

2025 Year End Report: Huntsville Mountview Wastewater Treatment Plant (WWTP)



Environmental Compliance Approval: # 1-0088-67-763806

Engineering and Public Works Department
70 Pine Street, Bracebridge, Ontario P1L 1N3
Phone: 705-645-6764
Toll-Free: 1-800-281-3483
Fax: 705-645-7599
Email: publicworks@muskoka.on.ca
Website: www.muskoka.on.ca

Introduction

The Mountview Wastewater Treatment Plant, which services the Town of Huntsville, is owned, and operated by the District Municipality of Muskoka. The plant is located at 20 Mountview Drive, Huntsville. It services a population of approximately 9,000 people.

The Plant operates under the Ministry of Environment Conservation and Parks (MECP) Environmental Compliance Approval (ECA) (Sewage) #1-0088-67-763806, and as amended May 13, 2010, and MECP ECA (Air) # 1771-7FJJZ5, issued June 17, 2008. Under the terms of the ECA, the plant is permitted to treat an average daily flow of 3,640 m³/day, and a peak flow of 13,638 m³/day. Additionally, effluent limit criteria are as follows:

Table 1 Effluent Limit Criteria

Effluent Parameter	Concentration
CBOD	15 mg/L
Total Suspended Solids	15 mg/L
Total Phosphorous	0.50 mg/L 227.9 kg/year (combined with Huntsville Golden Pheasant WWTP)

The plant is comprised of two separate facilities, both of which are conventional activated sludge treatment processes, consisting of primary and secondary clarifiers with aeration basins. Disinfection is accomplished by chlorination. The facility is also equipped with anaerobic digesters for bio-solids stabilization. The initial plant was commissioned in 1958 and is capable of handling approximately one-third of the total treatment capacity of the facility. The remaining portion of the plant was commissioned in 1976.

Waste sludge from the plant process is digested anaerobically at the plant and periodically hauled off site for disposal.

General Information

A review of the District of Muskoka's infrastructure needs is conducted annually by the Director of Water and Wastewater Services, Area Manager and Chief Operator, and recommendations for maintenance, rehabilitation and renewal programs are considered.

Efforts to eliminate the discharge of untreated or partially treated wastewater to receiving waters are being accomplished by a long-term financial commitment to correct excessive infiltration into the wastewater collection system by means of sewer main rehabilitation / replacement, manhole rehabilitation and pumping station rehabilitation programs.

The treatment facility is capable of effective operation during emergencies, maintenance shutdowns, and power failures. This is achieved through such measures as preventive maintenance of duty / standby units, the duplication of major treatment components, the provision of standby power sources and extensive use of the SCADA systems. All pumping stations and treatment control systems use SCADA (Supervisor Control and Data Acquisition), in combination with Data Highway Plus, and programmable logic controllers.

All operators are qualified to operate the systems efficiently and effectively to always achieve the highest level of treatment. A commitment to provide Operator training and certification is being sustained.

Regulatory sampling is carried out to meet the requirements outlined in the ECA, and additional in-house operational sampling beyond these regulatory requirements is being performed on a routine basis. These efforts have resulted in an effective treatment process which ensures that effluent discharges consistently meet effluent objectives and are environmentally safe.

All data in this report is a compilation of test results received from SGS Canada and their accredited laboratory, Lakefield Research. All in-plant sampling, analysis and recording of results conforms, in order of precedence, to the following 3 standards: Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works", Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" and the American Water Works Association/Water Environment Federation (AWWA/WEF) publication "Standard Methods for the Examination of Water and Wastewater".

Executive Summary

In all respects, test results of the treated effluent for the parameters of CBOD₅, suspended solids, ammonia, total phosphorous, and E. Coli are in compliance with the limits outlined in the ECA regarding monthly allowable concentrations and total effluent loading throughout the entire year.

Overall, the plant treatment processes performed satisfactorily and are deemed to be adequate. All sample test results of the final effluent were within levels outlined in the plant ECA (#1-0088-67763806).

Quantity of Flow Summary

The plant has a daily average flow design capacity of 3,640 m³/day. The actual average daily flow for the 2025 was 3,096 m³/day, however, the 3-year average is 3,210 m³/day, which represents 88% of the plant capacity. None of the individual system components exceeded the design flow rating.

