 41m[1]
Outfalls	CB cleaning (all units)	Bi-annual	Debris Removal, Structural Repair	4	2 [1]
Catch basins	Catch basin repairs/adjustments	As Needed	Debris & Sediment Removal	11,842 (each)	423 (each)[1]
Catch basins	Maintenance holes and valve chamber repairs/adjustments	As Needed	Repairs and adjustments to catch basins within the right of way. Deficiencies and grading.	358 (each)	65 (each)[1]

Facility/Asset Type	Preventative Maintenance Activities	Preventative Maintenance Frequency	Repair/ Response	Total WO Repaired	Total WO Carried Over
Maintenance holes and valve chambers	Street Sweeping (all streets)	Semi-annual	Repairs and adjustments to maintenance holes and valve covers within the right of way. Deficiencies and grading.	481 (each)	13 (each)[1]
Major Drainage Network	Preventative Maintenance Activities	Frequency	Debris removal	NA	NA
Creeks	N/A	N/A	Spills Response	3	0

Notes:
[1] To be completed in 2026

Table 8. Pumping Station Maintenance

Preventative Maintenance Activities	Frequency	Target
Wet Well debris extraction	Annual	1
Uninterruptable power supply (UPS) replacement	As needed	1

Table 9. Summary of Pumping Station WO Completed by Repair Program

Repair/ Response	Total WO Repaired	Total WO Carried Over
Repair drain of retaining wall	2	0
Wet well debris extraction	2	0
Battery replacement of generator	1	0
Pump Installation	1	0

2.4 Calibration and Maintenance of Monitoring Equipment

The future system monitoring plan will be developed and implemented in accordance with the MECP guidelines (yet to be released) and ECA requirements.

The City's SCADA system was integrated with the Enterprise PS in 2025. Through SCADA, operators can remotely monitor and control operations at the pumping station, providing timely and efficient management of this station. The SCADA system sends timely alarms so that staff and operators can respond to alerts and prevent potential storm water damage to the public. The station has one (1) level sensor, and it is calibrated as need based on manufacturer's recommendations.

2.5 Complaints Summary

City staff receives customer requests through the Active Citizen Response (ACR) system managed by the City's Contact Centre, as well as through direct emails or emails from Councillors' offices. Complaints received from the public are tracked using the City's Enterprise Asset Management (EAM) database. Once a complaint is received, a service request is created and, when appropriate, staff from the appropriate department is dispatched to investigate and remediate the situation if possible. All works completed are tracked through work orders (WOs).

As shown in Table 10, in 2025, there were a total of 408 complaints received related to the Stormwater System. All complaints were recorded, investigated and remediated, if necessary. Approximately 20 complaints were re-assigned to other departments or did not require follow-up which include complaints regarding assets that have not yet been assumed by the City.

Table 10. Summary of Public Complaints

Complaint Type	Number of Complaints	Number of Work Orders/Work Completed
Catch basin blockage	125	119
Catch basin damage	19	18
Channel/Creek/Ravine issues	6	6
Ditch/Culvert issues	25	23
Maintenance Hole/Valve Chamber deficiencies	43	43
Ponding on road/driveway/sidewalk	102	95
Private property drainage	11	11
Sewer backup	18	18
Stormwater pond issues	12	9
Winter drainage issues	47	47
Total	**408**	**389**

2.6 Authorized Alterations to the SWM System

A summary of all alterations to Markham's SWM system in 2025 authorized by the CLI ECA Approval are summarized in Table 11 and Table 12.

All alterations are located within the municipal boundaries of the City of Markham. A review of 2025 alteration drinking water threat levels was completed based on the most current Source Protection Plan, considering Ontario Threats and Circumstance activity classification tables for chemical and pathogen threats, and current vulnerable area mapping in the Ontario Source Protection Atlas. The review indicated that no alterations authorized during the reporting year were classified as significant drinking water threats.

