Tara Wastewater Treatment Plant
13-028

2024 Operation and Maintenance Annual Report
March 2025

Prepared for:
Municipality of Arran-Elderslie
PO Box 70, 1925 Bruce Road 10
Chesley, ON N0G 1L0

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1.0 INTRODUCTION

The Tara Sewage Works, in the Municipality of Arran-Elderslie, is comprised of a wastewater treatment plant and a sewage pumping station. The wastewater generated within Tara is collected in the sewer system and is pumped to the wastewater treatment plant by way of a 200 mm diameter forcemain. The wastewater treatment plant comprises of two (2) waste stabilization ponds equipped with season discharge provisions. The plant has influent and effluent structures and a 400 mm diameter outfall sewer to the Sauble River.

The Municipality of Arran-Elderslie has retained the services of GSS Engineering Consultants Ltd. to prepare the Annual Compliance Report for the Tara Sewage Works. The Ministry of Environment Conservation and Parks (MECP) issued an Amended Certificate of Approval # 9456-659N92 dated January 11, 2005 for this facility which revoked and replaced the Certificate of Approval # 1-704-80-006 dated July 2, 1980. Refer to **Appendix A** for Certificate of Approval. The Certificate of Approval stipulated preparation of an annual report addressing the following items:

- Summary of all monitoring data and a comparison to the effluent limits.
- Summary of operational problems encountered, and corrective actions taken.
- Summary of maintenance carried out.
- Summary of complaints received, and steps taken to address the complaints.
- Summary of all by-pass, spill or abnormal discharge events.

During the reporting period of this Annua l Report (January 1, 2024 to December 31, 2024), the Tara Sewage works was operated by the Municipality of Arran-Elderslie operators namely:

Scott McLeod, Public Works Manger and Backup Overall Responsible Operator	WWT II WWC II
Ben Overeem	WWT I WWC I
Trevor Sweiger	WWT I WWC I
Chris Legge, Water/Sewers Foreman, Operator in Charge & Backup Overall Responsible Operator	WWT I WWC I
Chase Mcewen	WWT I WWC I
Shane Ryall	WWT I WWC I
Rakesh Sharma, P. Eng., Overall Responsible Operator	WWC IV WWT IV

This report has been prepared based on the information provided by the Municipality of Arran-Elderslie.

2.0 DESCRIPTION OF FACILITIES

2.1 Wastewater Treatment Plant

The wastewater treatment plant comprises of two (2) waste stabilization ponds, each with an area of 3.95 Ha. The depth of the cells is approximately 1.5 m and are provided with influent and effluent structures and associated piping. A 200 mm diameter inlet forcemain carries sewage to the waste stabilization ponds. A 400 mm diameter outfall sewer discharges the treated effluent from the waste stabilization ponds to the Sauble River during the spring and fall discharge periods.

2.2 Sewage Pumping Station

The sewage pumping station is located north of Mill Street and is equipped with two (2) vertical, centrifugal, dry pit, non-clog pumps (one duty and one standby) each capable of pumping 27.4 L/s against a total dynamic head of 21.5 m. The discharge forcemain at the sewage pumping station has a 150 mm magnetic flow meter and an emergency bypass connection. Two (2) positive displacement diaphragm-type chemical metering pumps (one duty and one standby), each capable of pumping 40 L/h of Alum for phosphorous removal, provide alum dosing into the forcemain. An emergency overflow, which permits overflow to the Sauble River, is provided from a manhole located in the inlet sewer. A 50kW diesel generator is also installed at this facility to provide standby power.

3.0 SUMMARY OF WASTEWATER FLOW

A summary of the wastewater flows received at the wastewater treatment plant is provided in **Table 1.** As can be noted from **Table 1,** the average daily flow was 357.6 m³/day and the maximum daily flow was 883.7 m³/day which occurred on December 30, 2024. The total annual flow was 132,446 m³. The design capacity of the treatment plant is 650 m³/day; therefore, the capacity utilization of the plant was 55% of the design capacity.

Enclosed **Table 1A** provides a summary of plant capacity utilization since 2012. The table is self-explanatory.

In April 2024 the flow meter was checked for calibration by Tower Electronics Canada. The calibration check result was “Pass’.

