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March 1st, 2024

Dear Environmental Services Customer,

We are pleased to provide the 2023 Annual Performance Report for the City of Stratford's Stormwater Management System. This report has been completed in accordance with the Environmental Compliance Approval #074-S701, Schedule E Section 5.2, issued October 20, 2022, and issued to the City of Stratford.

This report covers the period from January 1, 2023 to December 31, 2023 and will be made available on the City of Stratford website by June 1, 2024. Hard copies will also be available at our 82 Erie St. office on the 3rd floor.

For any questions or additional information regarding the report, please contact me at (519) 271-0250 ext. 222.

Yours truly,

A handwritten signature in blue ink, appearing to read "JB" followed by a long horizontal line.

Johnny Bowes
Manager of Environmental Services



2023

ANNUAL PERFORMANCE REPORT

City of Stratford Stormwater
Management System

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Executive Summary

The City of Stratford Stormwater Management System (SWM) is owned and operated by the City of Stratford in accordance with Environmental Compliance Approval #074-S701, issued October 20, 2022. The SWM system consists of approximately 172 kms of storm sewers, 212 km of ditches and 1 stormwater pumping station. The SWM system also includes all other controls, electrical equipment, SWM ponds, oil/grit separators, appurtenances that are essential for the operation of the works.

Throughout the reporting period (January 1, 2023 to December 31, 2023), staff worked diligently completing several maintenance, rehabilitation and renewal projects to ensure the adequacy of the City's stormwater system infrastructure.

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

2023 Annual Performance Report – Stormwater Management System

In accordance with the Environmental Compliance Approval #074-S701, Schedule E Section 5.2, The City of Stratford, 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 ECA requires the Annual Performance Report to contain the following elements:

- (a) a summary and interpretation of all monitoring data, including an overview of condition and operational performance of the Works 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,
- (d) 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 Works received

during the reporting period and steps taken to address the complaints,

- (g) a summary of all alterations to the Authorized System within the reporting period that are authorized by this 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; and
- (j) Includes a summary of the status of actions for the previous reporting year.

The following report was generated from the records maintained by The City of Stratford Stormwater Management System for the calendar year 2023.

(a) Interpretation of Monitoring Data

City staff observe and monitor the storm pumping station regularly during station checks/inspections and while performing scheduled preventative maintenance activities. Staff exercise due diligence in ensuring the Works and the related equipment are properly operated and maintained and any observations are being recorded in our work order system and the facility digital logbooks (e.Ris). Please refer to Appendix A for examples of our e.Ris logbook system.

Monitoring and inspection of the SWM system includes annual programs consisting of; storm main flushing and camera work, stormwater management facility inspections and maintenance hole repair/replacement. All programs help to sustain an effective Capital Works program that coordinates with the City's maintenance objectives.

The data chart on the following page details the monitoring activities performed by staff during the reporting period. Based on the data collected and reviewed, it has been determined that the system is performing adequately to meet demand and maintenance requirements. At this time there are no required major modifications required for the SWM system. Continuous improvement and optimization will continue to be a priority for staff and management.

Table A – Summary of Monitoring Programs

Program Title	Program Description	Adverse Effects on the Natural Environment?
Storm Sewer Flushing	Combination of reactive flushing due to storm main obstructions and mains flushed because of scheduled flushing as per O&M Manual frequency.	No
Oil/Grit Separator Inspections	Semi Annual and post “Significant Rain Event” Inspections.	No
Ditch Inlet Inspections	Semi Annual and post “Significant Rain Event” Inspections.	No
Outfall Inspection	Semi Annual and post “Significant Rain Event” Inspections.	No
SWM Pond Inspection	Semi Annual and post “Significant Rain Event” Inspections.	No
SWM Pumping Station Inspection	Weekly inspections of the operating and health and safety components of the Underpass SM Pumping Station	No
Catch Basin Cleaning	Half of the City catch basins are cleaned every year depending on North/South CB locations. This work is completed by an external hydrovac contractor.	No

(b) Interpretation of Environmental Trends

Prior to the implementation of the new CLI-ECA, the City did not have these monitoring programs in place as defined in the new O&M Manual. There were some annual checks completed on the SWM Ponds for example, but work was not tracked in the same format that we now have in place with digital forms and record keeping.

The consistent program that has been in place is the catch basin cleaning and storm main flushing. Staff have identified no abnormal conditions from the historical storm main flushing. Catch basin cleaning is completed by an external contractor and there have been no abnormal conditions reported.

