



**The Corporation of the  
Municipality of Wawa**

# **2017 Annual Sewage Performance Report**



## **Wawa**

**Prepared by:  
Water & Sewer Department  
Infrastructure Services**

**February 2018**

**SIGNATURE PAGE**

**Wawa Townsite  
2017 Annual Sewage Performance Report**

**Prepared by: Municipality of Wawa  
Infrastructure Services  
Water & Sewer Department**

\_\_\_\_\_  
**Marc Liard, Water and Wastewater Lead Hand**

\_\_\_\_\_  
**Date**

**David Lowe, Water and Wastewater Operator**

**James Brown, Water and Wastewater Operator**

**Received and Reviewed on behalf of  
The Corporation of the Municipality of Wawa**

\_\_\_\_\_  
**Cory Stainthorpe, Director  
Infrastructure Services**

\_\_\_\_\_  
**Date**

**Presented to Council:**

\_\_\_\_\_  
**Date**

**Presentation Confirmed by Resolution**

\_\_\_\_\_

# **2017 Annual Sewage Performance Report**

## **Table of Contents**

Signature Page (i).....	1
Table of Content .....	1
Appendices.....	1
<b>1.0 <u>Introduction</u></b>	
1.1. Facility Description.....	2
1.2. List of chemical used.....	3
1.3. Any significant Expenses incurred .....	3
1.4. Description of monetary expenses .....	3
1.5. Certificates .....	3
<b>2.0 <u>Monitoring Data</u></b>	
<b>2.1. <u>Monitoring Program</u></b>	
2.1.1 .. Effluent Objectives.....	3
2.1.2 .. Effluent Limits.....	4
2.1.3 .. Raw Sewage Monitoring .....	4
2.1.4 .. Aerated Lagoon Cells Content Monitoring .....	4
2.1.5 .. Final Effluent Monitoring .....	4
2.1.6 .. Monthly Raw Sewage Sampling Results.....	5
2.1.7 .. Weekly Effluent Sampling Results .....	5
2.1.8. .. Weekly Dissolved Oxygen Sampling Results.....	7
2.1.9 .. Summary Weekly Effluent Sampling Results .....	9
2.1.10 . Summary Weekly Dissolved Oxygen Results .....	10
<b>3.0 <u>Parameters</u></b>	
3.0.1 Description of Parameters.....	11
3.0.2 Summary of Parameters.....	12
<b>4.0 <u>Flows</u></b>	
4.1 Summary of flow data .....	13
4.2 Effluent Flows .....	13
4.3 Summary of Effluent flows	
<b>5.0 <u>Calibration</u></b> .....	14
<b>6.0 <u>Complaint</u></b> .....	14

<b><u>Appendix A</u></b>	Metcon Calibration Report.....	14
<b><u>Appendix B</u></b>	Amended Environmental Compliance Approval #0752-ADXQUC.....	15
<b><u>Appendix C</u></b>	Overview of Sewage Lagoons .....	29
<b><u>Appendix D</u></b>	Letter from M.O.E.C.C. and logs Re: Health and Safety .....	30

**Report Period:** January 01, 2017 to December 31, 2017

**Sewage System Name:** Municipality of Wawa Sewage Treatment Lagoon

**Sewage System Address:** Golf Course Road, Wawa, ON, P0S1K0

**MOE Works Number:** 110000454

**Prepared by:** Municipality of Wawa – Infrastructure Services Water & Sewer Department

**Indicate how you notified system users that your annual report is available, and is free of charge.**

- Public access at Town Hall, Notice via the local newspaper (Algoma News Review) and Internet ([www.wawa-news.com](http://www.wawa-news.com), [www.wawa.cc](http://www.wawa.cc)).
- Also available on-line on the Municipality of Wawa website @ [www.wawa.cc](http://www.wawa.cc).

**1.0 Introduction**

**1.1 Facility Description**

The Wawa Sewage Treatment Plant was constructed in 1986-1987 and officially opened August 09, 1988, in partnership with the Ministry of the Environment, Ministry of Northern Development and Mines, and The Corporation of the Municipality of Wawa.

Wawa Sewage Collection is a Class 2 System, consisting of a gravity feed system with the exception of a forced sewer main at the west end of Government Road. Approximately 20 homes are on the forced main, each home is equipped with a holding tank (consisting of solid side and grey water side) and each with its own sewage pump on the grey water side of the tank, which pumps the grey water into the force main.

Sewage is pumped into the force main to the intersection of Government Road and Tamarack Street, where a gravity sewer system takes over.

The Wawa Sewage Treatment Plant is a Class 1 plant which consists of 2 aeration ponds that are used for primary treatment. Aluminum Sulphate is added at the end of the second aeration pond before going into the polishing ponds to aid in phosphorus removal. Aluminum Sulphate is considered our secondary treatment. Once the treated effluent is transferred into the polishing ponds for a predetermined amount of time, then it is discharged into the Magpie River on a continuous basis.

The Sewage Treatment Plant building is equipped with two blowers for the aeration ponds, two chemical feed pumps for Aluminum Sulphate and a milltronics OCM II (open channel monitor) for data logging. An open channel flow meter is used to monitor treated effluent leaving the aeration system before being transferred to the polishing pond.

**1.2 List all sewage treatment chemical used over this reporting period.**

Aluminum Sulphate (A12 (SO4)3) used at the Wawa Sewage Treatment Plant for phosphorus removal.

**1.3 Were any significant expenses incurred?**

- ( ) Installed required equipment
- ( ) Repaired required equipment
- ( ) Replaced required equipment

**1.4 Please provide a brief description and breakdown of monetary expenses.**

- Test and dispose of sludge from geotubes to the landfill site
- Completed sludge survey for both aerated lagoons and both retention ponds
- Approximately \$32,364.00

**1.5 Certificates**

An Amended Environmental Compliance Approval (0752-ADXQUC) was issued on October 12, 2016.

## 2.0 **Monitoring Data**

### 2.1 **Monitoring Program – Environmental Compliance Approval # 6343-9VLPM9**

**Table 2.1.1 – Effluent Objectives**

<b>Effluent Parameters</b>	<b>Concentration Objectives</b>
CBOD5	20.0 mg/l
Total Suspended Solids	25.0 mg/l
Total Phosphorus	0.8 mg/l

**Table 2.1.2 – Effluent Limits**

<b>Effluent Parameters</b>	<b>Average Concentration Limits</b>
CBOD5	25.0 mg/l
Total Suspended Solids	30.0 mg/l
Total Phosphorus	1.0 mg/l

**Table 2.1.3 – Raw Sewage Monitoring**

<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
BOD5	Composite	Monthly
Total Suspended Solids	Composite	Monthly
Total Phosphorus	Composite	Monthly
Total Kjeldahl Nitrogen (mg/l)	Composite	Monthly

**Table 2.1.4 – Aerated Lagoon Cells Content Monitoring**

<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
Dissolved Oxygen	Grab	Weekly

**Table 2.1.5 – Final Effluent Monitoring**

Parameters	Sample Type	Frequency
CBOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Ammonia Nitrogen	Composite	Weekly
E.coli	Grab	Weekly
Temperature	Grab	Weekly
pH	Grab	Weekly
Unionized Ammonia	Calculated	Weekly

**Table 2.1.6 – Monthly Raw Sewage Sampling Results**

Date	BOD5 (mg/l)	TSS (mg/l)	TP (mg/l)	TKN (mg/l)
January 2017	35.5	24.8	1.67	16.1
February 2017	34.8	54.7	1.92	17.2
March 2017	29.6	42.9	1.66	14.6
April 2017	48.0	61.5	2.00	16.9
May 2017	67.0	74.0	3.75	25.1
June 2017	61.0	56.6	3.26	23.1
July 2017	63.0	50.8	3.27	23.6
*August 2017	No	No	No	No
September 2017	75.0	68.9	3.05	29.2
October 2017	83.0	80.0	2.69	28.2
November 2017	66.0	54.0	2.17	19.4
December 2017	52.0	55.4	1.77	18.8

\*There was no Raw sample taken for the month of August 2017. M.O.E.C.C. was advised and said not to worry about It.