TABLE 1
Summary of Wastewater Flows - 2024
Tara Wastewater Treatment Plant
Municipality of Arran-Elderslie

March, 2025 13-028

Month	Total Flow (m^3)	Average Daily Flow (m^3/day)	Maximum Daily Flow (m^3/day)	Day of Maximum Flow Occurrence
January	12,881.0	415.5	580.2	26th
February	11,831.0	381.6	553.7	2nd
March	12,242.0	394.9	508.6	3rd
April	12,347.0	417.7	700.3	12th
May	11,019.4	355.5	476	1st
June	10,545.0	340.0	471.7	18th
July	9,803.0	316.0	425	10th
August	10,545.0	340.0	472	18th
September	9,304.0	300.0	390.3	8th
October	9,075.0	292.7	361.5	11th
November	8,882.5	286.5	336.8	29th
December	13,971.1	450.7	883.7	30th
Total	**132,446.0**			
Average		**357.6**		
Maximum			**883.7**	

TABLE 1A

Summary of Capacity Utilization - 2024

Tara Wastewater Treatment Plant

Municipality of Arran-Elderslie

March, 2025 13-028

Year	Average Day Flow (m^3/day)	Capacity Utilization	Maximum Day Flow (m^3/day)
2024	357.6	55.0%	883.7
2023	345.9	53.2%	1,122
2022	350.5	53.9%	937.9
2021	375.5	57.8%	1178.2
2020	354.7	54.6%	1,001.2
2019	382.3	58.8%	1,218.4
2018	404.2	62.2%	1,725.9
2017	408.8	62.9%	1,871.9
2016	357.2	55.0%	1,623.5
2015	344.8	53.0%	781
2014	346.9	53.4%	1,218
2013	354.8	54.6%	1,298
2012	344.9	53.1%	717.4
Rated Capacity	**650**		

4.0 SUMMARY OF RAW SEWAGE AND EFFLUENT MONITORING

The Certificate of Approval (C of A) requires that the raw sewage be tested for $CBOD_5$, Total Suspended Solids (TSS) and Total Phosphorous (TP) on a quarterly (once every three (3) months) basis. In 2024 raw sewage grab samples were collected in February, May, August, and November and tested for the above referenced parameters. **Table 2** shows a summary of the raw sewage monitoring data.

The C of A also requires the testing of lagoon contents for $CBOD_5$, Total Suspended Solids and Total Phosphorous once, within one (1) week prior to each seasonal discharge. Spring discharge occurred from March 25th to May 13, 2024, whereas fall discharge occurred from November 7 to 28, 2024. Before and during each discharge period the lagoon's contents were sampled and tested for $CBOD_5$, Total Suspended Solids, and Total Phosphorous. **Table 3** provides a summary of the average monthly monitoring data for Cell #1 and Cell #2 contents during and prior to discharge. The effluent limits were met during the spring and fall discharge periods except for TSS during fall discharge

The volume discharged from the lagoons was 74,373 m³ in the spring of 2024 and 40,559 m³ in the fall. In 2024, a total of 114,932 m³ of treated effluent was discharged as compared to 132,446 m³ of raw sewage received at the plant. Elevated TSS in fall discharge was likely due to resuspended solids when drawing liquid from near lagoon bottom.

4.1 De-Sludging of Lagoons

The lagoon was desludged in 2019 by Geo-Dredging & Dewatering INC, removing and processing approximately 18,485 m³ of material. No sludge was removed in 2024.

TABLE 2

Summary of Average Raw Sewage Monitoring Data - 2024

Tara Wastewater Treatment Plant

Municipality of Arran-Elderslie

March, 2025 13-028

Month	CBOD (mg/L)	Total Suspended Solids (mg/L)	Total Phosphorous (mg/L)	pH	Temp Celsius
Feb	73	103	2.44	7.20	10.10
May	123	185	6.12	7.69	12.00
Aug	309	504	7.54	7.30	18.10
Nov	91	81	2.86	7.08	14.10
Average	**149**	**218**	**4.74**	**7.32**	**13.6**