Staff are expecting this section of the Annual Performance Report to be more informative after the first few years of the new monitoring programs being in effect with proper documentation. At that time there will be reliable and consistent data that can be compared and interpreted.

Table B – Environmental Trends

Monitoring Data	Environmental Trend	Interpretation and Comments
N/A	N/A	N/A

(c) Operating Problems and Corrective Actions

The table below provides a summary of operating problems that required immediate corrective action to allow the system to function as designed. Most of the work completed on SWM appurtenances during this reporting period are covered in section D under repairs and maintenance.

Table C – Operating Problems and Corrective Actions

Operating Problem	Corrective Action	Date
Packham SWMP outlet pipe obstructed, no outfall flow	Staff used the flusher truck to remove obstruction from outlet pipe (balloon).	08/02/2023

(d) Inspections Maintenance and Repairs

The table below is 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.

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

Table D – Summary of Maintenance and Repairs

Work Order	Work Description	Work Type	Date
ST-23-0001	Sink Hole - Lead Repair 225 Brunswick	C/B Connection Repair/Replace	1/5/2023
ST-23-0002	420 William - Sim 11018 - CB Repair	Catch Basin Repair	1/17/2023
ST-23-0004	Underpass Pumping Station - Sediment Removal	Underpass Station Maintenance	2/17/2023
ST-23-0005	Catch Basin Repair- Police Lot	Catch Basin Repair	2/23/2023
ST-23-0006	Manhole Repair- 13044 Erie at 7/11	Catch Basin Repair	3/13/2023
ST-23-0007	Plugged Catch Basins - 3 locations	Storm Flushing	3/23/2023

ST-23-0009	Storm Sewer Flushing - Drainage Area B17	Storm Flushing	4/11/2023
ST-23-0010	Storm Sewer Flushing - Drainage Area B15	Storm Flushing	4/11/2023
ST-23-0011	Storm Sewer Flushing - Drainage Area B16	Storm Flushing	4/11/2023
ST-23-0012	Storm Repair - Broken Lead to Structure 10634	Storm Replacement/Repair	4/14/2023
ST-23-0013	Catch Basin Repair - St David at Birmingham	Catch Basin Repair	4/17/2023
ST-23-0014	Manhole Repair - Hibernia at O'Loane 13095	Storm Replacement/Repair	4/17/2023
ST-23-0016	Storm Project - McManus	Ditch Cleaning & Inspection	5/15/2023
ST-23-0017	Catch Basin Repair - 303 King St	Catch Basin Repair	5/17/2023
ST-23-0018	Catch Basin Repair - 295 Willow	Catch Basin Repair	5/23/2023
ST-23-0019	Clean Ditch Inlet - Wright at Walch Farm	Ditch Cleaning & Inspection	6/12/2023
ST-23-0020	Catch Basin Grate Replacement - 412 Brunswick	Catch Basin Repair	6/13/2023
ST-23-0021	Oil Grit Separator - Debris Removal	SWM Facility Maintenance	6/19/2023
ST-23-0022	SWMP- Vegetation Removal	SWM Facility Maintenance	6/28/2023
ST-23-0023	Albert and Queen Sinkhole/ Storm Lead Refurb	Storm Replacement/Repair	7/7/2023
ST-23-0024	101 Glendon Road Sinkhole/ Storm Lead Refurb	Storm Replacement/Repair	7/7/2023
ST-23-0025	Debris Removal- SERC SWM Pond	SWM Facility Maintenance	7/10/2023
ST-23-0026	Catch Basin Repair 00967- Huron @ Huntington	Storm Replacement/Repair	7/12/2023
ST-23-0027	Crane Ave. SWMP- 341300004- Tree and Brush Removal	SWM Facility Maintenance	7/14/2023
ST-23-0028	Fairfield SWMP 341300009- Tree and Brush Removal	SWM Facility Maintenance	7/14/2023
ST-23-0029	Culvert Replacement - North of CH Meier Blvd	Culvert Repair	6/22/2022
ST-23-0030	Sinkhole- Cemetery OFB0042	Storm Replacement/Repair	7/7/2023
ST-23-0031	Sir Adam Beck SWMP- Vegetation Removal	SWM Facility Maintenance	7/14/2023
ST-23-0032	Sink Hole - Downie at St Patrick	Catch Basin Repair	7/24/2023
ST-23-0033	Whyte Ave. Catch Basin Vac Work and Flushing	Catch Basin Cleaning	7/25/2023
ST-23-0034	Catch Basin Repair- Upper Queens	Storm Replacement/Repair	7/31/2023
ST-23-0035	Storm Water Pond Grass Cutting	SWM Facility Maintenance	8/1/2023
N/A	Annual Fall Arrest and Lifting Device Inspections	Health and Safety	02/01/2023
ST-23-0037	74 Redford Cres. Catch Basin Repair 00184	Catch Basin Repair	8/2/2023
ST-23-0038	Littatrap Installations- Catch Basins	Catch Basin Repair	8/15/2023
ST-23-0039	Ditch Trimming- Roadhouse Drain- O'Loane to Smith	Ditch Cleaning & Inspection	8/18/2023
ST-23-0040	44 McFarlane Sinkhole/ Storm Lead Refurb	Storm Replacement/Repair	8/21/2023
ST-23-0041	244 Cobourg St. Catch Basin/ Curb Replacement 03192	Catch Basin Repair	8/2/2023
ST-23-0042	Remove Debris- Roadhouse Drain	Ditch Cleaning & Inspection	8/30/2023
ST-23-0043	MH Lid Replacement 10477- Whyte Ave. MH 10011	Storm M/H Maintenance	9/14/2023
ST-23-0044	Lorne & Dunlop- Culvert Investigation/Replacement	Storm Replacement/Repair	9/15/2023
ST-23-0045	Braemar/Briarhill. Catch Basin/ Curb Repair 01714	Catch Basin Repair	9/25/2023
ST-23-0046	Park St. Storm Pipe Repair	Storm Replacement/Repair	9/28/2023
ST-23-0047	Storm Flushing- Lakeside drive	Flushing Mains	10/13/2023
ST-23-0048	Storm Pipe Investigation- 601/603 Downie Street	Camera Investigation (Storm)	10/26/2023
ST-23-0049	Storm pipe replacement/repair- Parks Dept. Lot	Storm Replacement/Repair	11/1/2023
ST-23-0050	Manhole Refurb- Dunn Road	Storm Replacement/Repair	11/20/2023