Authorized alterations to the SWM system include:

Table 11. Summary of Authorized Alterations to the SWM System

Description/Project name	Alteration Type	Description	CLI ECA Permit Tracking Number/ Form Completed
Berczy Glen Phase 2 (Pond 149)	SWM Pond	Development	SW2 01-25
Stouffville Meadows Phase 1	Storm Sewer	Development	SW1 01-25
Don Mills Channel flood control facility	Storm Sewer	Water quantity improvement	SW1 03-25
Don Mills Channel flood control facility - OGS (EF 08) (OGS-062)	OGS Stormceptor	Water quality improvement	SW2 02-25
Don Mills Channel flood control facility - OGS (EF 10) (OGS-063)	OGS Stormceptor	Expansion/ improvement	SW2 03-25
Don Mills Channel flood control facility - OGS (EF 06) (OGS-064)	OGS Stormceptor	Development	SW2 04-25
Mill Street Maintenance hole and storm sewer replacement	Storm Sewer and Maintenance Hole	Development	SW1 04-25
Enterprise Blvd - SPC.21.137365	Storm Sewers and Maintenance Hole	Road Improvement Storm Sewer expansion	SW1 02-25
Robinson Glen-SWM Pond R02 (Pond 175)	SWM Pond	Development	SW2 05-25
Honda Indy Road Reconstruction	Storm Sewer and Maintenance Hole	Development	SW1 05-25
South Village Subdivision, Ph. 1B	Storm Sewers	Development	SW1 06-25

Table 12. Summary of Authorized Alterations to the SWM System in 2025

Alteration Type	Number of Authorized Alterations in 2025
Pre-Authorized Storm Sewers/Ditches/Culverts - SW1	6
Pre-Authorized SWM Facilities - SW2	3
Pre-Authorized Third Pipe Collection Systems - SW3	0
Changes to Works via Director Notifications	7
Schedule C Notice of Amendment	1
Total	**17**

2.7 Spills and Discharge Events Summary

The City has procedures in place so spill events are reported to the provincial Spills Action Centre (SAC), local Medial Officer of Health (LMOH), and MECP District Manager, as applicable. A spill is defined as an unplanned/abnormal discharge of any substance to the authorized system including the environment that is abnormal for the designed authorized system purpose. Spills include any unplanned or abnormal discharge of any substance to the natural environment which includes the authorized system. All information regarding the spill and discharge events follows the requirements as set out by the CLI ECA. The reporting of a private side spill/discharge to authorities is the responsibility of the property owner. However, the City takes a precautionary approach to reporting spills to authorities when such delineation is not clearly identified. If the City responds to a spill and the location of the discharge is unknown (i.e., private or public side), the City will notify the authorities of the event.

A summary of spills that occurred in 2025 are listed in Table 13. All spills were cleaned as appropriate and reported accordingly.

Table 13. Summary of Spills in 2025

Date	Description	Adverse Impacts & Corrective Action	Volume	SAC #
04/22/25	Property line Sanitary Sewer maintenance hole overflow to surrounding grassy area and into Stormwater CB. Overflow caused by system blockage from grease.	Pooling wastewater was removed from the surrounding area and stormwater catch basin was cleaned. CCTV inspection and flushing was completed. The surrounding area effected by wastewater was sprayed with a solution of bleach/water. No additional adverse impacts were noted.	200-Litres	Reported O13OAB[1]
11/20/25	Diesel spill into a catch basin and Creek/Channel.	Booms were placed across Channel in various locations to contain the spill. CCTV inspection and flushing was completed. Catch basin was cleaned and oil was removed from Channel water surface. No additional adverse impacts were noted.	Unknown	Reported PTTU4H
12/08/25	Sanitary sewer cross connection caused sanitary to flow into storm main. Grease accumulation within the sewer main caused blockage.	CCTV inspection and flushing was completed. The blockage was cleared, stopping the spilling of wastewater into storm system. Location of cross-connection is being investigated and repair (cap) to be installed to prevent further spills. No additional adverse impacts were noted.	Unknown	Reported PW8OSE[1]

[1] Spills were also reported under the “2025 Wastewater Collection Performance Report”

2.8 System Performance Improvements

A summary of actions taken, including timelines, to improve or correct the performance of the SWM System are included in Table 14. These projects were undertaken or completed in 2025.

