Annual Consolidated Linear Infrastructure Performance Report 2025

March 2026, Version 1.0

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Introduction

The City of Greater Sudbury prepares an annual performance report to satisfy the reporting requirements of Ministry of Environment, Conservation and Parks (MECP) Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI-ECAs) 016-W601, Schedule E, Section 4.6, as outlined below and covers the period January 1, 2025, to December 31, 2025.

Under CLI-ECA the City reports annually on the values/parameters indicated in the agreement and made available to the District Manager by March 31st of the calendar year following the period being reported upon.

The City of Greater Sudbury (CGS) owns and operates eleven (11) wastewater collection systems that serve the various communities within the Greater Sudbury area. Each of the collection systems conveys wastewater to a treatment facility which includes both plants and lagoons that are owned and operated by the City of Greater Sudbury.

The consolidated collection system consists of:

- 810.4 km of gravity main
- 73 km of force main
- 46,685 lateral connections
- 12,039 maintenance holes
- 69 active lift stations

The sewer mains range in size from 100 mm to 600 mm and are constructed from cast iron, ductile iron, steel, clay, vitrified clay, asbestos cement (AC), concrete, high density polyethylene (HDPE) and polyvinyl chloride (PVC). New alterations to the City's collection system are documented through applicable Record of Future Alterations forms.

The unique geological features of the Sudbury area, combined with its highly variable surface topography, make the use of underground tunnels ideal for transporting sanitary wastewater. This concept began in the early 1960s with the construction of the first sewage "rock tunnel," designed to carry wastewater from the downtown core and New Sudbury to the Sudbury Wastewater Treatment Plant (WWTP), replacing the previous reliance on Junction Creek for wastewater conveyance. Additional extensions to the rock tunnel were constructed in 1973 and 2005 to enhance wastewater transport to the treatment plant.

The original Sewage Rock Tunnel was designed with a nominal cross section width of 1.5 m (5 ft) and a height of 2.1 m (7 ft). The floor of the tunnel was lined with a 50 mm sloped concrete poured along its entire tunnel length (except for the Lockerby Tunnel) to assist in the flow of wastewater. In the older sections of the tunnel, the walls and ceiling were unlined with only spot rock bolting. The recently constructed South End Tunnel has rock bolting with screen and/or shotcrete in some areas.

Sanitary sewage flow from the sanitary collection system is diverted into the rock tunnel via drop shafts, maintenance holes (MH), and interceptors. These drop shafts / MH interceptors are in key areas of the sanitary collection system and direct flow to the tunnel and ultimately the Sudbury Wastewater Treatment Plant. Access shafts are located along the entire length of the Rock Tunnel. Intersections of tunnel branches and shafts are lined with reinforced concrete.

Availability of the Consolidated Linear Infrastructure Performance Report

In accordance with Schedule E, Section 4.7 of the CLI-ECA, a copy of the Annual Wastewater System Performance Report is available to the public as of June 1st annually, and is free of charge by visiting the City of Greater Sudbury's Website https://www.greatersudbury.ca/

Compliance Reporting Requirement

Monitoring Data:

The City of Greater Sudbury monitors the wastewater collections systems on a 24/7 basis with after-hour procedures to respond to emergencies. The City maintains multiple preventative maintenance programs to assess the condition and performance of the system. Results from these programs are analyzed to identify corrective maintenance actions and/or recommendations for improvements and system upgrades. Rehabilitation and/or reconstruction projects are identified and replaced in conjunction with other departments.

Preventative maintenance program data, such as gravity main flushing and MH inspections, uploaded to GIS and work order are created through the Computerized Maintenance Management System (CMMS), either Cityworks or Antero, as required. Pump station operations are monitored remotely via SCADA software each having different alarm capabilities. Common alarms monitored at each pump station are:

- AC Power Failures/Communication Failures
- Pump Overloads
- Pump Run Status
- Wet Well High/Low Level

Addition alarms that can be monitored at some sites include:

- Generator Stop/Stop/Fault
- Pump Temperature
- Intrusion
- Discharge Pressures
- VFD Faults
- Building Temperature
- Fuel Levels
- Transmitter Failure

Alarms are set to trigger should values for parameters breach defined thresholds at the pump stations; the priority of which ranges from low, high, to high-high. Pump stations are inspected on a 45 day cycle. Each pump station has a SCADA “site” page which Operators use to communicate changes and Operator instructions.