ST-23-0051	Storm Flushing- Lorne Ave. At Queensland	Flushing Mains	11/22/2023
ST-23-0052	T. Orr Dam - November 29th Alarm - Analog Signal	Dam Maintenance	11/29/2023
ST-23-0053	SWMP- Fall Inspections	SWM Facility Maintenance	12/14/2023
ST-23-0054	Storm - 30 Whyte Ave.	Camera Investigation (Storm)	12/27/2023
N/A	Generator Inspection – Underpass SPS	Station Maintenance	06/27/2023

(e) Calibration and Maintenance of Monitoring Equipment

The table below summarizes the calibration and maintenance of monitoring equipment. There is only one pumping station that operates on float level control and does not have miltronics. There is an hour meter which is the only data collection that happens at that site.

Table E – Summary of Calibration and Maintenance of Monitoring Equipment

Monitoring Equipment	Calibration/Maintenance	Date
Underpass SPS Hour meter	The hour meter at the Underpass SWM Pumping Station is not working. This has been assigned to an external electrical contractor and work will be completed in 2024 and reported in the 2024 Performance Report.	12/22/2023

(f) Complaints

There were zero (0) SMW complaints related to the City owned infrastructure during this reporting period. During heavy rain events, there are typically calls that come into the City from residents who have issue with stormwater flooding in their yards or basement flooding from drainage and sanitary private cross connections. These issues are referred to the City By-law department as the issues are related to private property drainage and not City SWM infrastructure.

Table F – Summary of Complaints

Complaint	Resolution	Date
N/A	N/A	N/A

(g) Alterations to the Authorized System

The table below summarizes the projects that saw alterations to the SWM system in 2023. Several of the projects in the reporting period were water only and not storm. In addition, there were no new developments that connected to the system in 2023. This is expected to be

much different in the 2024 Performance Report as the City expects to see more developments and capital projects connecting to the SWM system in 2024.

Table G – Summary of Alterations to the Authorized System

Alteration to the Authorized System Project Name	Project Details	Does This Project Pose a Significant Drinking Water Threat (SDWT)?
Albert. St Reconstruction Capital Project Phase 1	The replacement of all City infrastructure on Albert St. From Waterloo Ave. to Front St. This includes all sanitary, storm , water, roadway, sidewalks, and curb. Specifically, for storm, this saw the replacement of approximately 520m of storm mains and all property storm servicing within the work area to property line.	No

(h) Spills and Discharges

The table below summarizes any spills or abnormal discharges that occurred in the SWM system during the reporting period.