Table 14. Summary of Actions to Improve the Performance of the SWM System

Project Number	Project Name	Description	Timeline for Substantial Completion
24248	Storm Sewer Pipes - Rehabilitation	Rehabilitation of deficient storm sewer pipes identified through 2022 and 2023 CCTV inspection.	Jun-25 Completed
2238	Main Street Unionville - 039-T-24	Localized replacements and lining of existing storm sewer segments to address structural deficiencies and extend service life.	Dec-25 Completed
25207	Oil Grit Separators (OGS) - Inspection and Cleaning	This project relates to the inspection and cleaning of accumulated pollutants in the Oil Grit Separators (OGS) as a part of regular maintenance. Cleaning requirements are determined following condition assessment & ensure legislative compliance.	Dec-25 Completed
24247	Storm and Sanitary Sewer CCTV Inspection	This project is for an annual program to determine the condition of the storm and sanitary sewers using closed circuit television (CCTV) inspection. Pipe rehabilitation/ replacement programs will be developed based on the condition inspection results	Dec-25 Completed
25212	SWM Ponds - Condition Inspection	This project is for the condition assessment and measurement of sediment level on selected SWM ponds.	Dec-25 Completed
25215	Wet SWM Pond Cleaning #60 & #55- Constr. & CA	This project is for sediment cleaning and contract administration of two SWM ponds at Unionville Pond & Lemsford Drive Pond.	Dec-25 Completed
25211	Stormwater Pipes Emergency Repairs	This project is for various sites to be determined as per inspections, with emergency repairs being undertaken as required.	Dec-25 Completed
23252	Stormwater Pumping Station – Equipment Inspection	This upgrade project is to replace the instrumentation at the Enterprise PS	Dec-25 Completed
22308	Storm Sewer Repair (555 Miller)	Sewer lining	Dec-25 Completed

Project Number	Project Name	Description	Timeline for Substantial Completion
25210	Storm and Sanitary Sewer CCTV Inspection	This project is for an annual program to determine the condition of the storm and sanitary sewers using closed-circuit television (CCTV) inspection in the Victoria Square Boulevard area.	Mar-26
25209	Rain Gauge Replacement	This project is for the replacement / upgrade of twelve rain gauges. A rain gauge is an essential device for measuring and monitoring rainfall events, which will aid the development of resilient water-related infrastructure systems across the City	Dec-26

Additionally, the projects listed in Table 15 are not in scope of the improvements made to the authorized system, but they enhance the performance of downstream systems such as water bodies and natural systems. The performance issues can include water quality impairment (e.g. due to wildlife), and habitat degradation along eroding water course systems.

