

March 31, 2020

Ministry of the Environment
808 Robertson St,
Kenora ON
P9N 1X9

Attention: Trina Rawn
Water Compliance Supervisor

Re: 2019 Performance Report for Manitouwadge Wastewater Treatment System

Dear Ms. Rawn:

Attached is the 2019 Performance Report for the **Manitouwadge Wastewater Treatment System** located in The Corporation of the Township of Manitouwadge. This report has been completed in accordance with Condition No. 9(6) cited in *Certificate of Approval Number 0031-86NKKA* dated 15th Octoberber 2010 and issued to the Township of Manitouwadge.

This report was prepared by the Ontario Clean Water Agency on behalf of the Township of Manitouwadge based on information kept on record at the Manitouwadge Water plant, and, the report covers the period from January 1, 2019 to December 31, 2019.

Should you have any questions or comments in regards to this annual report, please do not hesitate to contact David Hoffman at 807-854-7142.

Yours truly,

Patrick Albert

Patrick Albert
Senior Operations Manager
Ontario Clean Water Agency
Northwestern Ontario Hub

Copy to: Randy Barnes –Public Works Superintendent
Manitouwadge Wastewater Operators

2019 Annual Report

Manitouwadge Wastewater Treatment System

Prepared by the Ontario Clean Water Agency



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

**The Corporation of the Township of Manitouwadge
Sewage Treatment System
2019 Annual Report**

INTRODUCTION

In accordance with the *Certificate of Approval Number 0031-86NKK* dated October 15, 2010, section 9 (6), the Corporation of the Township of Manitouwadge - Manitouwadge Sewage Treatment System is required to prepare an annual summary. The 2019 annual facility performance report summarizes important information regarding the treatment quality of the effluent wastewater, analytical test results, relevant activities and maintenance operations of the Works. Some of this information was submitted via the monthly sewage submissions of information, but is being presented again as part of the Annual Report based on the calendar year.

DESCRIPTION OF WORKS

Rated Capacity of Works	4100 m ³ /day
Service Area	Township of Manitouwadge, District of Thunder Bay
Service Population	1937
Effluent Receiver	Rudder Lake
Major Process	Aeration Facultative Lagoon

EFFLUENT MONITORING AND RECORDING

Analytical tests to monitor the influent and effluent water quality on a monthly basis are conducted by a laboratory audited by the Canadian Association for Environmental Analytical Laboratories (CAEAL) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods. Weekly analysis is performed in-house in order to maintain the process. When these samples are split with the accredited laboratories, it confirms the procedure accuracy of the in-house testing.

SAMPLING REQUIREMENTS

Samples of raw sewage and final effluent from the WWTP shall be collected and analyzed for the following parameters at the indicated frequencies as per C of A section 8 (3).

Raw Sewage Monitoring – Samples to be collected at the lift station

Parameters	Sample Type	Frequency
<i>CBOD₅</i>	Grab	Twice monthly
Total Suspended Solids	Grab	Twice monthly
Total Phosphorus	Grab	Twice monthly
Temperature	Grab	Twice monthly
E-Coli	Grab	Twice monthly
pH	Grab	Twice monthly

Final Effluent Monitoring - Samples to be collected at the Parshall flume of the lagoon

Parameters	Sample Type	Frequency
CBOD5	Grab	Twice monthly
Total Suspended Solids	Grab	Twice monthly
Total Phosphorus	Grab	Twice monthly
Temperature	Grab	Twice monthly
E-Coli	Grab	Twice monthly
pH	Grab	Twice monthly

