



**2020 ANNUAL SUMMARY REPORT**  
**Water Pollution Control Plant**  
**Amended Environmental Compliance Approval**  
**Number 6418-BN2NUC**

**The 2020 WPCP Summary Report was prepared by:**

Ted Joynt Overall Responsible Operator

Reviewed By;

Phil Kelly Operator in Charge

## Executive Summary

The enclosed Annual Summary report is prepared in accordance with Amended Environmental Compliance Approval (ECA) # 6418 BN2NUC Condition 11 Reporting subsection (5) for the Township of Cramahe (Operating Authority) Village of Colborne Water Pollution Control Plant (WPCP) for submission to the Ministry of Environment Conservation & Parks (MECP) no later than March 31, 2021.

The secondary purpose of this 2020 Summary Report is to keep the Operating Authority, Owner (Council) informed regarding the general operation, maintenance and facility compliance regarding solids and liquid handling and disposal as per the ECA.

Each year it is a requirement that the owner prepares and submits an annual summary report for the previous calendar year and must contain the following information:

1. The Owner shall report to the District Manager orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.
2. The Owner shall, within fifteen (15) days of occurrence of a spill within the meaning of Part X of the EPA, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation, in addition to fulfilling the requirements under the EPA and O. Reg. 675/98 "Classification and Exemption of Spills and Reporting of Discharges".
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 performance reports on a calendar year basis and submit to the District Manager by March 31 of the calendar year following the period being reported upon. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:
  - a. a summary and interpretation of all Influent, Imported Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;
  - b. a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
  - c. a summary of all operating issues encountered and corrective actions taken;
  - d. a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
  - e. a summary of any effluent quality assurance or control measures undertaken;
  - f. a summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment to ensure that the accuracy is within the

tolerance of that equipment as required in this Approval or recommended by the manufacturer;

- g. a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:
  - i. when any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;
  - ii. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;
- h. a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- i. a summary of any complaints received and any steps taken to address the complaints;
- j. a summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;
- k. a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 10, including a report on status of implementation of all modification.
- l. a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted.
- m. a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year.

# **Referencing Information**

## **Colborne Water Pollution Control Plant**

**Owner and Operating Authority** – Corporation of the Township of Cramahe

**Amended April 30, 2020 Environmental Compliance Approval** – 6418 - BN2NUC

<b>Mailing Address –</b>	PO Box 357, 1 Toronto Street, Colborne, Ontario, K0K 1S0
<b>Site Address -</b>	1108 Ontario Street, Colborne, ON, K0K 1S0
<b>Municipal Contact</b>	David MacPherson, C.E.T. Manager of Public Works and Environmental Services Township of Cramahe 1 Toronto St., PO Box 357 Colborne ON, K0K1S0 P: 905-355-2821 Ext. 126 David MacPherson <dmacpherson@cramahetownship.ca>
<b>Site contact</b>	Phil Kelly, Operator-in-Charge Voice – (905) 355-2982 Email – <a href="mailto:wwt@cramahetownship.ca">wwt@cramahetownship.ca</a>
<b>ORO</b>	Ted Joynt Cellular - 613-284-7290 Email - <a href="mailto:jwwc_1@xplornet.ca">jwwc_1@xplornet.ca</a>
<b>Works Number</b>	# 120000088



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### **WPCP Description**

The Colborne Wastewater Treatment Process is an extended aeration process. Meaning, the wastewater spends an extended period of time in the biological process. There is no primary clarification.

There are two unique features in the plants design. The first being a peak flow attenuation pond, to which raw sewage flows when it exceeds the designed peak flow. As such, there is virtually no chance for a sewage bypass. The peak flow attenuation pond is emptied by directing flow back into the plant for treatment once peak flows subside. The attenuation pond can also be used to hold wastewater during facility maintenance.

The second feature is a bio solids/waste stabilization holding pond which has the capacity to hold sludge for an extended period of time. This bio solids holding pond decants supernatant by gravity into the peak flow attenuation pond. Sludge is removed as required to maintain adequate storage room. The bio-solids/waste stabilization pond has a capacity of 4000 m<sup>3</sup> for the storage for sludge. The Bio-solids Waste stabilization Pond controls odors' and allows the sludge to stabilize so that land application can occur.

There are two composite samplers, one for raw wastewater and one for final effluent. There are two final effluent sample points, one at the dechlorinating facility and the second sampling point at Station 2 (final effluent), prior to discharge to Lake Ontario.

Raw wastewater from the collectors in the sanitary collection system flows by gravity to a single trunk line that discharges to an influent wet well located at the treatment facility.

**Primary Treatment** - From this wet well low lift pumps move the wastewater through a "Muffin Monster" (grinder) to grind the solids and other debris into small pieces, this grinder protects downstream equipment. After grinding the solids, the wastewater flows to grit channels where sand and other debris settles out, up to this point this is referred to as primary treatment. After grit removal, the wastewater flows aeration basin.

**Secondary Treatment** - In the aeration basin the biological microorganisms begin to feed on nutrients and other organic matter. After the biological process, the wastewater continues to a secondary clarifier where the velocity of the wastewater slows down allowing solids settle to the bottom of the clarifier and floatable matter is skimmed off such as grease. Aluminum Sulphate (coagulant) is added to the wastewater at the head of the Secondary Clarifier. This coagulant causes electrically charged particles contained in the wastewater to clump together forming "floc". This floc then settles to the bottom of the clarifier leaving a much cleaner effluent wastewater (final effluent).

**Final Effluent** - The clear supernatant flows to an effluent wet well, where chlorine (sodium hypochlorite NaOCl) is added for disinfection. The final effluent is then pumped into a force main which moves the final effluent to the dechlorinating process. Dechlorination occurs approximately 1.25 km south from the plant, sodium metabisulphite ( $\text{Na}_2\text{S}_2\text{O}_5$ ) is added to the wastewater stream to remove any residual chlorine left over from the disinfection process. There can be no more than 0.02 mg/l of total chlorine remaining in the effluent water discharged into the receiving body of water (Lake Ontario). After dechlorination the final effluent flows to the receiving body of water, in this case Lake Ontario.

**Process control** – Automated control of the Water Pollution Control Plant (WPCP) is accomplished by a Supervisory Control and Data Acquisition (SCADA) computer system. This SCADA system controls all of the process related mechanical devices. Chemical dosing is also controlled by SCADA. The SCADA system was updated in 2018, new server grade computers were installed improving and allowing for better collection, interpreting and trending of data. As well, a new data historian reporting system was installed (e-RIS) which allows for better control over plant data than the previous reporting system. The new SCADA system also includes complete redundancy, should one SCADA computer fail, then the other can be used without loss of data or plant control.

The SCADA system allows the operators to control, monitor, trend and report all aspects of wastewater treatment processes (see below);

- Influent pump station pump control,

- Aeration tank blower control,
- Groundwater pump station pump control,
- Alum injection system control,
- RAS / WAS pump & valve control,
- Scum pumping station pump control,
- Effluent pumping station pump control including chlorination and dechlorination
- Monitoring of various other alarms and process parameters including flow monitoring

The SCADA process control system, ultimately filters commands that control pumps, process interlocks and alarms that alert operators when equipment malfunctions or processes fail. The system also monitors and tracks large volumes of data that are used for process control and MECP compliance reporting. The servers that make up the SCADA system operate 24/7 and are never off line.

**Flow monitoring** - There are three flow measuring devices/transmitters. One Parshall flume is located immediately upstream of the grit channels and one after the secondary clarifier. These flow meters are used for flow monitoring during various wastewater treatment processes. There is an electromagnetic flow meter (mag meter) located at the dechlorinating facility used for process control to dose the dechlorinating agent and measure flow to Lake Ontario. The effluent flow from the mag meter (FIT615) is used as a compliance flow the annual daily flow is determined at this flow meter.

**Emergency power** is provided by two onsite generators, one is located at Building 1 (control room) and the other at Building 3 (dechlorination). Both of these generators are capable of providing all power requirements. The generators are exercised monthly under load to make sure they are always ready to supply power during a power outage.

## **Section 11 of ECA Reporting**

***a:** A summary and interpretation of all Influent Sewage Monitoring data and a review of the historical trend of the sewage characteristics and flow rates;*

### **Influent Sewage Characteristics**

The influent sewage characteristics have not change nor is it anticipated to change. The wastewater is mostly residential with some commercial and light industry

Please refer to **Annex B** for raw wastewater characteristics

***b:** a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval including an overview of the success and adequacy of the Works.*

The Wastewater plant was operated and maintained in a manner where the concentrations and waste loadings of material (CBOD5, TSS, TP, TKN, met all effluent parameters and did not exceed limitations. The monthly average concentration and average loadings were all within limits. The pH of the effluent was maintained within range of set limitations at all times. Flows were within the Design Flow Rate (based on monthly averages).

Please refer to **Appendix B** for Final Effluent monitoring data

***c:** A summary of all operating issues encountered and corrective actions taken;*

### **Noncompliance for E-Coliseum**

The sampling results for e-Coli in the final effluent for the month of September indicated that the geo-mean monthly average exceeded the ECA limit of 200 colony forming units (cfu) The monthly average was 205 cfu. This ECA exceedance was reported as per the reporting requirements of the ECA

### **Corrective Action**

See **Appendix C**

**d:** *a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the works;*

No major equipment repairs were needed during 2020. Routine maintenance was carried out based on manufacturers recommendations and as needed.

Please refer to **Appendix D** for maintenance activities

**e:** *A summary of effluent quality assurance or control measures taken;*

Quality control is monitored using the daily SCADA reports as well as online instrumentation location in the control room. Laboratory results are reviewed when received. Process changes are made based on an accredited laboratory results, in-house testing and physical monitoring so as to achieve the best quality effluent.

Routine activities such as manually checking sludge depths and dissolved oxygen in the aeration tank as well as visual rounds add to the control measures taken.

The WPCP can also be remotely monitored using VPN. This remote monitoring allows for the operator to make changes to all control set points as well as responding to alarms states while offsite. All enabled alarms when latched will be sent to the operator's cell phone via a RACO dialer.

**f:** *a summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the*

The plant flow meters are annually calibrated. Other instrumentation, such as pH meters are calibrated in-house prior to each use

The flow meter validation reports are contained in **Appendix F**

The bench instruments (HACH DR3900 and DR 850) used for Total Chlorine Residual are validated using HACH chlorine gel standards

***g:*** a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:

- i. When any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;*

The plant effluent concentrations in terms of CBOD and Total Ammonia Nitrogen (TAN) Total Suspended Solids (TSS) and Total Phosphorous (TP) were all within the ECA limits for 2020. The limits for Total Chlorine Residual were met. Data collected for 2020 shows that the extended aeration process provided a high quality effluent. The nutrient loadings on the receiving body of water (Lake Ontario) were within the ECA limits

- ii. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;*

The average daily flow (ADF) is based on FIT615 Final Effluent mag meter flow, the ADF was 1024 m<sup>3</sup> /d. The rated capacity of the WPCP is 1745 m<sup>3</sup>/d. Eighty percent of the rated capacity would be 1424 m<sup>3</sup>/d. The effluent flows were below 80%

***h.*** a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

It is estimated that 4 m<sup>3</sup> of sludge is generated per day. Nineteen hundred and sixty (1960 m<sup>3</sup>) of sludge was removed from cell 2 for land application in 2020. More waste sludge will be removed in 2021 the exact volume has yet to be determined.

***Please refer to Appendix H for the sludge removal records (Terrapure)***



Date: Aug 19, 2020	Volume Allowed: 1960 m <sup>3</sup>
NASM #: 23595	Volume Prev Spread: 0 m <sup>3</sup>
Site Name: Benedetti - Herley	Volume Remaining: 1960 m <sup>3</sup>
Field #: 1W	Application Rate: 92 m <sup>3</sup> /ha
Hectares: 21.31	Weather Conditions: warm, clear
Acres: 52.66	Field Conditions: dry
Material: liquid	Tile Monitoring Required: no

***i:** A summary of any complaints received during the reporting period and any steps taken to address the complaints;*

No formal complaints were received in 2020 regarding the Wastewater Treatment Plant or Collection system.

***j.** a summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;*

The plant includes a peak flow attenuation pond (14,000 m<sup>3</sup>) that allow for high flow to be redirected away from the main plant processes, as such there were no treatment plant bypass events or abnormal discharges or spills during the year. Quarterly reports were submitted to the MECP as per the ECA.

***See Appendix I– Bypass Report***

***K:** A copy of all notices of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification.*

There were no modifications as a result of Schedule B, Section 1 of the ECA

*I. a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted.*

In 2020 the Colborne WPCP and Collection system had zero secondary treatment bypasses or CSO events. The average daily flow (ADF) for 2020 was 1024 m<sup>3</sup>/d. The rated capacity of the facility is 1750 m<sup>3</sup>.

Infiltration and Inflow (I&I) in the collection system are the main focus of a control group made up of staff, with a goal to gather data that could be used to restore plant capacity for future development. Staff reviewed past engineering reports both recent and past reports for background information.

Open Channel flow Meters were purchased in early 2020. These flow meters were installed at several different locations in the collection system and left for as long as 2 weeks gathering flow data. The data collected provided specific locations in the collection system where resources could be concentrated in the future.

