

2023 CLI-ECA Annual Performance Report Stormwater Management System

City of Sault Ste. Marie
CLI-ECA 316-S701

Submitted to: City of Sault Ste. Marie
Engineering and Construction Division

Submitted by: AECOM Canada Ltd.
Sault Ste. Marie, Ontario

Project number: 60726737

April 30, 2024

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Distribution List

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1. System Overview

The Sault Ste. Marie Municipal Stormwater Management (MSWM) System serves the City of Sault Ste. Marie drainage area. It is a separate system for stormwater, not designed to convey sanitary sewage or combined sewage. It lies within the St. Mary's River watershed. The MSWM system consists of storm sewers, culverts, ditches, stormwater management facilities, stormwater pumping stations, and outlets.

The entire MSWM system owned and operated by the City of Sault Ste. Marie (City) is regulated by Environmental Compliance Approval for a Municipal Stormwater System (the Approval) Number 316-S701, Issue Number 1, dated February 3, 2023, issued by the Ontario Ministry of the Environment, Conservation and Parks (MECP). This Approval is also referred to as a Consolidated Linear Infrastructure – Environmental Compliance Approval or CLI-ECA. The CLI-ECA revoked and replaced all prior ECAs for the works described in Schedule B, Section 1 of the Approval. It does not cover any municipally or privately owned sewage works on industrial or commercial land.

The MSWM system discharges to the St. Mary's River at several locations throughout the City.

1.1. Stormwater System Components

The MSWM system authorized by this CLI-ECA (the Authorized System) is as of January 2022, plus any conveyance, management or treatment components added, modified, or replaced as detailed in a Schedule C Notice since January 2022.

Table 1 lists the sewers and ditches included in the stormwater collection system as of the date of issue of the Approval.

Table 1. Stormwater Collection System by Diameter

System Type	Pipe Diameter	Length	System Totals
	(mm)	(km)	(km)
Storm Sewers	Up to 250	17.38	N/A
Storm Sewers	> 250 - 500	131.66	N/A
Storm Sewers	> 500 - 1050	104.19	N/A
Storm Sewers	> 1050	23.82	N/A
Total Storm Sewers	N/A	N/A	281.43
Ditches / Swales	N/A	N/A	657.81
Total System Length (km)	N/A	N/A	939.24

Table 2 lists the Stormwater Management Facilities included in the Approval as of the issue date. These are facilities which provide treatment, retention, infiltration, or control of Stormwater.

Table 2. Stormwater Management Facilities

ID Number	Asset Type	Asset Name	Storage Volume m ³ OGS Model # Pump Station Description
3	Dry Pond	Bianchi Estates Subdivision	512
1242	Dry Pond	Country Estates Phase III Subdivision	705
6	Dry Pond	Millcreek Phase II Subdivision	535
4	Settling Pond	Millennium Court Subdivision	350
1	Dry Pond	Sunrise Ridge Subdivision - South	350
1243	Dry Pond	Sunrise Ridge Subdivision - North	820
38	Dry Pond	Windsor Farms Subdivision	4,441
39	Dry Pond	Hiawatha Estates Phase II	804

ID Number	Asset Type	Asset Name	Storage Volume m ³ OGS Model # Pump Station Description
40	Dry Pond	Hiawatha Estates Phase II	493
41	Dry Pond	Fox Run Subdivision Phase I	3,878
441	Dry Pond	Sunset Ridge Estates Phase III Swim Pond	2,200
831	Retention Structure	Dennis Street Sand Retention Structure	36
442	Dry Pond	Greenfield 'E' Subdivision Phase 5	1,644
1644	Dry Pond	Gladstone Avenue Ravine	73,607
1244	Oil Grit Separator	Sherbrook Drive Subdivision	ADS 3620WQA
33421	Oil Grit Separator	George St. and Queen St. W.	Stormceptor STC 2000
33488	Oil Grit Separator	Carmen's Way @ Albert St. West	Stormceptor STC 2000
33537	Oil Grit Separator	Carmen's Way@ Cathcart St.	Stormceptor STC 2000
33531	Oil Grit Separator	Carmen's Way @ St. Georges Ave. W.	Stormceptor STC 4000
54138	Oil Grit Separator	Lang Court Subdivision	CDS PMSU20_15
39530	Oil Grit Separator	Carmen's Way @ Bloor St	Stormceptor STC 4000
39597	Oil Grit Separator	Carmen's Way	Stormceptor STC 2000
39610	Oil Grit Separator	Carmen's Way	Stormceptor STC 750
39611	Oil Grit Separator	Carmen's Way	Stormceptor STC 4000
PS-18	Stormwater Pump Station	Glasgow Avenue Pump Station	Design Capacity 242.46 L/s, 2 x 35 HP submersible pumps (1 duty, 1 standby), 1 wet well