TABLE 3

Summary of Effluent Discharge Monitoring - Spring and Fall 2024

Tara Wastewater Treatment Plant

Municipality of Arran-Elderslie

March, 2025 13-028

	Date	Cell #1					Cell # 2					E. Coli
		CBOD (mg/L)	TSS (mg/L)	Total Phosphorous (mg/L)	pH	Field Temp. (C°)	CBOD (mg/L)	TSS (mg/L)	Total Phosphorous (mg/L)	pH	Field Temp. (C°)	
	C of A Objectives						25	30	0.8			
	C of A Limits						30	40	1			
Spring Pre-Discharge	March 11	34	64	0.30	6.77	2.5	5	9	0.19	6.76	2.8	
	March 13	32	76	0.34	7.01	7.4	4	8	0.18	6.93	6.9	
	March 18	57	71	0.38			5	3	0.20			
Spring Discharge	March 25	30	86	0.29	6.87	4.0	<4	<2	0.30	7.13	3.1	
	April 2	26	80	0.24	6.91	6.1	7	10	0.11	7.02	6.1	
	April 4	15	58	0.30	7.23	5.5	7	16	0.13	6.88	5.6	520
	April 8	30	37	0.23	7.02	9.8	6	11	0.14	7.24	9.6	
	April 10	19	28	0.20	11.4	7.27	5	8	0.27	7.14	11.9	36
	April 15	15	17	0.26	6.93	10.3	<4	8	0.44	7.25	10.1	
	April 18	14	10	0.23	7.06	10.5	<4	8	0.53	6.94	10.4	10
	April 22	13	16	0.25	6.97	8.2	<4	9	0.50	7.16	8.6	
	April 25	20	19	0.25	7.34	6.9	4	9	0.37	6.97	7.8	14
	April 29	23	23	0.27	6.98	12.4	<4	5	0.45	7.14	12.6	
	May 6	11	11	0.56	7.02	14.4	<4	2	0.84	7.21	13.5	
	May 9	13	11	0.74	7.27	14.3	<4	3	1.02	7.19	15.3	
	May 13	52	42	0.34	7.02	14.2	<4	6	0.67	7.19	13.4	
	Seasonal Average (Spring) Discharge	22	34	0.32			6	8	0.44			
Fall Pre-Discharge	October 21	31	19	0.25	7.13	12.8	23	23	0.55	7.33	12.5	
	October 28	31	25	0.51	7.36	8.8	19	17	0.73	7.34	8.7	
	November 4	16	26	0.49	7.36	10.2	15	8	0.56	7.04	10.5	
Fall Discharge	November 7	18	20	0.42	7.45	12.3	16	10	0.73	7.38	12.6	
	November 12	16	12	0.40	6.95	6.0	16	13	0.37	7.39	7.1	
	November 18	14	29	0.63	7.04	6.1	17	13	0.34	7.30	6.4	
	November 19	4	16	0.40	7.35	5.0	20	14	0.30	7.03	5.1	1440
	November 25	20	80	0.29	7.25	3.6	16	26	0.33	7.34	3.1	
	November 28	18	78	0.38	7.35	1.9	23	58	0.34	7.17	2.0	3000
	Seasonal Average (Fall) Discharge	15	39	0.42	-	-	18	22	0.40	-	-	-
	Compliance with Effluent Limits						**Y**	**Y**	**Y**			

Note: The seasonal average effluent discharge concentration of a constituent must not exceed its corresponding C of A Limit which is based on average concentrations.

5.0 SUMMARY OF MAINTENANCE PROGRAM

January 24, 25, 30:

- Bulk Load of alum (20,090 L approx.) was received at the plant.
- Operated sewage valves in dry well as a maintenance best practice.
- Decreased alum dosage by turning down the pump dial by one turn. New alum chemical in use.
- Removed and replaced valve on sewage pump #1 (200 mm).
- Provided electrical wiring for new sewage pump #1.
- Removed and replaced Dry well dehumidifier.