Alterations and updates to our system are determined by reviewing data, as well as recommended items from the asset management plan which includes condition assessments and proposed future development.

Operating Issues

Location	Operating Issue	Corrective Actions
Sudbury & Walden	Exceedance of Schedule "A" Parameters of Sewer Use By-Law	Facility is operating under an Overstrength Agreement. Environmental Compliance Officers (ECOs) performed quarterly monitoring of established Overstrength Agreement
Sudbury	Fats, Oil, Grease in Collection System	ECOs completed ICI Inspection. Source Control Program enforced to increase frequency of Grease Interceptor maintenance
Various Locations	DebrisCollection System Causing Blockage	ECOs completed Inspection and administered education and outreach concerning Sewer Use By-Law to achieve Compliance
Walden WWTP	Unknown Substance in Collection System causing H2S Alarm in Headhouse of WWTP	ECOs completed ICI Inspection. Source Control Program Administered to Determine Origin of Issue
Valley East WWTP	Unknown Substance in Collection System causing Foaming within WWTP	ECOs completed ICI Inspection. Source Control Program Administered to Determine Origin of Issue

Maintenance Summary

Maintenance and Calibration records and information are stored in the City's CMMS, which automatically generates work orders on a daily, weekly, monthly, quarterly, and annual schedule as determined based on the Water Wastewater Asset Management Plan, manufacturer's recommendations, site specific operational maintenance needs and are assigned directly to the appropriate operations personnel. This maintenance schedule is overseen by operations management. Work orders are completed and electronically entered into the system.

Maintenance activities on the wastewater collections system are split into two categories:

- Corrective, and
- Preventative

Preventative is then further broken down into:

- Scheduled, and
- Regulated

Vertical Corrective Maintenance (102)			
40 Amp breaker	Check louvers	No flow on pump	Repair/replace guide pipes
Adjust levels in wet well	Clean out lift stations	No hours	Replace float
Anchor point failed inspection	Clear O/L	No power failure reported	Replace guide pipe for #2 pump
Back flow preventer broken	Comm failure	Poly feeder calibration	Replace heater
Back flow preventer is split	Control room needs new light switch	Power fail	Replace high well float in wet well
Bleeder valves	Diesel generator maintenance	Power outage	Replace VFD
Block heater	Electrical issues	Pull pump	Replace weather stripping
Broken potable water line	Exhaust leak	Pump #1 in alarm	Re-route sump pump piping
Change float	Gen not working right	Pump #1 runtime	Run power for new AC unit
Check high well float	Generator issues	Repair wire	Runtime alarm
Check operation	Ground fault light indicator burnt	Pump #2 foot	Set clearances
Check operation of louvers	High well	Pump #2 to be pulled	Spruce LS - maintenance
Check operation of pump	Install hose wand in wet well	Pump is in overload	Station needs to be cleaned
Check operation of pump and VFD	Install new intake valve and volute	Repair pump 2 discharge valve	UPS issues
Check operation of station	Install new pump	Remove VFD from Laurier	Vactor well and flush crossover
Check operation of sump	Install reducer	Repair asphalt by wet well door	VFD to install
Investigating power outage	Install travel restraint for hatch area	Repair back flow preventor	Wet well light not working
Check valve not working	Install VFD	Repair davit arm/base installation	Check valves need to be cleaned

Vertical Preventative Maintenance			
Scheduled (546)			**Regulated (123)**
Lift Station Inspection	Load Bank Service	Clean Check Valve	Anchor Point Inspection
Diesel Engine Annual	Load Bank Test	Sensor Calibration	Flow Meter Calibration
Spring Runoff Preparations LS	Open/Close Check Valve (Bell Park)	Chemical Pump Monthly Inspection	Backflow Preventer Test
Electrical Inspection	Diesel Engine 5 Year Inspection	LS Check Valve Inspection	Lifting Appliance Annual Insp Contract
LS Pump Inspections			

