

2024 Annual Performance Report Innisfil Stormwater Management System

Town of Innisfil

Environmental Compliance Approval #307-S701

January 1, 2024 to December 31, 2024

April 2025

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Introduction

The Town of Innisfil Stormwater Management System is owned and operated by the Town of Innisfil in accordance with Environmental Compliance Approval #307-S701, Issue Number 1, issued May 24, 2023. The Municipal Stormwater Management System serving the Town of Innisfil's drainage area, is a separate system for stormwater (i.e. designed not to convey sanitary sewage, combined sewage) within the Lake Simcoe and the Nottawasaga River watersheds.

In 2023, the Municipal Stormwater Management System consisted of 434 kilometres of a collection system consisting of storm sewers, culverts, ditches, and 51 Stormwater Management Facilities including Stormwater Management Ponds (Wet, Wetland, and Dry), Low Impact Development (LIDs) and Oil Grit Separator (OGS) units. The Town of Innisfil's drainage area also includes approximately 350 kilometres of ditches specifically for the purpose of drainage that are not covered by and not subject to the requirements set out in the Environmental Compliance Approval.

The Environmental Compliance Approval covers the entire Municipal Stormwater Management System owned and operated (assumed) by the Town of Innisfil. This Environmental Compliance Approval does not cover municipally, or privately owned sewage works on industrial, commercial, or institutional land.

This Annual Performance Report has been prepared to comply with Condition 5.2 Schedule E, of Environmental Compliance Approval #307-S701 and covers the period from January 1, 2024 to December 31, 2024. This Annual Performance Report will be made available to members of the public who are served by this system and is published on the Town's website by June 1st of the year.

No Ministry of Environment, Conservation and Parks (MECP) inspections occurred during the reporting period.

Stormwater Management System Categorization

The table below provides a summary of the Stormwater Collection System at the time of conclusion of the 2024 reporting period.

Stormwater Collection System by Diameter					
System Type	Pipe Diameter (mm)	Length (km)	System Totals (km)		
Storm Sewer	Up to 250	23.67			
Storm Sewer	>250 - 500	40.12			
Storm Sewer	>500 – 1050	28.45			
Storm Sewer	>1050	4.90			
Total Storm Sewer			97.14		

Table 1: Stormwater Collection System

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Stormwater Collection System by Diameter					
System TypePipe DiameterLengthSystem Totals(mm)(km)(km)					
Ditches/Swales			352.81		
Total System Length			449.95		

Note: The Town of Innisfil does not own/operate Third Pipe Collection Systems or sewage works on Private Land that are part of the Municipal Stormwater Treatment Train.

The table below provides a summary of the Stormwater Management Facilities by Type at the time of conclusion of the 2024 reporting period.

Table 2: Summary of	Stormwater Management	Facilities by Type
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	Summary of Stormwater Management Facilities by Type						
Facility Type	Basic Treatment for Suspended Solids*	Normal Treatment for Suspended Solids *	Enhanced Treatment for Suspended Solids *	Other Treatment Level for Suspended Solids**	Total Quality Control	Total Quantity Control	Total Number of Facilities
LID Facilities - Retention (infiltration, evapotranspiration, harvest)			5		5		5
LID Facilities - Filtration					0		0
Stormwater Management Ponds – Wet (includes wetlands, hybrids)	2	5	28		35	31	35
Stormwater Management Ponds - Dry	11			1	12	11	12
Super Pipe / Storage Facility					N/A		N/A
Filtration MTD - Filter Unit					N/A		N/A
Sedimentation MTD - OGS	2		5		7		7

Summary of Stormwater Management Facilities by Type							
Facility Type	Basic Treatment for Suspended Solids*	Normal Treatment for Suspended Solids *	Enhanced Treatment for Suspended Solids *	Other Treatment Level for Suspended Solids**	Total Quality Control	Total Quantity Control	Total Number of Facilities
Pumping Stations							N/A
Other							
Total Number of Facilities	15	5	38	1	59	42	59

* Basic, normal, and enhanced treatment correspond to 60%, 70% and 80% suspended solids removal on an annual average long-term basis, respectively.

** Treatment levels below 60% suspended solids removal on an annual average long-term basis.

2024 Annual Performance Report – Stormwater Management System

In accordance with the Environmental Compliance Approval #307-S701, Schedule E Section 5.2, the Town of Innisfil, as the Owner of the Municipal Stormwater Management System, shall prepare and submit a performance report to the Ministry of the Environment, Conservation and Parks (MECP) on an annual basis.