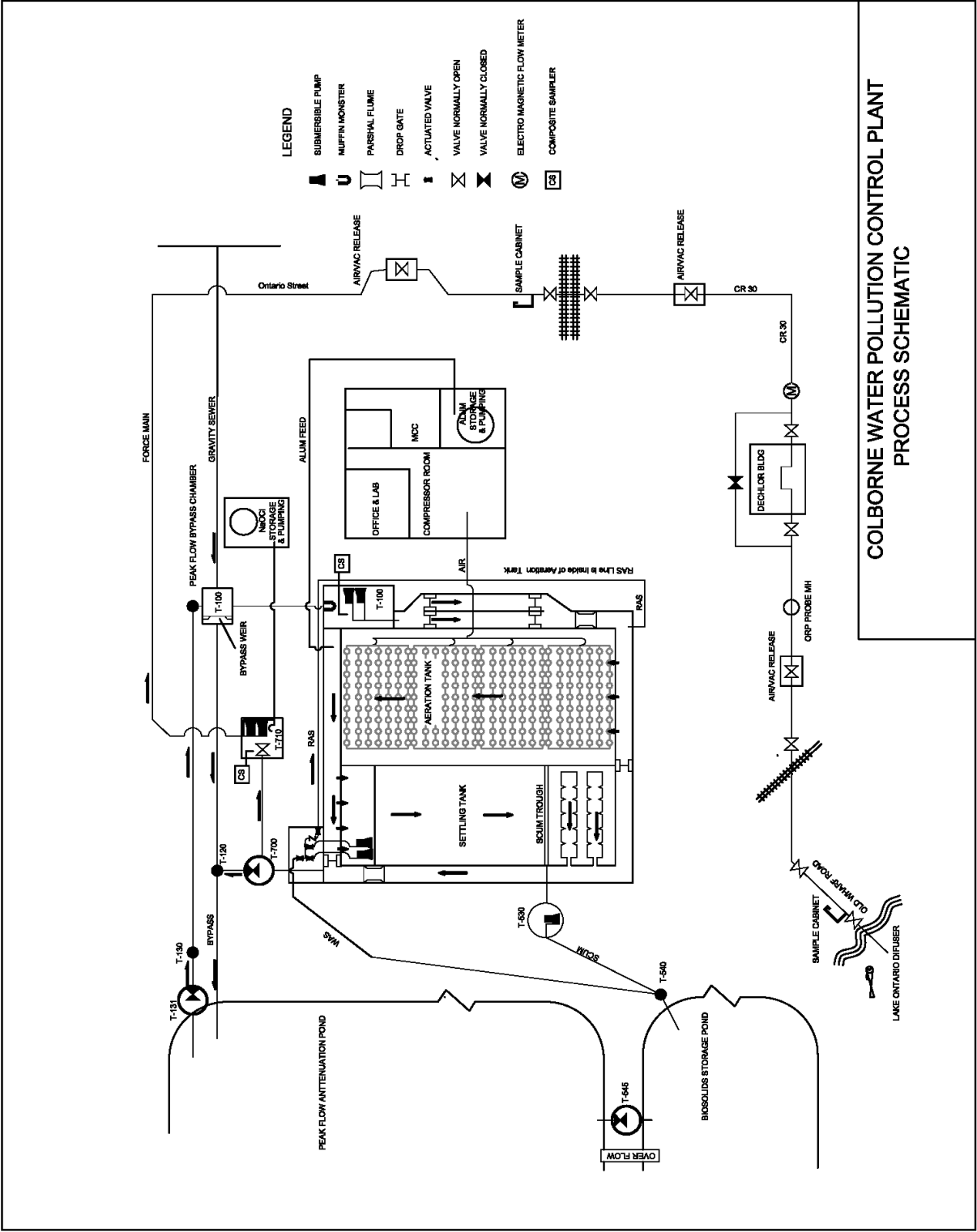
During 2021 the municipality will be focusing on gathering as much information as possible regarding I&I. Methods used will include reviewing plant flows, CCTV, regular visual inspections of maintenance chambers, open channel flow monitoring and the use of a ZOOM type HD camera to locate problem areas for further CCTV inspection. The aim is to use the data, observations and information gathered in 2021 to form the basis of a budget forecast for actual repairs to be performed in 2022.

*i: a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year and a schedule for the next reporting year;*

There were no deviations from scheduled sampling during 2020.

**Please refer to Appendix I Sampling schedule**

*Please refer to the Process Schematic drawing on the following page.*



**Appendix A – Amended Environmental Compliance Approval #6418-BN2NUC**

## AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 6418-BN2NUC  
Issue Date: April 30, 2020

The Corporation of the Township of Cramahe  
1 Toronto St  
Post Office Box, No. 357  
Cramahe, Ontario  
K0K 1S0

Site Location: 1108 Ontario Street  
Township of Cramahe, Ontario  
K0K 1S0

*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:*

alteration, usage and operation of existing municipal sewage works, for the treatment of sanitary sewage and disposal of effluent to Lake Ontario via a Sewage Treatment Plant (Colborne Wastewater Treatment Plant) and Final Effluent disposal facilities as follows:

**Classification of Collection System:** Separate Sanitary Sewer System

**Classification of Sewage Treatment Plant:** Secondary Equivalent

### Design Capacity of Sewage Treatment Plant

Design Capacity with All Treatment Trains in Operation	Existing Works
Rated Capacity	1,750 m <sup>3</sup> /d

### Influent and Imported Sewage

Receiving Location	Types
In Collection System	Sanitary
At Sewage Treatment Plant	Septage/Holding Tank Waste

## **Colborne Wastewater Treatment Plant:**

### **Influent Sewers**

- sanitary sewer on Ontario Street from approximately 230 m South of King Street and Sewage Treatment Plant access road to the influent chamber discharging to comminutor
- emergency peak flow diversion weir and 450 mm diameter diversion sewer to peak flow attenuation pond;

### **Peak Flow Attenuation Pond**

- one (1) 15,000 m<sup>3</sup> peak flow attenuation pond for overflow of raw sewage, secondary treatment effluent and biosolids storage tank, with outlet sewer returning to the inlet chamber;

### **Sanitary Sewage Pumping Station**

- one (1) comminutor;
- two (2) submersible pumps (one standby) each rated at 60.4 L/s at 8.3 m TDH;

### **Preliminary Treatment System**

- one (1) manual bar screen;
- two (2) grit channels;
- one(1) Parshall Flume

## **Secondary Treatment Systems**

### **Biological Treatment**

- Influent channel with three inlet ports to the aeration tank
- one(1) 25 m X 8.5 m X 4.3 SWD aeration tank equipped with fine bubble aeration system;
- two (2) air blowers (one standby), each rated at 38 m<sup>3</sup>/min at 55 kPa;

### **Secondary Sedimentation**

- one(1) 25 m X 6.1 m X 4.8 m SWD secondary clarifier equipped with sludge and scum removal

mechanisms;

- a sludge hopper equipped with two (2) return/waste activated sludge pumps (one standby), each rated at 20.3 L/s at 9.4 m TDH;
- a scum tank equipped with one (1) scum pump rated at 5.0 L/s at 4.2 m TDH;

## **Supplementary Treatment Systems**

### **Phosphorus Removal**

- one(1) 28,000 L capacity phosphorus removal chemical storage tanks and two (2) metering pumps (one standby) each rated 60 L/h at 1034 kPa;

### **Disinfection System and effluent pumping**

- one (1) 7,700 L sodium hypochlorite storage tank and two (2) metering pumps (one standby), each rated at 80 L/h at 400 kPa and paced with the effluent flow, with a feed line for injection into a 1.3 km effluent forcemain;
- one (1) 77 m<sup>3</sup> wet-well equipped with two (2) pumps (one standby), each rated at 60.4 L/s at 18.6 m TDH of 18.6 m;
- 1,000 m section of the effluent forcemain downstream of effluent pumping station serving as chlorine contact zone;

### **Final Effluent Flow Measurement, Dechlorination and Sampling Point**

- 350 mm diameter electromagnetic flowmeter located on County Road 31, approximately 1.3 km downstream of the WWTP
- one (1) 200 L sodium bisulphite storage tank and two (2) metering pumps (one standby), each rated at 80 L/h at 400 kPa and paced with the effluent flow located in dechlorination building on County Road 31, with a feed line for injection into the effluent forcemain;
- 350 mm effluent forcemain from dechlorination building to an outfall discharging to Lake Ontario through a diffuser approximately 150 m from shore

### **Biosolids Storage**

- one (1) 4,000 m<sup>3</sup> biosolids storage pond;

including all other mechanical system, electrical system, instrumentation and control system, standby power system, piping, pumps, valves and appurtenances essential for the proper, safe and reliable operation of the Works in accordance with this Approval, in the context of process performance and general principles of



wastewater engineering only;

all in accordance with the submitted supporting documents listed in Schedule A.

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

1. "Annual Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar year, calculated and reported as per the methodology specified in Schedule F;
2. "Annual Average Daily Effluent Flow" means the cumulative total Final Effluent discharged during a calendar year divided by the number of days during which Final Effluent was discharged that year;
3. "Approval" means this environmental compliance approval and any schedules attached to it, and the application;
4. "BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;
5. "Bypass" means diversion of sewage around one or more treatment processes, excluding Preliminary Treatment System, 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 point(s) and discharged via the approved effluent disposal facilities;
6. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
7. "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;
8. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;
9. "*E. coli* " refers to coliform bacteria that possess the enzyme beta-glucuronidase and are capable of cleaving a fluorogenic or chromogenic substrate with the corresponding release of a fluorogen or chromogen, that produces fluorescence under long wavelength (366 nm) UV light, or color development, respectively. Enumeration methods include tube, membrane filter, or multi-well procedures. Depending on the method selected, incubation temperatures include  $35.5 \pm 0.5$  °C or  $44.5 \pm 0.2$  °C (to enumerate thermotolerant species). Depending on the procedure used, data are reported as either colony forming units (CFU) per 100 mL (for membrane filtration methods) or as most probable number (MPN) per 100 mL (for tube or multi-well methods);
10. "EPA" means the *Environmental Protection Act* , R.S.O. 1990, c.E.19, as amended;
11. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and

performance specifications of the piece(s) of equipment to be substituted;

12. "Event" means an action or occurrence, at a given location within the Works that causes a Bypass or Overflow. An Event ends when there is no recurrence of Bypass or Overflow in the 12-hour period following the last Bypass or Overflow. Overflows and Bypasses are separate Events even when they occur concurrently;
13. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;
14. "Final Effluent" means effluent that is discharged to the environment through the approved effluent disposal facilities, including all Bypasses, that are required to meet the compliance limits stipulated in the Approval for the Sewage Treatment Plant at the Final Effluent sampling point(s);
15. "Imported Sewage" means sewage hauled to the Sewage Treatment Plant by licensed waste management system operators of the types and quantities approved for co-treatment in the Sewage Treatment Plant, including hauled sewage and leachate within the meaning of R.R.O. 1990, Regulation 347: General – Waste Management, as amended;
16. "Influent" means flows to the Sewage Treatment Plant from the collection system and Imported Sewage but excluding process return flows.
17. "Limited Operational Flexibility" (LOF) means the conditions that the Owner shall follow in order to undertake any modification that is pre-authorized as part of this Approval;
18. "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;
19. "Monthly Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, calculated and reported as per the methodology specified in Schedule F;
20. "Monthly Average Daily Effluent Flow" means the cumulative total Final Effluent discharged during a calendar month divided by the number of days during which Final Effluent was discharged that month;
21. "Monthly Average Daily Effluent Loading" means the value obtained by multiplying the Monthly Average Effluent Concentration of a contaminant by the Monthly Average Daily Effluent Flow over the same calendar month;
22. "Monthly Geometric Mean Density" is the mean of all Single Sample Results of *E. coli* measurement in the samples taken during a calendar month, calculated and reported as per the methodology specified in Schedule F;
23. "Normal Operating Condition" means the condition when all unit process(es), excluding Preliminary Treatment System, in a treatment train is operating within its design capacity;

24. "Operating Agency" means the Owner or the entity that is authorized by the Owner for the management, operation, maintenance, or alteration of the Works in accordance with this Approval;
25. "Overflow" means a discharge to the environment from the Works at designed location(s) other than the approved effluent disposal facilities or via the effluent disposal facilities downstream of the Final Effluent sampling point;
26. "Owner" means The Corporation of the Township of Cramahe and its successors and assignees;
27. "OWRA" means the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40, as amended;
28. "Preliminary Treatment System" means all facilities in the Sewage Treatment Plant associated with screening and grit removal;
29. "Professional Engineer" means a person entitled to practice as a Professional Engineer in the Province of Ontario under a license issued under the Professional Engineers Act;
30. "Proposed Works" means those portions of the Works included in the Approval that are under construction or to be constructed;
31. "Rated Capacity" means the Annual Average Daily Influent Flow for which the Sewage Treatment Plant is designed to handle;
32. "Sanitary Sewers" means pipes that collect and convey wastewater from residential, commercial, institutional and industrial buildings, and some infiltration and inflow from extraneous sources such as groundwater and surface runoff through means other than stormwater catch basins;
33. "Separate Sewer Systems" means wastewater collection systems that comprised of Sanitary Sewers while runoff from precipitation and snowmelt are separately collected in Storm Sewers;
34. "Sewage Treatment Plant" means all the facilities related to sewage treatment within the sewage treatment plant site excluding the Final Effluent disposal facilities;
35. "Single Sample Result" means the test result of a parameter in the effluent discharged on any day, as measured by a probe, analyzer or in a composite or grab sample, as required;
36. "Storm Sewers" means pipes that collect and convey runoff resulting from precipitation and snowmelt (including infiltration and inflow); (use only for Separate or Nominally Sewer Systems)
37. "Works" means the approved sewage works, and includes Existing 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 terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. The Owner shall design, construct, operate and maintain the Works in accordance with the conditions of this Approval.
3. Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.

### **2. CHANGE OF OWNER AND OPERATING AGENCY**

1. The Owner shall, within thirty (30) calendar days of issuance of this Approval, prepare/update and submit to the District Manager the Municipal and Local Services Board Wastewater System Profile Information Form, as amended (Schedule G) under any of the following situations:
  - a. the form has not been previously submitted for the Works;
  - b. this Approval is issued for extension, re-rating or process treatment upgrade of the Works;
  - c. when a notification is provided to the District Manager in compliance with requirements of change of Owner or Operating Agency under this condition.
2. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
  - a. change of address of Owner;
  - b. change of Owner, including address of new 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. B.17* , as amended, shall be included in the notification;
  - 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. C.39* , as amended, shall be included in the notification.
3. The Owner shall notify the District Manager, in writing, of any of the following changes within thirty (30) days of the change occurring:

- a. change of address of Operating Agency;
  - b. change of Operating Agency, including address of new Operating Agency.
4. In the event of any change in ownership of the Works, the Owner shall notify the succeeding owner in writing, of the existence of this Approval, and forward a copy of the notice to the District Manager.
  5. The Owner shall ensure that all communications made pursuant to this condition refer to the environmental compliance approval number.

### **3. RECORD DRAWINGS**

1. A set of record drawings of the Works shall be kept up to date through revisions undertaken from time to time and a copy shall be readily accessible for reference at the Works.