Lateral Inspection and Maintenance		
System Components	**Location**	**Description of Work**
Maintenance Holes (MH)	Various	294 MH visual/zoom camera inspections. 15 MH rebuilds/repairs
Gravity Sewer & Force Mains	Various	23.4 km of sanitary sewer main flushed/cleaned 41 sewer main blockages cleared 6 gravity sewer main repairs (excavations) 2 force main repairs (excavations)
Service Laterals	Various	44 service lateral repairs (excavation) 21 lateral blockages cleared (public side)

Calibration Summary

Location	Equipment	Calibration Certificate
Laurier Lift Station	Flow meter	CO1628-2506-28
Vermillion Lift Station	Flow meter	CO1628-2506-47
Main Lift Station	Flow meter	CO1628-2506-29
Nickel Lift Station	Flow meter	CO1628-2506-30
Levesque Lift Station	Flow meter	CO1628-2506-28

Summary of Complaints

Location	Subject	Corrective Action
Sudbury	Poor Maintenance Practices of Grease Interceptor	ECOs completed ICI inspections. Source Control Program enforced to increase frequency of grease interceptor maintenance and remove grease from collection system
Walden	VOC smell in LS wet well	ECOs completed ICI inspection. Source Control Program administered to determine origin of issue
Sudbury	PHC detected at LS during upgrading	ECOs completed ICI inspection. Source Control Program administered to determine origin of issue
Various	350 Sewer Back Ups	Staff investigate on-site to validate complaints, identify causes, and implement solutions, including lateral clearing, sewer main clearing or excavation if necessary.
Various	33 Sewer Odor	Staff investigates on-site to validate complaints, identify causes, and implement solutions or redirect to the appropriate division if necessary.

Summary of Alterations

Location	Alteration
City of Greater Sudbury, The Kingsway Entertainment District	Industrial Park includes Street 'A' and Street 'C with sanitary sewer which will convey sewage via 200 mm PVC piping into existing sanitary sewers on the north side of the Kingsway.
City of Greater Sudbury, Long Lake Road	77.5 m of 200 mm pipe removed and upsized to 300 mm
City of Greater Sudbury, Billiards Way	238.3 m of new sanitary pipe, that consists of 63.4 m of 200 mm pipe for future ROW on Billiards Way, and 174.9 m of 200 mm for private townhome development.
City of Greater Sudbury, Whiltshire Street	Replacement of the existing 200 mm sanitary sewer, the first segment in the sanitary system serving two residential properties currently on the ongoing flushing list, with a new 200 mm sanitary sewer installed at an increased grade.
City of Greater Sudbury, Dominion Drive	Sanitary Sewer on Dominion Drive was upgraded to 600 mm PVC from MH12-29 to MH12-26 for total length of 390 m Sanitary Sewer upgrades to remove and replace in same trench/location utilizing the existing SAN MH structures.
City of Greater Sudbury, Armstrong St & Loach's Rd	Replacement of existing sanitary sewer mains and structures, as well as services from main to property line, on Armstrong St from Loach's Rd to dead end Replacement and partial re-alignment of Sanitary sewer mains, replacement of sanitary sewer structures and services from main to property line, on Loach's Road from Armstrong St to Oriole Dr.
City of Greater Sudbury, Agnes St	Replacement of the existing 200 mm diameter sanitary sewer mains complete with new services to the lot line, including 3 new structures on Agnes Street from the Cul-de-sac to station 0+161.

An assessment of the works was completed to determine if the works pose a significant drinking water threat. The works do not pose any threats to sources of drinking water or design include features that mitigate the threat to sources of drinking water, such as those included in: Ministry's Standard Operating Policy for Sewage Works, and Source Protection Plan policies pertaining to the works.