February 1, 2, 5, 6, 22, 29:

- Decreased alum dosage by turning the pump dials ½ turn each.
- Reset pump #1 hour meter to 0.00 hrs. for new sewage pump.
- Placed new pump #1 into service.
- Kevin Cassan, representative of Crane Pump, on site to commission pump #1.
- Annual Generator maintenance: Checked battery and coolant and found them to be in good condition. Lubed linkages at 1,384.3 hrs.
- Removed and replaced pump # 1 hour meter. Also removed and replaced pump #1's 30 amp breaker with refurbished 50 amp breaker. Placed pump #1 back into service.
- Increase alum dosage by turning up pumps dial by ½ turn each.
- Removed and replaced #2 check valve.

March 4, 6, 14, 25, 28:

- Removed and replaced pump #2 hour meter.
- Placed Pump #2 put into service.
- Increased alum dosage by turning up pumps dial by ½ turn each.
- Began spring discharge from cell #2.
- Removed and replaced water in eye wash bottle.
- Increased alum dosage by turning up pumps dial by 1 turn each.

April 4, 11 19:

- Removed and replaced both alum pump's drive belts. Also tightened drive belt on alum pump #2 (Gates 6821).
- Increased alum dosage by turning up pumps dial by 1 turn each.

May 2, 13, 28:

- Increased alum dosage by turning up pumps dial by 1 turn each.
- End of spring discharge from Cell #2
- Removed and replaced generator's battery.

June:

- New Sewer cleanouts added or raised as needed to all lateral services on Francis St Tara during street re-construction project.

July:

- New Sewer cleanouts added or raised as needed to all lateral services on Francis St Tara during street re-construction project.
- Mowed grass around lagoons.

August 1, 8:

- Increased alum dosage by turning up pumps dial by ½ turn each.
- Removes and replaced light bulb in wet well.

September 19:

- Increased alum dosage by turning up pumps dial by ½ turn each.

October 10, 21:

- MacDonnell topped up fuel tank (approx. 200 L) for diesel generator.
- Fosters flushed sewer collection system.

November 3, 13, 19, 21, 28:

- Began fall discharge from Cell #2.
- Fosters vacuumed/cleaned wet well.
- Inspected and cleaned roof.
- Decreased alum dosage by turning pumps dial by 2 turns each.
- Alum tank filled up.
- Decreased alum dosage by turning pumps dial by 1 turn each.
- Ended fall discharge from Cell #2.
- Turned all valves at lagoons, turned 2 valves at pumphouse in driveway.

December 5, 18, 19:

- Decreased alum dosage by turning pumps dial by 2 turns each.
- Removed and replaced main floor's building heater.
- Increased alum dosage by turning pumps dial by ½ turn each.

6.0 SUMMARY OF COMPLAINTS RECEIVED

No complaints were received in 2024 concerning the Tara Wastewater System.

7.0 ASSESSMENT OF SEPTAGE ACCEPTANCE

In January 2005, Henderson Paddon & Associates Ltd., produced a report entitled “Assessment of Wastewater Treatment Plants in the Municipality of Arran-Elderslie to Treat Septage”. This study concluded and recommended the following:

1. The Tara lagoons could accept 1.5 loads of septage at 13.6 m^3 (3,000 1GAL) per load per week, from May 1 to October 31.
2. During the wintertime, this rate should be reduced to one (1) load every two (2) weeks.
3. Improvements to the lagoon to facilitate receiving this septage should be important.
4. It must be recognized that the receipt of septage at the lagoons will increase the sludge accumulation rate in the lagoons.

No septage was accepted at the Tara Wastewater Treatment Plant in 2024.

Operators should be vigilant and recognize that, should plant’s capacity utilization increase significantly higher than 2005 capacity utilization, they will need to seek engineer’s assistance to re-evaluate the above assessment of treating septage at the plant.

8.0 SEWAG BY-PASS

There was no sewage by-pass in 2024.

9.0 MINISTRY OF THE ENVIRONMENT INSPECTION

No MECP inspection of the plant occurred in 2024..

10.0 RECOMMENDATIONS

1. Sampling of raw sewage, lagoon contents and effluent during discharge to the stream should continue as required by the Certificate of Approval. Operator(s) should be careful while discharging the last portion of liquid from the lagoon. High velocity discharge should be avoided to prevent picking up of sludge solids from lagoon bottom.
2. A standard recording form for responding to complaints should be used for recording any complaints relating to the Tara Wastewater System.
3. The magnetic flow meter should be recalibrated again in April 2025.
4. Operators should seek engineering assessment for septage treatment, as earlier provided by Henderson Paddon in 2005, should the capacity utilization significantly increase from 2005 levels.