**Table 2.1.7 – Weekly Effluent Sampling Results**

<b>Date</b>	<b>CBOD5 (mg/l)</b>	<b>TSS (mg/l)</b>	<b>TP (mg/l)</b>	<b>TAN (mg/l)</b>	<b>E.Coli (MPN/100ml)</b>	<b>Field Temp (*c)</b>	<b>Field pH</b>
Jan.03, 2017	2.0	2.0	0.352	9.36	<b>6.0</b>	3.25	7.71
Jan.09, 2017	2.0	2.0	0.407	9.06	11	2.13	7.88
Jan.16, 2017	2.0	2.6	0.463	9.09	14	2.97	7.75
Jan.23, 2017	2.0	2.0	0.466	9.00	37	1.93	7.52
Jan.30, 2017	2.0	2.3	0.384	8.17	25	2.01	7.71
Feb.06, 2017	2.0	3.0	0.378	8.38	6	2.59	7.75
Feb.13, 2017	2.0	2.0	0.263	7.99	55	1.66	8.03
Feb.21, 2017	2.0	2.0	0.234	7.53	517	2.94	8.00
Feb.27, 2017	2.0	3.0	0.275	6.94	517	1.68	7.99
Mar.06, 2017	2.0	2.1	0.228	7.02	27	1.96	8.04
Mar.13, 2017	2.6	2.3	0.260	6.80	63	1.80	7.26
Mar.20, 2017	2.1	2.0	0.265	7.38	51	1.90	8.20
Mar.27, 2017	2.0	2.0	0.275	6.89	8	2.83	8.36
Apr.03, 2017	2.0	2.1	0.244	6.07	1	3.37	7.92
Apr.10, 2017	2.0	2.0	0.187	5.00	1	8.01	7.81
Apr.18, 2017	2.0	2.0	0.113	3.28	1	4.92	8.30
Apr.24, 2017	2.0	2.7	0.101	2.58	1	7.05	8.22
May 01, 2017	2.0	3.2	0.073	2.13	1	8.01	8.01
May 08, 2017	2.0	3.4	0.052	0.953	0	8.21	7.91
May 15, 2017	2.3	3.6	0.050	0.168	0	8.33	8.40
May 29, 2017	2.0	4.3	0.076	0.374	0	10.12	9.76
June 05, 2017	5.2	4.7	0.068	0.246	14	16.95	10.15
June 12, 2017	3.7	2.7	0.080	0.299	0	16.93	10.34
June 19 2017	2.0	2.0	0.104	0.476	1	18.83	8.78
June 26, 2017	4.1	2.7	0.064	0.176	0	19.20	9.48
July 04, 2017	2.0	2.0	0.070	0.164	0	18.72	9.96



**Table 2.1.7 – Weekly Effluent Sampling Results (Cont.)**

<b>Date</b>	<b>CBOD5 (mg/l)</b>	<b>TSS (mg/l)</b>	<b>TP (mg/l)</b>	<b>TAN (mg/l)</b>	<b>E.Coli (MPN/100ml)</b>	<b>Field Temp (*c)</b>	<b>Field pH</b>
July 10, 2017	2.1	3.0	0.069	0.444	0	20.22	10.1 2
July 17, 2017	5.4	8.6	0.107	0.063	4	19.71	10.0 8
July 24, 2017	5.4	4.0	0.107	0.845	4	18.93	9.54
July 31, 2017	4.4	5.1	0.093	0.507	0	21.80	9.15
Aug.08, 2017	2.5	7.2	0.119	0.665	3	19.02	9.50
Aug.14, 2017	3.7	10.1	0.067	0.109	0	19.20	9.17
Aug.21, 2017	3.1	5.3	0.119	0.601	4	19.72	8.73
Aug.28, 2017	3.1	4.9	0.082	0.051	0	18.60	9.86
Sept.05, 2017	2.0	2.0	0.100	0.986	2	16.16	8.59
Sept.11, 2017	2.0	3.5	0.08	1.04	20	14.92	8.92
Sept.18, 2017	2.0	2.0	0.08	1.32	6	16.84	8.42
Sept.25, 2017	3.2	6.8	0.06	0.65	1	20.42	8.88
Oct.02, 2017	3.8	9.3	0.12	0.422	1	14.61	8.84
Oct.10, 2017	2.3	3.6	0.08	0.99	0	13.88	8.40
Oct.17, 2017	2.0	2.0	0.04	0.92	5	9.02	8.01
Oct.23, 2017	2.0	2.0	0.05	1.25	3	8.62	8.00
Oct.30, 2017	2.0	3.6	0.05	2.79	115	3.53	8.52
Nov.06, 2017	5.5	3.5	0.04	2.09	10	3.34	8.91
Nov.13, 2017	2.0	2.0	0.05	3.30	13	2.51	8.15
Nov.20, 2017	2.0	2.0	0.06	4.37	14	3.32	8.23
Nov.27, 2017	2.0	3.4	0.06	6.77	0	3.58	7.14
Dec.04, 2017	2.0	2.0	0.120	5.14	0	3.94	7.55
Dec.11, 2017	2.0	2.0	0.170	5.42	4	2.77	7.69
Dec.18, 2017	2.0	2.0	0.330	5.88	65	2.33	7.30
Dec.27, 2017	2.0	2.0		6.54	167	2.18	7.64

**Table 2.1.8 – Weekly Dissolved Oxygen Sampling Results**

<b>Date</b>	<b>Cell #1 (mg/l)</b>	<b>Cell #2 (mg/l)</b>
January 03, 2017	1.91	12.80
January 09, 2017	11.65	18.30
January 16, 2017	11.20	16.10
January 23, 2017	16.76	* see note below
January 30, 2017	14.82	* see note below
February 06, 2017	15.12	* see note below
February 13, 2017	16.66	* see note below
February 21, 2017	16.05	* see note below
February 27, 2017	16.10	* see note below
March 06, 2017	16.8	* see note below
March 13, 2017	16.54	* see note below
March 20, 2017	2.16	* see note below
March 27, 2017	10.12	* see note below
April 03, 2017	18.42	66.38
April 10, 2017	17.12	48.20
April 18, 2017	7.36	61.56
April 24, 2017	6.32	16.76
May 01, 2017	7.01	16.61
May 08, 2017	7.77	16.91
May 15, 2017	8.01	16.82
May 23, 2017	4.68	38.28