Schedule E Section 5.2 of the Environmental Compliance Approval requires the Annual Performance Report to contain the following elements:

- a) A summary of all monitoring data along with an 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.
- b) A summary and interpretation of environmental trends based on all monitoring information and data for the previous five (5) years.
- c) A summary of any operating problems encountered and corrective actions taken.
- A summary of all inspections, maintenance, and repairs carried out on any major structure, equipment, apparatus, mechanism, or thing forming part of the Authorized System.
- e) A summary of the calibration and maintenance carried out on all monitoring equipment.
- f) A summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.

- g) A summary of all Alterations to the Authorized System within the reporting period that are authorized by the Approval including a list of Alterations that pose a Significant Drinking Water Threat.
- h) A Summary of all spills or abnormal discharge events.
- i) A summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System.
- j) A summary of the status of actions for the previous reporting year.

The following report was generated from the records maintained by the Town of Innisfil Stormwater Management System for the reporting period of **January 1, 2024**, to **December 31, 2024**.

(a) Interpretation of Monitoring Data

The creation and implementation of a monitoring plan for the Town's Stormwater Management System has not been completed at this time. A monitoring program will be finalized once the Ministry of the Environment, Conservation and Parks publishes the final version of the Monitoring Guidance Document. The Town is currently working with the Lake Simcoe Region Conservation Authority (LSRCA) on a Draft Receiver Monitoring Program to fulfill this monitoring requirement.

In 2024, the Town contracted LSRCA to conduct hydraulic monitoring at ten (10) wet Stormwater Management Facilities (SWMF) within the Town. The data was received on November 25, 2024. Hydraulic data was used to compare the observed vs. their design normal water level (NWL). The data was also used to calculate the drawdown time of the ten (10) SWMF during the monitoring period. A summary of the gathered data can be found below.

Pond ID	Design NWL (masl)	Observed NWL (masl)	Observed Draw Down Time (hr)
PND-00061	223.75	224.25	>48
PND-00062	224.20	224.34	~48
PND-00063	225.00	225.21	>48
PND-00071	220.80	221.65	~48
PND-00072	237.56	237.75	~48
PND-00073	237.60	237.60	~24
PND-00075	259.87	259.94	>48
PND-00076	238.00	238.31	>48
PND-00077	239.75	239.75	~24
PND-00079 (DS)	237.15	237.11	~24

Table 3: Stormwater Management Facilities Hydraulic Monitoring Data and Draw Down Time

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The drawdown time for the SWMF is the time it takes for a facility to return to its NWL after a rain event. An extended drawdown time indicates that a potential outlet blockage is occurring. An additional indicator for a potential blockage is when a stormwater management facility continuously fails to return to its NWL. Based on the data, four (4) of the SWMF were noted as likely to have a blockage based on both their extended drawdown times and a failure to return to their NWL. Maintenance activities are planned for 2025 to address these issues.

The hydraulic monitoring program will continue in 2025 with LSRCA staff installing the equipment in ten (10) new SWMF. Once all ponds have had one year of monitoring, the program will loop back to the facilities that required maintenance before starting back at the original 10 facilities.

(b) Interpretation of Environmental Trends

Once monitoring of the Stormwater Management System is implemented, environmental trends will be interpreted. Nothing to report during this reporting period.

(c) Operating Problems and Corrective Actions

The table below provides a summary of the operating problem that required immediate corrective action to allow the system to function as designed. Most of the work completed on stormwater management appurtenances during this reporting period are covered in Section (d) under repairs and maintenance.

Dates	Operating Problem	Corrective Action
Multiple times throughout 2024	 Beaver Issues: PND-00077 beaver dams were located within the multiple pond system, resulting in high water levels within the SWMF, reducing capacity within the facility. PND-00131 beaver dams located downstream of SWMF and dropping trees within the pond itself, dams created high water levels within the SWMF, reducing capacity within the facility 	Trapper removed the beaver(s) and the dams were removed.
04/5/2024	The outlet structure in PND-00071 was blocked creating a high water level in the facility.	Staff removed debris from the outlet structure using a canoe and long-handled brooms.

Table 4: Operating Problems and Corrective Actions

(d) Inspection, Maintenance and Repairs

The Town of Innisfil completed its annual inspections of all assumed Stormwater Management Facilities including 47 stormwater management ponds, 5 LID features, and 7 OGS units. LID feature and OGS units assumed in 2024 were inspected and maintained prior to assumption.

The table below is a summary of all maintenance and repairs carried out on any major structure, equipment, apparatus, mechanism, or thing forming part of the Authorized System.