Table H – Spills and Discharges

Spill/Discharge Event	Details	Date
115 Monteith Ave. Spill	<p>Staff responded to a reported spill called in from the Fire Department at a commercial property fire. Oil from the property was mixing with the water being used by the fire department and was flowing into the nearby catch basin. Staff applied booms and absorbent mats at all applicable catch basins in the area. Staff also hydrovac cleaned all surrounding catch basins.</p> <p>There were no issues observed downstream of the SWM system or in any receiving waters.</p> <p>The Spills Action Centre was contacted, and this spill was reported under Ref # 1-2GDWGL. No further action was required.</p>	01/16/2023

(i) System Performance Improvements

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

Table I – System Performance Improvements

System Performance Improvement	Project Description
Albert St. Reconstruction	The replacement of existing storm mains and laterals which lower the inflow and infiltration into the SWM system.
Sewermain Relining	The City relined approximately 1.5km of existing storm mains in the reporting period which will result in reduced inflow and infiltration.
Subsidy Programs	Four properties disconnected their weeping tile of their homes from the sanitary lateral and installed a sump pump. Eight properties had their sewer laterals relined. These were all completed under the City's sewer subsidy programs and result in reduced system inflow and infiltration.
SWM Pond Assessment and Sediment Survey	Matrix Solutions Inc. was retained by the City to complete this assessment of the existing SWM ponds. The assessment provides maintenance and rehabilitation recommendations for the SWM ponds and gives clear direction for budgeting and maintenance planning.

(j) Previous Reporting Year Update

This section is to include a summary of the status of actions for the previous reporting year. Since this is the inaugural year for the new CLI-ECA and the required Annual Performance Report, there are no preexisting actions for the SWM department. New goals and objectives are being developed internally and there will be quantifiable and tangible action items and performance improvements reviewed in the 2024 Annual Performance Report.

Appendix A

Examples of e.Ris Digital Forms and Maintenance Tracking:

Update Work Order: ST-23-0048

Request Details Billing Planning Job/Activity

Details

Date: 10/26/2023 9:40 AM WO #: ST-23-0048

Created By: wt_sbeech

Request By: Sean Beech Phone: []

For Client: [] Phone: []

Municipal No: [] Street: Downie []

City/Province: [] Email: []

Owner: [] Phone: []

Notify By: Email [] View Client

Request: Storm Pipe Investigation- 601/603 Downie Street

Details:

- Complete Tailgate Meeting/Confined Space Entry Permit and any other required paper work
- Set up confined space entry to enter through MH 10717 (In front of 607 Downie)
- Investigate Storm Arch to confirm if storm service from 603

Assignment

Status: Done

Urgent Closed Archived

Service Type: Camera Investigati Warn: 0

Service Class: High

Assign To: [] CC

Scheduled: []

Due: [] Follow Up

Done: 1/22/2024 1:43 PM Call?

Done By: BEECH, SEAN

Action: []

Action Details:

Time Stamp

Open Details

Apply OK Close

Logbooks Stormwater Forms

Stormwater / Stormwater Forms / SWM Pond Inspection Form

Save New 2023-06-26 10:45:00

Comments & History	Value
Date and Time	2023-06-26 10:45:16
Inspection Type	Semi-Annual Inspection
SWM Pond Type	Wet Pond
SWM Pond Name	Crane Ave SWMPs
Asset ID	341300004, 341300005, 34
Vegetation Concerns	No
Obstructions of the Inlet and/or Outlet?	Yes
Evidence of Spills and or Grease Contamination?	No
Presence of Trash Build-Up?	No
Presence of Algae?	Select value...
Presence of Invasive Species?	None Observed

Logbooks Stormwater Forms

Stormwater / Stormwater Forms / Outfall Inspection Form

Save New 2023-08-02 11:43:00

Comments & History	Value
Date and Time	2023-08-03 11:40:00
Inspection Type	Scheduled Inspection
All vegetation obstructions removed?	No
All debris and garbage removed?	Yes
List all outfalls ID's with erosion issues	No
List all outfalls ID's with structural issues	No
List any other outfalls IDs that require corrective action	Obstruction Removed. Pond Draining as
Inspection Completed By	Enter value..