2025 Annual Sewage Collection System 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 sewage collection systems in Oxford County annually. The report details information required for the 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. The report is available for review by the end of March on the County website at http://www.oxfordcounty.ca/waterwastewater 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 this 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, 2025 – December 31, 2025

Sewage Collection System 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 comprises 11 sewage collection systems, including trunk sewers, separate sewers, sewage pumping stations, odour control units, forcemains and low-pressure sewers. These systems discharge into nine (9) respective Wastewater Treatment Plants (WWTPs). Each WWTP has a separate ECA that outlines its annual reporting requirements. The Embro and Innerkip Sewage Collection Systems discharge to the Woodstock Collection System for treatment at the Woodstock Wastewater Treatment Plant (WWTP).

Chemical addition is performed at select facilities for odour control and coagulation. Odour control facilities are present in the Embro and Innerkip sewage collection systems. Bioxide is added at Embro Main sewage pumping station (SPS), Innerkip Main SPS and Woodstock East SPS to aid in odour control. Alum is added at Norwich Sutton Street SPS for coagulation.

Each SPS has wet well(s), and pumps complete with control systems, alarms, 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 sewage collection system and SPSs 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 are not included in the County's CLI ECA or as part of the reporting requirements below. The County also provides annual systems reports for each WWTP which are also available at the end of March each year.

Collection System	*Length of Sanitary Collection*	*Sewage Pumping Stations and Rated Capacities (L/s)*
Drumbo Sewage Collection System	6.9 km of gravity 2.7 km of forcemain	3 pumping stations: Drumbo North SPS 7.5 L/s Drumbo East SPS 5.4 L/s Drumbo Main SPS 11.7 L/s
Embro Sewage Collection System	7.4 km of gravity 14.8 km of forcemain 0.4 km of low pressure	4 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 Sewage Collection System	87.6 km of gravity 14.2 km of forcemain 0.9 km of low pressure	2 pumping stations: Ingersoll Carnegie Street SPS 35.7 L/s Ingersoll Culloden Road SPS 20.0 L/s
Innerkip Sewage Collection System	10.7 km of gravity 7.7 km of forcemain 0.4 km of low pressure	3 pumping stations: Innerkip Main Street SPS 28.0 L/s Innerkip Queen Street SPS 3.15 L/s Innerkip Young Street SPS 1.1 L/s
Mount Elgin Sewage Collection System	6.4 km of gravity 0.2 km of forcemain 1.3 km of low pressure	1 pumping station: Mount Elgin Peggy Avenue SPS 2.2 L/s
Norwich	27.7 km of gravity 4.4 km of forcemain	4 pumping stations: Norwich Sutton Street SPS 88.0 L/s

Collection System	*Length of Sanitary Collection*	*Sewage Pumping Stations and Rated Capacities (L/s)*	
Sewage Collection System	0.7 km of low pressure	Norwich Herb Street SPS Norwich Lossing Drive SPS Norwich Dufferin Street SPS	7.3 L/s 9.0 L/s 20.5 L/s
Plattsville Sewage Collection System	12.8 km of gravity 3.1 km of forcemain	1 pumping station: Plattsville Fennell Street SPS	 34.5 L/s
Tavistock Sewage Collection System	23.1 km of gravity 2.4 km of forcemain 0.2 km of low pressure	3 pumping stations: Tavistock Hope Street SPS Tavistock William Street SPS Tavistock Wellington Street SPS	 48.0 L/s 98.0 L/s 54.0 L/s
Thamesford Sewage Collection System	18.7 km of gravity 1.1 km of forcemain 0.6 km of low pressure	2 pumping stations: Thamesford Allen Street SPS Thamesford Stanley Street SPS	 15.1 L/s 6.2 L/s
Tillsonburg Sewage Collection System	125.3 km of gravity 1.7 km of forcemain	2 pumping stations: Tillsonburg Rouse Street SPS Tillsonburg North Street SPS	 39.0 L/s 69.7 L/s
Woodstock Sewage Collection System	253.3 km of gravity 8.6 km of forcemain 0.7 km of low pressure	5 pumping stations: Woodstock Brick Pond SPS Woodstock Commerce Way SPS Woodstock East SPS Woodstock Trillium Woods SPS Woodstock Meadows SPS Woodstock Pattullo SPS	 7.0 L/s 35.0 L/s 160.0 L/s 21.0 L/s 48.8 L/s 41.5 L/s
Oxford County Sewage Collection Systems Total	580.0 km of gravity * 60.9 km of forcemain * 5.2 km of low pressure *	30 pumping stations	

** Values may not add due to rounding.*

1.2 Projects and Major Expenses

Planning for major sewage 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 sewage collection system are detailed in each individual Wastewater Treatment Systems Summary Report. Information on inflow and infiltration and hydraulic modeling projects can be found in Section 7.

