2024 MUNICIPAL SEWAGE COLLECTION SYSTEM ANNUAL REPORT

WELLINGTON NORTH SEWAGE COLLECTION SYSTEM

For the period of
January 1st, 2024 to December 31st, 2024

Prepared for The Township of Wellington North by the Ontario Clean Water Agency

ONTARIO CLEAN WATER AGENCY
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1. Municipal Sewage Collection System - Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for a Municipal Sewage Collection Systems, Schedule E, Section 4.6.1.

Municipal Sewage Collection System ECA #	113-W601, Issue 1
Sewage Works	Township of Wellington North Sewage Collection System
Collection System Owner	The Corporation of the Township of Wellington North
Reporting Period	January 1, 2024 to December 31, 2024

Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: As per Schedule E, Section 4.7.1 of CLI-ECA #113-W601, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

Location where Annual Performance Report required under CLI-ECA #113-W601 Schedule E will be available for inspection. *(CLI-ECA #113-W601, Schedule E, Section 4.6.1 & 4.7.1):*

- Township of Wellington North Public Works Office, 7490 Sideroad 7 West, Kenilworth, Ontario, N0G 2E0
- http://www.wellington-north.com

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

a) If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.
b) If applicable, include a summary of any operating problems encountered and corrective actions taken.
c) Includes a summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.
d) Include a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.
e) Include a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.
f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:
    i. Dates;
    ii. Volumes and durations;

iii. If applicable, loadings for total suspended solids, BOD, total phosphorus and total Kjeldahl nitrogen, and sampling results for E.Coli;
iv. Disinfection, if any; and
v. Any adverse impact(s) and any corrective actions, if applicable.

g) Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
i. 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.
ii. Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.
iii. An assessment of the effectiveness of each action taken.
iv. 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.
v. Public reporting approach including proactive efforts.

1.1 Description of the Works

The Township of Wellington North Municipal Sewage Collection System is owned by Corporation of the Township of Wellington North and operated on behalf of the Owner by the Ontario Clean Water Agency. The Township of Wellington North Sewage Collection System includes two separate systems; one to serve the distinct urban area of Arthur (Arthur Sewage Collection System) and the other to serve the distinct urban area of Mount Forest (Mount Forest Sewage Collection System).

The Wellington North Municipal Sewage Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks. The authorized collection system also contains no authorized combined sewer collection system overflow points and three (3) authorized sanitary sewer overflow points under emergency conditions as needed (including pumping stations). They include:

- Fredrick St. SPS bypass (overflow) chamber - where the overflow location is an inlet sewer under extreme flow events, discharging to Conestogo River.
- North Water St SPS - where the overflow location is an outfall sewer discharging to Saugeen River.
- Durham St SPS - where the overflow location is an overflow sewer discharging to an overflow pipe to a adjacent manhole (MH5) and ultimately to Saugeen River.

Below you will find a description of each of the two separate systems that combine to form the Wellington North Municipal Sewage Collection System.

The Arthur Sewage Collection System

The Arthur Sewage Collection System serves the distinct urban area of Arthur and consists of works for the collection and transmission of sewage, consisting of trunk sewers, separate sewers, sewage pumping stations and forcemains, with discharge to the Arthur Wastewater Treatment Plant (WWTP) and effluent storage lagoon facilities. Treated effluent from the WWTP is discharged to the Conestogo River during the discharge period (October 1st to May 31st, inclusive) provided there is adequate flow in the river and is stored in the lagoons during the non-discharge period (June 1st to September 30th, inclusive), until discharging to the Conestogo River is permitted. The sewage pumping stations in the authorized Arthur Sewage Collection System include:

- Frederick St SPS – which receives the majority of sewage flows by gravity from the community of Arthur. The SPS pumps directly into the Arthur WWTP via forcemain. The SPS consists of a wet well, emergency storage (for overflow/bypass), three variable speed pumps, MCC, PLC based control system and high levels floats and alarms. A standby diesel generator is one site to supply the SPS with power in the case of emergencies.
- Wells St SPS – which receives primarily industrial sewage flows by gravity from industrial users located in the west side of Arthur. The SPS pumps to a maintenance hole which consists of a trunk sewer that pumps to Arthur WWTP. The SPS consists of a wet well, emergency storage, two submersible pumps and is connected to a discharge forcemain with three flushing connections.