\* from January 23, 2017 to March 27, 2017, we got an exemption from the M.O.E.C.C (see Appendix D) from doing D.O. samples on Cell # 2 because of Health and Safety issue. (ice buildup because of the geo textile Bags)

**Table 2.1.8 – Weekly Dissolved Oxygen Sampling Results (Cont.)**

<b>Date</b>	<b>Cell #1 (mg/l)</b>	<b>Cell #2 (mg/l)</b>
May 29, 2017	5.45	18.47
June 05, 2017	3.71	4.97
June 12, 2017	2.84	3.07
June 19, 2017	3.21	3.70
June 26, 2017	4.35	6.02
July 04, 2017	3.29	7.85
July 10, 2017	6.36	8.55
July 17, 2017	5.12	7.47
July 24, 2017	2.88	2.45
July 31, 2017	2.40	3.10
Aug.08, 2017	2.54	2.36
Aug.14, 2017	2.90	3.81
Aug.21, 2017	2.42	2.23
Aug.28, 2017	2.48	2.44
Sept.05, 2017	2.91	2.87
Sept.11, 2017	3.23	3.15
Sept.18, 2017	2.82	2.81
Sept.25, 2017	2.30	2.28
Oct.02, 2017	3.18	3.09
Oct.10, 2017	3.36	3.37
Oct.16, 2017	4.43	4.50
Oct.23, 2017	3.35	3.06
Oct.30, 2017	6.77	7.28
Nov.06, 2017	1.82	1.90
Nov.13, 2017	1.05	1.01
Nov.20, 2017	0.43	0.45
Nov.27, 2017	2.10	2.20

**Table 2.1.8 – Weekly Dissolved Oxygen Sampling Results (Cont.)**

Date	Cell #1 (mg/l)	Cell #2 (mg/l)
Dec.04, 2017	1.46	1.57
Dec.11, 2017	1.47	1.71
Dec.18, 2017	1.55	1.48
Dec.27, 2017	1.52	1.28

**Table 2.1.9 – Summary Weekly Effluent Sampling Results**

Parameters	Average	Maximum	Objective Limits	Compliance Limits
CBOD5 (mg/l)	2.57	5.5	20.0	25.0
Total Suspended Solids (mg/l)	3.31	10.1	25.0	30.0
Total Phosphorus (mg/l)	0.151	0.466	0.8	1.0

**Table 2.1.10 – Summary Weekly Dissolved Oxygen Results**

Cell number	Average mg/l	Maximum mg/l
Cell # 1	6.91	18.42
Cell # 2	10.85	66.38

### 3.0 Parameters

#### 3.1 Description of Parameters

**BOD5** – (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogen oxygen demand.

**TSS** – (Total Suspended Solids) are solid organic and inorganic materials that hang below the water surface. Suspended solids, in layman’s terms, are similar to stirring up the sand near the shore of a lake. The water turns cloudy from the suspended solids. Total suspended solids must be coarse enough to be trapped by a coffee filter.

**TP** – (Total Phosphorus) refers to the amount of phosphorus in a sample. Excess TP stimulates algae and weed growth that may cause fluctuations in dissolved oxygen in the receiving waters.

**TKN** - (Total Kjeldahl Nitrogen) is the total concentration of organic nitrogen and ammonia.

**CBOD5** – means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measure in an unfiltered sample.

**TAN** – (Total Ammonia Nitrogen) Ammonia exists in two forms in the water:  $\text{NH}_3$  ( this is called unionized ammonia )  $\text{NH}_4^+$  ( this is called ionized ammonia ) Together, these two forms of ammonia are called TAN which means total ammonia nitrogen.  $\text{NH}_3$  is the principal form of toxic ammonia.

**E.coli** – (*Escherichia coli*) is commonly regarded as one of first microorganisms of choice in water and wastewater quality monitoring programs and serves as the primary indicator for water contaminated with fecal matter due to their prevalence in the gut of warm-blooded animals as well as high numbers excreted in both human and animal.

**PH** - is a measure of how acidic/basic water is. The range goes from 0 - 14, with 7 being neutral. PH's of less than 7 indicate acidity, whereas a PH of greater than 7 indicates a base. PH is really a measure of the relative amount of free hydrogen and hydroxyl ions in the water.

**Unionized Ammonia** – it is the calculation using total ammonia concentration, PH and temperature using the methodology stipulated in "Ontario Provincial Water Quality Objectives".

**Dissolved Oxygen** - (DO) refers to microscopic bubbles of gaseous oxygen ( $\text{O}_2$ ) that are mixed in water and available to aquatic organisms for respiration—a critical process for almost all organisms. Primary sources of DO include the atmosphere and aquatic plants.

### **3.2 Summary of Parameters**

In 2017, the effluent from the Wawa Sewage Treatment Facility was within the compliance limits listed in the Environmental Compliance Approval # 6343-9VLP09. The average and maximum sampling results is listed in tables 2.19 of this report and the maximum and average dissolved oxygen is listed in table 2.20.

## 4.0 Flows

### 4.1 Summary of Flow Data for 2017

The Wawa Sewage Treatment Plant continuously discharges to the Magpie River with a yearly average of 1854.6m<sup>3</sup>/day, which is 43.09% of the Sewage Plant capacity. The maximum daily flow for 2017 was 3974 m<sup>3</sup>/day which happened in February 2017. Below is a summary of monthly minimum, average and maximum flows.

**Table 4.1 - Effluent Flow - Plant Rated Capacity (m<sup>3</sup>/day): 4300**

	<b>Minimum Flow (m<sup>3</sup>/day)</b>	<b>Average Flow (m<sup>3</sup>/day)</b>	<b>% of Plant Capacity</b>	<b>Maximum Flow (m<sup>3</sup>/day)</b>	<b>Total Flow (m<sup>3</sup>)</b>
<b>January</b>	1599	2334	54.2	2854	72369
<b>February</b>	2046	2492	57.9	3974	69786
<b>March</b>	2111	2430	56.5	2806	75349
<b>April</b>	1761	2225	51.7	2841	66761
<b>May</b>	1250	1718	39.9	2624	53253
<b>June</b>	874	1422	33.1	2308	42686
<b>July</b>	1053	1552	36.1	2991	48117
<b>August</b>	1026	1421	33.0	2427	44077
<b>September</b>	1025	1357	31.5	2000	40715
<b>October</b>	1038	1486	34.5	2922	46094
<b>November</b>	1050	1545	35.9	2127	46374
<b>December</b>	1568	2274	52.8	3398	70496

## 4.2 - Summary of Effluent Flow

Minimum Flow	Average Flow	Average % of Plant Capacity	Maximum Flow	Total Flow
874	1854.6	43.09	3974	676077

## 5.0 Calibrations

The calibration on the open channel flow meter OCM II was performed by Metcon Sales and Engineering Limited on. This flow meter is calibrated for accuracy yearly. The calibration report is under **Appendix A**.

