



2023 Annual Consolidated Linear Infrastructure (CLI) Summary Report

Oxford County Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA)

1. GENERAL INFORMATION

Oxford County (the County) prepares a report summarizing operation and performance status of the wastewater collection systems in Oxford County annually. The report details information required for Annual Performance Report specified in the County's Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA). The report contains a summary of; alterations to the system, maintenance and capital work, operational problems, a summary of any spills, bypasses, overflows or abnormal conditions in the system, as well as complaints received in the previous year. They are available for review by the end of March on the County website at www.oxfordcounty.ca/wastewater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County at the address and phone number listed below or by email at wastewater@oxfordcounty.ca.

Environmental Compliance Approval (ECA): 071-W601 (February 8, 2023)
Reporting Period: January 1, 2023 – December 31, 2023

Wastewater Treatment Plant Owner & Contact Information:

Oxford County Public Works Department - Wastewater Services
P.O. Box 1614
21 Reeve Street
Woodstock, ON N4S 7Y3
Telephone: 519-539-9800
Toll Free: 866-537-7778
Email: wastewater@oxfordcounty.ca

1.1 System Description

The Oxford County Sewage Collection Systems consist of works for the collection and transmission of sewage, consisting of trunk sewers, separate sewers, sewage pumping stations, odour control units, forcemains and low pressure sewers; which discharge into nine (9) Wastewater Treatment Plants (WWTPs). Each WWTP has a separate ECA that outlines its annual reporting requirements. The Embro and Innerkip Wastewater Collection Systems discharge to the Woodstock Collection System for treatment at the Woodstock Wastewater Treatment Plant (WWTP). An odour control facility is present for each for Embro and Innerkip collection systems. Bioxide is added at Embro Main SPS, Innerkip Main SPS and Woodstock East SPS to aid in odour control. In 2023, 61,250 L of Bioxide was used.

Each SPS has wet well(s) and pumps complete with control systems, a high level alarm, level transmitters, discharge piping, ventilation system, valves and other appurtenances. Onsite generators are in place or a manual transfer switch and a portable generator are available to run the SPS in the event of a power failure.

The wastewater collection system and SPS are operated by licensed wastewater system operators in accordance with the Ontario Water Resources Act, Section 53 (Sewage Works). Alarms are automatically sent to notify operators in the event of critical operational condition failures.

Private sewage works and equipment or sewage pumping stations pertaining to the County's WWTPs are not included on the County's CLI ECA or as part of the reporting requirements below. The County provides annual systems reports for each WWTP which are also available at the end of March each year.

Collection System	Length of Sewermain	Sewage Pumping Stations Capacity (L/s)
Drumbo Wastewater Collection System	6.9 km of sanitary gravity sewers 2.7 km of sanitary forcemain sewers	3 sewage pumping stations: Drumbo North SPS (7.5 L/s) Drumbo East SPS (5.4 L/s) Drumbo Main SPS (11.7 L/s)
Embro Wastewater Collection System	7.3 km of sanitary gravity sewers 14.8 km sanitary forcemain sewers 0.4 km of sanitary low pressure sewers	4 sewage pumping stations: Embro Main SPS (25.5 L/s) Embro West SPS (9.2 L/s) Embro East SPS (7.8 L/s) Embro South SPS (0.87 L/s)
Ingersoll Wastewater Collection System	86.7 km of sanitary gravity sewers 14.3 km of sanitary forcemain sewers 0.8 km of sanitary low pressure sewers	2 pumping stations: Carnegie Street SPS (35.7 L/s) Culloden Road SPS (20.0 L/s)
Innerkip Wastewater Collection System	11.0 km of sanitary gravity sewers 7.6 km sanitary forcemain sewers 0.4 km of sanitary low pressure sewers	3 pumping stations: Main Street SPS (28.0 L/s) Queen Street SPS (3.15 L/s) Young Street SPS (1.1 L/s)
Mount Elgin Wastewater Collection System	5.7 km of sanitary gravity sewers 0.2 km sanitary forcemain sewers 1.3 km of sanitary low pressure sewers	1 pumping station: Peggy Avenue SPS (2.2 L/s).