There are no Third Pipe Collection System components or Sewage Works on Private Land that are part of the Municipal Stormwater system. A Third Pipe Collection System is designed to collect and transmit foundation drainage and / or groundwater to a receiving surface water or dry well.

There are no Other Works that are part of the Authorized System.

As of the Approval issue date, there were no Developer-Operated facilities listed as part of the Authorized System. There were no Facilities with Individual ECAs that were connected to the Authorized System.

Changes to the Authorized System that may have occurred since the Approval issue date are noted later in this report.

2. Reporting Details

Schedule E Section 5.2 of the Approval requires the Owner to prepare an annual performance report for the Authorized System, to be submitted to the Director on or before April 30th of each year. The report is to cover the period from January 1st to December 31st of the preceding calendar year.

For this first year of reporting, given that the Approval was issued in February 2023, this report covers the period from July 1st to December 31st, 2023, per communications between the City and the MECP Approvals Branch.

This report is intended to satisfy the reporting requirements of the ECA as detailed in Schedule E, Section 5.

3. Monitoring Data

Schedule E Section 5.2.2 of the Approval requires a summary of all monitoring data, 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. Schedule E Section 4.0 of the Approval requires the Owner to develop and implement a

monitoring plan for the Authorized System on or before May 21, 2024, or within 24 months of the date of the publication of the MECP's monitoring guidance, whichever is later. As of this reporting date, the City is waiting for the MECP monitoring guidance to be issued. No monitoring data was collected for the reporting period.

The Sault Ste. Marie Public Works and Engineering Services (PWES) Department which operates the system confirmed that the stormwater management system operated as intended during the reporting period. There were no Adverse Effects on the Natural Environment. The CLI-ECA defines Adverse Effects as having the same meaning as in Section 1 of the Ontario Environmental Protection Act (EPA). From the EPA, "adverse effect" means one or more of,

- (a) impairment of the quality of the natural environment for any use that can be made of it,
- (b) injury or damage to property or to plant or animal life,
- (c) harm or material discomfort to any person,
- (d) an adverse effect on the health of any person,
- (e) impairment of the safety of any person,
- (f) rendering any property or plant or animal life unfit for human use,
- (g) loss of enjoyment of normal use of property, and
- (h) interference with the normal conduct of business

4. Environmental Trends

Schedule E Section 5.2.3 of the Approval requires a summary and interpretation of environmental trends based on all monitoring information and data for the previous five years.

Per Section 3 Monitoring Data, above, no monitoring information was collected for the reporting period. No summary or interpretation of environmental trends is provided.

5. Operating Problems and Corrective Actions

Schedule E Section 5.2.4 of the Approval requires a summary of operating problems encountered and corrective actions taken.

There are no operating problems with the Authorized System. The minor system is generally designed for a 1:10 year return period. There have been a few significant rainfall events with return periods in excess of 1:10 years in the recent past which have resulted in localized flooding. The localized flooding is expected during more significant precipitation events and the MSWM system is operating as intended.

6. Inspections, Maintenance, and Repairs

Schedule E Section 5.2.5 of the Approval requires a summary of all inspections, maintenance, and repairs conducted on any major structure, equipment, apparatus, mechanism, or thing forming part of the Authorized System.

6.1. Maintenance - Inspections

In addition to the maintenance activities identified in subsections 6.2 to 6.3, inspections of the stormwater sewers are performed by the City PWES Department on an as-needed basis, typically in response to a complaint from the

Community. Refer to **Table 4** in Section 8 – Complaints for inspection locations and any required maintenance or repairs.

The City Engineering Department conducts regular inspections of the stormwater management ponds. **Table 3** summarizes the inspections performed between July 1st and December 31st, 2023. Any deficiencies will be corrected in 2024.