All maintenance was performed on behalf of the Owner, by trained or qualified contracted services provided who exercise due diligence in ensuring the Works and the related equipment are properly operated and maintained to achieve compliance with the Approval.

Date	Work Description	Work Type
03/19/2024 to 03/22/2024	Tree and debris removal from SWMF outlet channel. (PND-00042)	Vegetation Management
06/17/2024	Repair stormwater sewer connection which resulted in a large sink hole – Wellington Street, Cookstown	Storm Sewer Repair
07/09/2024	Replacement of headwall grates to new style to discourage beaver entrance. (PND-00103)	Pond Maintenance
07/26/2024 to 08/02/2024	Annual catchbasin cleanout program – Remove sediment on the sumps of every catchbasin.	Catchbasin Cleanout
08/12/2024	Culvert repair/extension – 7 th Line east of 20 Sideroad	Culvert Repair
08/12/2024 to 08/15/2024	Replace of multi-barrel Cross Culverts (CLV-18703, CLV-17877) at the corner of Temple Avenue and Spruce Road due to the structure integrity of the culverts.	Culvert Replacement
09/03/2024	Herbicide application in PND-00074 (dry pond) to remove remaining invasive Phragmites that have regrown since last years treatment.	Vegetation Management
09/05/2024	Annual OGS Inspections	OGS Inspection
10/28/2024	Removal of collected sediment and oils from OGS-00003, OGS-0004 & OGS-0005	OGS Cleanout
10/31/2024	Fix erosion/sinkhole around catchbasin in backyard of 1983 Celeste Street.	Catchbasin Repair

Table 5: Maintenance and Repairs

Date	Work Description	Work Type
April 2024 to December 2024	Hydraulic Monitoring – Water level – 10 Wet SWMF	Draw Down Time Monitoring
Throughout 2024	The ditching program maintained approximately 9,200m of ditching in 2024.	Ditching Program

(e) Monitoring Equipment Calibration and Maintenance

No monitoring equipment was used during this reporting period. Therefore, at this time there is nothing to report.

(f) Complaints

There were 10 Stormwater Management complaints related to the Town-owned facilities during this reporting period. These complaints are summarized in the table below. The Town also received 3 stormwater management complaints related to unassumed (development-owned) facilities during this reporting period.

Dates	Description of Complaint(s)	Resolution
01/17/2024 to 01/23/2024	Pond Cleanout in progress and the resident realized the depth of water. They would like additional signage to be installed to keep parents, teens, and kids away from water and keep off the ice in the winter. (PND-00716)	Current signage in place indicating Skating and Swimming is prohibited. New signage is to be installed in Spring 2025 now that the facility was assumed in December 2024.
01/22/2024 to 10/23/2024	Debris and vegetation in ditch upstream of SWMF. (PND- 00131)	Ditching completed.
05/01/2024 to 05/09/2024	Unknown people installing signs in wet pond.	CA staff installing staff gauge in SWMF as part of the Hydraulic Monitoring Program.
06/10/2024 to 06/13/2024	Tree down in SWMF.	Tree was removed.
07/04/2024 to 09/11/2024	Grass cutting is requested around SWMF. (PND-00089)	SWMF are naturalized area, and internal vegetation will not be cut.

Table 6: Complaints

Dates	Description of Complaint(s)	Resolution
07/09/2024 to 07/22/2024	Grass cutting is requested around SWMF. (PND-00086)	SWMF are naturalized area, and internal vegetation will not be cut.
08/12/2024 to 08/14/2024	Beaver(s) in SWMF and dams located downstream of the outlet. (PND-00131)	Beaver was removed and dams downstream were removed by hand.
09/18/2024 to 01/10/2025	Beaver(s) in SWMF and dams located downstream of the outlet. (PND-00131)	Beaver was removed and dams downstream were removed by hand.
10/18/2024 to 10/29/2024	Fence needs repair. (PND- 00085)	Minor damage to the fence. Fixed at time of inspection.
11/06/2024	Youth spotted fishing in SWMF. (PND-00085)	Community Safety Officer attended and spoke with the youth to indicate fishing is not permitted

During heavy rain events or spring thaws, there are typically calls that come into the Town from residents who have issues with stormwater flooding and high-water levels in their yards, on roads, or in ditches. These issues are typically addressed with Operations staff completing the removal of snow/ice/vegetation blockages, unblocking catchbasins grates, flushing/steaming culverts, and setting up pumps in strategic locations. These issues are not included in the table above.

(g) Alterations to the Authorized System

The tables below summarize the projects that saw alterations to the stormwater management system during this reporting period.