Collection System	Length of Sewermain	Sewage Pumping Stations Capacity (L/s)
Norwich Wastewater Collection System	27.4 km of sanitary gravity sewers 4.5 km of sanitary forcemain sewers 0.6 km of sanitary low pressure sewers	4 pumping stations: Sutton Street SPS (88 L/s) Herb Street SPS (7.3 L/s) Lossing Drive SPS (9.0) Dufferin Street SPS (20.5 L/s)
Plattsville Wastewater Collection System	12.8 km of sanitary gravity sewers 3.1 km of sanitary forcemain sewers.	1 pumping station: Fennell Street SPS (34.5 L/s)
Tavistock Wastewater Collection System	23.5 km of sanitary gravity sewers 2.0 km of sanitary forcemain sewers 0.2 km of sanitary low pressure sewers	3 pumping stations: Hope Street SPS (48.0 L/s) William St SPS (98 L/s) Wellington Street SPS (54.0 L/s)
Thamesford Wastewater Collection System	18.7 km of sanitary gravity sewers 1.0 m of sanitary forcemain sewers 0.6 km of sanitary low pressure sewers	2 pumping stations: Allen Street SPS (15.1 L/s) Stanley Street SPS (6.2 L/s)
Tillsonburg Wastewater Collection System	123.9 km of sanitary gravity sewers 0.4 km of sanitary forcemain sewers	2 pumping stations: Rouse Street SPS (39 L/s) North Street SPS (69.7 L/s)
Woodstock Wastewater Collection System	248.3 km of sanitary gravity sewers 3.4 km of sanitary forcemain sewers 1.2 km of sanitary low pressure sewers	5 pumping stations: Brick Pond SPS (7 L/s) Commerce Way SPS (35 L/s) East SPS (160 L/s) Trillium Woods SPS (21 L/s) Pattullo SPS (41.5 L/s)
Total Oxford County	572.2 km of sanitary gravity sewers 54.2 km sanitary forcemain sewers 5.3 km of sanitary low pressure sewers	30 Sewage Pumping Stations

*Value may not add due to rounding

1.2 Major Expenses

Planning for major wastewater collection system expenses is included within Oxford County's Water and Wastewater Master Plan and managed according to the Asset Management and Capital Replacement Program.

The specific capital projects as well as operations and maintenance expenses for each wastewater collection system is detailed in the individual Wastewater Treatment Systems Summary Report.

2. SUMMARY AND INTERPRETATION OF MONITORING DATA

In 2023, all SPS functioned properly and in accordance with the design framework and ECA conditions during the reporting period. Where flow meters are in place, flows are summarized in the following table. There may be occasional instantaneous exceedance of the rated capacity of the pumps (L/s) due to high wet well levels, variance in forcemain efficiencies, or other operational conditions.

Facility	Pumping Station Capacity (L/s)	Max Daily Flow (m ³ /day)	Average Daily Flow (m ³ /day)	Total Flow (m ³ /year)
Embro Main SPS	25.5	951	262	95,632
Ingersoll Carnegie Street SPS *	35.7	423	222	86,528
Ingersoll Culloden Road SPS	20.0	118	52	18,765
Innerkip Main SPS	28.0	1,275	295	107,593
Mount Elgin Peggy Avenue SPS	2.2	74	17	5,929
Norwich Sutton Street SPS	88 +	7,068	832	407,532
Norwich Herb Street SPS	7.3	14	2	609
Norwich Dufferin Street SPS	20.5	271	61	22,103
Plattsville Fennell Street North SPS *	34.5	1,750	434	160,845
Tavistock Hope Street SPS	48.0	1,295	328	114,579
Tavistock William St SPS	98	3,027	1,366	500,053
Tavistock Wellington Street	54.0	1,905	442	170,992
Thamesford Stanley Street SPS	6.2	115	54	17,636
Tillsonburg Rouse Street SPS *	39	213	26	6,876
Tillsonburg North Street SPS	69.7	1,021	355	132,079
Woodstock Commerce Way SPS	35	293	166	62,322
Woodstock East SPS	160	2,207	1,242	450,610
Woodstock Trillium Woods SPS	21	199	94	36,256
Woodstock Pattullo SPS	41.5	-	-	-

* Best available data: available trends only covers a portion of the year due to data loss or meter install.

+ Rated capacity is based on a single pump, in 2023 more than one pump was operation increasing the overall rated capacity.

3. MAINTENANCE OF WORKS

Operation and maintenance staff conduct regularly scheduled maintenance of the wastewater collection system equipment including annual inspection of overflows and routine wet well inspections. Records for inspections, maintenance, and repair are recorded in GIS or Asset Management Software or on controlled forms. In 2023, there were 62 wet well inspections and clean outs.

4. MONITORING EQUIPMENT MAINTENANCE AND CALIBRATION

Calibrations and verifications of monitoring equipment is completed by County Staff or qualified contractors and recorded in each facility's log book. Calibration records are scanned and maintained at OCAB, or within a County-approved Asset Management Software. The frequency for calibration and maintenance needs in the wastewater collection system is documented in the Operations and Maintenance Manual.

5. OVERFLOWS, BYPASSING, UPSETS, SPILLS, AND ABNORMAL CONDITIONS

All spills and overflows are reported to Spills Action Centre and a written report is provided to Southwestern Public Health and the Local MECF. A quarterly spills and overflows report is provided to the MECF Regional Director. Spills greater than 10m³ are posted on the County website to provide notification to the public. There were three

(3) reports of spills, bypasses or overflows in the Oxford County collection systems in 2023.