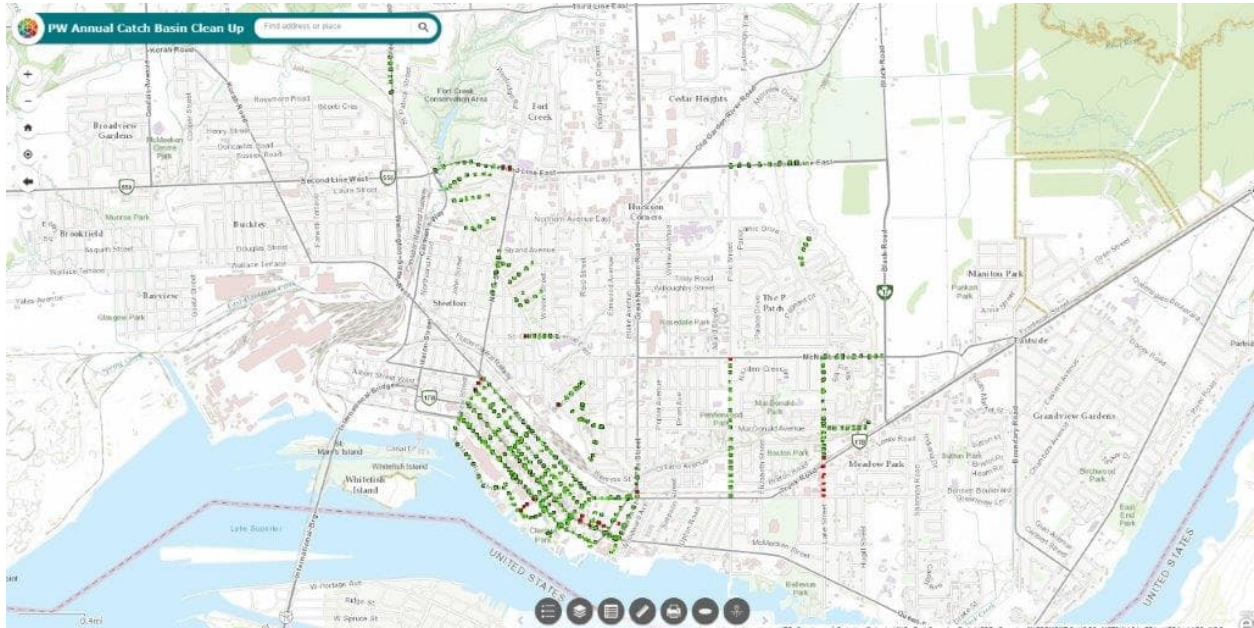
Table 3. Stormwater Management Pond Inspections – July to December 2023

Inspection Date	Asset ID Number	SWM Pond	Observations
7/6/2023	41	Dry Pond - Fox Run Subdivision Phase I	Monitor vegetation growth.
7/26/2023	38	Dry Pond - Windsor Farms Subdivision	Some standing water at outlet. Monitor outlet for blockage. Monitor vegetation growth.
9/26/2023	1	Dry Pond - Sunset Ridge Subdivision South	Monitor vegetation growth.
10/3/2023	441	Dry Pond - Sunset Ridge Estates Phase III	Monitor condition of access roads
10/4/2023	442	Dry Pond - Greenfield 'E' Subdivision Phase 5	Monitor condition of access roads. Monitor outlet for vegetation growth.
10/4/2023	1242	Dry Pond - Country Estates Phase III Subdivision	Monitor berm and banks for erosion.
10/4/2023	40	Dry Pond - Hiawatha Estates Phase II - West	Pond in good condition.
10/4/2023	39	Dry Pond - Hiawatha Estates Phase II - East	Monitor berm and banks for erosion.
10/5/2023	1244	Dry Pond - Sherbrook Drive Subdivision	Monitor overall conditions. Excessive mosquitoes.
10/11/2023	6	Dry Pond - Millcreek Phase II Subdivision	Monitor inlet for sediment accumulation. Nearby residents dumping leaves and grass clippings in pond and built a makeshift bridge to cross over water flow path.
10/13/2023	3	Dry Pond - Bianchi Estates Subdivision	Monitor inlet headwall for potential cracking. Outlet partially blocked with debris. Monitor vegetation growth.

