



**St. Clair Township
Sewage Collection System
Annual Performance Report
2024**



Owned and operated by St. Clair Township



1 Wastewater Collection Facilities

1.1 General Information

St. Clair Township operates thirty-one (31) sewage pumping stations and is required to report the annual performance on twenty-nine (29) of those facilities as per the St. Clair Township Sewage Collection System ECA Number 039-W601. The Courtright Main Pump Station (PS) is owned and operated by St. Clair Township but not reported in the Consolidated ECA since it is located on the Courtright WWTP property. The Island View Moorings PS is operated but not owned by St. Clair Township therefore it is not included in this annual performance report.

This report covers the authorized system consisting of sewers, forcemains, and the following twenty-nine (29) pump stations:

Asset ID	Pump Station	Location	Treatment Area
SWF-001	Clay Creek	2851 St. Clair Parkway	Sombra
SWF-002	White Line	2998 St. Clair Parkway	Sombra
SWF-003	Cundick Park	3229 St. Clair Parkway	Sombra
SWF-004	Sombra Main	3538 St. Clair Parkway	Sombra
SWF-005	Reagan Park	3617 St. Clair Parkway	Sombra
SWF-007	Holt Line	3775 St. Clair Parkway	Sombra
SWF-008	Lambton Baptist Church	3896 St. Clair Parkway	Sombra
SWF-009	Leeland Gardens	3946 Seaway Road	Sombra
SWF-010	Concession 8 North	4077 St. Clair Parkway	Port Lambton
SWF-011	Concession 8 South	4159 St. Clair Parkway	Port Lambton
SWF-012	Queen Street	502 Queen Street	Port Lambton
SWF-013	Port Lambton Main	4406 McDonald Street	Port Lambton
SWF-016	Brander Park	4628 Old River Road	Port Lambton
SWF-017	Riverside Drive	4648 Riverside Drive	Port Lambton
SWF-019	Maplewood Subdivision	4761 Old River Road	Port Lambton
SWF-020	Indian Road	4697 St. Clair Parkway	Port Lambton
SWF-021	Beresford Street	379 Beresford Street	Courtright
SWF-022	Tom Street	481 Tom Street	Courtright
SWF-024	Industrial Park	426 Polymoore Drive	Courtright
SWF-025	Brigden Main	2393 Courtright Line	Brigden
SWF-026	Frog Point South	1801 St. Clair Parkway	Courtright
SWF-027	Frog Point North	1735 St. Clair Parkway	Courtright
SWF-028	Clairwood	230 Clairwood Crescent	Courtright
SWF-029	Wilkesport	3241 Mill Street	Sombra
SWF-030	Curran Avenue	260 Curran Avenue	Courtright
SWF-031	Church Street	113 Church Street	Courtright
SWF-033	Corunna Main	362 Beresford Street	Courtright
SWF-035	St. Clair Heights	383 Bayhill Drive	Courtright
SWF-036	Lincoln Ave	297 Lincoln Ave	Courtright



1.2 Monitoring data

The total flows for each collection system are collected at the main pumping stations before being conveyed to the facilities. Below are the average monthly flows for the Corunna Main PS, Brigden Main PS, Sombra Main PS, Port Lambton Main PS.

Average Monthly Flows (m ³)	Corunna PS	Brigden PS	Sombra PS	Port Lambton PS
January	2,835.41	241	656	626
February	1,998.33	145	378	408
March	2,115.01	152	425	404
April	2,275.76	185	521	500
May	2,180.14	188	494	419
June	1,957.90	154	438	460
July	2,420.17	166	553	643
August	2,380.33	152	509	513
September	1,763.74	118	330	445
October	1,967.68	141	319	437
November	1,969.19	133	326	441
December	2,252.17	166	461	546
Average	2,176.29	162	451	487
Maximum Daily Flow (date)	8,338.70 (July 16, 2024)	939 (Jan 26, 2024)	2,791 (Jan 26, 2024)	2,074 (Jan 26, 2024)
Rated Capacity at facilities receiving the flows (m³)	6,000	380	960	855
Annual Capacity %	36%	43%	47%	57%

The Corunna Main PS consisted of approximately 76% of the flow that was conveyed to the Courtright WWTP. The remaining 24% was conveyed by the Courtright Main PS and is located on the Courtright WWTP property.