### **4. BYPASSES**

1. Any Bypass is prohibited, except:
  - a. an emergency Bypass when a structural, mechanical or electrical failure causes a temporary reduction in the capacity of a treatment process or when an unforeseen flow condition exceeds the design capacity of a treatment process that is likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset, if a portion of the flow is not bypassed;
  - b. a planned Bypass that is a direct and unavoidable result of a planned repair and maintenance procedure or other circumstance(s), the Owner having notified the District Manager in writing at least fifteen (15) days prior to the occurrence of Bypass, including an estimated quantity and duration of the Bypass, an assessment of the impact on the quality of the Final Effluent and the mitigation measures if necessary, and the District Manager has given written consent of the Bypass;
2. Notwithstanding the exceptions given in Paragraph 1, the Operating Agency shall undertake everything practicable to maximize the flow through the downstream treatment process(es) prior to bypassing.
3. At the beginning of a Bypass Event, the Owner shall immediately notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
  - a. the type of the Bypass as indicated in Paragraph 1 and the reason(s) for the Bypass;
  - b. the date and time of the beginning of the Bypass;
  - c. the treatment process(es) gone through prior to the Bypass and the treatment process(es) bypassed;
  - d. the effort(s) done to maximize the flow through the downstream treatment process(es) and the

reason(s) why the Bypass was not avoided.

4. Upon confirmation of the end of a Bypass Event, the Owner shall immediately notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
  - a. the date and time of the end of the Bypass;
  - b. the estimated or measured volume of Bypass.
5. For any Bypass Event, the Owner shall collect daily sample(s) of the Final Effluent, inclusive of the Event and analyze for all effluent parameters outlined in Compliance Limits condition that require composite samples, following the same protocol specified in the Monitoring and Recording condition for the regular samples. The sample(s) shall be in addition to the regular Final Effluent samples required under the monitoring and recording condition. If the Event occurs on a scheduled monitoring day, the regular sampling requirements prevail. If representative sample for the effluent parameter(s) that require grab sample cannot be obtained, they shall be collected after the Event at the earliest time when situation returns to normal.
6. The Owner shall submit a summary report of the Bypass Event(s) to the District Manager on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15. The summary reports shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 11. If there is no Bypass Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.
7. The Owner shall develop a notification procedure in consultation with the District Manager and SAC and notify the public and downstream water users that may be adversely impacted by any Bypass Event.

## **5. OVERFLOWS**

1. Any Overflow is prohibited, except:
  - a. an emergency Overflow in an emergency situation when a structural, mechanical or electrical failure causes a temporary reduction in the capacity of the Works or when an unforeseen flow condition exceeds the design capacity of the Works that is likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset, if a portion of the flow is not overflowed;
  - b. a planned Overflow that is a direct and unavoidable result of a planned repair and maintenance procedure or other circumstance(s), the Owner having notified the District Manager in writing at least fifteen (15) days prior to the occurrence of Overflow, including an estimated quantity and duration of the Overflow, an assessment of the impact on the environment and the mitigation measures if necessary, and the District Manager has given written consent of the Overflow;
2. Notwithstanding the exceptions given in Paragraph 1, the Operating Agency shall undertake everything

practicable to maximize the flow through the downstream treatment process(es) and Bypass(es) prior to overflowing.

3. At the beginning of an Overflow Event, the Owner shall immediately notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
  - a. the type of the Overflow as indicated in Paragraph 1 and the reason(s) for the Overflow;
  - b. the date and time of the beginning of the Overflow;
  - c. the point of the Overflow from the Works, the treatment process(es) gone through prior to the Overflow, the disinfection status of the Overflow and whether the Overflow is discharged through the effluent disposal facilities or an alternate location;
  - d. the effort(s) done to maximize the flow through the downstream treatment process(es) and Bypass(es) and the reason(s) why the Overflow was not avoided.
4. Upon confirmation of the end of an Overflow Event, the Owner shall immediately notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
  - a. the date and time of the end of the Overflow;
  - b. the estimated or measured volume of the Overflow.
5. For any Overflow Event
  - a. in the Sewage Treatment Plant, the Owner shall collect grab sample(s) of the Overflow, one near the beginning of the Event and one every eight (8) hours for the duration of the Event, and have them analyzed at least for CBOD<sub>5</sub>, total suspended solids, total phosphorus, total ammonia nitrogen, total Kjeldahl nitrogen, *E.coli* except that raw sewage and primary treated effluent Overflow shall be analyzed for BOD<sub>5</sub>, total suspended solids, total phosphorus and total Kjeldahl nitrogen only.
  - b. at a sewage pumping station in the collection system, the Owner shall collect at least one (1) grab sample representative of the Overflow Event and have it analyzed for BOD<sub>5</sub>, total suspended solids, total phosphorus and total Kjeldahl nitrogen.
6. The Owner shall submit a summary report of the Overflow Event(s) to the District Manager on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15. The summary report shall contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Overflow is deemed sufficient.
7. The Owner shall develop a notification procedure in consultation with the District Manager and SAC and notify the public and downstream water users that may be adversely impacted by any Overflow

Event.

## **6. DESIGN OBJECTIVES**

1. The Owner shall design and undertake everything practicable to operate the Sewage Treatment Plant in accordance with the following objectives:
  - a. Final Effluent parameters design objectives listed in the table(s) included in Schedule B.
  - b. Final Effluent 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.
  - c. Total Residual Chlorine (TRC) in the Final Effluent shall be non-detectable as measured by a method with a sensitivity of at least 0.02 mg/L. Normal operation of de-chlorination equipment should provide for an excess of reagents to ensure that total chlorine residuals are not detected.
  - d. Annual Average Daily Influent Flow is within the Rated Capacity of the Sewage Treatment Plant.

## **7. COMPLIANCE LIMITS**

1. The Owner shall operate and maintain the Sewage Treatment Plant such that compliance limits for the Final Effluent parameters listed in the table(s) included in Schedule C are met.


## **8. OPERATION AND MAINTENANCE**

1. The Owner shall ensure 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 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 update maintain the operations manual for the Works within six (6) months of completion of construction of the Proposed Works, that includes, but not necessarily limited to, the following information:
  - a. operating procedures for the Works under Normal Operating Conditions;
  - 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. operating procedures for the Works to handle situations outside Normal Operating Conditions and emergency situations such as a structural, mechanical or electrical failure, or an unforeseen flow condition, including procedures to minimize Bypasses and Overflows;
  - f. a spill prevention and contingency plan, consisting of procedures and contingency plans, including notification to the District Manager, to reduce the risk of spills of pollutants and prevent, eliminate or ameliorate any adverse effects that result or may result from spills of pollutants;
  - g. procedures for receiving, responding and recording public complaints, including recording any followup actions taken.
3. The Owner shall maintain the operations manual up-to-date and make the manual readily accessible for reference at the Works.
  4. The Owner shall ensure that the Operating Agency fulfills the requirements under O. Reg. 129/04, as amended for the Works, including the classification of facilities, licensing of operators and operating standards.

## 9. MONITORING AND RECORDING

1. The Owner shall, upon commencement of operation of the Works, carry out a scheduled monitoring program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in Schedule D and record all results, as follows:
  - a. all samples and measurements are to be taken at a time and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored.
  - b. definitions and preparation requirements for each sample type are included in document referenced in Paragraph 3.b.
  - c. definitions for frequency:
    - i. Daily means once every day;
    - ii. Weekly means once every week;
    - iii. Monthly means once every month;
    - iv. Quarterly means once every three months;
  - d. a schedule of the day of the week/month for the scheduled sampling shall be created  the sampling schedule shall be revised and updated every year through rotation of the day of the week/month for the scheduled sampling program, except when the actual scheduled monitoring frequency is three (3) or more times per week.

2. In addition to the scheduled monitoring program required in Paragraph 1, the Owner shall collect daily sample(s) of the Final Effluent, on any day when there is any situation outside Normal Operating Conditions, and analyze for all effluent parameters outlined in Compliance Limits condition that require composite samples, following the same protocol specified in this condition for the regular samples. If the Event occurs on a scheduled monitoring day, the regular sampling requirements prevail. If representative sample for the effluent parameter(s) that require grab sample cannot be obtained, they shall be collected after the Event at the earliest time when situation returns to normal.
3. The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following documents and all analysis shall be conducted by a laboratory accredited to the ISO/IEC:17025 standard or as directed by the District Manager:
  - 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;
  - b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;
  - c. the publication "Standard Methods for the Examination of Water and Wastewater", as amended.
  - d. the Environment Canada publications "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (EPS 1/RM/13 Second Edition - December 2000) and "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna" (EPS 1/RM/14 Second Edition - December 2000), as amended, subject to the following:
    - i. the use of pH stabilization in the determination of acute lethality of Final Effluent to Rainbow Trout in accordance with the Environment Canada publication "Procedure for pH Stabilization during the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout (EPS 1/RM/50)" (2008), as amended, is permitted only if:
      - a. all the three criteria stipulated in the Environment Canada EPS 1/RM/50 are met; and
      - b. the Final Effluent is not discharged to a receiver in which the Final Effluent contributes more than 50% of the total flow in the receiving water, unless the District Manager, having reviewed additional information submitted regarding the Final Effluent and the receiving water approves on the use of RM50 on a site-specific basis.
4. If the Owner monitors Bisulphite Residual as a surrogate to Total Residual Chlorine, then detected levels of Bisulphite Residual in the sample shall be deemed to confirm absence of Total Residual Chlorine.
5. The minimum monitoring frequency with respect to acute lethality to Rainbow Trout and Daphnia magna shall, after eight (8) consecutive quarters of monitoring results not indicating acute lethality, be reduced to annually. If any Final Effluent sample indicates acute lethality to Rainbow Trout or Daphnia magna, the monitoring frequency shall revert back to quarterly and the Owner shall carry out the following immediately:

- a. Review the following:
    - i. Final Effluent quality and confirm that concentrations of ammonia are within the limits;
    - ii. plant operations around the time of the toxicity event; and
    - iii. all data available regarding plant operations and Final Effluent quality.
  - b. If the observed effluent toxicity is not associated with ammonia, an investigation shall be undertaken to determine the cause or source of the toxicity.
  - c. Upon determination of cause or source of acute lethality to Rainbow Trout and *Daphnia magna*, the Owner shall determine appropriate control measures to achieve non-acutely lethal effluent and time lines for the implementation of identified control measures. The Owner shall submit the proposed control measures and implementation time lines for approval to the District Manager.
6. The Owner shall monitor and record the flow rate and daily quantity using flow measuring devices or other methods of measurement as approved below calibrated to an accuracy within plus or minus 15 per cent (+/- 15%) of the actual flowrate of the following:
- a. Final Effluent discharged from the Sewage Treatment Plant by continuous flow measuring devices and instrumentations/pumping rates/details of other methods (e.g. level of lagoons), or in lieu of an actual installation of equipment, adopt the flow measurements of the Influent for the purpose of estimating Final Effluent flows if the Influent and Final Effluent streams are considered not significantly different in flow rates and quantities;
  - b. each type of Imported Sewage received for co-treatment at the Sewage Treatment Plant by flow measuring devices/pumping rates/haul truck manifests;
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. LIMITED OPERATIONAL FLEXIBILITY**

1. The Owner may make pre-authorized modifications to the sewage pumping stations and Sewage Treatment Plant in Works in accordance with the document "Limited Operational Flexibility - Protocol for Pre-Authorized Modifications to Municipal Sewage Works" (Schedule E), as amended, subject to the following:
  - a. the modifications will not involve the addition of any new treatment process or the removal of an existing treatment process, including chemical systems, from the liquid or solids treatment trains as originally designed and approved.
  - b. the scope and technical aspects of the modifications are in line with those delineated in Schedule E

and conform with the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended, Ministry's regulations, policies, guidelines, and industry engineering standards;

- c. the modifications shall not negatively impact on the performance of any process or equipment in the Works or result in deterioration in the Final Effluent quality;
  - d. where the pre-authorized modification requires notification, a "Notice of Modifications to Sewage Works" (Schedule E), as amended shall be completed with declarations from a Professional Engineer and the Owner and retained on-site prior to the scheduled implementation date. All supporting information including technical memorandum, engineering plans and specifications, as applicable and appropriate to support the declarations that the modifications conform with LOF shall remain on-site for future inspection.
2. The following modifications are not pre-authorized under Limited Operational Flexibility:
- a. Modifications that involve addition or extension of process structures, tankages or channels;
  - b. Modifications that involve relocation of the Final Effluent outfall or any other discharge location or that may require reassessment of the impact to the receiver or environment;
  - c. Modifications that involve addition of or change in technology of a treatment process or that may involve reassessment of the treatment train process design;
  - d. Modifications that require changes to be made to the emergency response, spill prevention and contingency plan; or
  - e. Modifications that are required pursuant to an order issued by the Ministry.

## **11. REPORTING**

1. The Owner shall report to the District Manager orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.
2. The Owner shall, within fifteen (15) days of occurrence of a spill within the meaning of Part X of the EPA, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation, in addition to fulfilling the requirements under the EPA and O. Reg. 675/98 "Classification and Exemption of Spills and Reporting of Discharges".
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 performance reports on a calendar year basis and submit to the District Manager by March 31 of the calendar year following the period being reported upon. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:

- a. a summary and interpretation of all Influent, Imported Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;
- b. a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
- c. a summary of all operating issues encountered and corrective actions taken;
- d. a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
- e. a summary of any effluent quality assurance or control measures undertaken;
- f. a summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
- g. a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:
  - i. when any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;
  - ii. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;
- h. a tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- i. a summary of any complaints received and any steps taken to address the complaints;
- j. a summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;
- k. a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 10, including a report on status of implementation of all modification.
- l. a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted.
- m. a summary of any deviation from the monitoring schedule and reasons for the current reporting year

and a schedule for the next reporting year;

## **Schedule A**

1. Application for Environmental Compliance Approval submitted by Mr. Max Christie, P.Eng. of XIE Environmental received on December 4, 2019 for administrative changes to the ECA.