6.2. Maintenance - Catch Basin Cleaning

The City PWES Department generally cleans stormwater catch basins with a vacuum truck on an eight-year cycle. However, catch basins in the downtown core and at the foot of the hill are cleaned annually. This work is recorded in a work management and scheduling system and is summarized via a computer Dashboard. A copy of the 2023 Catch Basin Cleaning Dashboard for the downtown core and hill area is shown in **Figure 1**. The green nodes shown on the plan are locations where annual cleaning occurred in 2023.

Figure 1 2023 Catch Basin Cleaning - Downtown Core and Hill Area



6.3. Maintenance - Storm Sewer Flushing

The City PWES Department considers the storm sewer system to be self-flushing. Flushing is performed on an as-needed basis. This work is recorded in a work management system and is summarized in a computer Dashboard. In 2023, 18 pipe segments with a total length of 1.03 km were flushed.

6.4. Repairs - Stormwater Collection System

A total of 36 catch basins were replaced and 15 storm sewer manholes were reset between July 1st and December 31st, 2023. A "Manhole Reset" refers to the replacement of a storm sewer manhole cover that is missing, offset, or damaged, or repairs made to a manhole riser.

There was one repair made to a storm sewer on MacDonald Ave due to a blocked intake. City crews extended an 800 mm diameter culvert by approximately 3 m and reinforced the embankment slope.

7. Calibrations and Maintenance on Monitoring Equipment

Schedule E Section 5.2.6 of the Approval requires a summary of the calibrations and maintenance conducted on all monitoring equipment.

The ultrasonic level sensor installed in the wetwell of the Glasgow Street stormwater pumping station was calibrated as part of a control panel upgrade project.

8. Complaints

Schedule E Section 5.2.7 of the Approval requires a summary of any complaints related to the MSWM system received during the reporting period and any steps taken to address the complaints.

Table 4 presents complaints concerning the stormwater collection system that were received in the last half of 2023.

- There were 7 complaints concerning missing, broken, or offset catch basin lids. These were repaired, replaced, or closed as required.
- There were 10 complaints concerning catch basins that were either blocked or had vegetation growing from them. These were vacuum cleaned. There was one complaint concerning a blocked storm sewer that was investigated. No corrective action was required.
- There were 2 complaints regarding wildlife trapped in catch basins. The animals were freed by opening the catch basins.
- There were 4 complaints of sinking catch basins or sink holes related to catch basin leads. There was one complaint of a storm sewer cave-in on Caddy Ave. There was one complaint of sink holes related to a storm sewer on Church St. These were all inspected, and repairs were made as needed.

Table 4. July to December 2023 Complaints

Location	Complaint	Corrective Action
Queen St E	CB lid missing	Replaced CB LID
Softwood Dr.	CB lid	Lowered CB
Brule Rd.	CB blocked with sand	CB cleaned
Huron & St. Andrews	CB lid missing	Complete rebuild
Old Garden River Rd.	CB sunk	Inspected. Nothing wrong.
First Ave.	CB blocked	CB cleaned
Muriel Dr.	CB sinking	Temporarily fixed
Ontario Ave	CB blocked	CB cleaned
Sussex Rd	Odour from CB	Broken natural gas main. Repaired by Enbridge Gas.
Hillside Dr.	CB blocked	CB cleaned
Chatfield Dr.	Ducks in CB	CB opened to free ducks
Trunk Rd & Dacey Rd.	CB lid off	Replaced lid
Douglas	CB broken	Replaced lid
Wilson St	CB blocked	CB cleaned
Wilson St.	Odour from CB	CB cleaned
Queen St & East St.	Gap around CB	Crew filled with asphalt
East St	Hole in CB	Repaired it
Glen Ave.	Odour from CB	Monitoring
MacDonald Ave	CB lid open	Inspected and closed lid
Cunningham Rd.	CB lead broken	Repaired lead
Landslide Rd.	CB blocked	CB cleaned
Burton Rd.	CB lead (sink hole)	Inspected with CCTV, no action required
Wallace Terr.	CB lead (sink hole)	Inspected lead with CCTV. Repaired lead and reset CB lid
Black Rd.	Dumping paint (CB)	Complaint investigated. Paint did not reach sanitary sewer main.
Chestnut St	Tree in CB	Cut the debris out
Elmwood Ave.	CB blocked	CB cleaned