2 OPERATIONAL MONITORING

In 2025, all SPSs were monitored for sewage level and flow (where required) to ensure they functioned properly and per the design and ECA conditions during the reporting period. Overflows, bypasses, upsets, spills, and abnormal conditions occurring within the reporting period are summarized in Section 6. 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)*	Pumping Station Capacity (m^3/day)	*Max Daily Flow (m^3/day)*	*Average Daily Flow (m^3/day)*	*Total Flow (m^3/year)*
Drumbo Main SPS	11.7	1,011	570	160	58,348
Drumbo North SPS	7.5	648	182	76	27,690
Embro Main SPS	25.5	2,203	685	241	88,029
Ingersoll Carnegie Street SPS	35.7	3,084	648	283	81,471
Ingersoll Culloden Road SPS	20.0	1,728	113	44	15,888
Innerkip Main SPS	28.0	2,419	637	302	110,103
Mount Elgin Peggy Avenue SPS	2.2	190	71	42	15,257
Norwich Dufferin Street SPS	20.5	1,771	353	54	19,883
Norwich Herb Street SPS	7.3	631	39	10	3,576
Norwich Lossing Street SPS *	9.0	778	229	88	2,646
Norwich Sutton Street SPS	88.0	7,603	5,620	981	346,430
Plattsville Fennell Street North SPS	34.5	2,981	1,465	407	148,489
Tavistock Hope Street SPS	48.0	4,147	1,770	283	103,217
Tavistock Wellington Street SPS	54.0	4,666	2,601	401	146,426
Tavistock William Street SPS	98.0	8,467	3,631	1,213	442,875
Thamesford Stanley Street SPS	6.2	536	130	60	21,743
Tillsonburg North Street SPS	69.7	6,022	882	364	132,801
Tillsonburg Rouse Street SPS	39.0	3,370	71	31	11,455
Woodstock Brick Pond SPS	7	605	44	22	7,926
Woodstock Commerce Way SPS	35.0	3,024	351	137	49,974
Woodstock East SPS	160.0	13,824	2,133	1,244	454,045
Woodstock Pattullo SPS	41.5	3,586	501	19	6,860
Woodstock Trillium Woods SPS	21.0	1,814	220	100	36,608

**Flow Meter Installed in 2025*

3 MAINTENANCE

Operation and maintenance staff conduct regularly scheduled maintenance of the sewage collection system equipment including annual inspection of overflows and routine wet well inspections. Records for inspections, maintenance, and repair are recorded in the Geographic Information System (GIS), Asset Management Software or on controlled forms.

Several planned preventative maintenance activities are carried out annually to help optimize the useful service life and efficiency of sewage infrastructure assets. A number of key maintenance activities are noted below for sewage collection infrastructure. Public Works experienced no sanitary forcemain breaks in 2025.

Preventative Maintenance Activity	*Quantity*
Sanitary Sewer Flushing	128,926 m
Sanitary Sewer CCTV Inspection	40,510 m
# of Sanitary Manhole Inspections	2,171
# of Sanitary Manholes Repaired/Replaced/Adjusted	96
# of Sewer Blockages Cleaned	1
# of Septic Tank Inspections	287
Forcemain Cleaning (Swabbing)	205,000 m
Standby Power Generator Inspection and Maintenance	232
Sewage Pump Station Clean-outs	62

3.1 Monitoring Equipment Maintenance and Calibration

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

4 COMPLAINTS

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 resolved 82 customer complaints (odour, sewage blockage, damaged manhole covers, pump alarms etc.) that were received from within the various sewage systems across the County.

5 ALTERATIONS

This section details all authorized alterations to the existing sewage collection system in the reporting period including extensions of new sewage collection mains. Alterations that pose a significant drinking water threat are noted and a source water protection threat assessment was completed.