## 6.0 Complaints

Over the period of 2017, the Municipality did not receive any complaints of odours emitting from the sewage lagoons.

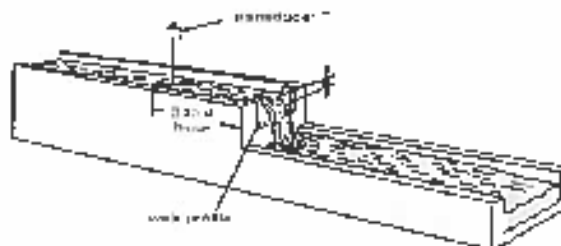
# APPENDIX A

## Metcon Calibration Report



Metcon Sales and Engineering Phone: 905-738-0255  
 15 Conna Creeves Unit 3 Fax: 905-738-5520  
 Concord ON www.metconeng.com  
 L4K 1L3

### OCM VERIFICATION SHEET



#### Meter Units Test

Customer: <b>Therapeutics of Wawa</b>	Exp: <b>N/A</b>
Date Performed: <b>October 12, 2017</b>	Meter Type: <b>Open Channel Flow Meter</b>
Site: <b>Wawa WTP</b>	Manufacturer: <b>Mitsubishi / Smetcon</b>
Location: <b>Lagoon Effluent</b>	Model #: <b>OCM-1F</b>
Performed By: <b>Rudolph Balaga</b>	Transmitter S/N: <b>N/A</b>

#### Installation Details

Units: <b>cm</b>	Max Spanning: <b>50.8mm</b>
Mode: <b>OCM</b>	Arming Out: <b>4-20mA</b>
Empty Clearance: <b>103.52</b>	Profile: <b>V Notch</b>
Span: <b>60</b>	

#### Test Results

	Reading	Measured	Error	Error %
Distance	300.400	100.000	0.400	0.39%
Head	3.120	3.520	-0.400	-0.67%
			Final Error	-0.14%
			Maximum Allowable Error	± 0.00%

#### Test Notes

\* This Meter is operating within Manufacturer's tolerance

**PASS**



# APPENDIX B

## Environmental Compliance Approval # 0752-ADXQC

Content Copy Of Original



Ministry of the Environment and Climate Change  
Ministère de l'Environnement et de l'Action en matière de changement  
climatique

### AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 0752-ADXQC  
Issue Date: October 12, 2016

The Corporation of the Municipality of Wawa  
40 Broadway Ave  
Post Office Box, No. 500  
Wawa, Ontario  
P0S 1K0

Site Location: Wawa Wastewater Treatment Facility  
Golf Course Road  
Municipality of Wawa, District of Algoma

*You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:*

municipal sewage works for the treatment of sanitary sewage and disposal of effluent to Magpie River via a Sewage Treatment Plant (Wawa Wastewater Treatment Facility) having a Rated Capacity of 4,300 m<sup>3</sup>/d, as follows:

#### Proposed Works

Septage Receiving Station

- a septage receiving station located near the intersection of Mission Road/Hwy 101 and Golf Course Road, equipped with a connection pipe complete with a cam-lock fitting and lockable cap on an asphalt pad, discharging into the trunk sanitary sewer flowing to the Sewage Treatment Plant;

Wawa Wastewater Treatment Facility

Aerated Lagoon Cells

- replacement of the existing aeration system in aerated lagoons Cell No. 1 and Cell No. 2 with fine bubble aeration system;

- replacement of the existing air blower system with two (2) air blowers (one standby), each rated at 26 m<sup>3</sup>/min at 37.2 kPa and equipped with VFD;

#### Previous Works

Wawa Wastewater Treatment Facility

an aerated lagoon system located on Golf Course Road in the Municipality of Wawa (UTM Zone 16T 665235 E 5316817 N), having a Rated Capacity of 4,300 m<sup>3</sup>/day, discharging effluent into Magpie River:

Inlet Chamber

- a 375 mm diameter influent sewer and one (1) inlet chamber equipped with basket screen, discharging to aerated lagoon Cell No. 1;

#### Aerated Lagoon Cells

- aerated lagoon Cell No.1 with a storage volume of approximately 38,040 m<sup>3</sup>, discharging to aerated lagoon Cell No.2;
- aerated lagoon Cell No.2 with a storage volume of approximately 36,600 m<sup>3</sup>, discharging via an effluent chamber to polishing lagoon Cell No. 3;
- one (1) recirculation pump located in the effluent chamber of Cell No. 2, rated at 22.6 L/s at 7.9 m TDH, pumping effluent back to the inlet chamber;
- air blower system;

#### Polishing Lagoon Cells

- polishing lagoon Cell No.3 with a surface area of approximately 8.1 ha and an operating depth of 1.4 m, discharging to polishing lagoon Cell No.4;
- polishing lagoon Cell No.4 with a surface area of approximately 8.1 ha and an operating depth of 1.4 m discharging to the final effluent chamber;

#### Phosphorus Removal

- one (1) 18,400 L phosphorus removal chemical storage tank;
- two (2) chemical metering pumps (one standby), each with a capacity of 7.0 L/h, with chemical dosing to the effluent chamber of aerated lagoon Cell No. 2;

#### Effluent Outfall

- one (1) Final Effluent chamber, equipped with an adjustable weir gate;
- one (1) 450 mm diameter effluent pipe, discharging through an outfall structure at the bottom of the Magpie River;

including all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage works, all in accordance with the submitted supporting documents listed in Schedule A.

*For the purpose of this environmental compliance approval, the following definitions apply:*

"Approval" means this entire document and any schedules attached to it;

"Annual Average Daily Flow" means the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year;

"BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

"Bypass" means diversion of sewage around one or more unit processes within the Sewage Treatment Plant with the diverted sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling location, and discharging to the environment through the Sewage Treatment Plant outfall;

"CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

"Daily Concentration" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;

"Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;

"*E. Coli*" refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius;

"Emergency Situation" means a structural, mechanical or electrical failure that causes a temporary reduction in the capacity of the Sewage Treatment Plant or an unforeseen flow condition that may result in:

- a. danger to the health or safety of any person; or,
- b. injury or damage to any property, or serious risk of injury or damage to any property; or
- c. treatment process biomass washout.

"Equivalent Equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;

"Event" means an action or occurrence, at a given location within the Sewage Treatment Plant that causes a Bypass or Overflow. An Event ends when there is no recurrence of a Bypass or Overflow in the 12-hour period following the last Bypass or Overflow. Two Events are separated by at least 12 hours during which there has been no recurrence of a Bypass or Overflow. An Overflow and a Bypass are two separate reportable Events even when occurring concurrently;

"Final Effluent" means sewage discharge via the Sewage Treatment Plant outfall;

"Limited Operational Flexibility" (LOF) means any modifications that the Owner is permitted to make to the Works under this Approval;

"Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;

"Monthly Average Concentration" means the arithmetic mean of all Daily Concentrations of a contaminant in the effluent sampled or measured, or both, during a calendar month;

"Owner" means The Corporation of the Municipality of Wawa and its successors and assignees;

"OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;

"Overflow" means a discharge to the environment from the Works at a location other than the Sewage Treatment Plant effluent outfall or into the effluent outfall downstream of the Final Effluent sampling location;

"Previous Works" means those portions of the sewage works previously constructed and approved under an approval;

"Proposed Works" means the sewage works described in the Owner's application, this Approval, to the extent approved by this Approval;

"Rated Capacity" means the Annual Average Daily Flow for which the Sewage Treatment Plant is approved to handle;

"Sewage Treatment Plant" means the entire sewage treatment and effluent discharge facility;

"Substantial Completion" has the same meaning as "substantial performance" in the *Construction Lien Act*;

"Water Supervisor" means the Water Supervisor for the Sudbury and Sault Ste. Marie offices of the Ministry; and

"Works" means the sewage works described in the Owner's application, and this Approval, and includes Proposed Works, Previous Works, and modifications made under Limited Operational Flexibility.