## Schedule B

### Final Effluent Design Objectives

#### Concentration Objectives

<b>Final Effluent Parameter</b>	<b>Averaging Calculator</b>	<b>Objective</b> (milligrams per litre unless otherwise indicated)
CBOD5	Monthly Average Effluent Concentration	15 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	15 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.4 mg/L
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	2.0 mg/L (May 1 to Oct 31) 4.0 mg/L (Nov 1 to Apr 30)
<i>E. coli</i>	Monthly Geometric Mean Density	*150 CFU/100 mL
pH	Single Sample Result	6.5 - 8.5 inclusive
Total Residual Chlorine**	Single Sample Result	Non-detectable

\*If the MPN method is utilized for *E. coli* analysis the objective shall be 150 MPN/100 mL

\*\*Total Residual Chlorine shall be non-detectable as measured by a method with a sensitivity of at least 0.02 mg/L



## Schedule C

### Final Effluent Compliance Limits

#### Concentration Limits

Final Effluent Parameter	Averaging Calculator	Limit (maximum unless otherwise indicated)
CBOD5	Monthly Average Effluent Concentration	25 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	25 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.7 mg/L
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	4.0 mg/L (May 1 to Oct 31) 8.0 mg/L (Nov 1 to Apr 30)
<i>E. coli</i>	Monthly Geometric Mean Density	*200 CFU/100 mL
pH	Single Sample Result	between 6.0 - 9.5 inclusive
Total Chlorine Residual	Single Sample Result	0.02

\*If the MPN method is utilized for *E. coli* analysis the limit shall be 200 MPN/100 mL

\*\*If continuous analyzer is used for monitoring of Total Residual Chlorine, reading shall be recorded at a minimum frequency of every 5 minutes and any record is not to exceed 0.1 mg/L and any two-hour moving average is not to exceed 0.02 mg/L

#### Loading Limits

Final Effluent Parameter	Averaging Calculator	Limit (maximum unless otherwise indicated)
CBOD5	Monthly Average Daily Effluent Loading	43.8 kg/d
Total Suspended Solids	Monthly Average Daily Effluent Loading	43.8 kg/d
Total Phosphorus	Monthly Average Daily Effluent Loading	1.2 kg/d

## Schedule D

### Monitoring Program

#### Influent - Influent sampling point Inlet Works

Parameters	Sample Type	Minimum Frequency
BOD5	8 hour composite	Monthly
Total Suspended Solids	8 hour composite	Monthly
Total Phosphorus	8 hour composite	Monthly
Total Kjeldahl Nitrogen	8 hour composite	Monthly

#### Imported Sewage - Imported Sewage Receiving Station

Parameters	Sample Type	Minimum Frequency
BOD5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorus	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly

## Schedule D

### Monitoring Program

#### Final Effluent - Final Effluent sampling point

Parameters	Sample Type	Minimum Frequency
CBOD5	8 hour composite	Weekly
Total Suspended Solids	8 hour composite	Weekly
Total Phosphorus	8 hour composite	Weekly
Total Ammonia Nitrogen	8 hour composite	Weekly
Total Residual Chlorine	Grab	Weekly
<i>E. coli</i>	Grab	Weekly
Acute Lethality to Rainbow Trout and <i>Daphnia magna</i>	Grab	Quarterly
pH*	Grab	Weekly
Temperature*	Grab	Weekly

\*pH and temperature of the Final Effluent 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.

## **Schedule E**

### **Limited Operational Flexibility**

#### **Protocol for Pre-Authorized Modifications to Municipal Sewage Works**

##### **1. General**

1. Pre-authorized modifications are permitted only where Limited Operational Flexibility has already been granted in the Approval and only permitted to be made at the pumping stations and sewage treatment plant in the Works, subject to the conditions of the Approval.
2. Where there is a conflict between the types and scope of pre-authorized modifications listed in this document, and the Approval where Limited Operational Flexibility has been granted, the Approval shall take precedence.
3. The Owner shall consult the District Manager on any proposed modifications that may fall within the scope and intention of the Limited Operational Flexibility but is not listed explicitly or included as an example in this document.
4. The Owner shall ensure that any pre-authorized modifications will not:
  - a. adversely affect the hydraulic profile of the Sewage Treatment Plant or the performance of any upstream or downstream processes, both in terms of hydraulics and treatment performance;
  - b. result in new Overflow or Bypass locations, or any potential increase in frequency or quantity of Overflow(s) or Bypass(es).
  - c. result in a reduction in the required Peak Flow Rate of the treatment process or equipment as originally designed.

##### **2. Modifications that do not require pre-authorization:**

1. Sewage works that are exempt from Ministry approval requirements;
2. Modifications to the electrical system, instrumentation and control system.

##### **3. Pre-authorized modifications that do not require preparation of “Notice of Modification to Sewage Works”**

1. Normal or emergency maintenance activities, such as repairs, renovations, refurbishments and replacements with Equivalent Equipment, or other improvements to an existing approved piece of equipment of a treatment process do not require pre-authorization. Examples of these activities are:
  - a. Repairing a piece of equipment and putting it back into operation, including replacement of minor

components such as belts, gear boxes, seals, bearings;

- b. Repairing a piece of equipment by replacing a major component of the equipment such as motor, with the same make and model or another with the same or very close power rating but the capacity of the pump or blower will still be essentially the same as originally designed and approved;
  - c. Replacing the entire piece of equipment with Equivalent Equipment.
2. Improvements to equipment efficiency or treatment process control do not require pre-authorization. Examples of these activities are:
- a. Adding variable frequency drive to pumps;
  - b. Adding on-line analyzer, dissolved oxygen probe, ORP probe, flow measurement or other process control device.

#### **4. Pre-Authorized Modifications that require preparation of “Notice of Modification to Sewage Works”**

##### **1. Pumping Stations**

- a. Replacement, realignment of existing sewers including manholes, valves, gates, weirs and associated appurtenances provided that the modifications will not add new influent source(s) or result in an increase in flow from existing sources as originally approved.
- b. Extension or partition of wetwell to increase retention time for emergency response and improve station maintenance and pump operation;
- c. Replacement or installation of inlet screens to the wetwell;
- d. Replacement or installation of flowmeters, construction of station bypass;
- e. Replacement, reconfiguration or addition of pumps and modifications to pump suctions and discharge pipings including valve, gates, motors, variable frequency drives and associated appurtenances to maintain firm pumping capacity or modulate the pump rate provided that the modifications will not result in a reduction in the firm pumping capacity or discharge head or an increase in the peak pumping rate of the pumping station as originally designed;
- f. Replacement, realignment of existing forcemain(s) including valves, gates, and associated appurtenances provided that the modifications will not reduce the flow capacity or increase the total dynamic head and transient in the forcemain.

##### **2. Sewage Treatment Plant**

###### **1. Sewers and appurtenances**

- a. Replacement, realignment of existing sewers (including pipes and channels) or construction of new

sewers, including manholes, valves, gates, weirs and associated appurtenances within the a sewage treatment plant, provided that the modifications will not add new influent source(s) or result in an increase in flow from existing sources as originally approved and that the modifications will remove hydraulic bottlenecks or improve the conveyance of sewage into and through the Works.

## 2. Flow Distribution Chambers/Splitters

- a. Replacement or modification of existing flow distribution chamber/splitters or construction of new flow distribution chamber/splitters, including replacements or installation of sluice gates, weirs, valves for distribution of flows to the downstream process trains, provided that the modifications will not result in a change in flow distribution ratio to the downstream process trains as originally designed.

## 3. Imported Sewage Receiving Facility

- a. Replacement, relocation or installation of loading bays, connect/disconnect hook-up systems and unloading/transferring systems;
- b. Replacement, relocation or installation of screens, grit removal units and compactors;
- c. Replacement, relocation or installation of pumps, such as dosing pumps and transfer pumps, valves, piping and appurtenances;
- d. Replacement, relocation or installation of storage tanks/chambers and spill containment systems;
- e. Replacement, relocation or installation of flow measurement and sampling equipment;
- f. Changes to the source(s) or quantity from each source, provided that changes will not result in an increase in the total quantity and waste loading of each type of Imported Sewage already approved for co-treatment.

## 4. Preliminary Treatment System

- a. Replacement of existing screens and grit removal units with equipment of the same or higher process performance technology, including where necessary replacement or upgrading of existing screenings dewatering washing compactors, hydrocyclones, grit classifiers, grit pumps, air blowers conveyor system, disposal bins and other ancillary equipment to the screening and grit removal processes.
- b. Replacement or installation of channel aeration systems, including air blowers, air supply main, air headers, air laterals, air distribution grids and diffusers.

## 5. Primary Treatment System

- a. Replacement of existing sludge removal mechanism, including sludge chamber;
- b. Replacement or installation of scum removal mechanism, including scum chamber;
- c. Replacement or installation of primary sludge pumps, scum pumps, provided that: the modifications will not result in a reduction in the firm pumping capacity or discharge head that the primary sludge pump(s) and scum pump(s) are originally designed to handle.

## 6. Secondary Treatment System

### 1. Biological Treatment

- a. Conversion of complete mix aeration tank to plug-flow multi-pass aeration tank, including modifications to internal structural configuration;
- b. Addition of inlet gates in multi-pass aeration tank for step-feed operation mode;
- c. Partitioning of an anoxic/flip zone in the inlet of the aeration tank, including installation of submersible mixer(s);
- d. Replacement of aeration system including air blowers, air supply main, air headers, air laterals, air distribution grids and diffusers, provided that the modifications will not result in a reduction in the firm capacity or discharge pressure that the blowers are originally designed to supply or in the net oxygen transferred to the wastewater required for biological treatment as originally required.

### 2. Secondary Sedimentation

- a. Replacement of sludge removal mechanism, including sludge chamber;
- b. Replacement or installation of scum removal mechanism, including scum chamber;
- c. Replacement or installation of return activated sludge pump(s), waste activated sludge pump(s), scum pump(s), provided that the modifications will not result in a reduction in the firm pumping capacity or discharge head that the activated sludge pump(s) and scum pump(s) are originally designed to handle.

## 7. Post-Secondary Treatment System

- a. Replacement of filtration system with equipment of the same filtration technology, including feed pumps, backwash pumps, filter reject pumps, filtrate extract pumps, holding tanks associated with the pumping system, provided that the modifications will not result in a reduction in the capacity of the filtration system as originally designed.

## 8. Disinfection System

### 1. UV Irradiation

- a. Replacement of UV irradiation system, provided that the modifications will not result in a reduction in the design capacity of the disinfection system or the radiation level as originally designed.

### 2. Chlorination/Dechlorination and Ozonation Systems

- a. Extension and reconfiguration of contact tank to increase retention time for effective disinfection and reduce dead zones and minimize short-circuiting;
- b. Replacement or installation of chemical storage tanks, provided that the tanks are provided with effective spill containment.

## 9. Supplementary Treatment Systems

### 1. Chemical systems

- a. Replacement, relocation or installation of chemical storage tanks for existing chemical systems only, provided that the tanks are sited with effective spill containment;
- b. Replacement or installation of chemical dosing pumps provided that the modifications will not result in a reduction in the firm capacity that the dosing pumps are originally designed to handle.
- c. Relocation and addition of chemical dosing point(s) including chemical feed pipes and valves and controls, to improve phosphorus removal efficiency;
- d. Use of an alternate chemical provided that it is a non-proprietary product and is a commonly used alternative to the chemical approved in the Works, provided that the chemical storage tanks, chemical dosing pumps, feed pipes and controls are also upgraded, as necessary..

## 10. Sludge Management System

### 1. Sludge Holding and Thickening

- a. Replacement or installation of sludge holding tanks, sludge handling pumps, such as transfer pumps, feed pumps, recirculation pumps, provided that modifications will not result in reduction in the solids storage or handling capacities;

### 2. Sludge Digestion

- a. Replacement or installation of digesters, sludge handling pumps, such as transfer pumps, feed pumps, recirculation pumps, provided that modifications will not result in reduction in the solids



storage or handling capacities;

- b. replacement of sludge digester covers.

### 3. Sludge Dewatering and Disposal

- a. Replacement of sludge dewatering equipment, sludge handling pumps, such as transfer pumps, feed pumps, cake pumps, loading pumps, provided that modifications will not result in reduction in solids storage or handling capacities.

### 4. Processed Organic Waste

- a. Changes to the source(s) or quantity from each source, provided that changes will not result in an increase in the total quantity already approved for co-processing.

## 11. Standby Power System

- 1. Replacement or installation of standby power system, including feed from alternate power grid, emergency power generator, fuel supply and storage systems, provided that the existing standby power generation capacity is not reduced.

## 12. Pilot Study

- 1. Small side-stream pilot study for existing or new technologies, alternative treatment process or chemical, provided:
  - a. all effluent from the pilot system is hauled off-site for proper disposal or returned back to the sewage treatment plant for at a point no further than immediately downstream of the location from where the side-stream is drawn;
  - b. no proprietary treatment process or propriety chemical is involved in the pilot study;
  - c. the effluent from the pilot system returned to the sewage treatment plant does not significantly alter the composition/concentration of or add any new contaminant/inhibiting substances to the sewage to be treated in the downstream process;
  - d. the pilot study will not have any negative impacts on the operation of the sewage treatment plant or cause a deterioration of effluent quality;
  - e. the pilot study does not exceed a maximum of two years and a notification of completion shall be submitted to the District Manager within one month of completion of the pilot project.

## 13. Lagoons

- a. installing baffles in lagoon provided that the operating capacity of the lagoon system is not reduced;

- b. raise top elevation of lagoon berms to increase free-board;
- c. replace or install interconnecting pipes and chambers between cells, provided that the process design operating sequence is not changed;
- d. replace or install mechanical aerators, or replace mechanical aerators with diffused aeration system provided that the mixing and aeration capacity are not reduced;
- e. removal of accumulated sludge and disposal to an approved location offsite.

### 3. Final Effluent Disposal Facilities

- a. Replacement or realignment of the Final Effluent channel, sewer or forcemain, including manholes, valves and appurtenances from the end of the treatment train to the discharge outfall section, provided that the sewer conveys only effluent discharged from the Sewage Treatment Plant and that the replacement or re-aligned sewer has similar dimensions and performance criteria and is in the same or approximately the same location and that the hydraulic capacity will not be reduced.

This page contains an image of the form entitled "Notice of Modification to Sewage Works". A digital copy can be obtained from the District Manager.



Ontario

Ministry of the  
Environment,  
Conservation and  
Parks

## Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA ON-SITE PRIOR TO THE SCHEDULED IMPLEMENTATION DATE.