These flows and capacity percentage conclude that each system has adequate capacity currently.

1.3 Operating problems and corrective actions

In general, the pump stations operated as designed however there are still some trouble pump stations that continue to require pulling pumps to remove blockages.



1.4 Calibration, maintenance and repairs

1.4.1 Calibration

The Corunna Main PS sewage flow meter was last calibrated October 9, 2024, by Pierce Services & Solutions Inc.

The Brigden, Sombra and Port Lambton Main Pump Stations sewage flow meters were calibrated February 28, 2024, by SCG Flowmetrix.

1.4.2 Maintenance and Repairs

Regular maintenance is completed by operations staff and tracked using a maintenance management system (Cartegraph OMS). Cartegraph OMS monitors routine and preventative maintenance scheduling. Larger or specialized maintenance activities such as CCTV is completed by third party contractors.

Pump Stations

All pump stations had monthly PS operational checks, semi annual wet well maintenance, semi annual vac and clean in the spring and fall, annual check valve maintenance, annual inspection, and pump PM. All pump stations with generators had monthly generator run and check. Pulled pumps and removed blockages as needed. A few stations required communication troubleshooting. Annual generator service was completed by Sommers in December 2024. Bar screens were cleaned at main pump stations.

A few deficiencies were corrected after ESA inspection:

- **SWF-016 Brander Park PS** – IES installed a box on end of exposed tech cable. Repaired hinge on Flygt panel box.
- **SWF-020 Indian Road PS** – ESA inspection of work completed.

SWF-002 White Line PS

- Installed a new electrical panel. Capital Project.

SWF-003 Cundick Park PS

- Replaced all capacitors and relays for pump #1.

SWF-004 Sombra Main PS

- Retired old generator and removed all old equipment including generator, fuel tank and piping.
- Replaced old lighting with LED lights.

SWF-007 Holt Line PS

- Replaced all capacitors and relays for pump #1.



SWF-008 Lambton Baptist Church PS

- Replaced UPS.
- Installed new electrical panel. Capital Project.
- Replaced section of rotten chain on pump #1.

SWF-010 Concession 8 North PS

- Replaced blown fuse for pump #2.
- Replaced wet well rails on pump #2.

SWF-011 Concession 8 South PS

- Replaced UPS.
- Replaced both check valves with new using stainless nuts and bolts.

SWF-012 Queen Street PS

- Replaced cable on pump.

SWF-013 Port Lambton Main PS

- Retired old generator and removed all old equipment including generator, fuel tank and piping.

SWF-016 Brander Park PS

- UPS replaced.
- Replaced east check valve with stainless nuts and bolts.
- Replaced low level float.

SWF-019 Maplewood

- Replaced UPS.

SWF-022 Tom Street PS

- Repaired FLS wire in pump #2.

SWF-024 Industrial Park PS

- Replaced UPS.

SWF-025 Brigden Main PS

- Retired old generator and removed all old equipment including generator, fuel tank and piping.
- Replaced gasket and bolts on check valve #1.
- Replaced gate check valve with new ball check valve and stainless nuts and bolts and new gaskets.
- Replaced valves in valve chamber.
- Replaced sump pump.



SWF-026 Frog Point South PS

- Replaced hinges on panel door.
- Installed a new antenna at station.
- Replaced UPS.

SWF-028 Clairwood PS

- Replaced oil in pump.

SWF-030 Curran Avenue PS

- Replaced chain on both pumps.

SWF-031 Church Street PS

- Replaced wear rings on pumps.