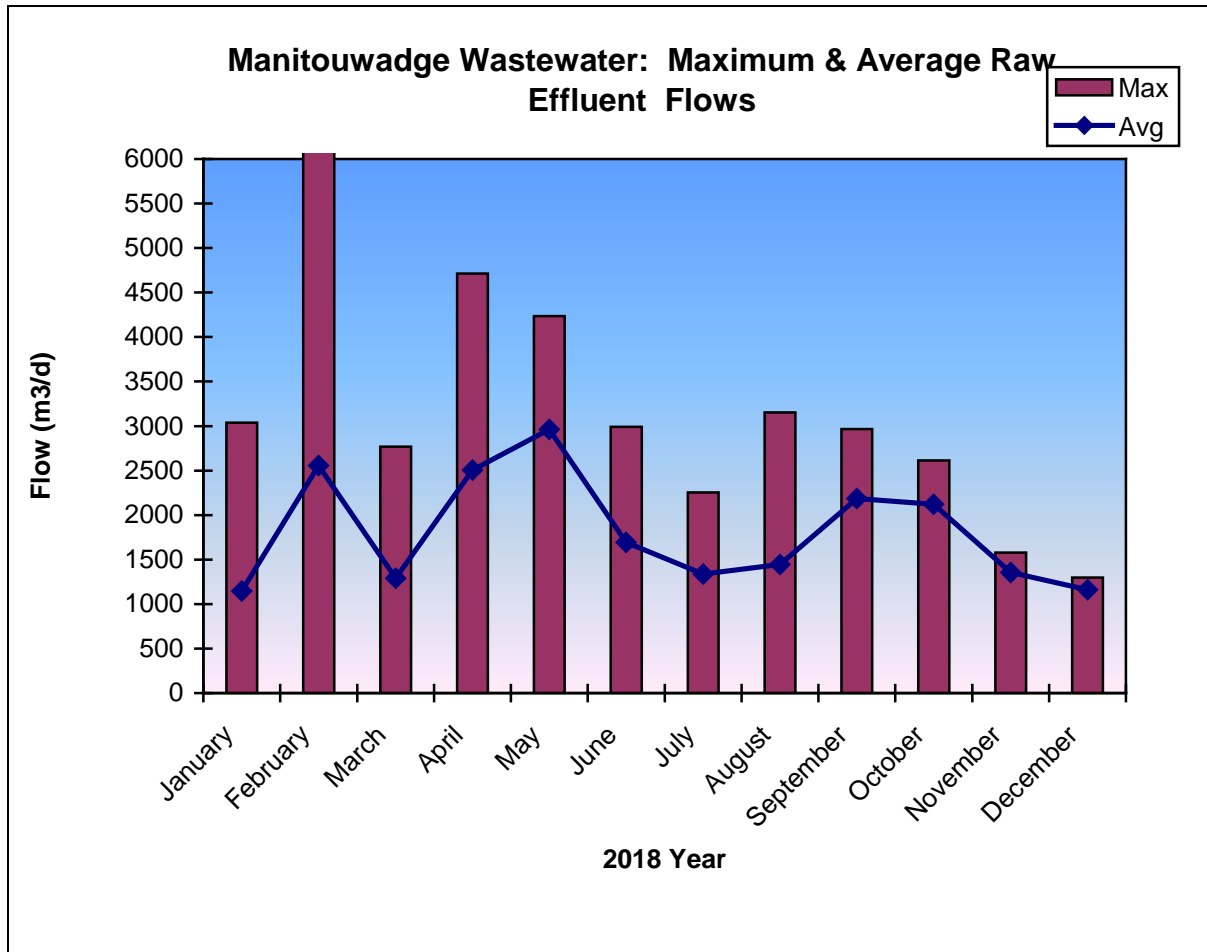
PLANT PERFORMANCE

Effluent Limits and Objectives as per C of A, condition 5 and 6

Effluent Parameter	Maximum Concentration Limit	Effluent Objectives
<i>CBOD₅</i>	25.0 mg/L	20.0 mg/L
Total Suspended Solids	30.0 mg/L	25.0 mg/L
pH	Between 6.0 – 9.5 at all times	

EFFLUENT FLOWS

In order to review, at a glance, the performance of the lagoons, a graph has been prepared showing the average and maximum monthly effluent flows for the year; January to December 2019. The total effluent flows for this timeframe report as 657,997m³, with the lift station raw flow of 571,749 m³.



EFFLUENT SAMPLING

In the reporting year 2019, *CBOD*₅ was analyzed and the average was 9.067 mg/L and maximum of 22.150 mg/l. This is within the effluent limits imposed by the *Certificate of Approval* condition 6 (1) of 25.0 mg/L. The objective of 20.0 mg/l as per 5 (1) was not met in 2019.

The annual average suspended solids concentrations for the effluent in 2019 was 8.638 mg/L and maximum of 19.90 mg/l. This parameter is likewise within the compliance level of 30.0 mg/L and also the objective level of 25 mg/l.

The plant compliance criteria states; the pH of the effluent shall be maintained between 6.0 and 9.5, inclusive, at all times. The average pH during this period was 7.979, with a high of 8.62 and a low of 7.68.

MAINTENANCE

OCWA maintains a Work Management System (WMS), which is a comprehensive computer based maintenance program that is based on a proactive preventive approach. This includes running checks, weekly, monthly and annual maintenance, as required. A full report on all maintenance carried out by OCWA in 2019 is available upon request.

OPERATIONAL ISSUES

There were two operational issue noted during 2019 for the wastewater system.