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility		
<i>(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>		
ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
ECA Owner		Municipality

Part 2: Description of the modifications as part of the Limited Operational Flexibility
<i>(Attach a detailed description of the sewage works)</i>
<p>Description shall include:</p> <ol style="list-style-type: none"> <li>1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.)</li> <li>2. Confirmation that the anticipated environmental effects are negligible.</li> <li>3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)</li> </ol>

Part 3 – Declaration by Professional Engineer	
<p>I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:</p> <ol style="list-style-type: none"> <li>1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario;</li> <li>2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA;</li> <li>3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations.</li> </ol> <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>	
Name (Print)	PEIO License Number
Signature	Date (mm/dd/yy)
Name of Employer	

Part 4 – Declaration by Owner	
<p>I hereby declare that:</p> <ol style="list-style-type: none"> <li>1. I am authorized by the Owner to complete this Declaration;</li> <li>2. The Owner consents to the modification; and</li> <li>3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA.</li> <li>4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i>.</li> </ol> <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>	
Name of Owner Representative (Print)	Owner representative's title (Print)
Owner Representative's Signature	Date (mm/dd/yy)

## Schedule F

### Methodology for Calculating and Reporting Monthly Average Effluent Concentration, Annual Average Effluent Concentration and Monthly Geometric Mean Density

#### 1. Monthly Average Effluent Concentration

- Step 1: Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month and proceed as follows depending on the result of the calculation:
- If the arithmetic mean does not exceed the compliance limit for the contaminant, then report and use this arithmetic mean as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval;
  - If the arithmetic mean exceeds the compliance limit for the contaminant and there was no Bypass Event during the calendar month, then report and use this arithmetic mean as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval;
  - If the arithmetic mean exceeds the compliance limit for the contaminant and there was Bypass Event(s) during the calendar month, then proceed to Step 2;
  - If the arithmetic mean does not exceed the compliance limit for the contaminant and there was Bypass Event(s) during the calendar month, the Owner may still elect to proceed to Step 2 calculation of the flow-weighted arithmetic mean.
- Step 2: Calculate the flow-weighted arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month and proceed depending on the result of the calculation:
- Group No Bypass Days (**NBPD**) data and Bypass Days (**BPD**) data during a calendar month separately;
  - Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all NBPD during a calendar month and record it as **Monthly Average NBPD Effluent Concentration**;
  - Obtain the “**Total Monthly NBPD Flow**” which is the total amount of Final Effluent discharged on all NBPD during the calendar month;
  - Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all BPD during a calendar month and record it as **Monthly Average BPD Effluent Concentration**;

- e. Obtain the “**Total Monthly BPD Flow**” which is the total amount of Final Effluent discharged on all BPD during the calendar month;
- f. Calculate the flow-weighted arithmetic mean using the following formula:

$$\frac{[(\text{Monthly Average NBPD Effluent Concentration} \times \text{Total Monthly NBPD Flow}) + (\text{Monthly Average BPD Effluent Concentration} \times \text{Total Monthly BPD Flow})]}{(\text{Total Monthly NBPD Flow} + \text{Total Monthly BPD Flow})}$$

It should be noted that in this method, if there are no Bypass Event for the month, the calculated result would be the same as the non-flow-weighted arithmetic mean method;

- g. Report and use the lesser of the flow-weighted arithmetic mean obtained in Step 2 and the arithmetic mean obtained in Step 1 as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval.

## 2. Annual Average Effluent Concentration

Step 1: Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar year and proceed as follows depending on the result of the calculation:

- a. If the arithmetic mean does not exceed the compliance limit for the contaminant, then report and use this arithmetic mean as the Annual Average Effluent Concentration for this parameter where applicable in this Approval;
- b. If the arithmetic mean exceeds the compliance limit for the contaminant and there was no Bypass Event during the calendar year, then report and use this arithmetic mean as the Annual Average Effluent Concentration for this parameter where applicable in this Approval;
- c. If the arithmetic mean exceeds the compliance limit for the contaminant and there was Bypass Event(s) during the calendar year, then proceed to Step 2;
- d. If the arithmetic mean does not exceed the compliance limit for the contaminant and there was Bypass Event(s) during the calendar year, the Owner may still elect to proceed to Step 2 calculation of the flow-weighted arithmetic mean.

Step 2: Calculate the flow-weighted arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar year and proceed depending on the result of the calculation:

- a. Group No Bypass Days (**NBPD**) data and Bypass Days (**BPD**) data during a calendar year separately;
- b. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all NBPD during a calendar year

and record it as **Annual Average NBPD Effluent Concentration**;

- c. Obtain the “**Total Annual NBPD Flow**” which is the total amount of Final Effluent discharged on all NBPD during the calendar year;
- d. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all BPD during a calendar year and record it as **Annual Average BPD Effluent Concentration**;
- e. Obtain the “**Total Annual BPD Flow**” which is the total amount of Final Effluent discharged on all BPD during the calendar year;
- f. Calculate the flow-weighted arithmetic mean using the following formula:

$$[(\text{Annual Average NBPD Effluent Concentration} \times \text{Total Annual NBPD Flow}) + (\text{Annual Average BPD Effluent Concentration} \times \text{Total Annual BPD Flow})] \div (\text{Total Annual NBPD Flow} + \text{Total Annual BPD Flow})$$

It should be noted that in this method, if there are no Bypass Event for the calendar year, the calculated result would be the same as the non-flow-weighted arithmetic mean method;

- g. Report and use the lesser of the flow-weighted arithmetic mean obtained in Step 2 and the arithmetic mean obtained in Step 1 as the Annual Average Effluent Concentration for this parameter where applicable in this Approval.

### 3. Monthly Geometric Mean Density

Geometric mean is defined as the  $n^{\text{th}}$  root of the product of  $n$  numbers. In the context of calculating Monthly Geometric Mean Density for *E. coli*, the following formula shall be used:

$$\sqrt[n]{x_1 x_2 x_3 \cdots x_n}$$

in which,

" $n$ " is the number of samples collected during the calendar month; and

" $x$ " is the value of each Single Sample Result.

For example, four weekly grab samples were collected and tested for *E. coli* during the calendar month. The *E. coli* densities in the Final Effluent were found below:

Sample Number	<i>E. coli</i> Densities* (CFU/100 mL)
1	10
2	100
3	300
4	50

The Geometric Mean Density for these data:

$$\sqrt[4]{10 \times 100 \times 300 \times 50} = 62$$

\*If a particular result is zero (0), then a value of one (1) will be substituted into the calculation of the Monthly Geometric Mean Density. If the MPN method is utilized for *E. coli* analysis, values in the table shall be MPN/100 mL.

## **Schedule G**

### **Municipal and Local Services Board Wastewater System Profile Information Form**

(For reference only, images of the form are attached on the next four pages. A digital copy can be obtained from the District Manger.)





Ministry of the  
Environment,  
Conservation and Parks

## Municipal and Local Services Board Wastewater System Profile Information Form

The information in this form is necessary to administer the Ministry's approvals, compliance and enforcement programs with respect to wastewater treatment and collection systems owned by municipalities and local services boards. These programs are authorized under the *Ontario Water Resources Act*, the *Environmental Protection Act*, the *Nutrient Management Act* and their respective regulations.

Email the completed form to: [waterforms@ontario.ca](mailto:waterforms@ontario.ca)  
For any questions call 1-866-793-2588.

<b>[A] SYSTEM PROFILE INFORMATION</b>				
Wastewater System Number (if assigned)		<input type="checkbox"/> New Profile <input type="checkbox"/> Update Existing Profile		
Name of System		Level of Treatment (select one*) <input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> Tertiary <input type="checkbox"/> Secondary Equivalent <input type="checkbox"/> Other (specify): *See Terms and Concepts on page 4		
Name of Municipality or Local Services Board				
Population Served	Population (Design)	Type of System <input type="checkbox"/> Treatment & Collection System <input type="checkbox"/> Collection System Only		
Design Rated Capacity (m <sup>3</sup> /day)	Peak Flow Rate (m <sup>3</sup> /day)	Current Environmental Compliance Approval (ECA) Number	Current ECA Issue Date (yyyy/mm/dd):	
The treatment plant receives sewage from: (Check all that applies. *If you have checked more than one option below, indicate the approximate %)				
<input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Combined Sewer				
<input type="checkbox"/> Nominally Separated Sewer <input type="checkbox"/> Partially Separated Sewer *See Terms and Concepts on page 4				
<b>[B] OWNER INFORMATION</b>				
Legal Name of Municipality or Local Services Board				
Unit No.	Street No.	Street Name.	Street Type (St, Rd, etc)	Street Direction (N,S,E,W)
PO Box	City/Town		Postal Code	
<input type="checkbox"/> Dr <input type="checkbox"/> Miss <input type="checkbox"/> Mr <input type="checkbox"/> Mrs <input type="checkbox"/> Ms	Owner Contact First Name	Owner Contact Last Name	Owner Contact Job Title	
Tel. No. ( ) - ext.	Fax Number ( ) -	Email address		
<b>[C] OPERATING AUTHORITY</b> <input type="checkbox"/> Check if same as owner				
Legal Name of Operator				
Unit No.	Street No.	Street Name.	Street Type (St, Rd, etc)	Street Direction (N,S,E,W)
PO Box	City/Town		Postal Code	
<input type="checkbox"/> Dr <input type="checkbox"/> Miss <input type="checkbox"/> Mr <input type="checkbox"/> Mrs <input type="checkbox"/> Ms	Operator Contact First Name	Operator Contact Last Name	Operator Contact Job Title	
Tel. No. ( ) - ext.	Fax Number ( ) -	Email address		

<b>[D] 24/7 CONTACT</b>					
<input type="checkbox"/> Dr <input checked="" type="checkbox"/> Mr <input type="checkbox"/> Ms	<input type="checkbox"/> Miss <input type="checkbox"/> Mrs	First Name	Last Name	Job Title	
Tel. No. ( ) - ext.		Fax Number ( ) -		Email address	
<b>[E] SYSTEM CIVIC LOCATION ADDRESS (I.E. ADDRESS OF TREATMENT PLANT)</b>					
Unit No.	Street No.	Street Name.		Street Type (St, Rd, etc)	Street Direction (N,S,E,W)
PO Box	City/Town			Postal Code	
<b>If the Wastewater System has no street address</b>					
Geographical Township			Lot	Concession	
<b>Geographical Referencing (if known, enter the Geographical Reference Information for this Wastewater System)</b>					
Map Datum	Geo-Referencing Method		Accuracy Estimate	Location Reference	
Latitude	Longitude	Zone	Easting	Northing	
<b>[F] TREATMENT PROCESS</b>					
Preliminary	Primary	Secondary	Secondary Equivalent	Post-Secondary	Additional Treatment
<input type="checkbox"/> Screening <input type="checkbox"/> Shredding/grinding <input type="checkbox"/> Grit Removal <input type="checkbox"/> Other(specify):	<input type="checkbox"/> Settling/sedimentation/clarification <input type="checkbox"/> Scum Removal <input type="checkbox"/> Polymer Addition <input type="checkbox"/> Other(specify):	<input type="checkbox"/> Conventional Activated Sludge (CAS) <input type="checkbox"/> Extended Aeration <input type="checkbox"/> Membrane Bioreactor (MBR) <input type="checkbox"/> Sequencing Batch Reactor (SBR) <input type="checkbox"/> Rotating Biological Contactor (RBC) <input type="checkbox"/> Trickling Filter (TF) <input type="checkbox"/> Biological Aerated Filter (BAF) <input type="checkbox"/> Other(specify):	<input type="checkbox"/> Aerated Lagoon <input type="checkbox"/> Facultative Lagoon <input type="checkbox"/> Anaerobic Lagoon <input type="checkbox"/> Aerobic Lagoon <input type="checkbox"/> Other(specify):	<input type="checkbox"/> Filtration <input type="checkbox"/> Clarification <input type="checkbox"/> Intermittent Sand Filter (after lagoons) <input type="checkbox"/> Polishing Wetlands <input type="checkbox"/> Polishing Lagoons <input type="checkbox"/> Other(specify):	<input type="checkbox"/> Phosphorous Removal <input type="checkbox"/> Biological <input type="checkbox"/> Chemical If chemical is used, specify: <input type="checkbox"/> Nitrification <input type="checkbox"/> Denitrification <input type="checkbox"/> Other(specify):
<b>[G] DISINFECTION</b>					
Method of Disinfection			Disinfection Period		
<input type="checkbox"/> Chlorination If you chlorinate, do you practice de-chlorination? <input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Continuous <input type="checkbox"/> Seasonal		
<input type="checkbox"/> Ultraviolet Irradiation			<input type="checkbox"/> Continuous <input type="checkbox"/> Seasonal		
<input type="checkbox"/> Other (specify):			<input type="checkbox"/> Continuous <input type="checkbox"/> Seasonal		

[H] SLUDGE	
Sludge Stabilization Process	Method of Sludge Disposal/Utilization
<input type="checkbox"/> Aerobic Digestion	<input type="checkbox"/> Agricultural
<input type="checkbox"/> Anaerobic Digestion	<input type="checkbox"/> Landfill
<input type="checkbox"/> Drying & Pelletization	<input type="checkbox"/> Incineration
<input type="checkbox"/> Lime Treatment	<input type="checkbox"/> Other (specify):
<input type="checkbox"/> Composting	
<input type="checkbox"/> Other (specify):	
Available Sludge Storage Capacity (m <sup>3</sup> ):	
[I] EFFLUENT	
Effluent Disposal Method	Effluent Discharge Frequency
<input type="checkbox"/> Surface Water Receiving Water Body Name:	<input type="checkbox"/> Continuous <input type="checkbox"/> Seasonal
<input type="checkbox"/> Subsurface	<input type="checkbox"/> Continuous <input type="checkbox"/> Seasonal
<input type="checkbox"/> Other (specify):	<input type="checkbox"/> Continuous <input type="checkbox"/> Seasonal
Is the effluent discharged in a vulnerable area identified in the local source protection assessment report approved under the Clean Water Act, 2006?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
[J] INFLUENT	
Does the plant receive sewage from another municipality or local services board either through an interconnected collection system or hauled sewage?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
(if yes, name(s) of other municipality or local services board):	
Plant receives:	<input type="checkbox"/> Leachate (approximate annual volume in m <sup>3</sup> ):
	<input type="checkbox"/> Septage (approximate annual volume in m <sup>3</sup> ):
	<input type="checkbox"/> Industrial input (approximate annual volume in m <sup>3</sup> ):
	or (approximate volume in %):

## Terms and Concepts

The following Terms and Concepts are provided to assist you when completing Wastewater System Profile Information Form.