Table 15. Summary of Actions to Improve the Performance of Downstream Systems

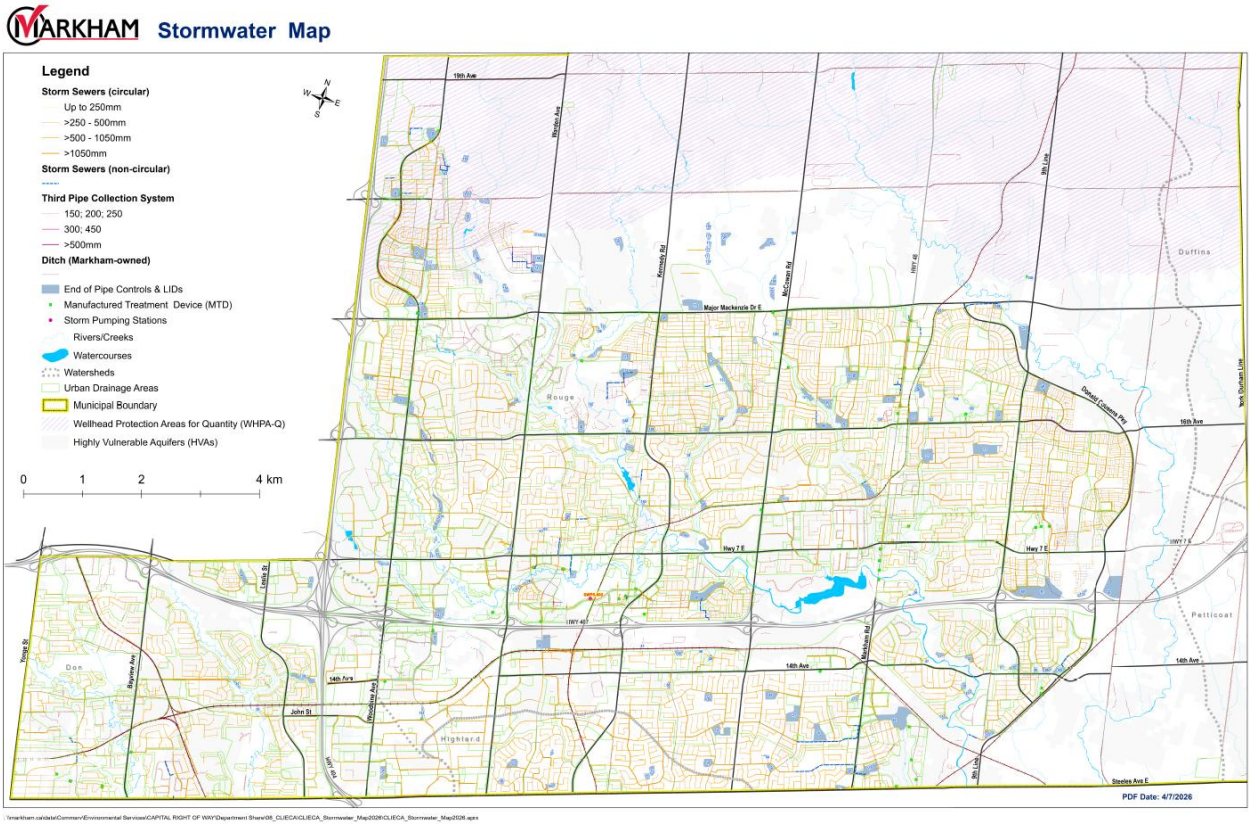
Project Number	Project Name	Description	Target Completion Date
25205	Erosion Restoration Program (Emergency Works)	This project will provide funding to restore unplanned erosion sites and long-term slope stabilization at Mill Street.	Dec-25 Completed
25213	Water Quality Improvements	This project is for an annual program to carry out the geese control at Swan Lake and Toogood Pond, to manage water quality complaints.	Dec-25 Completed
25214	Water Quality Monitoring at Swan Lake	This project is to continue with the water quality sampling and analysis at Swan Lake per December 2021 Council Report.	Mar-26
25206	Evaluation of Swan Lake (Long-Term Plan)	This project is to review, evaluate and update the Swan Lake Long-Term Management Plan.	Jun-26
25208	Planting of submerged aquatic vegetation	This project is to plant submerged aquatic vegetation in order to improve water clarity and quality in Swan Lake, as per the Council approved Phase 1 Plan for Swan Lake.	Dec-26

2.9 Previous Reporting Year System Improvement Update

Not applicable for initial report.

An update on system improvement action items identified in this report will be included as part of the 2026 Annual Stormwater Collection Performance Report.

APPENDIX A - CITY OF MARKHAM STORMWATER MANAGEMENT MAP



APPENDIX B – REFERENCE DOCUMENTS

1. Environmental Compliance Approval (CLI ECA) For a Municipal Stormwater Management System, Markham Stormwater Collection and Treatment System, ECA Number 021-S701 Issue Number 1, dated February 14, 2025
2. Design Criteria for Sanitary Sewers, Storm Sewers, and Forcemains for Alterations Authorized under Environmental Compliance Approval, v.2.0, dated May 31, 2023
3. City of Markham Storm Water Management Guidelines, 2016
4. City of Markham LID Guidelines, 2018
5. City of Markham 2021 Asset Management Plan, 2021
6. Stormwater Management Facilities Retrofit Municipal Class EA, 2016
7. North Markham Future Urban Area Subwatershed Study (Berczy, Bruce, Eckardt and Robinson Creeks), 2019
8. Enterprise PS condition assessment report 2024