SWF-033 Corunna Main PS

- Contractor checked and adjusted motor brakes on barscreen.
- Nedlaw performed maintenance on living roof.
- Monthly bar screen maintenance. Pressure wash barscreen and inlet channel benching/components.
- Monthly HVAC maintenance. Check fan and belt. Grease as required.
- Monthly odour control unit inspection and maintenance.
- Monthly UV inspection. Inspected and cleaned UV banks. Replaced bulbs as needed.
- Monthly cleaning of air intake filters in MCC building.
- Re-caulk seams in exhaust pipe insulation on generator.
- Replaced all fuel supply hoses on generator.
- Replaced both batteries on generator during annual service. Made adjustment to warm up time during test and duty.
- Locksmith replaced handle/lock on screen room door.
- Annual PM on overflow tank and sewer pump OLP-101. Greased and exercised valve.
- Annual boiler service performed.
- Serviced the check valve CV-101 in the dry well. Replaced the gasket, packing and studs.
- Serviced the check valve CV-102 in the dry well. Replaced the packing glands and installed new stainless-steel studs.
- Repaired leaking boiler vent piping.
- Exercised valves in the dry well, barscreen/inlet channel room and wet well 1 & 2.
- Replaced both pressure switches on the hot water tank.
- Maintenance on Bioxide® piping system. Cleaned Y-strainers and re-primed pumps.
- Monthly Bioxide® pump duty cycle change.
- Replaced belt on odour control fan.
- Replaced battery in water meter.
- HVAC heater coil replaced UH-101.



SWF-035 St. Clair Heights PS

- Replaced UPS.
- Replaced generator plug to enable generator operations.

SWF-036 Lincoln Ave PS

- Replaced UPS.

Sanitary Main Inspection and Flushing

- Flushed the sanitary sewer on Rokeby West then South on St Clair Parkway through Mooretown and Courtright.
- Flushed sanitary sewers in Brigden.
- Flushed sanitary sewer on West Lambton Line crossing Marshy Creek.
- Inspected and flushed several locations in Corunna following backups.

Forcemains

Sanitary sewer force mains were inspected and flushed in the following areas:

- St Clair Parkway (Church St PS to Shell South Entrance)
- St Clair Parkway (Curran Ave PS to Lincoln Drive)
- Catalpa Way
- Keww Drive
- Courtright Line (Brigden Main PS to Brigden Lagoons)
- West Wilkesport Line, Wilkesport Line to Mill Street
- St Clair Parkway South of Sombra to Sombra Lagoons
- Brander Park
- McDonald Street, Port Lambton (North of Port Lambton Main PS)
- Broadway Street, Port Lambton (McDonald Street to Port Lambton Lagoons)

To minimize odours and odour complaints along St. Clair Parkway between Corunna and Courtright the odour control carbon canisters at 899, 939 and 1029 St. Clair Parkway were exchanged every quarter.

1.5 Complaints

Odour Complaints

Sept 12, 2024 – Tom Street PS

Sept 18, 2024 – 502 Broadway Street, sewer smell at Port Lambton Main Pump Station

Dec 5, 2024 – 1578 First Street

1.6 Alterations to the Authorized System

- The old generators were retired and removed at the Brigden Main PS, Sombra Main PS and the Port Lambton Main PS.
- No other alterations to the authorized system occurred in 2024.



1.7 Overflows and spills

There was an overflow reported on July 16, 2024, at the Corunna PS due to heavy rainfall over a short period of time. An estimated total of 362 m³ of raw sewage overflowed into the St. Clair River over 4 hours. Below are the loading calculations for the reported overflow.

Corunna PS Overflow (362 m ³) - July 16, 2024						
	Start (08:20)	End (12:20)	Average	Loading @ Start (08:20)	Loading @ End (12:20)	Average Loading
CBOD ₅ (mg/L)	40	12	26	14.48	4.34	9.41
BOD ₅ (mg/L)	58	12	35	21.00	4.34	12.67
TSS (mg/L)	124	107	115.5	44.89	38.73	41.81
TP (mg/L)	1.14	0.49	0.82	0.41	0.18	0.30
TKN (as N mg/L)	6.5	3.8	5.15	2.35	1.38	1.86
TAN (as N mg/L)	6.1	3.2	4.65	2.21	1.16	1.68
E.coli (cfu/100mL)	64,000	56,000	60000			

1.8 Summary of efforts to reduce overflows, spills and bypasses

St. Clair Township continues to take efforts to reduce overflows, spills and bypasses. The Inflow and Infiltration (I & I) Program implemented has been identifying properties contributing to I & I issues in Port Lambton, Mooretown and Courtright. The plan for 2025 is to continue in Brigden. The program has proven to be effective.