Respectfully submitted:

GSS Engineering Consultants Ltd.

Rakesh Sharma, P. Eng., M.A.Sc.
Class IV License, WWC and WWT
Overall Responsible Operator

Municipality of Arran-Elderslie

Chris Legge, Water & Sewer Foreman
Class I WWT & Class I WWC, Backup ORO

Municipality of Arran-Elderslie

Scott McLeod, Public Works Manager
Class II WWC & Class II WWT, Backup ORO

Appendix A

Certificate of Approval

Ontario

Ministry of the Environment | Ministère de l'Environnement

AMENDED CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 9456-659N92

The Corporation of the Municipality of Arran-Elderslie
P.O. Box 70, 1925 County Road 10
Chesley, Ontario
N0G 1L0

Site Location: Tara Sewage Lagoon
Lot Pt Lt 28, Concession 7
Arran-Elderslie Municipality, County of Bruce

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

the municipal sewage treatment works at the above site location for the collection, transmission, treatment and disposal of domestic sewage with a *Rated Capacity* of 650 m^3/d, consisting of the following:

Inlet Forcemain

- approx. 307 m of 200 mm dia. inlet forcemain on site from the property limits to the influent works of the waste stabilization pond;

Waste Stabilization Pond

- a 7.9 ha waste stabilization pond (approx. area at 1.5 m depth) constructed in two equal cells, complete with influent works, interconnecting structures and effluent works, and with phosphorus removal accomplished by injection of phosphorus removal chemical during pump operation at the sewage pumping station located in the Village of Tara;

Outfall Sewer

- approx. 183 m of 400 mm dia. outfall sewer on site and easements from the effluent works of the waste stabilization pond to the Sauble River;

Miscellaneous

- 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 following submitted supporting documents:

1. Final plans and specifications prepared by Henderson Paddon and Associates Limited.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"*Act*" means the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended;

"*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;

"*By-pass*" means any discharge from the *Works* that does not undergo any treatment before it is discharged to the environment;

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

"*Certificate*" means this entire certificate of approval document, issued in accordance with Section 53 of the *Act*, and includes any schedules;

"*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 any *Ministry* employee appointed by the Minister pursuant to section 5 of the *Act*;

"*Discharge Season*" means the Spring discharge period commencing after the liquid surface in the lagoon has become free of ice cover, terminating not later than May 14 or the Fall discharge period commencing not earlier than November 1 and terminating not later than December 15 in which discharge of effluent from the *Works* is permitted;

"*District Manager*" means the District Manager of the Barrie District Office of the Ministry;

"*Ministry*" means the Ontario Ministry of the Environment;

"*Owner*" means the Corporation of the Municipality of Arran-Elderslie and includes its successors and assignees;

"*Rated Capacity*" means the *Average Daily Flow* for which the *Works* are approved to handle;

"*Regional Director*" means the Regional Director of the Southwestern Region of the Ministry; and

"*Seasonal Average Concentration*" means the arithmetic mean of all *Daily Concentrations* of a contaminant in the effluent sampled or measured, or both, during a *Discharge Season*;

"*Works*" means the sewage works described in the *Owner*'s application, this *Certificate* and in the supporting documentation referred to herein, to the extent approved by this *Certificate*.

You are hereby notified that this 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 *Certificate* 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 *Certificate*, the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this *Certificate*.

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

(4) Where there is a conflict between the listed submitted documents, 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 requirements of this *Certificate* are severable. If any requirement of this *Certificate*, or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this certificate shall not be affected thereby.

2. CHANGE OF OWNER

(1) The *Owner* shall notify the *District Manager* and the *Director*, in writing, of any of the following changes within 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 *District Manager*;

(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 Informations Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District Manager*;

(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 *Certificate*, and a copy of such notice shall be forwarded to the *District Manager* and the *Director*.