Summary of all Collection System Overflow(s) and Spill(s) of Sewage:

Sewage samples were not obtained during the overflow/spill event due to operational and safety constraints that made sampling impractical, unsafe, or not technically feasible at the time, and all required regulatory notifications were completed in accordance with MECP requirements

Date	System Name	Release Location	Type of Occurrence	Volume (m^3)	Level of Treatment Received	Reason for Event
3-Jan-25	Sudbury WWTP	609 Notre Dame (m/h 9-872)	Coll'n Sys Overflow	0.24	Disinfection	Equipment
4-Jan-25	St Charles LS	Junction Creek	Force Main Break	72	Disinfection	Maintenance
11-Feb-25	Walden WWTP	Oja Lift station	Force Main Break	2	To Environment	Equipment
25-Feb-25	Vermilion LS	99 Lakeshore St Capreol	Force Main Break	1835	Disinfection	Equipment
11-Jun-25	Sudbury WWTP	311 Beatty Street, Sudbury	Coll'n Sys Overflow	21.6	To Environment	Rain Event
17-Jul-25	Lively WWTP	Meatbird Creek	Coll'n Sys Overflow	1000	Disinfection	Heavy Rain

Summary of efforts made to reduce Collection System Overflows:

A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.

Three Inflow and Infiltration (I&I) projects were completed in December 2023 in Chelmsford, Azilda and Legace, and two in February 2024 in Coniston and Jeanne D'Arc and Forth Ave area. A large Sanitary Flow Monitoring Program was conducted in 2024 and completed in early 2025. The study identified areas for high, medium and moderate I&I issues.

Next steps include further analysis of smaller catchment areas. These findings are being added into updates to the WWW Asset Management Plan and WWW Master Plan. This data will contribute to future lining opportunities, maintenance hole replacement programs and capital projects priorities.

In 2025, two priority areas (Falconbridge and Sudbury) were considered for additional I&I studies in the meantime before the WWW Master Plan is completed. In 2026, two additional high priority locations in Sudbury are considered to be studied, before the WWW Master Plan is completed. A Wastewater Servicing Feasibility study is also underway for the Garson system to explore options of realigning the sanitary system.

Education and outreach initiatives are ongoing to raise awareness of the Residential Inflow and Infiltration Subsidy Program, including letters to direct neighborhoods with high I&I areas. In 2025 the focus areas included Azilda, Chelmsford and Lively. The City also uses radio ads, billboard ads and social media platforms to inform the community of programs, initiatives and general information related to I&I.

Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.

Inflow and Infiltration Reduction Program		
Wastewater System	**Recommendation from PPCP**	**Status**
All systems	Program to carry out comprehensive investigation methods such as smoke testing and/or CCTV inspection repairs.	Smoke testing was not completed, but CCTV efforts are made on a regular basis.
All systems	Program for downspout and foundation drain disconnections.	RIISP Program is already in place.
Azilda	The implementation of a downspout and foundation drain disconnection program is required to reduced inflows into the wastewater system.	Completed in 2025, education and outreach with direct letters to residents, letting them know of the observed high I&I in their neighborhoods, the program is available to make changes and why it is important
Chelmsford	The implementation of a downspout and foundation drain disconnection program is required to reduce inflows into the wastewater system.	Completed in 2025, education and outreach with direct letters to residents, letting them know of the observed high I&I in their neighborhoods, the program is available to make changes and why it is important
Garson	Installation of flow monitoring to determine the true levels of I&I in the system and subsequently tailor an appropriate infrastructure program to eliminate sources of high inflow and infiltration	Completed January 2025 Sanitary Flow Monitoring project in multiple areas in Greater Sudbury. Final report has been evaluated and provided to help develop future master plan requirements. Currently 2025/2026 further in-depth catchment assessment I&I study in Garson to reflect the high priority area identified in 2025 Sanitary Flow Monitoring project.
Garson	Wastewater Feasibility Study to review impacts of inflow and infiltration assessments and model servicing alternatives for a trunk sewer alignment. Provide conceptual design inputs for preferred service alternatives. Remove/divert flow from the trunk sewer that flows parallel to the creek between Margaret Street easement and O'Neil Lift station	In progress in 2026.
Lively	Installation of flow monitoring to determine the true levels of I&I in the system and subsequently tailor an appropriate infrastructure program to eliminate sources of high inflow and infiltration	Completed in 2021. The recommendations were reviewed and were part of a capital projects. One in 2024 with required sanitary, storm and road work and one in 2025 as a MH rehabilitation capital project.