*You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:*

## TERMS AND CONDITIONS

### 1. GENERAL PROVISIONS

(1) The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.

(3) Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the documents listed in the Schedule A, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The Conditions of this Approval are severable. If any Condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

### 2. CHANGE OF OWNER

(1) The Owner shall notify the Water Supervisor and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:

- a. change of Owner;
- b. change of address of the Owner;
- c. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act*, R.S.O. 1990, c.B17 shall be included in the notification to the Water Supervisor;
- d. change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the *Corporations Information Act*, R.S.O. 1990, c. C39 shall be included in the notification to the Water Supervisor;

(2) In the event of any change in ownership of the Works, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the Water Supervisor and the Director.

### 3. COMPLETION OF THE PROPOSED WORKS

(1) All Proposed Works in this Approval shall be completed and commissioned within five (5) years of issuance of this Approval.

(2) One (1) week prior to the start up of the operation of the Proposed Works, the Owner shall notify the Water Supervisor (in writing) of the pending start up date.

(3) Upon the Substantial Completion of the Proposed Works, the Owner shall prepare a statement, certified by a Professional Engineer, that the Proposed Works are constructed in accordance with this Approval, and shall make the written statement to notify the Water Supervisor.

(4) Within one (1) year of the Substantial Completion of the Proposed Works, a set of as-built drawings showing the Works "as constructed" shall be prepared or updated. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the Works for the operational life of the Works.

#### 4. BYPASSES

(1) Any Bypass is prohibited, except:

- a. in an Emergency Situation;
- b. where the Bypass is a direct and unavoidable result of a planned maintenance procedure or other special circumstances, the Owner notified the Water Supervisor 15 days prior to the Bypass and the Water Supervisor has given written consent of the Bypass;

(2) The Owner shall forthwith notify the Spills Action Centre (SAC) and the Medical Officer of Health of all Bypass Events. This notice shall include, at a minimum, the following information:

- a. the date, time, and duration of the Event;
- b. the location of the Event;
- c. the measured or estimated volume of the Event (unless the Event is ongoing);
- d. the reason for the Event; and
- e. the level of treatment the Bypass received and disinfection status of same.

(3) The Owner shall submit Bypass Event Reports to the Ministry's local office on a quarterly basis, no later than each of the following dates for each calendar year: February 14, May 15, August 14, and November 15. Event Reports shall be in an electronic format specified by the Ministry. In each Event Report the Owner shall include, at a minimum, the following information on any Events that occurred during the preceding quarter:

- a. the date of the Event(s);
- b. the measured or estimated volume of the Event(s);
- c. the duration of the Event(s);
- d. the location of the Event(s);
- e. the reason for the Event(s); and
- f. the level of treatment the Bypasses received and disinfection status of same.

(4) The Owner shall use best efforts to collect a representative sample consisting of a minimum of two (2) grab samples of the Bypass and have it analyzed for parameters outlined in Condition 7 using the protocols specified in Condition 9, one at the beginning of the Event and the second approximately near the end of the Event, to best reflect the effluent quality of such Bypass.

#### 5. OVERFLOWS

(1) Any Overflow is prohibited, except:

- a. in an Emergency Situation;

- b. where the Overflow is a direct and unavoidable result of a planned maintenance procedure or other special circumstances, the Owner notified the Water Supervisor 15 days prior to the Overflow and the Water Supervisor has given written consent of the Overflow;

(2) The Owner shall forthwith notify the Spills Action Centre (SAC) and the Medical Officer of Health of all Overflow Events. This notice shall include, at a minimum, the following information:

- a. the date, time, and duration of the Event;
- b. the location of the Event;
- c. the measured or estimated volume of the Event (unless the Event is ongoing);
- d. the reason for the Event; and
- e. the level of treatment the Overflows received and disinfection status of same.

(3) The Owner shall submit Overflow Event Reports to the Ministry's local office on a quarterly basis, no later than each of the following dates for each calendar year: February 14, May 15, August 14, and November 15. Event Reports shall be in an electronic format specified by the Ministry. In each Event Report the Owner shall include, at a minimum, the following information on any Events that occurred during the preceding quarter:

- a. the date of the Event(s);
- b. the measured or estimated volume of the Event(s);
- c. the duration of the Event(s);
- d. the location of the Event(s);
- e. the reason for the Event(s); and
- f. the level of treatment the Overflows received and disinfection status of same.

(4) The Owner shall use best efforts to collect a representative sample consisting of a minimum of two (2) grab samples of the Overflow and have it analyzed for parameters outlined in Condition 7 using the protocols specified in Condition 9, one at the beginning of the Event and the second approximately near the end of the Event, to best reflect the effluent quality of such Overflow. For raw sewage and primary treatment system Overflows, BOD5 shall be monitored instead of CBOD5.

#### 6. EFFLUENT OBJECTIVES

(1) The Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

<b>Table 1 - Effluent Objectives</b>	
<b>Effluent Parameter</b>	<b>Concentration Objective (milligrams per litre unless otherwise indicated)</b>
CBOD5	20.0
Total Suspended Solids	25.0
Total Phosphorus	0.8

(2) The Owner shall use best efforts to:

- a. maintain the pH of the effluent from the Sewage Treatment Plant within the range of 6.5 - 8.5, inclusive, at all times;
- b. operate the Works within the Rated Capacity of the Sewage Treatment Plant;
- c. ensure that the effluent from the Sewage Treatment Plant is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters;

## 7. EFFLUENT LIMITS

(1) The Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

<b>Effluent Parameter</b>	<b>Average Concentration</b> (milligrams per litre unless otherwise indicated)
Column 1	Column 2
CBOD5	25.0
Total Suspended Solids	30.0
Total Phosphorus	1.0

(2) For the purposes of determining compliance with and enforcing subsection (1):

- a. the Monthly Average Concentration of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).

(3) The Owner shall operate and maintain the Works such that the pH of the effluent from the Sewage Treatment Plant is maintained within the range of 6.0 - 9.5, inclusive, at all times.

(4) Subsections (1) and (3) shall apply upon the issuance of this Approval.

## 8. OPERATION AND MAINTENANCE

(1) The Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the Works.