The Mount Forest Sewage Collection System

The Mount Forest Sewage Collection System serves the distinct urban area of Mount Forest and consists of works for the collection and transmission of sewage, consisting of trunk sewers, separate sewers, sewage pumping stations and forcemains, with discharge to the Mount Forest WWTP. Treated effluent from the WWTP is discharged to the South Saugeen River. The sewage pumping stations in the Authorized Mount Forest Sewage Collection System include:

- Cork St SPS – which receives sewage flows by gravity from the west portion of the community of Mount Forest, including sewage from Perth St. SPS. The SPS pumps to the Arthur St. SPS via forcemain. The SPS consists of a wet well, two submersible speed VFD pumps, electrical and electronic control system and high levels floats and alarms. A standby diesel generator is on site to supply the SPS with power in the case of emergencies.
- Durham St SPS – which receives sewage flows by gravity from the most northern portion of the community of Mount Forest. The SPS pumps to the North Water St. SPS via forcemain. The SPS consists of a wet well, three submersible pumps, electrical and electronic control system, high levels floats and alarms and emergency overflow pipe. A standby diesel generator is on site to supply the SPS with power in the case of emergencies.

- Perth St. SPS – which receives sewage flows by gravity from the Perth St. industrial area in the community of Mount Forest. The SPS pumps to the Cork St. SPS via forcemain. The SPS consists of a wet well and two submersible pumps.
- North Water St. SPS – which receives sewage flows by gravity from all serviced areas in the community of Mount Forest, including flows from all other SPSs. The SPS pumps directly to the Influent Works building at Mount Forest WWTP via forcemain. The SPS consists of a wet well and variable speed pumps, emergency storage, flow metering chamber and surge vessel. A standby diesel generator is on site to supply the SPS with power in the case of emergencies.
- South Water St. SPS – is not currently constructed. It is designed to service the Avila subdivision and South Water St. and will pump to the North Water SPS via forcemain.

Prior to January 10, 2023, three of the seven pumping stations were captured under the WWTP CoA while the following SPS were captured under ECA numbers:

- Cork St SPS - ECA 8755-7WZKNW
- Durham St SPS - ECA 1899-873P7E
- Perth St SPS - ECA 3-1843-98-996
- South Water St SPS - ECA 0618-BV4T7S

On January 10, 2023, Municipal Sewage Collection System ECA Number 113-W601, Issue 1, was issued to the Wellington North Sewage Collection System incorporating all Pumping Stations, sewers, separate sewers and forcemains into one Consolidated Linear Infrastructure ECA. As such, all prior ECAs, issued by the Director for Sewage Works are considered revoked and replaced by ECA Number 113-W601.

1.2 Summary of Monitoring Data and Interpretation

No monitoring data was collected or required within the municipal sewage collection system for the reporting period.

1.3 Summary of Operating Problems Encountered and Corrective Actions Taken

There were no operating problems encountered within the municipal sewage collection system for the reporting period.

1.4 Summary of Calibration, Maintenance, and Repairs

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. Monitoring and metering equipment is also calibrated by a third party on an annual basis. Preventative maintenance is scheduled for all equipment at the sewage treatment plants and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system

(Maximo), upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

SPD Sales was contracted to calibrate flow measuring equipment within the Sewage Pumping Stations on August 14, 2024. Copies of these calibration reports can be found in **Appendix A** of this report.

1.4.1 Maintenance and Repairs at Mount Forest SPSs and Collection System

For the reporting period, the following maintenance and repairs were completed:

- Cork St. SPS
  - Pump repair
  - Spare pump purchase
  - Annual pump inspections
  - 3rd Party generator inspection and load testing
  - Annual wet well inspection and clean out
- Durham St. SPS
  - Annual pump inspections
  - 3rd Party generator inspection and load testing
  - Annual wet well inspection and clean out
- North Water St. SPS
  - New blank flanges
  - Electrical work (replace heater, receptacles, lighting, flood floats, remove old electrical)
  - Weir repair
  - Pump replacement
  - Annual pump inspections
  - 3rd Party generator inspection and load testing
  - Annual wet well inspection and clean out
- Perth St. SPS
  - Float replacements
  - Annual pump inspections
  - PLC upgrades
  - Annual wet well inspection and clean out
- South Water St. SPS – not applicable as the SPS is not currently constructed. It is designed to service the Avila subdivision and South Water St. and will pump to the North Water SPS via forcemain.

1.4.2 Maintenance and Repairs at Arthur SPSs and Collection System

For the reporting period, the following maintenance and repairs were completed:

- Frederick St. SPS
  - Annual pump inspections
  - 3rd Party generator inspection and load testing
  - Annual wet well inspection and clean out
- Wells St. SPS
  - Panel upgrade
  - Grating replacement
  - Annual pump inspections
  - 3rd Party generator inspection and load testing
  - Annual wet well inspection and clean out

1.5 Community Complaints Received in Relation to the Sewage Works

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is entered in OCWA's WMS database system "Maximo". This system contains all the required information and history of all complaints.

There were no complaints reported during the reporting period.

1.6 Alterations to the Authorized System

There were no alterations to the authorized system that occurred during the reporting period.