Lively	The implementation of a downspout and foundation drain disconnection program is required to reduce inflows into the wastewater system.	Completed in 2025, education and outreach with directed letters to residents, letting them know of the observed high I&I in their neighborhoods, the program is available to make changes and why it is important
Walden	Installation of flow monitoring to determine the true levels of I&I in the system and subsequently tailor an appropriate infrastructure program to eliminate sources of high inflow and infiltration	Completed January 2025 Sanitary Flow Monitoring project in multiple areas in Greater Sudbury. Final report has been evaluated and provided to help develop future master plan requirements.
Sudbury	Installation of flow monitoring to determine the true levels of I&I in the system and subsequently tailor an appropriate infrastructure program to eliminate sources of high inflow and infiltration	Completed January 2025 Sanitary Flow Monitoring project in multiple areas in Greater Sudbury. Final report has been evaluated and provided to help develop future master plan requirements. Currently 2025/2026 further in-depth catchment assessment I&I study in Sudbury to reflect the high priority area identified in 2025 Sanitary Flow Monitoring project.
Sudbury	Installation of permanent flow monitoring to determine the true levels of I&I in the system and subsequently tailor an appropriate program to eliminate sources of high inflow.	In Progress
Valley East	Installation of permanent flow monitoring to determine the true levels of I&I in the system and subsequently tailor an appropriate program to eliminate sources of high inflow.	Completed January 2025 Sanitary Flow Monitoring project in multiple areas in Greater Sudbury. Final report has been evaluated and provided to help develop future master plan requirements.
WAHNAPITAE	Program to identify inflow locations in the field, such as catch-basins or poor surface drainage, and subsequently plan for infrastructure to mitigate the source of inflow.	No studies have been completed

An assessment of the effectiveness of each action taken.

Formal effectiveness assessments have not yet been completed; however, findings are being incorporated into ongoing asset management and capital planning processes.

An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.

The city has created a plan to prevent pollution from wastewater systems, following the rules of MECP's Procedure F-5-5. The goal is to find and fix pollution problems that happen when water overflows in Combined Sewer Systems (CSS), and to set up a program to make sure those problems are addressed.

Because the City only has known Combined Sewer Systems (CSS) remaining in parts of Capreol—and existing records are incomplete—any combined sewers that are discovered are added into our long-term planning documents and consider them in future capital project planning. The capital planning emphasizes improving the performance of the current wastewater infrastructure and ensuring that new systems are designed to handle higher volumes of water during heavy rainfall and snowmelt events.

The city has also noticed overflow issues at wastewater treatment plants and lift stations in recent years. These problems can harm wastewater assets and the environment, so the city is working on ways to reduce or stop this damage.

The plan suggests adding more space to treat wastewater in the future. These suggestions build on the Master Plan, which looks at how much wastewater the city might have to collect and treat in future years and what changes are potentially needed to handle these volumes.

- ## Public reporting approach including proactive efforts.

Historically, the City provided public notification of sewage overflow and bypass events through an email alert system, which residents could subscribe to on the City's website. While this system supported timely communication for several years, the City has begun phasing it out in favor of a more comprehensive, modernized reporting approach.

Beginning in 2024, City staff initiated the development of a new digital tool designed to enhance both regulatory reporting and public transparency. This system was built to streamline the collection of all Ministry-required data while significantly improving how information is shared with the community.

In 2025, the City launched this upgraded tracking and reporting tool, which includes a real-time, interactive public map accessible on the City's website. The map allows residents to view current and historical sewage overflow and bypass events, track event timelines, and better understand potential environmental impacts.

With the introduction of this tool, the City is transitioning away from email notifications, as the live public map now serves as the primary, centralized source for up-to-date event information. The system has been actively maintained since its launch and continues to support both regulatory obligations and proactive, transparent public communication.

Through this shift to a real-time, publicly accessible platform, the City has strengthened its public reporting approach and enhanced the community's ability to stay informed.