3. RECORD DRAWINGS

(1) A set of as-built drawings showing the works "as constructed" 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. BY-PASSES

(1) Any *By-pass* of sewage from any portion of the *Works* is prohibited, except where:

(a) it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage;

(b) the *District Manager* agrees that it is necessary for the purpose of carrying out essential maintenance and the *District Manager* has given prior written acknowledgment of the *by-pass*; or

(c) the *Regional Director* has given prior written acknowledgment of the *By-pass*.

(2) The *Owner* shall collect at least one (1) grab sample of the *By-pass* and have it analyzed for the parameters outlined in Condition 6 using the protocols in Condition 9.

(3) The *Owner* shall maintain a logbook of all *By-pass* events which shall include, at a minimum, the time, location, duration, quantity of *By-pass*, the authority for *By-pass* pursuant to subsection (1), and the reasons for the occurrence.

5. 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 *Works*.

Table 1 - Effluent Objectives

Effluent Parameter	**Average Concentration** (milligrams per litre unless otherwise indicated)
Column 1	Column 2
CBOD5	25.0
Total Suspended Solids	30.0
Total Phosphorus	0.8

(2) The *Owner* shall use best efforts to:

(a) maintain the pH of the effluent from the *Works* within the range of 6.5 to 9.0, inclusive, at all times;

(b) operate the works within the *Rated Capacity* of the *Works*;

(c) ensure that the effluent from the *Works* 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.

(3) The *Owner* shall include in all reports submitted in accordance with Conditions 9 and 10 a summary of the efforts made and results achieved under this Condition.

6. 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 *Works*.

Table 2 - Effluent Limits	
Effluent Parameter	**Average Concentration** (milligrams per litre unless otherwise indicated)
Column 1	Column 2
CBOD5	30.0
Total Suspended Solids	40.0
Total Phosphorus	1.0

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

(a) The *Seasonal 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) Paragraph (a) of subsection (2) shall apply upon the issuance of this certificate.

7. 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 *Certificate* 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 *Certificate* and the *Act* 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 *District Manager*; 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 *Works* 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.

8. SPECIAL OPERATIONS - SEASONAL DISCHARGE

(1) The *Owner* shall operate the *Works* such that discharge is conducted on a semi-annual discharge basis with the effluent being discharged in the spring and the fall as follows:

spring: discharge commencing after the liquid surface in the lagoon has become free of ice cover, terminating not later than May 14, and

fall: discharge commencing not earlier than November 1 and terminating not later than December 15.

9. EFFLUENT 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 *Certificate* 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) Quarterly means once every three months;

(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:

Table 3 - Raw Sewage Monitoring	
Frequency	Quarterly
Sample Type	Grab
Parameters	*CBOD5*, Total Suspended Solids, Total Phosphorus

Table 4 - Lagoon Contents (within one week prior to each seasonal discharge)		
Parameters	**Sample Type**	**Frequency**
CBOD5	Grab	once
Total Suspended Solids	Grab	once
Total Phosphorus	Grab	once

Table 5 - Effluent Monitoring (beginning, during and at the end of each discharge season)		
Parameters	**Sample Type**	**Frequency**
CBOD5	Grab	2 times a week
Total Suspended Solids	Grab	2 times a week
Total Phosphorus	Grab	2 times a week

(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" (20th edition), as amended from time to time by more recently published editions;

(5) The measurement frequencies specified in subsection (2) in respect to any parameter are minimum requirements which may, after 6 months of monitoring in accordance with this Condition, be modified by the *District Manager* in writing from time to time.

(6) The *Owner* shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the influent to the *Works* 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 measure and record the flowrate and quantity of effluent from the *Works* during each *Discharge Season*.

10. REPORTING

(1) Ten (10) days prior to the date of a planned *By-pass* being conducted pursuant to Condition 4 and as soon as possible for an unplanned *By-pass*, the *Owner* shall notify the *District Manager* (in writing) of the pending start date, in addition to an assessment of the potential adverse effects on the environment and the duration of the *By-pass*.

(2) The *Owner* shall report to the *District Manager* or designate, any exceedence of any parameter specified in Condition 6 orally, as soon as reasonably possible, and in writing within seven (7) days of the exceedence.

(3) In addition to the obligations under Part X of the Environmental Protection Act, the *Owner* shall, within 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 *District Manager* 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.