(2) The Owner shall maintain an operations manual, that includes, but not necessarily limited to, the following information:

- a. operating procedures for routine operation of the Works;
- b. inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
- c. repair and maintenance programs, including the frequency of repair and maintenance for the Works;
- d. procedures for the inspection and calibration of monitoring equipment;
- e. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Water Supervisor; and
- f. procedures for receiving, responding and recording public complaints, including recording any followup actions taken.

(3) The Owner shall maintain the operations manual current and retain a copy at the location of the Sewage Treatment Plant for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.

(4) The Owner shall provide for the overall operation of the Works with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.

## 9. MONITORING AND RECORDING

The Owner shall, upon commencement of operation of the Works, carry out the following monitoring program:

(1) All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) For the purposes of this condition, the following definitions apply:

- a. Weekly means once each week;
- b. Monthly means once every month.

(3) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

<b>Table 3 - Raw Sewage Monitoring</b> (Inlet Chamber)		
<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
BOD5	Composite	Monthly
Total Suspended Solids	Composite	Monthly
Total Phosphorus	Composite	Monthly
Total Kjeldahl Nitrogen	Composite	Monthly

<b>Table 4 - Aerated Lagoon Cells Content Monitoring</b> (Cells No.1 and No.2)		
<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
Dissolved Oxygen	Grab	Weekly

<b>Table 5 - Final Effluent Monitoring</b> (Final Effluent Chamber)		
<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
CBOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Ammonia Nitrogen	Composite	Weekly
<i>E. coli</i>	Grab	Weekly
Temperature	Grab	Weekly
pH	Grab	Weekly
Unionized Ammonia	Calculated	Weekly

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

- a. the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;
- b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;
- c. the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.

(5) The temperature and pH of the effluent from the Sewage Treatment Plant shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology



stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).

(6) The Owner shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the influent to or effluent from the Sewage Treatment Plant with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a daily frequency.

(7) The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

## 10. REPORTING

(1) The Owner shall report to the Water Supervisor or designate, any exceedence of the average concentration of any parameter specified in Effluent Limits Condition orally, as soon as reasonably possible, and in writing within seven (7) days of the exceedence.

(2) In addition to the obligations under Part X of the *Environmental Protection Act*, the Owner shall, within ten (10) working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the Water Supervisor describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(3) The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.

(4) The Owner shall prepare and submit a performance report to the Water Supervisor on an annual basis, by March 31 of the year following the end of the calendar year being reported upon. The reports shall contain, but shall not be limited to, the following information:

- a. a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Effluent Limits Condition, including an overview of the success and adequacy of the Works;
- b. a description of any operating problems encountered and corrective actions taken;
- c. a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- d. a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and
- f. a description of efforts made and results achieved in meeting the objectives of Effluent Objectives Condition.
- g. an estimate of the sludge volumes in the lagoon cells. Sludge volume is to be measured every five (5) years, but may be estimated in the interim years. A summary of disposal locations and volumes of sludge disposed of must also be provided if sludge was disposed of during the reporting period;
- h. a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- i. a summary of all Bypass, Overflow, spill or abnormal discharge events;
- j. a copy of all Notice of Modifications for Sewage Works submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;

k. a report summarizing all modifications completed as a result of Schedule B, Section 3;  
and

l. any other information the Water Supervisor requires from time to time.

(7) The Owner shall, within thirty (30) calendar days of issuance of this Approval, submit a Municipal and Local Services Board Wastewater System Profile Information Form, and shall resubmit the updated document every time a notification is provided to the Water Supervisor in compliance with requirements of change of ownership under this Approval.

#### 11. LIMITED OPERATIONAL FLEXIBILITY (MODIFICATIONS TO THE WORKS)

(1) The Owner may make modifications to the Works in accordance with the Terms and Conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for Modifications to Sewage Works", included under Schedule B of this Approval, as amended.

(2) Sewage works proposed under Limited Operational Flexibility shall adhere to the design guidelines contained within the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended.

(3) The Owner shall ensure at all times, that the Works, related equipment and appurtenances which are installed or used to achieve compliance are operated in accordance with all Terms and Conditions of this Approval.

(4) For greater certainty, the following are not permitted as part of Limited Operational Flexibility:

- a. Modifications to the Works that result in an increase of the Rated Capacity of the Works;
- b. Modifications to the Works that may adversely affect the approved effluent quality criteria or the location of the discharge/outfall;
- c. Modifications to the treatment process technology of the Works, or modifications that involve construction of new reactors (tanks) or alter the treatment train process design;
- d. Modifications to the Works approved under s.9 of the EPA, and
- e. Modifications to the Works pursuant to an order issued by the Ministry.

(5) Implementation of Limited Operational Flexibility is not intended to be used for piecemeal measures that result in major alterations or expansions.

(6) If the implementation of Limited Operational Flexibility requires changes to be made to the Emergency Response, Spill Reporting and Contingency Plan, the Owner shall, as deemed necessary in consultation with the Water Supervisor, provide a revised copy of this plan for approval to the local fire services authority prior to implementing Limited Operational Flexibility.

(7) For greater certainty, any modification made under the Limited Operational Flexibility may only be carried out after other legal obligations have been complied with, including those arising from the *Environmental Protection Act*, *Niagara Escarpment Planning and Development Act*, *Oak Ridges Moraine Conservation Act*, *Lake Simcoe Protection Act* and *Greenbelt Act*.

(8) Prior to implementing Limited Operational Flexibility, the Owner shall complete a Notice of Modifications for Sewage Works describing any proposed modifications to the Works and submit it to the Water Supervisor.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work

pursuant to this Approval the existence of this Approval.

2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.

3. Condition 3 is included to ensure that the Works are constructed in a timely manner so that standards applicable at the time of Approval of the Works are still applicable at the time of construction, to ensure the ongoing protection of the environment. It also ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works "as constructed" are updated and maintained for future references.

4. Condition 4 is included to indicate that Bypass of any treatment process of unit is prohibited, save in certain limited circumstances where the failure to Bypass could result in greater injury to the public interest than the Bypass itself where a Bypass will not violate the approved effluent requirements, or where the Bypass can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the Ministry to take action in an informed manner and will ensure the Owner is aware of the extent and frequency of Bypass events.

5. Condition 5 is included to indicate that Overflows of untreated or partially treated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to Overflow could result in greater injury to the public interest than the Overflow itself or where the Overflow can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the Ministry to take action in an informed manner and will ensure the Owner is aware of the extent and frequency of Overflow events.

6. Condition 6 is imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 7 are exceeded.

7. Condition 7 is imposed to ensure that the effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver and to protect water quality, fish and other aquatic life in the receiving water body.

8. Condition 8 is included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.

9. Condition 9 is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives and effluent limits specified in the Approval and that the Works does not cause any impairment to the environment.

10. Condition 10 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.

11. Condition 11 is included to ensure that the Works are operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has

not been asked to consider. These Conditions are also included to ensure that a Professional Engineer has reviewed the proposed modifications and attests that the modifications are in line with that of Limited Operational Flexibility, and provide assurance that the proposed modifications comply with the Ministry's requirements stipulated in the Terms and Conditions of this Approval, MOE policies, guidelines, and industry engineering standards and best management practices.