Location (Date)	Volume (m ³)	Duration (hours)	Corrective Actions
324140 Mount Elgin Rd, Mount Elgin (Nov. 13, 2023)	0.25	720	The curb stop for a grinder pump left on during a repair. The shut off was completed and reporting and notification procedures were followed.
433 Broadway St., Tillsonburg (Dec. 09, 2023)	0.2	1.55	A vacuum trucked was called to clear a sanitary sewer blockage. Reporting and notification procedures were followed.
Sutton St. SPS (Apr. 01, 2023)	25	3.02	Occurred during heavy rain event. Samples were collected and reporting and notification procedures were followed. No adverse impacts were observed. Loading to Otter Creek was estimated as <0.3 kg BOD, 1.36 kg TSS, 0.007 kg TP and 0.026 kg TKN.

Oxford County aims to identify, prioritize, and mitigate collections systems spill and overflows. Inflow and Infiltration (I/I) within the municipal wastewater system was noted during the review of the Oxford County Water and Wastewater master Servicing Plan. In an effort to address I/I and reduce erroneous flows in the collection system which can cause spill and over flow events the County is instigating an I/I Reduction Program which will begin development in 2024. The program encompasses the development of I/I reduction standards, trunk main assessment and repair prioritization, and downspout disconnection to enhance the efficiency and capacity of the wastewater collection system and mitigate risk.

6. COMPLAINTS RELATED TO THE WORKS

Records for complaints received and corrective actions taken are recorded in GIS or Asset Management Software or on controlled forms.

In terms of corrective maintenance, Public Works repaired no forcemain breaks in 2023 and resolved 67 customer complaints (odour, sewage blockage, damaged manhole covers, etc.) that were received from within the various wastewater systems across the County.

7. ALTERATIONS TO THE AUTHORIZED SYSTEM

This section details all authorized alterations to the existing wastewater collection system in the reporting period including extensions of new wastewater collection mains. Alterations that pose a significant drinking water threat and noted.

Description	System	Within a WHPA-A or B(10)	Source Water Protection Threat Assessment Complete
Replacement of sanitary sewer on Huron Street from Adelaide to Dundas.	Woodstock	Partially in WHPA B (8)	Yes
Installation of sanitary sewers on Carroll Street (from Charles Street East to King Street East).	Ingersoll	No	N/A
Replacement of sanitary sewers on Frances street (from Merritt Street to Wonham Street South).	Ingersoll	Partially, 2 laterals WHPA A	Yes
Installation of sanitary sewer within the Bridges subdivision.	Tillsonburg	No	N/A
Installation of sanitary sewer on Concession Street.	Ingersoll	No	N/A
Installation of sanitary sewer within the Potters Gate subdivision (Phase 4).	Tillsonburg	No	N/A
Installation of sanitary servicing for Oakpark Estates subdivision.	Tillsonburg	No	N/A
Drumbo Main SPS Valve Replacement	Drumbo	No	N/A
Addition of Standby Generator at the Drumbo Main SPS Generator	Drumbo	No	N/A
Addition of Standby Generator at the Norwich Lossing SPS	Norwich	No	N/A

8. IMPLEMENTATION STATUS AND FUTURE WORK

In the past 12 months, significant strides have been made in to ensure correct implementation and compliance with the new CLI ECA. This work focused on meeting several annual deadlines for implementation and providing transitional training workshops.

Wet Weather Assessment

In 2023, a wet weather assessment was successfully conducted and submitted to the Ministry of the Environment, Conservation and Parks (MECP) in accordance with the ECA's specification prior to the January 18, 2024 deadline. The assessment reviewed the root cause of any spills by-passes and overflows in the last 10 years in comparison to any recent upgrades or replacement work and identified planned projects to prevent future wet weather related upsets.

Implementation and Training

Significant effort was put in to document and refine work processes, standardize procedures, and provide training on the new CLI ECA requirements. County staff took the lead in conducting workshops with internal departments and service providers, focusing on the preauthorization and review process for designing and commissioning linear replacement and expansion projects. Additionally, an Operations and Maintenance Manual was comprehensively developed ahead of the required deadline.

Future Work

Oxford County is commitment to its continual improvement and refinement of the existing Operations and Maintenance Manual throughout 2024. The manual will be refined through the same continual improvement process as the existing water quality management system (QMS).

Looking ahead, the focus for the upcoming year extends to development of signage for sanitary overflow points and identifying locations for posting this signage at the nearest publicly accessible points downstream. This work is required to be complete by July 2025 under the CLI ECA.

Furthermore, the County is embarking on the crucial task of developing a sanitary collection system model. The first data acquisition and pilot will commence in 2024. This initiative aligns with the CLI ECA's mandate, requiring the establishment of a sanitary sewer model within three years of its date of issuance. These endeavors underscore the County's steadfast commitment to environmental compliance and the enhancement of sanitary infrastructure.