Alteration Type – Project Name	Submission Date	Project Details	Status
SW1 – Coralwoods Pond Retrofit	01/22/2024	Pond Retrofit from Dry to Wet facility.	Complete
SW2 – Lockhart Road	02/27/2024	Proposed dry swale.	Under Construction
SW1 - Melrose	04/09/2024	Development proposes storm sewer installation.	Under Construction
SW3 - Melrose	04/09/2024	Development proposes third pipe foundation drain collection system.	Under Construction

Table 7:	Alterations -	Storm	Water	(SW)	Forms
				/	

Alteration Type – Project Name	Submission Date	Project Details	Status
SW1 – 20 th Sideroad (LSAMI P4)	05/29/2024	Urbanization and widening of 20 th Sideroad, including sewer construction.	Under Construction
SW2 - 20 th Sideroad (LSAMI P4)	05/29/2024	Urbanization and widening of 20 th Sideroad, including OGS unit installation.	Under Construction
SW1 – Shore Acres	06/11/2024	Development proposes storm sewer installation.	Under Construction
SW2 – Shore Acres	06/11/2024	Development proposes stormwater management pond and LIDs installation.	Under Construction
SW1 – McNeil Street Park	09/10/2024	New storm sewer extension.	Complete

Table 8: Alterations – Assumptions

Alteration to the Authorized System – Project Name	Date	Project Details
Belpark Development	04/03/2024	Assumption of storm sewers within these developments previously authorized under ECA number 4678-98TN3B.
Belpark Development	04/03/2024	Assumption of Stormwater Management Facility (PND-00141) previously authorized under ECA number 5976-9AEKVQ.
Alcona Downs 1 Phase 2 Stage 2, Alcona Downs 2 Phase 2/3 & Alcona Downs 3 Phase 1/2	08/14/2024	Assumption of storm sewers within these developments previously authorized under ECA numbers 8879-8Y3K3K, 6846- 86FPN5, 6517-87JLNR, and 5929- 9KBKCG.
Sandy Trail Development	08/14/2024	Assumption of storm sewers, OGS Unit (OGS-00023) and Stormwater Management Facility (PND-00811) previously authorized under ECA number 3112-972JXD.

Alteration to the Authorized System – Project Name	Date	Project Details
Alcona Downs 1, Phase 1	11/27/2024	Assumption of Stormwater Management Facility (PND-00716) previously authorized under ECA numbers 6517-87JLNR and 0298-86FKVV.
Alcona Downs 3 Phase 3 & 4	11/27/2024	Assumption of storm sewers within these developments previously authorized under ECA number 5592-ANJXL.
LSAMI P2 Phase 1 and 2	11/27/2024	Assumption of a portion of the storm sewers within these developments previously authorized under ECA number 4310- 99JKSQ.
LSAMI P2 Phase 3	11/27/2024	Assumption of storm sewers within these developments previously authorized under ECA number 2365-ATHLHR.
Bremont Development	12/11/2024	Assumption of storm sewers, OGS Unit (OGS-00004) and Stormwater Management Facility (PND-00810) previously authorized under ECA number 4076-9HET5L.
Cookshill North Development	12/11/2024	Assumption of storm sewers and Stormwater Management Facility (PND- 00141) previously authorized under ECA number 7031-9FLLDL.

(h) Spills and Abnormal Discharges Events

The table below summarizes any spills and/or abnormal discharges that were noticed by Town staff or reported through the Spills Action Centre (SAC) that the Town was made aware of during this reporting period.

Table 9: Spills and Discharges

Spill/Discharge Event	Date	Details
2429 Bowman Street	05/02/2024	 Staff responded to a spill of Sodium Silicate located at Poraver. The spill was contained with their private stormwater system and remediated by Bager. The spill did not make its way into any of the Town's Stormwater Infrastructure. The Spills Action Centre was contacted, and this spill was reported under Ref # 1-6-F63XT. No further action was required.

Spill/Discharge Event	Date	Details
1472 Innisfil Beach Road	11/04/2024	It was confirmed that the Tenant was dumping cooking oil in storm drain. Oil was collected in the private OGS on site. Contractor completed cleanout on the CB, storm sewer and OGS. It was determined that the oil buildup was caught before it could be detected within the Town's sewer system and in the downstream SWMF. The Spills Action Centre was contacted, and this spill was reported. No further action was required.

(i) System Performance Improvements and Correction

The table below summarizes the operating projects that were incorporated during the reporting period that had an overall positive impact on the system performance.