Description	*System*	*Within Wellhead Protection Area A or B(10)?*	*Source Water Protection Threat Assessment Complete*
Replacement of sanitary sewer on Devonshire Avenue between Vansittart Avenue and Victoria Street North.	Woodstock	No	N/A
Installation of sanitary sewer to service Phase 1 of the Van Norman Innovation Park.	Tillsonburg	No	N/A
Extension of sanitary sewer on Leslie Street.	Woodstock	No	N/A
Installation of sanitary sewer to service the 763 Athlone Ave Development.	Woodstock	No	N/A
Replacement of sanitary sewer on Arthur Street between Radbourne Avenue and Hughson Street.	Woodstock	No	N/A
Replacement of sanitary sewer on Lincoln Drive between Bee Street and Sunset Boulevard.	Woodstock	No	N/A
Replacement of Sanitary sewer on Pemberton Street and King Hiram Street from King Solomon Street to Hutchison Avenue.	Ingersoll	No	N/A
Replacement of sanitary sewer on John Pound Road between Bidwell St. and George St.	Tillsonburg	No	N/A
Replacement of sanitary sewer Earl Street between Ann Street and Frances Street.	Ingersoll	No	N/A
Replacement of Sanitary sewer on William Street between Jacob Street and Woodstock Street South.	Tavistock	No	N/A

Description	*System*	*Within Wellhead Protection Area A or B(10)?*	*Source Water Protection Threat Assessment Complete*
Replacement of Sanitary sewer on Powell Street between Parkinson Road and Salter Avenue.	Woodstock	No	N/A
Replacement of sanitary sewer on Wellington Street South between Dundas Street and Peel Street.	Woodstock	No	N/A
Replacement of sanitary sewer on Edward Street between Ridell Street and Victoria Street, on Mary Street between Ridell Street and Beale Street and on Wellington Street North between Ingersoll Avenue and Mary Street.	Woodstock	No	N/A
Replacement of Sanitary Sewer on Elizabeth Street.	Woodstock	No	N/A
Installation of sanitary sewers to service Karn Road Subdivision Phase 1B.	Woodstock	No	N/A
Installation of sanitary sewer on Cranberry Road from Beckett Boulevard to the Town Limit.	Tillsonburg	No	N/A
Extension of Sanitary sewer from Earle St. on Oak Street towards Ball Alley.	Tillsonburg	No	N/A
Replacement of Sanitary sewer on York Street between Adelaide Street and George Street.	Woodstock	No	N/A
Installation of a flow meter at the Norwich Lossing Drive SPS.	Norwich	No	N/A

6 OVERFLOWS, BYPASSSING, UPSETS, SPILLS, AND ABNORMAL CONDITIONS

All spills and overflows are reported to the Spills Action Centre, and a written report is provided to Southwestern Public Health and the Local Ministry of the Environment, Conservation and Parks (MECP) office. A quarterly spills and overflows report is provided to the MECP Regional Director. Spills greater than $10m^3$ are posted on the County website to provide notification to the public. There were four (4) reports of spills, bypasses or overflows in the Oxford County collection systems. The following table is a summary of all collection system overflows and spills of sewage in 2025.

Spills, bypasses and overflows are sampled in the volume and frequency required by the CLI ECA for biological oxygen demand (BOD), total suspended solids (TSS), total phosphorus (TP), total Kjeldahl nitrogen (TKN) and *E. coli.* The event volume and the sample result concentrations for BOD, TSS, TP and TKN are used to calculate the loading to the natural environment in Kg for each parameter. Where a sample result is received below the reporting limit for a parameter, the parameter minimum reporting limit is used as the concentration and the calculated loading is expressed as < the calculated loading in Kg. *E. coli* is reported in colony forming units (CFU) per 100ml of sample.