Plant Operational Upsets or Process Failures

Event# 1-HOY6CK on February 20th, 2025, there was a forcemain break while construction on the new Sewage Pump Station was taking place on site. During the removal of the trench plates near the on-site pump station contractors noticed a sewer leak. It was reported to us immediately and a temporary overland forcemain was established until the break could be repaired. A total volume of 38m³ was reported and necessary sampling occurred.

Event# 1-J1SELG on March 16th, 2025, there was a warm weather and heavy rain event that increased flows coming into the plant. This caused a secondary bypass of 156.24 m³. Primary treatment and disinfection still took place. The daily flow total was 12,433 m³ and chlorine residual was 0.76mg/L

Event# 1-OL5YRG A proactive notification was made of planned maintenance to conduct influent channel repairs and divert raw sewage around the preliminary works while still receiving primary, secondary treatment and disinfection. The work took place on June 25th.

Event# 169192 Loss of chlorine residual on July 26th, 2025. An estimated 1850m³ were not disinfected during the event. Chlorine feed was increased, and residual was restored.

In the month of August 2025, Acute Lethality sampling resulted in a failure. Process changes and

increased sampling took place as a result and all subsequent samples passed

Maintenance

All equipment information at this plant is entered into a computer database. From this information, a scheduled preventive maintenance program has been established. The maintenance program includes (and not limited to):

- Monthly testing (under load) of the standby generators.
- Annual service of emergency standby generators.
- Annual calibration of flow metering devices.
- Annual cleaning of all sewage pumping stations if required.
- Marine inspection of effluent outfall and diffuser completed in 2022. (5-year cycle)

Evaluation of the Need for Improvement Works

The treatment facility is operating at a plant capacity of 88%. In the month of August, 2025, acute lethality sampling returned an adverse result which were addressed by process and sampling changes. Actions were taken by Operators to ensure the process returned to compliance and subsequent acute lethality tests were completed without issue.

Capital works are in progress to convert the Mountview Clean Water Plant to a sewage pump station which will direct all flows to the Golden Pheasant Wastewater Treatment plant which is itself being upgraded. Peak construction was awarded the project and mobilized in early spring 2024. Completion of the transition of the treatment plant into a sewage pumping station is expected in 2026.

Evaluation Summary of Proposed Work Requiring Approval under OWRA

Mountview Clean Water Plant has long been planned for conversion to a pumping station which directs flow to the Golden Pheasant Clean Water Plant. Peak construction was awarded the project and mobilized in early spring and are committed to completing the transition of the treatment plant into a sewage pumping station in 2026.

In October 2023 ECA# 9216-CSEJWM was issued permitting Mountview's conversion to a sewage pumping station and the associated requirements.

Interpretation of Analytical Results

All sample results for Raw Sewage and Final Effluent are reported in this section. Other tables in this report include Chemical Usage, Biosolids Quality, and Biosolids Quantity.

Raw Sewage

The information reported in the Raw Sewage sample results summary table consists of test results of analysis conducted on composite samples of the plant influent flow as required by the plant ECA. Samples are sent for analysis to Lakefield Research, as well as analysis conducted on site using Standard Methods or equivalent. Weekly analysis has been performed and reported as specified under the terms outline in the ECA.

Influent Analysis

Table 2 Influent Analysis

Influent Parameter	Minimum	4 Week Average Maximum	Annual Average	Average loading kg/day
BOD5 (mg/L)	60	367	238.6	631
Suspended Solids (mg/L)	65	326	215.52	826
Total Phosphorus (mg/L)	1.78	5.24	4.02	11.87
Total Ammonia Nitrogen (mg/L)	13.5	39.03	28.24	81.93
pH	6.20	7.22	7.01	N/A

Effluent Analysis

The information reported in the Final Effluent sample results summary table 3 consists of test results of analysis conducted on final effluent composite samples. Bacteriological samples, however, consisted of grab samples. Weekly analysis has been performed and reported as specified under the terms outlined in the ECA.

Effluent Objective Analysis

The effluent objectives were met during all sample periods.

Final Effluent Analysis Summary

All final effluent samples tested for CBOD5, suspended solids, ammonia, E. Coli, and total phosphorous were below non-compliance limits outlined in the ECA.