System Performance Improvement	Program Description	Date	Actions
Stormwater Management Pond Inspection	Annual visual inspection of every Wet, Dry and Wetland facility	Fall 2024	Results of inspections trigger maintenance requirements on facilities to be completed in- house or contracted out in 2025
Hydraulic Monitoring	Water Level Monitoring of 10 wet SWMF for the entire year.	2024	Results show how the pond is functioning, more specifically the draw- down times. The results of monitoring triggers maintenance requirements on outlet structures to be completed in 2025.
OGS Inspection and Cleanout	Annual Inspection which triggers cleanouts as per the manufacturer's specifications	2024	Inspections trigger cleanout requirements

Table 10: System Performance – Operating Projects

System Performance Improvement	Program Description	Date	Actions
LID Inspection	Annual visual inspection of every LID feature during a large rain event with a follow-up visit 24 hrs later to see how the system performed	Fall 2024	Results of inspections trigger maintenance requirements on facilities to be completed in- house or contracted out
Catchbasin Cleanout	Annual cleanout of every Catchbasin within the Town's system	Summer 2024	Completed
Litta Trap Maintenance	The removal of dirt and debris Semi-Annually	Summer 20024	Completed
Ditch Cleanout	Currently completed on a complaint or reactive basis (budget pending)	Summer/Fall 2024	Completed

The table below summarizes the capital projects that were incorporated during the reporting period that had an overall positive impact on the system performance.

Table 11: System Performance – Capital Projects

System Performance Improvement	Program Description	Date	Actions
Capital Retrofit and Cleanout Program	Completion of one pond retrofit and pond cleanout (budget pending). This program is driven by the Towns Stormwater Management Master Plan and Flooding Strategy (2024)	2024	0 Design 2 Construction (PND-00093) (PND-00042) No pond cleanout was completed in 2024.

System Performance Improvement	Program Description	Date	Actions
Stormwater Management Master Plan and Flooding Strategy (SWM-MP & FS)	The SWM-MP & FS is a strategic document that provides direction for the management of stormwater runoff and related infrastructure. The SWM-MP & FS identifies a preferred strategy to protect and enhance natural features, ecological function and biophysical integrity, and appropriately manage risks through the identification of preferred approaches and the establishment of environmental targets. The SWM-MP are completed every 5 years.	2024	Over the next 18 years the SWM-MP establishes stormwater management policies and guidelines, addresses stormwater infrastructure needs, identifies and prioritizes recommended works, and informs the overall asset management plan. The FS identifies and prioritizes areas of concern for flooding and creates a plan for cost-effective, environmentally sustainable, and innovative solutions.

The table below summarizes the capital and operating projects that have been completed outside of the reporting period that play a critical role and have an overall positive impact on the system's performance.

Table	12 [.] System	Performance -	Historic	Canital	and	Operating	Projects
Table	12. Oystenn	r enormance –	1 11310110	Capitai	anu	operating	1 10/00/0

System Performance Improvement	Program Description	Date	Actions
Storm Sewer Flushing and CCTV Inspection and Assessment	Every five (5) years, routine CCTV inspections of the entire stormwater sewer system will provide the Operations, Finance, and Engineering Departments with detailed information on which pipes require immediate replacement versus those that can be planned for in the future.	2020 to 2022	Feeds into the Town's Stormwater Sewer Replacement Program, which has been approved by Council to begin in 2025.

System Performance Improvement	Program Description	Date	Actions
Bathymetric Surveys	Every five (5) years, a full topographic and/or bathymetric survey should be completed on every assumed Stormwater Management Facility (Dry Pond, Wet Pond, Wetland) located within the Town which will determine the sediment accumulation and accumulation rate within each facility.	2020 to 2022	Feeds into the Town's Stormwater Pond Cleanout and Retrofit Program.

(j) Status of Actions for Previous Reporting Year

This section contains a summary of the status of the Town's Stormwater Management System detailed in 2023. These projects include the installation of staff gauges at all wet and wetland Stormwater Management Facilities and the installation of twenty (20) new Stormwater Management Facility signs.

Staff Gauge Installation

In 2024, the Town contracted the LSRCA to install staff gauges in all wet and wetland Stormwater Management Facilities within the Town. Installation of the staff gauges was done to meet the CLI-ECA requirement to monitor hydraulic operation of the facilities as part of the yearly inspections. Staff gauges can be used as a simple method to monitor the depth of water in a facility above a set water level.

Stormwater Management Facility Signage Installation

In 2024, the Town obtained a contractor to install 20 new Stormwater Management Signs at 20 facilities located within the Town. Installation of the new signage was done to meet the CLI-ECA requirement to establish signage to notify the public of the facility's purpose, potential hazards and contact information.