In order to determine the level of treatment that applies to the wastewater system, the effluent quality objectives that the wastewater treatment plant was designed to meet must be considered. The process based approach often used in the past has led to confusion and is open to interpretation due to recent developments and practices in the wastewater treatment industry. For example, a plant with a high rate filter (often referred to as a tertiary filter) after its secondary treatment was considered a tertiary treatment in the past since the filter was designed and operated to produce a tertiary quality effluent. However, secondary plants are now being constructed with these filters as a safeguard against any potential secondary clarifier performance degradation and not for the purpose of ensuring tertiary treatment performance. Also, new technologies have evolved that can produce tertiary quality effluent without having these high rate filters (e.g., membrane bioreactors). Lagoons were considered in the past as being capable of providing only secondary equivalent treatment. However, with add-on treatment after the lagoons (e.g. intermittent sand filters), many lagoon treatment systems are capable of producing secondary or tertiary quality effluent.

During the establishment of sewage works, site-specific effluent limits (including averaging periods) are provided by the Ministry's Regional Technical Support Section, considering the assimilative capacity of the receivers and the minimum treatment requirements provided in Procedure F-5-1. The designer of the sewage works then selects objective values that are acceptable to the Ministry and are less (i.e. more stringent) than the effluent limits, in order to provide an adequate safety factor based on the designer's confidence/experience with the technology chosen and other site-specific conditions. The sewage works are then designed (and operated) to meet these design objectives in a reliable and consistent manner. Therefore, the values that are to be used in the determination of the level of treatment that applies to the sewage works must be based on the design objectives, and not the effluent limits.

Two common parameters used in almost all sewage works designs and performance evaluations are CBOD<sub>5</sub> (carbonaceous biochemical oxygen demand) (BOD<sub>5</sub> – biochemical oxygen demand - for primary sewage works) and total suspended solids (TSS). Therefore, it is logical that the **objective values** of these two parameters are used to determine the level of treatment at the sewage works.

### Level of Treatment:

#### Primary:

Wastewater treatment plants that have only settling/sedimentation (with or without chemical addition) and providing 30% and 50% or better reduction of BOD<sub>5</sub> and TSS respectively are considered primary plants (MOE Procedures F-5-1 and F-5-5).

#### Secondary:

Wastewater treatment plants that have biological processes (e.g. activated sludge process and its variations, fixed film processes) or physical-chemical processes producing an effluent quality of CBOD<sub>5</sub> and TSS of 15 mg/L or better are considered secondary plants (MOE Design Guidelines for Sewage Works, 2008).

#### Secondary Equivalent:

Wastewater treatment plants producing an effluent quality of CBOD<sub>5</sub> of 25 mg/L and TSS of 30 mg/L or better are considered as secondary equivalent plants.

*Note: Wastewater treatment plants that provide only primary settling of solids and the addition of chemicals to improve the removal of TSS (and phosphorus) are not considered as secondary treatment plants or secondary equivalent plants (MOE Design Guidelines for Sewage Works, 2008).*

#### Tertiary:

Wastewater treatment plants that have biological processes (e.g. activated sludge process and its variations, fixed film processes) and/or physical-chemical processes producing an effluent quality of CBOD<sub>5</sub> and TSS of 5 mg/L or better are considered tertiary plants.

*Note: Biological processes such as nitrification, denitrification and enhanced biological phosphorus removal can be part of either a secondary or tertiary treatment plant. They may be described as secondary treatment plant with nitrification, secondary treatment plant with enhanced biological phosphorus removal, tertiary treatment plant with nitrification etc.*

### Sewer System Type:

#### Sanitary Sewers:

Pipes that convey sanitary sewage flows made up of wastewater discharges from residential, commercial, institutional and industrial establishments plus extraneous flow components from such sources as groundwater and surface run off.

#### Combined Sewers:

Pipes that convey both sanitary sewage and stormwater runoff through a single-pipe system.

#### Partially Separated Sewers:

Exist when either a portion of the combined sewer area was retrofitted to separate (sanitary and storm) sewers and/or a service area with combined sewers has had a new development area with separate sewers added to the service area; whatever the case may be, the final flows will be combined sewage.

#### Nominally Separated Sewers:

These sewers are constructed as separate sewers, but the sanitary sewers accept stormwater from roof and foundation drains (i.e., these are separated sewers in name only).

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

1. Condition 1 regarding general provisions is imposed to ensure that the Works are constructed and operated in the manner in which they were described and upon which approval was granted.
2. Condition 2 regarding change of Owner and Operating Agency is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Agency of the 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 regarding record drawings 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, and that prior to the commencement of construction of the portion of the Works that are approved in principle only, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the Works, to determine capability to comply with the Ministry's requirements stipulated in the terms and conditions of the Approval, and 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 regarding Bypasses is included to indicate that Bypass is prohibited, except in circumstances where the failure to Bypass could result in greater damage to the environment than the Bypass itself. 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 regarding Overflows is included to indicate that Overflow of untreated or partially treated sewage to the receiver is prohibited, except in circumstances where the failure to Overflow could result in greater damage to the environment than the Overflow itself. 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 regarding design objectives is imposed to establish non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
7. Condition 7 regarding compliance limits is imposed to ensure that the Final Effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements.
8. Condition 8 regarding operation and maintenance 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. 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 regarding monitoring and recording 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 compliance limits.
10. Condition 10 regarding Limited Operational Flexibility is included to ensure that the Works are constructed, maintained and operated in accordance with the Approval, and that any pre-approved modification will not negatively impact on the performance of the Works.
11. Condition 11 regarding reporting 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 this Approval.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).  
6245-AB6HDR issued on August 8, 2016**

*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:*

- a. 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;
- b. 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:*

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. 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, Conservation and Parks  
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 30th day of April, 2020

A handwritten signature in black ink, reading "A. Ahmed", with a horizontal line drawn underneath it.

---

Aziz Ahmed, P.Eng.

Director

appointed for the purposes of Part II.1 of the  
*Environmental Protection Act*

WS/

c: District Manager, DWECD, MECP Peterborough  
Maxwell Christie, P.Eng., XIE Environmental

## **Appendix B – Monitoring Data and Comparison to Effluent Limits**



## Colborne Water Pollution Control Plant 2020 Annual Results

Parameter		Unit	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	ECA	Annual
		m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	m3	Total m <sup>3</sup>	Ave m <sup>3</sup>
<b>FIT615 INFLUENT FLOWS</b>																
Maximum Day Effluent Flow(4)	FIT615 Effluent	m3/d	3,378.90	2,771.00	3,380.37	1,912.79	1,670.05	844.08	1,032.98	766.56	705.23	711.00	967.58	1257.56	N/A	1,616.51
Minimum Plant Effluent Flow (4)	FIT615 Effluent	m3/d	1,025.85	994.00	1,352.48	1,013.44	844.99	464.41	406.83	512.54	503.48	522.00	537.08	725.94	N/A	741.92
Average Plant Effluent Flow	FIT615 Effluent	m3/d	1,944.74	1,274.00	2,015.14	1,343.56	1,031.98	698.53	694.70	581.32	562.88	612.00	625.41	906.42	N/A	1,024.22
Peak flow Rate (5)	FIT615 Effluent	m3/d	3,815.00	3,798.00	3,780.00	3,157.00	3,327.00	2,650.00	2,668.00	2,608.00	2,555.00	2,810.00	2615.0	3949.00	N/A	3,144.33
Total Plant Flow (6)/(7)	FIT615 Effluent	m3	60,286.81	36,946.00	62,469.46	40,306.79	31,991.49	20,956.03	21,535.57	18020.9	16886.5	18,961.00	19,312.40	28098.9	375,771.82	1,026.70
Secondary Treatment Bypasses		events	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
<b>SCHEDULE C PARAMETERS</b>															<b>Objective</b>	<b>Limit</b>
Raw Sewage BOD		mg/L	94.00	89.00	56.00	114.00	103.50	154.30	168.60	153.25	137.25	124.00	149.00	2.00	N/A	112.08
Raw Sewage TSS		mg/L	96.00	114.50	54.00	102.00	113.25	167.00	134.80	177.60	103.00	98.40	152.00	5.80	N/A	109.86
Raw Sewage TKN		mg/L	22.10	23.70	12.85	23.10	28.00	41.05	35.52	40.60	36.05	30.06	36.70	31.80	N/A	30.13
Raw Sewage TP		mg/L	1.97	2.38	1.36	2.31	2.86	3.65	3.55	4.30	3.19	2.67	3.58	5.17	N/A	3.08
Effluent CBOD		mg/L	3.50	3.25	3.00	3.20	2.25	2.75	5.20	2.50	3.00	2.00	2.00	2.00	15.0	2.89
Effluent CBOD Loading (4)		kg/d	6.81	6.81	6.81	6.81	6.81	6.81	6.81	6.81	6.81	6.81	6.81	6.81	43.8	6.81
Effluent TSS		mg/L	13.75	10.75	13.75	9.40	6.00	8.50	8.40	12.00	7.50	8.80	6.25	5.80	15.0	9.24
Effluent TSS Loading (4)		kg/d	26.70	13.70	27.71	13.70	6.19	5.36	4.40	7.12	3.94	4.89	3.91	5.26	N/A	10.24
Effluent NH3 and NH4		mg/L	0.10	0.20	0.30	0.10	0.12	0.12	0.18	0.13	0.10	0.10	0.13	0.10	2/4	0.14
Effluent TP		mg/L	0.16	0.23	0.14	0.18	0.21	0.52	0.53	0.45	0.41	0.42	0.25	0.18	0.40	0.31
Effluent TP Loading (4)		kg/d	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	N/A	0.32
Effluent TRC		mg/L	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0	0.01
Effluent E. Coli		/100 mL	3.60	4.50	2.00	4.50	3.00	36.50	85.40	103.00	205.00	78.30	63.00	40.40	100	52.43
Effluent Lethality Trout		%						0.00							N/A	N/A
Effluent Lethality Dm		%						3.30							N/A	N/A
Max pH			8.00	7.73	7.53	7.73	7.51	7.30	7.40	7.21	7.21	7.60	7.52	7.63	6.0 / 9.5	7.53
Min pH			7.50	7.04	7.19	7.04	7.14	7.07	6.57	6.60	6.88	6.96	7.12	6.89	6.0 / 9.5	7.00
Temperature		Celsius	6.30	8.40	8.30	10.00	12.00	15.00	20.10	20.00	18.00	16.00				13.41
Field pH			7.70	7.50	7.40	7.40	7.13	7.20	7.00	7.10	7.10	7.20	7.40	7.30	6.0 / 9.5	7.29

### Colour Scheme

	Meets Objective or within design parameters
	Meets Limits
205.00	Exceeds Limit
	Ran to Pond

Notes	
1	The greater number applies Nov 1 to Apr 30
2	The ECA sets requirements if lethality is detected. The ECA provides that after eight (8) consecutive results with no lethality sampling can be reduced to annually.
3	Note flow meters are calibrated at +/- 15% as such flows and loadings vary within this range
4	ECA Number 6245-AB6HDR dated July 7, 2015
5	Note this peak is on pump start up is not sustained for more than 2 minute
6	The total plant effluent flow divided by 366 days in 2020
7	Average daily flow (Note Rated Capacity is 1745 m3/d)

### Abbreviations

Dm	Daphnia magna	NO	No set objective
kg/d	kilograms per day	NS	Not sampled
m3/d	cubic metres per day	TAN	Total Ammonia Nitrogen
mg/L	milligrams per Litre	TP	Total Phosphorous
NA	Not Applicable	TSS	Total Suspended Solids
ND	Non Detect based on an average of <0.01 mg/L		

## **Appendix C – Maintenance Records**

MAINTENANCE 2020		
Date	Equipment	
January 13, 2020	Clarifier	Skimmed clarifiers
January 15, 2020	RWW Sampler	Cleared blockage in suction tube
February 4, 2020	Clarifier	Skimmed clarifiers
February 19, 2020	Generator	Genset Test
February 20, 2020	Collection System	Measuring flows in collection system in regards to I&I
February 24, 2020	Cell 2 effluent pipe	Removing ice from discharge pipe in Cell 2
March 21, 2020	Building Maintenance	Cleaning up chemical rooms
March 29, 2020	Hypo pump	Pump is pumping hypo but not recording volume
March 30, 2020	Hypo pump	Trouble shooting hypo pump issue flush pump now working install new worm gear clamps
March 31, 2020	Hypo pump	Verify that the pump is working all is good
April 6, 2020	Scum Trap	Onsite to clean Scum trap and Grit Channel
April 13, 2020	Scum Trap	Quinte Sewer onsite to pump Scum trap
April 20, 2020	UPS Batteries	Checking batteries to see where the fault is
April 23, 2020	Effluent pump	Making arrangements for pump to be delivered
April 23rd, 2020	Samplers	Raw WW sampler not working trouble shooting reconnected all connection unit started up again/ Also checked effluent sample all good
April 23rd, 2020	DR3900 and DR870 analyser	Verified with Chlorine standards both within limits
April 23, 2020	UPS BATTERIES	Batteries ordered from Westbourne
April 27, 2020	Influent pump	Pump delivered to site
May 3, 2020	Clarifier	Skimmed clarifier and hosed down
May 7, 2020	Influent pump	Rowley Electric installed rebuilt influent pump
May 11, 2020	Clarifier	Skimmed and hosed down clarifier
May 11, 2020	Bar Screen	Bar screen cleaned
May 14, 2020	Raw sampler	Replace suction foot valve and hose calibrate
May 14, 2020	Final sampler	Replace suction hose and calibrate
May 15, 2020	Rain gauge	Rowley Electric etting up to install rain gauge
May 25, 2020	Generator	Genset testing
May 26, 2020	Plant	Plant went down due to batteries dying on UPS's / Also battery dead in PLC so lost program Eramosa had to upload new program to restart the plant. Plant back online by late afternoon