Table 3 Final Effluent Analysis Summary

Parameter	Minimum	4 Week Average Maximum	Annual Average	Average Loading kg/day
COBD5 (mg/L)	2	9	5.60	25.93
Suspended Solids (mg/L)	4	11.59	7.85	39.48
Ammonia (mg/L)	3.7	31.75	21.75	68.54
E. Coli (#/100 mL)	0	81,453	11,257	N/A
Total Phosphorus (mg/L)	0.04	0.35	0.18	0.90
pH	6.63	7.66	7.64	N/A

Average daily flow comparisons by day of week ensure ECA requirements for scheduled sampling are taken at a time, and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored. Average daily flow rates by day of the week compare the flow to the average daily flow for the entire year. This data is used to

determine if a particular day of the week is best to ensure samples are taken to meet the requirements of scheduled monitoring sections of the ECA's. Sampling plans are reviewed and updated yearly based on the previous yearly flow data.

Final Effluent Sampling Summary

All samples were collected following the frequency and methods required by the facility approval. For the coming 2026-year, 24-hour composite samples will be collected on Tuesday rather than Monday of each week as was done in 2025.

Biosolids Generation

The quality and volume of biosolids hauled from the facility for disposal is outlined in the table provided. Dewatered biosolids from the plant were hauled to an approved site for additional treatment. Private contractors were used by the District of Muskoka to transfer all material for disposal in 2025 and that practice will continue in 2026. It is not anticipated that there will be a significant increase in the total volume of biosolids produced in 2026. .

Biosolids Co-Treatment

The quality and volume of biosolids from the facility for disposal is outlined in table 17 provided. Dewatered biosolids from the plant were hauled to an approved site for additional treatment and re-use. Private contractors were used by the District of Muskoka to transfer all material for disposal in 2025 and that practice will continue in 2026. It is anticipated that we will still see an increased frequency of biosolids hauled in 2026 due to failure of the roofing system of the secondary anaerobic digester.

Summary of Complaints received throughout the reporting period.

N/A

Huntsville Mountview Wastewater Collection Summary 2025

New Sewer Services:

30 new customers connected to existing municipal services in 2025.

New Maintenance Holes:

No new maintenance holes were installed in 2025.

Sewer Main Replacements:

There were no sewer main replacements in 2025.

Low Pressure Sewer Breaks:

There were no low-pressure sewer breaks in 2025.

Sewer Force Main Breaks:

There was one sewer forcemain Break in 2025.

Sewer Force Main Replacement

There was approximately 1070m of new 610mm forcemain installed in 2025.

Main Line Sewer Blockage

There were no main line sewer blockages in 2025.

Sewer Lateral Blockage

There were no main line sewer blockages in 2025. Service Low Pressure Sewer Blockages:

There were no low-pressure sewer blockages in 2025.

Frozen Sewer Force Mains:

There were no frozen sewer force mains in 2025.

Frozen Sewer Service Laterals:

There were no sewer service lanterns that froze in 2025.

Frozen Low Pressure Sewer Services:

There were no low-pressure sewer services that froze in 2025.

Sewer Flushing/Video:

There was 10497m of sanitary sewer flushed and videoed in 2025

Sewer Locates:

Field staff addressed 900 written locate requests in 2025.

Air Release Valves:

All 42 air-vacuum release valves were inspected in 2025
plus 3 new additional ones were installed.

Table 4 Effluent Flow Summary - 2025

Month	Plant Total Monthly (m ³)	Average Day Flow (m ³ /d)	Maximum Day Flow (m ³ /d)	Minimum Day Flow (m ³ /d)	Lagoons Monthly Flow (m ³)	Facility Total Monthly Flow (m ³)
January	79,493	2,564	3,883	2,088	n/a	79,493
February	57,185	1,845	2,265	1,860	n/a	57,185
March	129,474	4,177	12,433	1,928	n/a	129,474
April	142,444	4,595	7,537	3,838	n/a	142,444
May	113,418	3,659	4,348	3,181	n/a	113,418
June	106,023	3,420	4,713	2,901	n/a	106,023
July	106,781	3,445	5,148	2,963	n/a	106,781
August	86,390	2,787	3,325	2,597	n/a	86,390
September	75,430	2,433	2,872	1,733	n/a	75,430
October	77,894	2,513	2,900	2,340	n/a	77,894
November	80,250	2,675	3,198	2,456	n/a	80,250
December	75,388	2,432	3,712	2,118	n/a	75,388

Total Flow: 1,130,169m³
Average Day: 3,096m³
Maximum Day: 12,433m³
Minimum Day: 1,733m³

Table 5 Influent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample Part 1