In February the parshall flume at the lagoon began to freeze. Public works steamed the chamber on Feb. 13, 2019 and then had to come back again on Feb. 20, 2019. A cover was installed over an opening on the enclosure above the flume to prevent snow from getting in as that was the suspected cause of the freeze along with a deep freeze. This caused high flow values to be recorded at the effluent for several days while thawing. It is suspected steam in the chamber affected the flow measurement.

On April 19, 2019 an Environmental incident was reported. A clog in the sewer main caused an overflow of sewage into a manhole which overflowed at the lakefront resulting in sewage flowing towards the lake. Public works was able to unclog the sewer main and the spill towards the lake immediately contained and remediated.

In 2017, the lagoons were surveyed using acoustic sounding equipment to determine the levels of the sludge build-up in the lagoons. The calculations from the contractor performing the work indicate that the sludge level in Cell 1 is 35.78% and Cell 2 is 9.55%. The volume of sludge was calculated to be 4928.26 m³. Based on the lagoon and measured sludge volumes, the lagoons exceeded the minimum 12 day average flow retention specified in the ECA.

CALIBRATIONS

The owner shall maintain a continuous flow-measuring device to measure the flow rate within an accuracy of +/- 15% of actual rate of flow for the entire flow range of the measuring device.

In 2019, calibration of the Parshall flume was completed on August 7 2019. The calibration was within the allowable range.

SLUDGE HANDLING

In 2019, there was no sludge removed from the lagoon system.

COMPLAINTS/ENVIRONMENTAL INCIDENT

On April 19, 2019 an Environmental incident was reported. A clog in the sewer main caused an overflow of sewage into a manhole which overflowed at the lakefront resulting in sewage flowing towards the lake. Public works was able to unclog the sewer main and the spill towards the lake immediately contained and remediated.

BY-PASS REPORTS

The Manitowadge Sewage Treatment System did not have any bypass incidents in 2019. All of the sample results were within the compliance levels as specified in the Certificate of Approval.

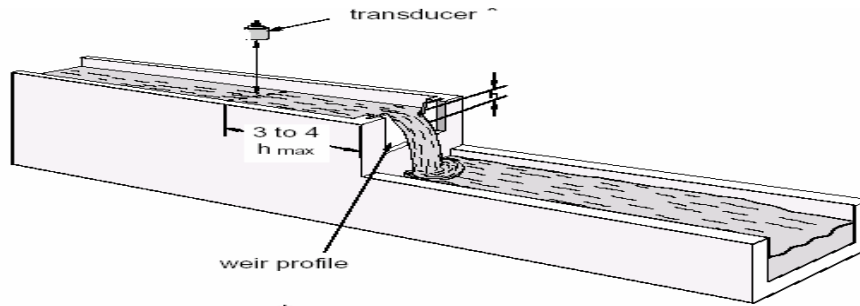
**Performance Assessment Report
1st January – December 31st 2019**

pH Monthly Process Data Report

Analyzer Verification/Calibration Summary



OPEN CHANNEL VERIFICATION CERTIFICATE



* The transducer must be above the maximum head by at least the blanking value, P-5.

Customer: OCWA/Manitouwadge
 Date of Calibration: Aug 07/19
 Location: Manitouwadge Lagoon
 Tag: Sewage Plant #2
 Performed by: Jose Marques

Meter Type: Open Channel
 Manufacturer: Milltronics
 Model #: OCM III
 OCWA Tag #:

INSTALLATION DETAILS/REFERENCE METER

Units: Meter
 Mode: OCM

Analog Out: 4-20mA
 Profile: Parshall Flume

Test Results

	Meter Under Test	Reference	Error	% Error
Distance	0.78	0.81	-0.03	-3.70%
Head	0.32	0.31	0.01	3.23%
			Final Error	-0.24%
			Maximum Allowable Error	5%

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PASS

THE CORPORATION OF THE TOWNSHIP OF MANITOUWADGE

May 13, 2020

Session No. 2020- 111

Moved by:



Seconded by:



RESOLVED THAT: Council is in receipt of the Ontario Clean Water Agency (OCWA), 2019 Performance Report for the Manitouwadge Wastewater Treatment System, dated March 31, 2020.

AND BE IT FURTHER RESOLVED THAT: the report be accepted as received.

Recorded Vote	FOR	AGAINST
Councillor David Arola	✓	
Councillor Kathy Hudson	✓	
Councillor Jim Moffat	✓	
Councillor Mike Scapinello	✓	
Mayor John MacEachern		

CARRIED ✓ DEFEATED


Acting Mayor Kathy Hudson