1.7 Summary of Collection System Overflow(s) and Spill(s) of Sewage

There were no collection system overflow(s) or spill(s) events that occurred during the reporting period.

1.8 Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses

The sewage pump stations are equipped with alarm monitoring for high flow events. Preventative maintenance procedures are in place to ensure the sewage pump stations are operating as designed and include:

- Annual pump inspections and life cycle replacements
- 3rd Party generator inspection and load testing
- Annual wet well inspections and clean outs

Appendix A

Sewage Pump Station Calibration Reports

2024

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Mount forest WWTP - cork St PS						
Service Date:	14-Aug-24	**Instrument Type:**	**FI/FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	205529
Due Date:	14-Aug-25	**Manufacturer:**	E&H				
Follow-Up Required:	**No**	**Model:**	**Transmitter:**	Promag 50	**Sensor:**	-	
As Left Status:	**Initial Condt**	**Serial #:**	**Transmitter:**	D6020C16000	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-200 l/s		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	FE/FIT 1				
Electrical Inspection:	OK	**Description:**	Cork St Pumping Station				
As found Display information:	OK	**Process/Location Descrpition:**	Basement				

Instrument Information:	
Pipe Size:	8"
K/Cal Factor:	1.0427
Zero Point:	-3
Flow unit:	l/s
Flow rate at 20 mA/100%:	200
Pulse rate at 100%:	-
Empty Pipe Detection:	ON
Flow Direction:	**Forward**

Input	Input %	Flow rate	mA Out	As Found	Deviation	As Left	Deviation
0	**0.00%**	**0.00**	**4.00**	3.99	-0.25%	3.99	-0.25%
25	**25.00%**	**50.00**	**8.00**	7.95	-0.62%	7.95	-0.62%
50	**50.00%**	**100.00**	**12.00**	11.90	-0.83%	11.90	-0.83%
75	**75.00%**	**150.00**	**16.00**	15.96	-0.25%	15.96	-0.25%
100	**100.00%**	**200.00**	**20.00**	19.89	-0.55%	19.89	-0.55%

Comments	**Test Equipment Used**		
	Name / Type	**Serial No.**	**Due Date**
verification was done using internal simulation.	Fluke Digital Multimeter	53600167	May-24
Analog output tested during internal verification.			

Other Outputs Tested:	Not tested	**Technician Name**		**Witness Name**	
Loop Check Performed:	Not tested	Vaibhav P		Dan	
Within Specification:	No	**Date:**	14-Aug-24	**Date:**	14-Aug-24

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Mount Forest WWTP - Foster St PS - 0304 Foster St, Mount Forest, ON						
Service Date:	14-Aug-24	**Instrument Type:**	**FI/FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	205530
Due Date:	14-Aug-25	**Manufacturer:**	Krohne				
Follow-Up Required:	No	**Model:**	**Transmitter:**	IFC 100	**Sensor:**	-	
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	C104591	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-250 l/s		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	FIT-1				
Electrical Inspection:	OK	**Description:**	Foster Street PS				
As found Display information:	OK	**Process/Location Descrpition:**	NA				

Instrument Information:	
GK/GKL Value:	7.9112
GK=1 or GKL=2	2
Flow Tube Diameter in mm:	300
Flow rate at 20 mA/100%:	250
Select Volume Fow Unit below:	l/s
l/s, use 4177.3	4177.3
mA at 0% flow:	4
mA at 100% flow:	20
Coil Resistance:	NA

Input m/s	Input %	Flow rate	mA Out	As Found	Deviation	As Left	Deviation
0	**0.00%**	**0.00**	**4.00**	3.99	-0.25%	3.99	-0.25%
0.5	**17.06%**	**42.66**	**6.73**	6.68	-0.74%	6.68	-0.74%
1	**34.06%**	**85.16**	**9.45**	9.40	-0.53%	9.40	-0.53%
2	**68.19%**	**170.47**	**14.91**	14.85	-0.40%	14.85	-0.40%
3							
5							
10							
20							
30							

Comments	**Test Equipment Used**		
	Name / Type	**Serial No.**	**Due Date**
Verified successfully using krohne GS8 simulator	Krohne GS 8 Simulator		
	Fluke Digital Multimeter	53600167	May-24

Other Outputs Tested:	Not tested	**Technician Name**	**Witness Name**
Loop Check Performed:	Not tested	Vaibhav Patel	Dan