#### **Schedule A**

1. "Evaluation Study - Wawa Waste Stabilization Ponds - Stage 2, Future Treatment Requirements, may 1985 prepared by Knox martin Kretch;
2. Environmental Compliance Approval Application submitted by Kresin Engineering Corporation and received on August 18, 2014, including Design report and engineering drawings and specifications.
3. Environmental Compliance Approval Application submitted by Kresin Engineering Corporation and received on June 1, 2016, for the re-location of the proposed septage receiving station, including technical memorandum and engineering plans.

#### **Schedule B**

##### **Limited Operational Flexibility Criteria for Modifications**

##### **to Municipal Sewage Works**

1. The modifications to sewage works approved under an Environmental Compliance Approval (Approval) that are permitted under the Limited Operational Flexibility (LOF), are outlined below and are subject to the LOF conditions in the Approval, and require the submission of the Notice of Modifications for Sewage Works. If there is a conflict between the sewage works listed below and the Terms and Conditions in the Approval, the Terms and Conditions in the Approval shall take precedence.

##### **1.1 Sewage Pumping Stations**

- a. Alter pumping capacity by adding or replacing equipment where new equipment is located within an existing sewage treatment plant site or an existing sewage pumping station site, provided that the modifications do not result in an increase of the sewage treatment plant Rated Capacity and the existing flow process and/or treatment train are maintained, as applicable.
- b. Forcemain relining and replacement with similar pipe size where the nominal diameter is not greater than 1,200mm.

##### **1.2 Sewage Treatment Process**

- a. Installing additional chemical dosage equipment including replacing with alternative chemicals for pH adjustment or coagulants (non-toxic polymers) provided that there are no modifications of treatment processes or other modifications that may alter the intent of operations and may have negative impacts on the effluent quantity and quality.
- b. Expanding the buffer zone between a sanitary sewage lagoon facility or land treatment area and adjacent uses provided that the buffer zone is entirely on the proponent's land.
- c. Optimizing existing sanitary sewage lagoons with the purpose to increase efficiency of treatment operations provided that existing sewage treatment plant rated capacity is not exceeded and where no land acquisition is required.
- d. Optimizing existing sewage treatment plant equipment with the purpose to increase the efficiency of the existing treatment operations, provided that there are no modifications to

the works that result in an increase of the approved Rated Capacity, and may have adverse effects to the effluent quality or location of the discharge.

- e. Replacement, refurbishment of previously approved equipment in whole or in part with Equivalent Equipment, like-for-like of different make and model, provided that the firm capacity, reliability, performance standard, level of quality and redundancy of the group of equipment is kept the same or exceeded. For clarity purposes, the following equipment can be considered under this provision: pumps, screens, grit separators, blowers, aeration equipment, sludge thickeners, dewatering equipment, UV systems, chlorine contact equipment, bio-disks, and sludge digester systems.

#### 1.3 Sewage Treatment Plant Outfall

- a. Replacement of discharge pipe with similar pipe size or diffusers provided that the outfall location is not changed.

#### 1.4 Sanitary Sewers

- a. Pipe relining and replacement with similar pipe size within the Sewage Treatment Plant site, where the nominal diameter is not greater than 1,200mm.

#### 1.5 Pilot Systems

- a. Installation of pilot systems for new or existing technologies provided that:
  - i. any effluent from the pilot system is discharged to the inlet of the sewage treatment plant or hauled off-site for proper disposal,
  - ii. any effluent from the pilot system discharged to the inlet of the sewage treatment plant or sewage conveyance system does not significantly alter the composition/concentration of the influent sewage to be treated in the downstream process; and that it does not add any inhibiting substances to the downstream process, and
  - iii. the pilot system's duration does not exceed a maximum of two years; and a report with results is submitted to the Director and Water Supervisor three months after completion of the pilot project.

2. Sewage works that are exempt from section 53 of the OWRA by O. Reg. 525/98 continue to be exempt and are not required to follow the notification process under this Limited Operational Flexibility.

3. Normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered pre-approved.

4. The modifications noted in section (3) above are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 6343-9VLP M9 Issued on July 13, 2015.**

*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

AND

The Director appointed for the purposes  
of Part II.1 of the Environmental  
Protection Act  
Ministry of the Environment and Climate  
Change  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 12th day of October, 2016

Fariha Pannu, P.Eng.  
Director  
appointed for the purposes of Part II.1 of  
the *Environmental Protection Act*