Overflow/Spill Event	*Corrective Action Taken*	*Date, Estimated Volume and Duration*	*Estimated Loading*
A build up of debris in an air release valve resulted in a spill of wastewater from the Embro forcemain in July.	An Oxford County Vac Truck was used to provide hydraulic relief reducing the volume of the overflow as well as site cleanup of the affected area. The air relief valve was isolated and removed for cleaning before being put back into service.	July 6, 2025, 2 m^3 1.5 hours	Not Applicable
A small amount of wastewater leaked from a valve in December. (Embro)	The valve was repaired and the spilt material was cleaned up from the site.	December 23, 2025, 0.4 m^3 5 hours	Not Applicable
Two heavy rain events overloaded the capacity of the collection system, resulting in an overflow event in April and June. (Woodstock Maintenance Hole 2889 N Trunk Overflow, WOO – 04)	Oxford County staff cleaned up the area of the overflow. A bypass pump was made available to increase the volume of wastewater treated by the WWTP in future high-flow events. Additionally, a continuous monitoring device was installed to alert staff of high-flow conditions, and a response procedure was developed to enhance preparedness and mitigate potential impacts.	April 2, 2025, 18,274 m^3 25.33 hours	BOD 785.78 kg TSS 1352.28 kg TP 10.873 kg TKN 65.79 kg *E. coli* 720,750 CFU/100mL
		June 27, 2025, 456 m^3 1.66 hours	BOD 15.32 kg* TSS 34.02 kg* TP 0.267 kg* TKN 1.87 kg* *E. coli* 898,300 CFU/100mL*

7 EFFORTS TO REDUCE OVERFLOWS, BYPASSES AND SPILLS

Details on the County's inflow and infiltration reduction strategy and wastewater hydraulic models are included in the following sections. WWTP overflows and/or bypasses and corrective actions are found within each Wastewater Treatment System Summary report.

7.1 Inflow and Infiltration (I/I) Reduction

The County is implementing a strategy to reduce Inflow and Infiltration (I/I) across its sewage collection systems to enhance long-term sustainability and efficiency. I/I occur when excess water enters the sanitary sewer system through direct connections (inflow) or seeps in through cracks and leaks (infiltration), straining infrastructure, increasing treatment costs, and potentially exceeding system capacity, leading to spills or overflows.

In 2024, Oxford County engaged Municipal Vu Consulting to assist in developing a long-term I/I reduction strategy. The strategy outlined 20 key activities to reduce I/I based on project complexity, operational savings, and overall impact.

In 2025, the County integrated I/I reduction standards into the most recent update to the engineering design guidelines. These changes will proactively ensure that new infrastructure is designed to be resilient to I/I. County staff also developed a GIS-based database for storing flow monitoring information which will be used to enhance data-driven decision-making in I/I management. The County also completed various repairs specifically for the reduction of I/I, including 22 infiltration repairs to sanitary manholes (various systems) and one large infiltration repair in the Woodstock collections system, which is estimated to prevent approximately 20,000 m^3/year of water from reaching the wastewater plant.

7.2 Wastewater Hydraulic Models

Oxford County has initiated the development of wastewater hydraulic models to enhance system analysis and planning as required by our CLI ECA. The pilot project began with the Ingersoll wastewater collection system, providing valuable insights into flow hydraulics, capacity constraints, and potential areas for improvement. The models for Tillsonburg and Tavistock collection systems were undertaken in 2025. The Thamesford, Norwich, Innerkip, Embro and Plattsville systems are expected to begin in 2026. These models will support data-driven decision-making, optimize infrastructure investments, and improve the County's ability to forecast and aim to mitigate issues such as I/I, surcharges, and system overflows. As the program expands, these tools will play a key role in long-term asset management, operational efficiency, and climate resiliency.

8 IMPLEMENTATION

Oxford County is committed to the continual improvement and refinement of the existing Operations and Maintenance Manuals for sewage collection systems which was established in 2023. The manual will be refined through the same continual improvement process as the water quality management system (QMS).

In July 2025, signage was installed at required sanitary overflow points to notify the public of sewage collection system overflows. Signs were placed at the nearest publicly accessible point downstream of outfalls to the natural environment, as mandated by the CLI ECA.

The CLI ECA requires the establishment of a sanitary sewer model for systems that service more than 10,000 people by December 31, 2028. Progress on the County's Wastewater Hydraulic Models is detailed in Section 7.2.

The County's implementation strategy to reduce Inflow and Infiltration (I/I) across its sewage collection systems to enhance long-term sustainability and efficiency is discussed in Section 7.1.

To date, the County has completed all the implementation requirements under the CLI ECA. Currently the County is preparing the required application for review be submitted for approval to the MECP in 2026.