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

(5) The *Owner* shall prepare, and submit to the *District Manager*, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. 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 Condition 6, 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 Effluent Objectives of Condition 5.

(g) a summary of any complaints received during the reporting period and any steps taken to address the complaints;

(h) a summary of all *By-pass*, spill or abnormal discharge events; and

(i) any other information the *District Manager* requires from time to time.

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 *Certificate* 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 *Certificate* the existence of this *Certificate*.

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 *Certificate* and continue to operate the *Works* in compliance with it.

3. Condition 3 is included to ensure that record drawings of the *Works* "as constructed" are maintained for future references.

4. Condition 4 is included to indicate that by-passes of untreated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to *By-pass* could result in greater injury to the public interest than the *By-pass* itself where a *By-pass* will not violate the approved effluent requirements, or where the *By-pass* 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 *By-pass* events.

5. Condition 5 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 6 are exceeded.

6. Condition 6 is imposed to ensure that the effluent discharged from the *Works* to the Sauble River 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.

7. Condition 7 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 work.

8. Condition 8 is included to ensure that the treated effluent is discharged to the receiver during periods and at rates that minimizes the environmental impact on the receiver.

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 *Certificate* and that the *Works* does not cause any impairment to the receiving watercourse.

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 *Certificate,* so that the *Ministry* can work with the *Owner* in resolving any problems in a timely manner.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 1-704-80-006 issued on July 2, 1980.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, 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 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the 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.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

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

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., 12th Floor
P.O. Box 2382

AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A

Toronto, Ontario
M4P 1E4

Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the**
Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 11th day of January, 2005

Mohamed Dhalla, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

FL/

c: District Manager, MOE Owen Sound
Matt G. Prentice, Henderson Paddon & Associates Ltd.
Drinking Water, Wastewater and Watershed Section, MOE Standards Development Branch

Appendix B

Flow Meter Calibration Report

Tower Electronics Canada Inc. Calibration Certificate

Customer:
Municipality of Arran-Elderslie
Chris Legge
Water Foreman
Water@arran-elderslie.ca

Calibration by:
Dan Matchett

Standards:
Fluke 289 S/N 96220182 NIST Cal Due March 2025

Instrument Type
Magnetic Flow Meter

Meter Information

Date of Test:	2024-04-29
Location:	Tara Sewage PS
Meter Under Test	Station Flow
Client Tag:	n/a
Manufacturer:	ABB
Model:	Watermaster
Serial Number:	3K620000155000
Totalizer As Found:	1313359.8M3
Totalizer As Left:	1313377.3M3
Acceptable Tolerance:	15%

Programming Parameters:

DN Size:	DN250
Cal Factor:	QMAX175
Zero Cal:	0
Calibration Due:	Apr-25

Method of verification
Verimaster/Watermaster Internal Check/ABB Ability Verification

Wet Well Dimensions
6.960m x 6.160m

Meter Programming

Units:	LPS
Zero:	0.00
Span:	100.00
Totalizer:	M3

Volumetric Test		Unit
Meter Under Test Totalizer Start	1313373.500	m3
Meter Under Test Totalizer Stop	1313377.300	
Total Volume of Test	3.800	
Calculated Volume:	3.720	
Error %	2.105	
Result:	PASS	

OIML/R49 Internal Flow Meter Checks:

Parameter	Value	Result
E1 Resistance ohms	1783	PASS
E2 Resistance ohms	1574	PASS
Coil Resistance ohms	35.24	PASS
Coil Inductance mH	158.67	PASS
Sensor Shift%	0.1	PASS
TX Gain %	0.03	PASS
ABB Diagnostics	0x000000000000	PASS
OIML Warnings	0	PASS

Current Output Simulated
Output Test(mA/Hz):

Sim mA	Measured	Error
4.000	3.997	0.075
8.000	7.999	0.013
12.000	11.998	0.017
16.000	15.997	0.019
20.000	19.997	0.015
		0.03
		PASS

Comments:
Based on ABB Watermasters OIML/R49 standard the meter is operation within 1% of accuracy.
Meter also passes secondary volumetic test.

Tower Electronics Canada
2687 Hwy 40
K0K 3M0
Wooler On
Canada

Email: Dan@Tecanada.ca
Website: www.tecanada.ca