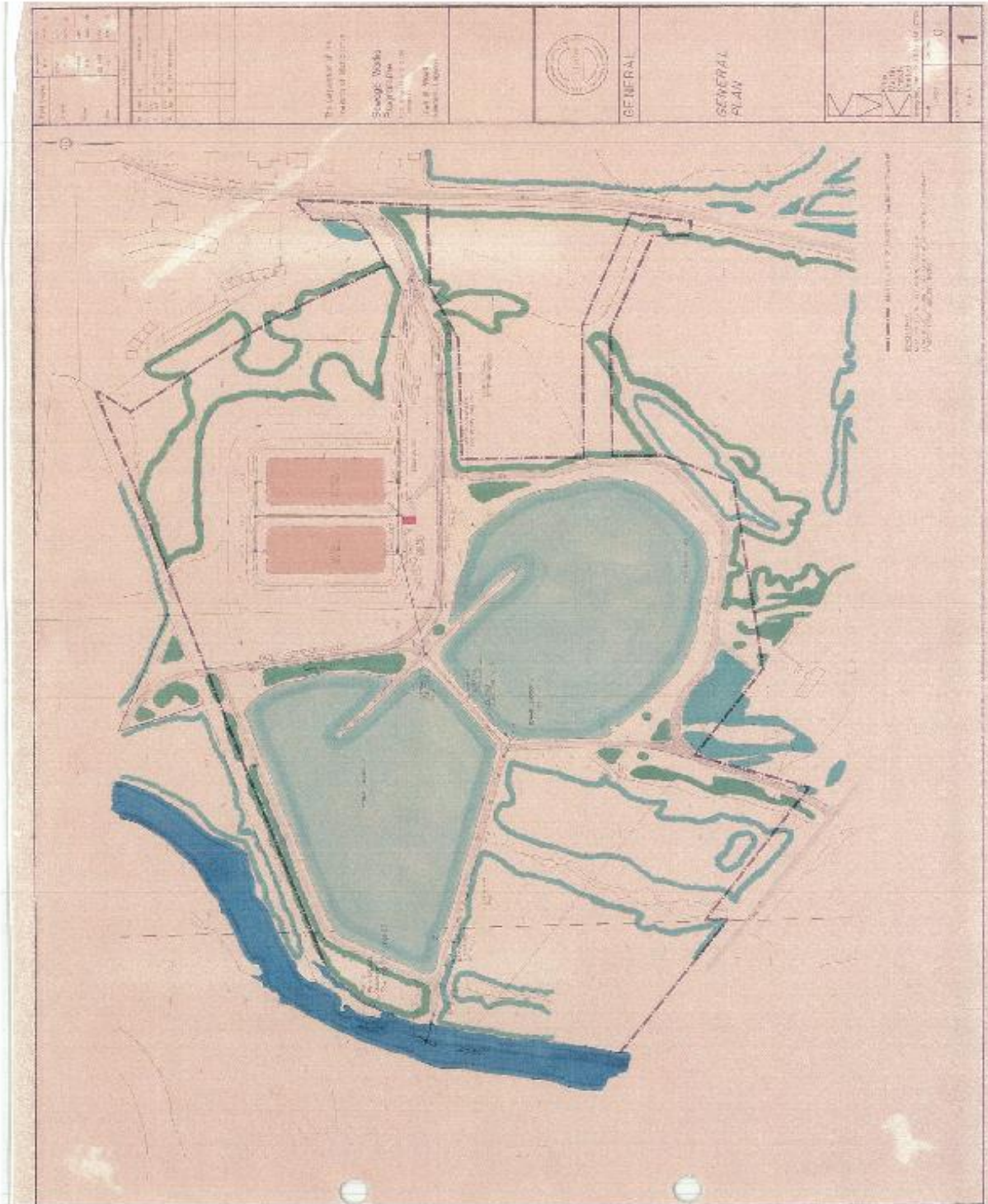
FL/

c: Area Manager, MOECC Sault Ste. Marie

c: DWMD Supervisor, MOECC Sudbury  
Rekha Chetlur, Registration and Compliance Section, MOECC Drinking Water Programs Branch –  
IMBS  
Orlan Euale, P.Eng., Kresin Engineering Corporation

# APPENDIX C

## Overview of Sewage Lagoons



# APPENDIX D



Cory Stainthorpe, Director of Infrastructure Services

Municipality of Wawa

40 Broadway Ave. P0S 1K0 P.O. 500

Wawa, Ontario

February 3, 2017

Stephanie Robbins

Ministry of Environmental

70 Foster Dr. #110, P6A 6V4

Sault Ste. Marie, Ontario

Dear Stephanie,

I would like to take this opportunity to introduce myself; I am the Director of Infrastructure Services for the Municipality of Wawa. I have previously been in contact with Stephen Rouleau regarding the Municipalities Water Treatment Plant and Sewage Lagoons.

I am writing to you today to bring forward a health and safety concern that we are currently facing when gathering O2 samples to assist with ensuring DO levels are at the appropriate levels to aid treatment from cell # 2.

The Sewage Lagoons were recently upgraded in 2016 which included a desludging process of cell # 1; sludge is currently contained in Geotubes located on the South bank of cell # 2 for 1 freeze/thaw cycle. The Municipality Water & Sewer operators continue to gather samples from this area for the O2 testing, currently due to the snow/ice build up against the Geotubes it has created a bank of snow and ice causing our operators to be in an awkward stance and risk of slipping/falling while trying to gather the sample.

The Municipality is requesting approval from the Ministry of Environmental to temporarily place a hold on sampling cell # 2 until the weather is warmer and we can clear the snow/ice buildup (end of April 2017).





During this time period, I understand the importance to comply with the ECA and continue assuring DO levels are at the appropriate levels to aid treatment from cell # 2, the Municipality would keep a log book and update it once per week that would include date, time, temperature, weather, odour, color and air quality. The Municipality will also discuss other options to gather samples while having a safety first conscious, if we are successful in implementing another option that will allow us to continue gathering samples, we will notify you of the change.

Attached is a letter from the Municipality of Wawa Joint Health & Safety Committee regarding this concern, I have until the date listed to provide a response.

Thank you for your time, I look forward to hearing back from you shortly.

Regards,

Cory Stainthorpe, Director of Infrastructure Services

## Letter from M.O.E.C.C. and logs Re: Health and Safety

Ministry of the Environment and  
Climate Change

Ministère de l'Environnement et de  
l'Action en matière de changement  
climatique



Safe Drinking Water Branch

Direction du contrôle de la qualité de  
l'eau potable

Sudbury District Office  
199 Larch Street  
Suite 1201  
Sudbury ON P3E 5P9  
Tel.: 705 564-3237  
Fax: 705 564-4180  
Toll Free: 1 800 890 8516

Bureau du district de Sudbury  
199, rue Larch  
Bureau 1201  
Sudbury ON P3E 5P9  
Tél. : 705 564-3237  
Télééc. : 705 564-4180  
Sans frais : 1800 890 8516

February 8, 2017

Cory Stainthorpe  
Director of Infrastructure Services  
Municipality of Wawa  
40 Broadway Avenue  
P.O. Box 500  
Wawa, ON P0S 1K0

Dear Mr. Stainthorpe;

**RE: Wawa Sewage Lagoon  
Dissolved Oxygen Sampling - Health and Safety Concern**

---

I have received your letter dated February 3, 2017, as well as the memo from the Municipality of Wawa Joint Health and Safety Committee, regarding the health and safety concerns with the current location for dissolved oxygen sampling from cell #2 of the sewage lagoon. It is understood that snow build up in the area of the Geotubes, temporarily located on the south bank of cell #2, are contributing to unsafe sampling conditions for the operators.

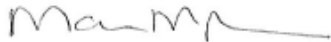
We acknowledge that, due to the health and safety concerns expressed, weekly sampling for dissolved oxygen will not be undertaken until late April, or until such time as the sampling location can be safely accessed. Although this is in contravention of the sampling requirements prescribed in Environmental Compliance Approval # 0752-ADXUC, this letter will serve as documentation of the mitigating factors being experienced by the municipality, and will be taken into consideration during compliance reviews and inspection activities. In the future, please take all reasonable action to ensure that the area surrounding the lagoon cells are not obstructed by the placement of materials.

In the interim, until weekly sampling for O<sub>2</sub> is able to safely resume, the municipality must undertake the following;

1. Weekly assessments of cell #2 conditions as outlined in the February 3<sup>rd</sup> letter. Specifically, weekly entries into the logbook for date, time, temperature, weather, odour, color, and air quality.
2. Notification to Water Inspector Stephanie Robbins of any unusual conditions noted during the weekly assessments.
3. Continued discussions to evaluate other options for gathering the required O2 samples.
4. Regular updates to Water Inspector Stephanie Robbins regarding the anticipated timeframe for resuming O2 sampling, as conditions around the lagoon improve due to weather.

Should you have any questions or concerns regarding this issue, please don't hesitate to contact either Stephanie Robbins or myself.

Regards,



Marnie Managhan  
Water Compliance Supervisor  
Sudbury/Sault Ste. Marie District  
(705) 564-3218

## Weekly Assessment of Cell #2

<b>Date</b>	<b>Time</b>	<b>Temp.</b>	<b>Weather</b>	<b>Odour</b>	<b>Color</b>	<b>Air quality</b>
Feb.13/2017	10:30	-8*c	Overcast	None	Cell #2 Iced over	Calm, good
Feb.21/2017	09:15	+6*c	Rain	None	Cell #2 Iced over	Windy
Feb.27/2017	13:30	-6*c	Clear	None	Cell #2 Iced over	Light wind
Mar.06/2017	12:30	+4*c	Overcast/Rain	None	Cell #2 Iced over	Calm
Mar.13/2017	08:30	-30*c	Clear	None	Cell #2 Iced over	Light wind
Mar.27/2017	09:00	+1*c	Overcast	None	Cell #2 Iced over	Light breeze