Sample Date	Sample Identification Number	BOD5 mg/L	Phosphate	Total Phosphorus mg/L	Suspended Solids mg/L
Feb-03-25	CA13060	277	2.14	3.51	173
May-06-2025	CA12153	272	3.01	3.01	185
Aug-05-25	CA12222	220	2.05	3.82	65
Oct-06-25	CA12226	307	3.19	4.77	213
Yearly Average		269	2.6	3.7	159
Maximum		307	3.2	5.7	213
Minimum		220	2.1	2.4	65

Table 6 Influent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample Part 2

Sample Date	Sample Identification Number	Total Kjeldahl Nitrogen mg/L	Nitrate Nitrogen mg/L	Nitrite Nitrogen mg/L	Total Ammonia Nitrogen mg/L
Feb-03-25	CA13060	31.1	<0.06	<0.03	28.1
May-06-2025	CA12153	26.1	<0.06	<0.03	26.1
Aug-05-25	CA12222	34.7	<0.06	<0.03	34.7
Oct-06-25	CA12226	42.4	<0.06	<0.03	37
Yearly Average		33.6	<0.06	0.03	31.5
Maximum		42.4	<0.06	0.030	37
Minimum		26.1	<0.06	0.030	26.1

Table 7 Chemical Usage Summary: Clarion A405P/ALUM

Month	Average Dosage mg/L	Total kg
January	127.2	11,055
February	123.9	9,728.4
March	136.2	11,818.8
April	137.2	11,510.6
May	127.5	11,068.4
June	126.9	10,653
July	155.4	13,480.4
August	266.4	23,101.6
September	307.6	25,795
October	258	22,364.6
November	249	20,890.6
December	238.2	20,662.8

Total Yearly Kilograms: 192,129.20 kg

Table 8 Chemical Usage Summary: Chlorine Gas

Month	Average Dosage mg/L	Total kg (dry)
January	1.39	110.9
February	1.28	73.6
March	1.32	174.1
April	0.73	106.8
May	0.84	95.5
June	0.89	95.6
July	1.04	109.9
August	1.34	115.5
September	1.49	112.3
October	1.30	103.6
November	1.29	104.1
December	0.96	71.7

Total Yearly Kilograms: 1,273.4 kg

Table 9 Effluent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample Part 1

Sample Date	Sample Identification Number	CBOD5 mg/L	pH	Phosphate	Total Phosphorus mg/L	Suspended Solids mg/L
Feb-03-25	CA13060	7	7.21	<0.03	0.13	8
May-06-25	CA12153	2	7.54	<0.03	0.21	5
Aug-05-25	CA12222	7	7.26	< 0.06	0.25	9
Oct-06-25	CA12226	8	7.22	< 0.03	0.12	7
Yearly Average		6	7.31	0.045	0.18	7.25
Maximum		8.0	7.54	0.06	0.25	9
Minimum		2.0	7.21	0.03	0.12	5

Table 10 Effluent Quarterly Analysis Summary – Weekly 24-Hour Composite Sample Part 2

Sample Date	Sample Identification Number	Total Kjeldahl Nitrogen mg/L	Nitrate Nitrogen mg/L	Nitrite Nitrogen mg/L	Total Ammonia Nitrogen mg/L
Feb-03-25	CA13060	20.6	2.59	0.11	19.9
May-06-25	CA12153	18.7	0.3	0.12	17.5
Aug-05-25	CA12222	28	0.07	0.28	27.9
Oct-06-25	CA12226	33.8	0.08	0.13	32.6
Yearly Average		17.5	3.1	0.16	24.5
Maximum		22.8	6.2	0.28	32.6
Minimum		12.0	0.3	0.11	17.5

Table 11 Effluent Loading and Concentration Summary: CBOD5

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	5.60	14.36	21.75
February	6.00	11.07	13.59
March	6.30	26.31	78.33
April	4.40	20.22	33.16
May	4.75	17.38	20.65
June	3.75	12.83	17.67
July	6.00	20.67	30.89
August	9.00	25.08	29.93
September	7.60	18.49	21.83
October	7.00	17.59	20.30
November	3.75	10.03	11.99
December	3.00	7.30	11.14