June 8, 2020	Scum trap	Scum trap cleaned
June 8, 2020	Grit channel	Grit channel cleaned
June 15, 2020	SCADA	Eramosa made tag changes for V511 and V512 they were misidentified on screens (switched)
June 15, 2020	UPS Batteries	Connected UPS to PLC01
June 29, 2020	P210 Fault	P210 faulted on thermal alarm control wire cut by pump impeller/ P220 in service
July 6, 2020	Blowers	Service both blowers new oil and filters
July 6, 2020	SCADA	Fixed data collector had stopped collecting data
July 6, 2020	Rowley Electric	Final hook up made to rain gauge now on line
July 7, 2020	Clarifier	Clarifier skimmed and hosed down
July 10, 2020	Blower 802	Blower B802 making noises shut down for inspection nothing found restarted
July 10, 2020	Influent pump faulted	Pumps shut down Rowley Electric trouble shooting possibly miniCAS / found that the pump had sucked up the control wiring and cut it arranging for Rowley to repair
July 17, 2020	Influent pump	Rowley repair cut wire in P210 pump back inservice
July 21, 2020	Cell 1	Blockage at influent pipe back to plant valve worked and blockage removed Flushed
July 28, 2020	Genset	Test run
July 31, 2020	Cross collectors	Shear pin replaced
August 5, 2020	Finasl sampler	Sampler suction line required replacing
August 6, 2020	Clarifier	Clarifier skimmed and hosed
August 11, 2020	Cell 1	Vegetation being removed along burms
August 12, 2020	Alum tank	Alum tank cracked at the top
August 14, 2020	Grit channel and scum pit	Grit channel vand scum pit both cleaned by Quinte
August 17, 2020	burm vegetation	More brushing around cell 1 and 2
August 18, 2020	Building #3	Door lock repaired
August 18, 2020	Berm vegetation	Continued brushing around Cell 1 & 2
August 19, 2020	Sludge removal	Removing sludge from Cell 2
August 20, 2020	Sludge removal	Removing sludge from Cell 2
August 21, 2020	Clarifier	Clarifier skimmed and hosed down
August 26, 2020	clarifier	Clarifier skimmed and hosed down
August 28, 2020	Hypo pumps	Franklin Empire on site to trouble shoot hypo pump wiring causing alarms found loose wire tightened issue resolved
August 31, 2020	Bisulphite Pumps	Pump will not rotate unless done manually will ask Eramosa to look at

September 2, 2020	Coag pump	Leak at connection tighten fittings
September 10, 2020	Coag pump 911	Flow sensor cleaned pump now working
September 14, 2020	Hypo pump	Discharge line blocked with crystals flushed back in service
October 1, 2020	SCADA	Door lock repaired
October 26, 2020	Genset	Genset test
October 30, 2020	LIT 110 and 115	at 09:21 a LIT 115 Hi Hi alarm latched and would not clear. P210 running at 100 %
November 1, 2020	LIT 110 and 115	At 09:21 a LIT 115 Hi Hi alarm latched and would not clear. P210 running at 100 % place both pumps in manual and shut off allowing the wet well to climb to 2.05. Turned both pumps back on. Restarted P220 on AUTO allowed the pump to take the wet well back down to 1.15 to see if the pump would shut down it did. Monitored pumps during the day LIT 115 RADAR appears to be faulty will check out on Monday
November 2, 2020	LIT 115 / P220 VFD	Arrived at the plant at 08:00 found P220 running at 100% same as Saturday and Sunday, place both pumps in manual and shut off allowing the wet well to climb to 2.05. Turned both pumps back on. Restarted P220 on AUTO allowed the pump to take the wet well back down to 1.15 to see if the pump would shut down it did. This is the same actions that were taken Saturday and Sunday. Phil arrived along with Mitch and Andrew, Phil entered the wetwell using confined space entry procedures hoist, harness and gas detector paperwork was filled out. Phil hosed the sensors as well stirred up the grit which P220 lifted to the grit channel. P220 faulted as a result of moving the grit and it stayed faulted. Called Ian from Rowley he was able to clear the fault on the VFD this allowed P220 to restart. Ian also trouble shot LIT 115 and found that the RADAR sensor was faulty.
November 9, 2020	Grit and Scum	Both grit and scum pits cleaned
November 15, 2020	PLC02	Power outage building # 3 went offline taking down all the bisulphite equipment including flow meters and PLC02
November 17, 2020	PLC02	Issue resolved with PLC02 the backup battery went dead had to get Eramosa to upload new program once that was completed all communication came back
December 8, 2020	Clarifier	Clarifier shear pin replaced on cross collector
December 27, 2020	blowers/Influent pumps	Blowers and influent pumps faulted eventually found out that at the Hydro 1 substation a sensor faulted indicating that more voltage was needed in the power distribution. As a result of the sensor more voltage was applied which resulted in the blown fuses taking out BB802 and the influent pumps
December 28, 2020	Clarifier	Skimmed clarifier and cleaned bar screens

## **Appendix D – 2020 MUMPS REPORTS**

Project Name  
Colborne Wastewater Treatment Plant

Mailing Address  
Unit No. Street No. Street Name  
1 Toronto Street

Municipality/City/Town Colborne Province ON P.O. Box 357 Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.		Works Number								Data Period				Days		Discharge Type		Update Code	
										Month		Year							
4 6		1 2 0 0 0 0 0 8 8								0 1		2 0		3 1		2		R	
1 2		3 11								16		19		20 21		22		80	

C.P.		0 1		Flows													
12 13																	
				Total Flow		(10 <sup>3</sup> m <sup>3</sup> )		5 0 0 1 0		3				60.287			
				Average Daily Flow		(10 <sup>3</sup> m <sup>3</sup> /d)		5 0 0 1 5		3				1.945			
				Maximum Daily Flow		(10 <sup>3</sup> m <sup>3</sup> /d)		5 0 0 2 0		3				3.379			
						30 34		35		38		46					

2 6		BYPASS														# Occurrences	
12 13																	
				Plant Bypass Volume		(10 <sup>3</sup> m <sup>3</sup> )		5 0 0 2 6		3							
				Duration		(hrs)		8 0 5 6 3		1							
				Secondary Bypass Volume		(10 <sup>3</sup> m <sup>3</sup> )		5 0 0 4 0		3							
				Duration		(hrs)		8 0 5 6 5		1							
						30 34		35		38							

0 3		RAW SEWAGE														# of Samples	
12 13																	
				BOD <sub>5</sub>		(mg/L)		0 0 0 0 1		0				94.60		5	
				Suspended Solids		(mg/L)		0 0 0 0 6		0				96.80		5	
				TKN		(mg/L)		0 0 0 2 0		2				24.54		5	
				Total Phosphorus		(mg/L)		0 0 0 3 3		1				2.13		5	
						30 34		35		38							

0 4		FINAL EFFLUENT															
12 13																	
				BOD <sub>5</sub>		(mg/L)		0 0 0 0 1		1				3.50		4	
				Suspended Solids		(mg/L)		0 0 0 0 6		1				13.75		4	
				Ammonia + Ammonium		(mg/L)		0 0 0 1 9		2				0.10		4	
				TKN		(mg/L)		0 0 0 2 0		2							
				Total Phosphorus		(mg/L)		0 0 0 3 3		2				0.16		4	
				(Representative of Final Discharge)		30 34		35		38							

0 7		DISINFECTION															
12 13																	
				Chlorine Used		(kg as Cl <sub>2</sub> )		5 0 3 2 0		1				241.35			
				Chlorine Dosage		(mg/L as Cl <sub>2</sub> )		8 0 4 1 0		1				4.00			
				Chlorine Residual		(mg/L as Cl <sub>2</sub> )		8 0 4 2 0		1				0.01		6.00	
				(Representative of Final Discharge)		30 34		35		38		48		51			

Operator Telephone Number 905-355-2982 Email address [wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [jwww\\_1@xplonnet.ca](mailto:jwww_1@xplonnet.ca) / [Holly@cramahetownship.ca](mailto:Holly@cramahetownship.ca)

Comments: Lethality analysis has been reduced to yearly analysis as permitted by ECA 6418-BN2NUC Section 9 (3)(5)

Return completed form to:

1. Environmental Monitoring and Reporting Branch, MOE, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) AND
2. Your Environment Officer at your local District/Area MOE Office, (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)

Project Name  
Colborne Wastewater Treatment Plant

Mailing Address  
Unit No. 1  
Street No. 1  
Street Name Toronto Street

Municipality/City/Town Colborne  
Province ON  
PO Box 357  
Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No.  
Street No.  
Street Name Same As Above  
Municipality/City/Town  
Province

PO Box  
Postal Code

File No.

4	6
1	2

Works Number

1	2	0	0	0	0	0	8	8
3								11

Data Period

Month				Year			
0	1	2	0				
16				19			

Days

3	1
20	21

Discharge Type

2
22

Update Code

R
80

C.P.

3	6
12	13

RAW SEWAGE

Parameter Code


30

34

Dec.


35

Monthly Average Results


No. of Samples


0 4

FINAL EFFLUENT

E.Coli Geomean /100

Lethality DM %

Lethality Trout %

CBOD Loading kg/d

TSS Loading kg/d

TP Loading kg/d

Max pH

Min pH

Parameter Code


30

34

Dec.

0

35

Monthly Average Results

	3.60
	6.81
	26.74
	0.32
	8.00
	7.46

38

No. of Samples

	5
	4
	4
	5
	5
	5

Operator Telephone Number  
905-355-2982

Email address  
wwt@cramahetownship.ca/t joynt@xplornet.ca/Holly@cramahetownship.ca

Comments: Lethality analysis has been reduced to yearly analysis as permitted by ECA 6418-BN2NUC Section 9 (3)(5)

Return completed form to:

1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@ontario.ca AND
2. Your Environment Officer at your local District/Area MOE Office, (Find your local MOE office: <http://ww.ene.gov.on.ca/environment>)



Project Name  
Colborne Wastewater Treatment Plant

Mailing Address  
Unit No. Street No. Street Name  
1 Toronto Street

Municipality/City/Town Colborne Province ON P.O. Box 357 Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.

4 6  
1 2

Works Number

1 2 0 0 0 0 0 8 8  
3 11

Data Period

Month Year

0 2 2 0  
16 19

Days

2 9  
20 21

Discharge Type

2  
22

Update Code

R  
80

C.P.

0 1  
12 13

Flows

Total Flow

(10<sup>3</sup>m<sup>3</sup>)

Parameter Code  
5 0 0 1 0  
30 34

Dec.  
3  
35

Monthly Results

36.946

Average Daily Flow

(10<sup>3</sup>m<sup>3</sup>/d)

5 0 0 1 5  
30 34

3  
35

1.274

Maximum Daily Flow

(10<sup>3</sup>m<sup>3</sup>/d)

5 0 0 2 0  
30 34

3  
35

2.771

2 6  
12 13

BYPASS

Plant Bypass Volume

(10<sup>3</sup>m<sup>3</sup>)

5 0 0 2 6  
30 34

3  
35

Duration

(hrs)

8 0 5 6 3  
30 34

1  
35

Secondary Bypass Volume

(10<sup>3</sup>m<sup>3</sup>)

5 0 0 4 0  
30 34

3  
35

Duration

(hrs)

8 0 5 6 5  
30 34

1  
35

# Occurrences

0 3  
12 13

RAW SEWAGE

BOD<sub>5</sub>

(mg/L)

0 0 0 0 1  
30 34

0  
35

89.00

Suspended Solids

(mg/L)

0 0 0 0 6  
30 34

0  
35

114.50

TKN

(mg/L)

0 0 0 2 0  
30 34

2  
35

23.77

Total Phosphorus

(mg/L)

0 0 0 3 3  
30 34

1  
35

2.38

# of Samples

4

4

4

4

0 4  
12 13

FINAL EFFLUENT

BOD<sub>5</sub>

(mg/L)

0 0 0 0 1  
30 34

1  
35

3.25

Suspended Solids

(mg/L)

0 0 0 0 6  
30 34

1  
35

10.75

Ammonia + Ammonium

(mg/L)

0 0 0 1 9  
30 34

2  
35

0.20

TKN

(mg/L)

0 0 0 2 0  
30 34

2  
35

0.20

Total Phosphorus

(mg/L)

0 0 0 3 3  
30 34

2  
35

0.20

(Representative of Final Discharge)

4  
4  
4  
4  
4

0 7  
12 13

DISINFECTION

Chlorine Used

(kg as Cl<sub>2</sub>)

5 0 3 2 0  
30 34

1  
35

132.68

Chlorine Dosage

(mg/L as Cl<sub>2</sub>)

8 0 4 1 0  
30 34

1  
35

3.59

Chlorine Residual

(mg/L as Cl<sub>2</sub>)

8 0 4 2 0  
30 34

1  
35

0.01

(Representative of Final Discharge)

4.00  
48 51

Operator Telephone Number  
905-355-2982

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [jwww\\_1@xplornet.ca](mailto:jwww_1@xplornet.ca) / [Holly@cramahetownship.ca](mailto:Holly@cramahetownship.ca)

Comments: Lethality analysis has been reduced to yearly analysis as permitted by ECA 6418-BN2NUC Section 9 (3)(5)

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Project Name  
Colborne Wastewater Treatment Plant

Mailing Address  
Unit No. 1  
Street No. 1  
Street Name Toronto Street

Municipality/City/Town Colborne  
Province ON  
PO Box 357  
Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No.  
Street No.  
Street Name Same As Above  
Municipality/City/Town  
Province

PO Box  
Postal Code

File No.

4	6
1	2

Works Number

1	2	0	0	0	0	0	8	8
3								11

Data Period

Month				Year			
0	2	2	0				
16				19			

Days

2	9
20	21

Discharge Type

2
22

Update Code

R
80

C.P.

3	6
12	13

RAW SEWAGE

Parameter Code


30

34

Dec.


35

Monthly Average Results


No. of Samples


0 4

12 13 FINAL EFFLUENT

E.Coli Geomean /100

Lethality DM %

Lethality Trout %

CBOD Loading kg/d

TSS Loading kg/d

TP Loading kg/d

Max pH

Min pH

Parameter Code


30

34

Dec.

0

35

Monthly Average Results

	4.50
	4.14
	13.70
	0.25
	7.73
	7.04

38

No. of Samples

4
4
4
4
4
4

Operator Telephone Number  
905-355-2982

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [jwwc\\_1@xplornet.ca](mailto:jwwc_1@xplornet.ca) / [Holly@cramahetownship.ca](mailto:Holly@cramahetownship.ca)

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Toronto Street

Municipality/City/Town Colborne Province ON P.O. Box 357 Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.