Location	Complaint	Corrective Action
Birch St	CB (plants growing from it)	Inspected and removed plant growth
Nino Dr. & Birch St.	CB (plants growing from it)	Inspected and removed plant growth
Bay St. & Elgin St.	CB	Inspected CB. To be replaced in 2024
Sutton PL. & Chartwell	Raccoons in CB	Inspected and freed wildlife
Korah Rd & Rossmore	Water on road	Opened ditch inlet to keep water off the road
Caddy Ave	Cave in storm sewer	Repaired storm sewer
Church St	Storm main (sink holes)	Monitoring
Church St	Storm main blocked	Inspected. No corrective action was required.
Mark St.	Rear yard drain lid	Replaced lid

9. Alterations to the Authorized System

Schedule E Section 5.2.8 of the Approval requires 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.

The Approval defines Alterations as:

- An extension of the system
- A replacement or retirement of part of the system, or
- A modification of, addition to, or enlargement of the system.

Alterations made to the Authorized System are presented in **Table 5**. None of the Alterations posed a Significant Drinking Water Threat.

Table 5. 2023 Alterations to the Authorized System

Location	Alterations
Biggings Ave. from Queen St E to Wellington St E	Limited existing storm sewer at south end of the street. Replaced and added to the existing system with 300mm, 375mm, and 525mm PVC storm sewers including 7 new catch basin maintenance holes
Wemyss St from Pim St to Trelawne Ave	Existing 250mm, 450mm storm sewers replaced with 300mm, 450mm, 600mm, 750mm, and 900mm sewers.
Blake Ave from McNabb St to Wawanosh Ave	Class B to Class A conversion. Ditch system replaced with curb / gutter and 375mm, 450mm, 600mm, and 750mm storm sewers.
Sherwood Heights - Phase 1 (Sherwood Parkway)	Constructed new 300mm, 375mm, and 600mm PVC storm sewers and a 70 m outfall swale, 4 new maintenance holes and 1 Stormceptor out letting to ravine to accommodate this new subdivision.

10. Spills and Abnormal Discharge Events

Schedule E Section 5.2.9 of the Approval requires a summary of all spills or abnormal discharge events.

There was one spill event related to the stormwater management system that occurred during the last half of 2023. This was investigated and reported to the MECP and the Spills Action Center (SAC). Corrective actions were implemented to prevent future occurrences.

Additionally, monitoring was completed in relation to sewer use bylaw compliance objectives at one location. Results were pending at the end of this reporting period.

11. Stormwater Management System Improvement Efforts

Schedule E Section 5.2.10 of the Approval requires a summary of actions taken, including timelines, to improve or correct performance of any aspect of the Authorized System.

In 2023, the City reconstructed the storm sewers or extended the stormwater collection system as detailed above in **Table 5** Alterations. Existing storm sewers were replaced with modern materials on Wemyss St. and the stormwater infrastructure on Blake Ave. was upgraded from Class B to Class A. The existing limited storm sewers were replaced, and new storm sewers were added on Biggings Ave. These projects improved the collection and transmission of stormwater and should reduce inflow and infiltration into the system.

In 2023, the electrical systems at the Glasgow St. stormwater pumping station were upgraded. The pump control panel was completely replaced, ensuring the continued performance of this station which is in a low-lying area of the stormwater collection system.

In 2024, the City's estimated budget forecast dedicated to road, storm water management and sanitary sewer system upgrades totals \$6.5 million. These renewal projects contribute to inflow and infiltration, overflow, and bypass reductions.

In 2024, the City will be repairing sections of the storm sewer system that run from the Black Rd / McNabb St intersection to the Boundary Rd. / Bennett Boulevard intersection to reduce inflow and infiltration. The \$3.2 million project involves relining 610 m of 1050 – 1950 mm diameter storm sewers using CIPP lining techniques and grouting 460 m of 1650 – 1800 mm diameter storm sewer.

12. Status of Previous Reporting Year Actions

Schedule E Section 5.2.11 of the Approval requires a summary of the status of actions for the previous reporting year. This is the first year of performance reporting year for the Authorized System. There are no actions from the previous reporting year on which to comment.