Within Specification:	No	**Date:**	14-Aug-24	**Date:**	14-Aug-24

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub							
Plant Name and address:	Mount Forest WWTP - Water St PS - 900 Water St, Mount Forest, ON							
Service Date:	14-Aug-24	**Instrument Type:**	**FI/FIT**	**W.O. Number:**		**240741-0001**	**Asset#:**	NA
Due Date:	14-Aug-25	**Manufacturer:**	Siemens					
Follow-Up Required:	No	**Model:**	**Transmitter:**	LUT400	**Sensor:**	-		
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	PBD/M2280284	**Sensor:**	-		
Instrument Visual Inspection:		**Range:**	0-100 l/s		**Output:**	4-20 mA		
Mechanical Inspection:	OK	**Tag Information:**						
Electrical Inspection:	OK	**Description:**	Water St Pumping Station					
As found Display information:	OK	**Process/Location Descrpition:**						

Instrument Information:	
High Calibration Point:	0.859
Low Calibration Point:	1.295
Flow Eponent:	2.5
Max Head: (20 mA)	43.6
Max Flow: (20 mA)	100
Height Unit:	m
Flow Unit:	l/s

Input Level	Calculated Flow	Measured Flow	mA Out	As Found	Deviation	As Left	Deviation
0.000	**0.000**	**0.000**	**4.00**	3.99	-0.25%	3.99	-0.25%
10.900	**3.125**	**3.120**	**4.50**	4.48	-0.44%	4.48	-0.44%
21.800	**17.678**	**17.671**	**6.83**	6.80	-0.42%	6.80	-0.42%
32.700	**48.714**	**48.710**	**11.79**	11.71	-0.71%	11.71	-0.71%
43.600	**100.000**	**100.000**	**20.00**	19.87	-0.65%	19.87	-0.65%

Comments		**Test Equipment Used**		
		Name / Type	**Serial No.**	**Due Date**
Internal verification was done using level simulation.		Fluke Digital Multimeter	53600167	May-24
Analog output tested during internal verification.				
Other Outputs Tested:	Not tested	**Technician Name**		**Witness Name**
Loop Check Performed:	Not tested	Vaibhav P		Dan
Within Specification:	No	**Date:** 14-Aug-24		**Date:** 14-Aug-24

CALIBRATION / VERIFICATION

6470 Viscount Rd., Mississauga, Ontario
L4V 1H3. **Tel:** (905) 678-2882
Email: service@spdsales.com
Web Site: www.spdsales.com

Customer Name:	OCWA - Highlands Hub						
Plant Name and address:	Mount Forest WWTP - Foster St PS - 0304 Foster St, Mount Forest, ON						
Service Date:	14-Aug-24	**Instrument Type:**	**FI/FIT**	**W.O. Number:**	**240741-0001**	**Asset#:**	205535
Due Date:	14-Aug-25	**Manufacturer:**	Krohne				
Follow-Up Required:	No	**Model:**	**Transmitter:**	IFC 300 W	**Sensor:**	-	
As Left Status:	Initial Condt	**Serial #:**	**Transmitter:**	C080273	**Sensor:**	-	
Instrument Visual Inspection:		**Range:**	0-300 l/s		**Output:**	4-20 mA	
Mechanical Inspection:	OK	**Tag Information:**	FIT-401				
Electrical Inspection:	OK	**Description:**	Pump Station Flow				
As found Display information:	OK	**Process/Location Descrpition:**	NA				

Instrument Information:	
GK/GKL Value:	7.295
GK=1 or GKL=2	2
Flow Tube Diameter in mm:	300
Flow rate at 20 mA/100%:	300
Select Volume Fow Unit below:	l/s
l/s, use 4177.3	4177.3
mA at 0% flow:	4
mA at 100% flow:	20
Coil Resistance:	NA

Input m/s	Input %	Flow rate	mA Out	As Found	Deviation	As Left	Deviation
0	**0.00%**	**0.00**	**4.00**	3.99	-0.25%	3.99	-0.25%
0.5	**13.13%**	**39.38**	**6.10**	6.05	-0.82%	6.05	-0.82%
1	**26.19%**	**78.56**	**8.19**	8.15	-0.49%	8.15	-0.49%
2	**52.38%**	**157.13**	**12.38**	12.35	-0.24%	12.35	-0.24%
3	**78.56%**	**235.69**	**16.57**	16.50	-0.42%	16.50	-0.42%
5							
10							
20							
30							

Comments		**Test Equipment Used**		
		Name / Type	**Serial No.**	**Due Date**
Verified successfully using krohne GS8 simulator		Krohne GS 8 Simulator		
		Fluke Digital Multimeter	53600167	May-24
Other Outputs Tested:	Not tested	**Technician Name**	**Witness Name**	
Loop Check Performed:	Not tested	Vaibhav Patel	Dan	

Within Specification:	No	**Date:**	14-Aug-24	**Date:**	14-Aug-24

19.88 mA-100 %, 3.99 mA-0

11.94- 50 %

7 l/s - 4.34 mA