Table 12 Effluent Loading and Concentration Summary: Suspended Solids

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	6.00	15.39	23.30
February	8.00	14.76	18.12
March	11.59	48.41	144.09
April	6.00	27.57	45.22
May	11.00	40.25	47.83
June	9.25	31.64	43.60
July	8.20	28.25	42.21
August	8.00	22.29	26.60
September	6.80	16.55	19.53
October	6.75	16.96	19.57
November	6.00	16.05	19.19
December	6.60	16.05	24.50

Table 13 Effluent Loading and Concentration Summary: Total Ammonia Nitrogen - Summer

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
May	17.78	65.05	77.31
June	15.93	54.46	75.05
July	22.58	77.78	116.24
August	28.33	78.95	94.2
September	28.88	70.27	82.94
October	31.75	79.78	92.06

Table 14 Effluent Loading and Concentration Summary: Total Ammonia Nitrogen - Winter

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	12.12	31.08	47.07
February	22.20	40.95	50.28
March	16.20	67.66	201.41
April	11.48	52.75	86.52
November	26.52	70.94	84.82
December	26.80	65.17	99.48

Table 15 Effluent Loading and Concentration Summary: Fecal Coliform

Month	Geomean (#/100mL)	Maximum Daily (#/100mL)
January	3.69	344
February	257.31	1733
March	5307.33	242000
April	87.31	306
May	187.28	4810
June	595.40	1986
July	7067.57	22800
August	4712.82	51200
September	94.08	4100
October	8502.67	28100
November	23.78	238
December	17.10	96

Table 16 Effluent Loading and Concentration Summary: Total Phosphorus

Month	Average mg/L	Average kg/day	Maximum Daily kg/day
January	0..15	0.38	0.57
February	0.18	0.33	0.40
March	0.21	0.87	2.59
April	0.11	0.50	0.81
May	0.26	0.94	1.12
June	0.29	0.98	1.35
July	0.35	1.22	1.82
August	0.14	0.39	0.47
September	0.13	0.32	0.37
October	0.15	0.36	0.42
November	0.11	0.28	0.34
December	0.14	0.34	0.52

Table 17 Liquid Sludge Production Summary 2025

Month	Hauler	Liquid Volume m ³	Cake Weight kg	Destination
January	ROHES	1274	N/A	Golden Pheasant
February	ROHES	1079.4	N/A	Golden Pheasant
March	ROHES	991.2	N/A	Golden Pheasant
April	ROHES	1355.2	N/A	Golden Pheasant
May	ROHES	939.4	N/A	Golden Pheasant
May	ROHES	75.6	N/A	ROHES Lagoons
June	ROHES	973	N/A	Golden Pheasant
July	ROHES	1274	N/A	ROHES Lagoons
August	ROHES	1201.2	N/A	ROHES Lagoons
September	ROHES	1201.2	N/A	Golden Pheasant
October	ROHES	1528.8	N/A	Golden Pheasant
October	ROHES	72.8	N/A	ROHES Lagoons
November	ROHES	1237.6	N/A	Golden Pheasant
December	ROHES	1456	N/A	Golden Pheasant

Yearly Total m³ Volume: 14,659.4 m³

Table 18 Sludge Quality Analysis

Parameter Sampled (mg/L)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Date	Feb 03/25	May 05-25	Aug 05/25	Nov 07/25
	CA13059	CA12151	CA12211	CA12317
Nitrate	<3	<3	<3	<3
Mercury	0.021	0.005	0.005	0.006
Chromium	0.52	0.27	0.31	0.21
Cobalt	0.05	0.04	0.04	0.03
Copper	5.00	4.90	6.5	5.30
Lead	0.20	0.2	0.20	0.30
Molybdenum	0.01	< 0.080	0.12	0.08
Nickel	0.23	0.16	0.18	0.12
Selenium	<0.1	<0.1	<0.1	<0.1
Arsenic	<0.1	<0.1	<0.1	<0.1
Zinc	9	7	10	8
Cadmium	0.012	0.015	0.015	0.014
Ammonia	179	278	265	127
Total Kjeldahl Nitrogen	1390	1310	1510	1280
Total Phosphorus	442	432	600	501
Total Solids	32000	27100	29000	36100
Volatile Acids	1820	1350	2380	1910
Nitrite	<3	4	5	<3
PO4				

Certification of Reports

I certify that the information in this document and all attachments is correct, accurate, and complete to the best of my knowledge.

Michael Currie,
Director, Water and Wastewater Services

Darren Ronson,
Manager of Water and Wastewater Operations

Glenn Gardiner
Manager of Water and Wastewater Operations