4 6  
1 2

Works Number

1 2 0 0 0 0 0 8 8  
3 11

Data Period

Month Year

0 3 2 0  
16 19

Days

3 1  
20 21

Discharge Type

2  
22

Update Code

R  
80

C.P.

0 1  
12 13

Flows

Total Flow

(10<sup>3</sup>m<sup>3</sup>)

Parameter Code  
5 0 0 1 0  
30 34

Dec.  
3  
35

Monthly Results

62.469  
2.015  
3.380  
38 46

Average Daily Flow  
Maximum Daily Flow

(10<sup>3</sup>m<sup>3</sup>/d)  
(10<sup>3</sup>m<sup>3</sup>/d)

5 0 0 1 5  
5 0 0 2 0  
30 34

3  
3  
3  
35

BYPASS

2 6  
12 13

Plant Bypass Volume

Duration

Secondary Bypass Volume

Duration

(10<sup>3</sup>m<sup>3</sup>)  
(hrs)

5 0 0 2 6  
8 0 5 6 3  
5 0 0 4 0  
8 0 5 6 5  
30 34

3  
1  
3  
1  
35

# Occurrences

RAW SEWAGE

0 3  
12 13

BOD<sub>5</sub>

Suspended Solids

TKN

Total Phosphorus

(mg/L)  
(mg/L)  
(mg/L)  
(mg/L)

0 0 0 0 1  
0 0 0 0 6  
0 0 0 2 0  
0 0 0 3 3  
30 34

0  
0  
2  
1  
35

56.00  
54.50  
12.85  
1.36  
38

# of Samples

4  
4  
4  
4

FINAL EFFLUENT

0 4  
12 13

BOD<sub>5</sub>

Suspended Solids

Ammonia + Ammonium

TKN

Total Phosphorus

(Representative of Final Discharge)

(mg/L)  
(mg/L)  
(mg/L)  
(mg/L)  
(mg/L)

0 0 0 0 1  
0 0 0 0 6  
0 0 0 1 9  
0 0 0 2 0  
0 0 0 3 3  
30 34

1  
1  
2  
2  
2  
35

3.00  
13.75  
0.30  
0.14  
38

4  
4  
4  
4

DISINFECTION

0 7  
12 13

Chlorine Used

Chlorine Dosage

Chlorine Residual

(Representative of Final Discharge)

(kg as Cl<sub>2</sub>)  
(mg/L as Cl<sub>2</sub>)  
(mg/L as Cl<sub>2</sub>)

5 0 3 2 0  
8 0 4 1 0  
8 0 4 2 0  
30 34

1  
1  
1  
35

260.18  
4.16  
0.01  
38

4.00  
48 51

Operator Telephone Number  
905-355-2982

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [jwwc\\_1@xplornet.ca](mailto:jwwc_1@xplornet.ca) / [Holly@cramahetownship.ca](mailto:Holly@cramahetownship.ca)

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Municipality/City/Town Colborne  
Province ON  
PO Box 357  
Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No.  
Street No.  
Street Name Same As Above  
Municipality/City/Town  
Province

File No.

4	6
1	2

Works Number

1	2	0	0	0	0	0	8	8
3								11

Data Period

Month				Year			
0	3	2	0				
16				19			

Days

3	1
20	21

Discharge Type

2
22

Update Code

R
80

C.P.

3	6
12	13

RAW SEWAGE

Parameter Code


30

34

Dec.


35

Monthly Average Results


No. of Samples


0 4

12 13

FINAL EFFLUENT

E.Coli Geomean /100

Lethality DM %

Lethality Trout %

CBOD Loading kg/d

TSS Loading kg/d

TP Loading kg/d

Max pH

Min pH

Parameter Code


30

34

Dec.

0

35

Monthly Average Results

2.00
6.05
27.71
0.28
7.53
7.19

38

No. of Samples

4
4
4
4
4
4

Operator Telephone Number  
905-355-2982

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [www.1@xplor.net](http://www.1@xplor.net) / [Holly@cramahetownship.ca](mailto:Holly@cramahetownship.ca)

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Colborne Wastewater Treatment Plant

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Unit No. Street No. Street Name  
1 Toronto Street

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Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.

4 6  
1 2

Works Number

1 2 0 0 0 0 0 8 8  
3 11

Data Period

Month Year

0 4 2 0  
16 19

Days

3 0  
20 21

Discharge Type

2  
22

Update Code

R  
80

C.P.

0 1  
12 13

**Flows**

Total Flow

(10<sup>3</sup>m<sup>3</sup>)

Parameter Code  
5 0 0 1 0  
30 34

Dec.  
3  
35

Monthly Results

40.307  
1.344  
1.913  
38 46

Average Daily Flow  
Maximum Daily Flow

(10<sup>3</sup>m<sup>3</sup>/d)  
(10<sup>3</sup>m<sup>3</sup>/d)

2 6  
12 13

**BYPASS**

Plant Bypass Volume

(10<sup>3</sup>m<sup>3</sup>)

5 0 0 2 6  
8 0 5 6 3  
5 0 0 4 0  
8 0 5 6 5  
30 34

3  
1  
3  
1  
35

Duration  
Secondary Bypass Volume  
Duration

(hrs)  
(10<sup>3</sup>m<sup>3</sup>)  
(hrs)

# Occurrences

0 3  
12 13

**RAW SEWAGE**

BOD<sub>5</sub>

(mg/L)

0 0 0 0 1  
0 0 0 0 6  
0 0 0 2 0  
0 0 0 3 3  
30 34

0  
0  
2  
1  
35

Suspended Solids  
TKN  
Total Phosphorus

(mg/L)  
(mg/L)  
(mg/L)  
(mg/L)

114.40  
102.00  
23.10  
2.31  
38

# of Samples

5  
5  
5  
5

0 4  
12 13

**FINAL EFFLUENT**

BOD<sub>5</sub>

(mg/L)

0 0 0 0 1  
0 0 0 0 6  
0 0 0 1 9  
0 0 0 2 0  
0 0 0 3 3  
30 34

1  
1  
2  
2  
2  
35

Suspended Solids  
Ammonia + Ammonium  
TKN  
Total Phosphorus  
(Representative of Final Discharge)

(mg/L)  
(mg/L)  
(mg/L)  
(mg/L)  
(mg/L)

3.20  
9.40  
0.10  
0.18  
38

5  
5  
5  
5

0 7  
12 13

**DISINFECTION**

Chlorine Used

(kg as Cl<sub>2</sub>)

5 0 3 2 0  
8 0 4 1 0  
8 0 4 2 0  
30 34

1  
1  
1  
35

Chlorine Dosage  
Chlorine Residual  
(Representative of Final Discharge)

(mg/L as Cl<sub>2</sub>)  
(mg/L as Cl<sub>2</sub>)

189.22  
4.69  
0.00  
38

4.00

48 51

Operator Telephone Number  
905-355-2982

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [jwww\\_1@xplornet.ca](mailto:jwww_1@xplornet.ca) / [Holly@cramahetownship.ca](mailto:Holly@cramahetownship.ca)

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Project Name  
Colborne Wastewater Treatment Plant

Mailing Address  
Unit No. Street No. Street Name  
Toronto Street

Municipality/City/Town Colborne Province ON P.O. Box 357 Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.

4 6  
1 2

Works Number

1 2 0 0 0 0 0 8 8  
3 11

Data Period

Month Year

0 6 2 0  
16 19

Days

3 0  
20 21

Discharge Type

2  
22

Update Code

R  
80

C.P.

0 1  
12 13

Flows

Total Flow

(10<sup>3</sup>m<sup>3</sup>)

Parameter Code  
5 0 0 1 0  
30 34

Dec.

3

Monthly Results

20.956

Average Daily Flow

(10<sup>3</sup>m<sup>3</sup>/d)

5 0 0 1 5  
30 34

3

0.699

Maximum Daily Flow

(10<sup>3</sup>m<sup>3</sup>/d)

5 0 0 2 0  
30 34

3

0.844

2 6  
12 13

BYPASS

Plant Bypass Volume

(10<sup>3</sup>m<sup>3</sup>)

5 0 0 2 6  
30 34

3

Duration

(hrs)

8 0 5 6 3  
30 34

1

Secondary Bypass Volume

(10<sup>3</sup>m<sup>3</sup>)

5 0 0 4 0  
30 34

3

Duration

(hrs)

8 0 5 6 5  
30 34

1

# Occurrences

0 3  
12 13

RAW SEWAGE

BOD<sub>5</sub>

(mg/L)

0 0 0 0 1  
30 34

0

154.33

Suspended Solids

(mg/L)

0 0 0 0 6  
30 34

0

167.00

TKN

(mg/L)

0 0 0 2 0  
30 34

2

41.05

Total Phosphorus

(mg/L)

0 0 0 3 3  
30 34

1

3.65

# of Samples

4

4

4

4

0 4  
12 13

FINAL EFFLUENT

BOD<sub>5</sub>

(mg/L)

0 0 0 0 1  
30 34

1

2.75

Suspended Solids

(mg/L)

0 0 0 0 6  
30 34

1

8.50

Ammonia + Ammonium

(mg/L)

0 0 0 1 9  
30 34

2

0.12

TKN

(mg/L)

0 0 0 2 0  
30 34

2

Total Phosphorus

(mg/L)

0 0 0 3 3  
30 34

2

0.52

(Representative of Final Discharge)

4

4

4

4

4

0 7  
12 13

DISINFECTION

Chlorine Used

(kg as Cl<sub>2</sub>)

5 0 3 2 0  
30 34

1

62.28

Chlorine Dosage

(mg/L as Cl<sub>2</sub>)

8 0 4 1 0  
30 34

1

2.97

Chlorine Residual

(mg/L as Cl<sub>2</sub>)

8 0 4 2 0  
30 34

1

0.00

(Representative of Final Discharge)

4.00

Operator Telephone Number  
613-284-7290 – Ted Joynt ORO

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [www.1xplonet.ca](http://www.1xplonet.ca)

Comments:

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Mailing Address  
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Street No. 1  
Street Name Toronto Street

Municipality/City/Town Colborne  
Province ON  
PO Box 357  
Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No.  
Street No.  
Street Name Same As Above

Municipality/City/Town  
Province  
Postal Code

File No.

4	6
1	2

Works Number

1	2	0	0	0	0	0	8	8
3								11

Data Period

Month				Year			
0	6	2	0				
16				19			

Days

3	0
20	21

Discharge Type

2
22

Update Code

R
80

C.P.

3	6
12	13

RAW SEWAGE

Parameter Code


30

34

Dec.


35

Monthly Average Results


No. of Samples


0

4

FINAL EFFLUENT

12 13 E.Coli Geomean /100

Lethality DM %

Lethality Trout %

CBOD Loading kg/d

TSS Loading kg/d

TP Loading kg/d

Max pH

Min pH

Parameter Code


30

34

Dec.

0

35

Monthly Average Results

	36.50
	2.10
	5.36
	0.36
	7.30
	7.07

38

No. of Samples

4
4
4
4
4
4

Operator Telephone Number  
613-284-7290 – Ted Joynt ORO

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [www.1@xplornet.ca](http://www.1@xplornet.ca)

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Toronto Street

Municipality/City/Town Colborne Province ON P.O. Box 357 Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 8 8	0 7 2 0	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	Flows	Parameter Code	Dec.	Monthly Results
0 1	Total Flow	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 1 0	3	21.536
12 13	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 1 5	3	0.695
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 2 0	3	1.033
		30 34	35	38 46

2 6	BYPASS	Parameter Code	Dec.	# Occurrences
12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 2 6	3	
	Duration	(hrs) 8 0 5 6 3	1	
	Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 4 0	3	
	Duration	(hrs) 8 0 5 6 5	1	
		30 34	35	38

0 3	RAW SEWAGE	Parameter Code	Dec.	# of Samples
12 13	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	0	168.60
	Suspended Solids	(mg/L) 0 0 0 0 6	0	134.80
	TKN	(mg/L) 0 0 0 2 0	2	35.52
	Total Phosphorus	(mg/L) 0 0 0 3 3	1	3.55
		30 34	35	38 46

0 4	FINAL EFFLUENT	Parameter Code	Dec.	# of Samples
12 13	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	1	5.20
	Suspended Solids	(mg/L) 0 0 0 0 6	1	8.40
	Ammonia + Ammonium	(mg/L) 0 0 0 1 9	2	0.18
	TKN	(mg/L) 0 0 0 2 0	2	
	Total Phosphorus	(mg/L) 0 0 0 3 3	2	0.53
	(Representative of Final Discharge)	30 34	35	38 46

0 7	DISINFECTION	Parameter Code	Dec.	# of Samples
12 13	Chlorine Used	(kg as Cl <sub>2</sub> ) 5 0 3 2 0	1	64.23
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8 0 4 1 0	1	2.98
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8 0 4 2 0	1	0.01
	(Representative of Final Discharge)	30 34	35	38 46

Operator Telephone Number 613-284-7290 – Ted Joynt ORO Email address [wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [jwwwc\\_1@xplonnet.ca](mailto:jwwwc_1@xplonnet.ca)

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Project Name  
Colborne Wastewater Treatment Plant

Mailing Address  
 Unit No.  Street No.  Street Name   
 1 Toronto Street

Municipality/City/Town  
ColborneProvince  
ON

PO Box  
357  
Postal Code  
K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address		
Unit No.	Street No.	Street Name
		Same As Above

Municipality/City/Town

Province

PO Box  
Postal Code

File No.		Works Number										Data Period				Days		Discharge Type	Update Code
4	6	1	2	0	0	0	0	0	8	8	0	7	2	0	3	1	2	R	
1 2		3 11										16 19				20 21		22	80

C.P.	
3	6

RAW SEWAGE  
 12    13

[illegible]

0	4	FINAL EFFLUENT
12	13	E.Coli Geomean /100
		Lethality DM %
		Lethality Trout %
		CBOD Loading kg/d
		TSS Loading kg/d
		TP Loading kg/d
		Max pH
		Min pH

Parameter Code					Dec.	Monthly Average Results		No. of Samples
					0		85.4	5
							4.17	
							4.40	
							0.49	3
							7.40	3
							6.57	3
						38		6
								6

Operator Telephone Number 613-284-7290 – Ted Joynt ORO	Email address <a href="mailto:www@cramahetownship.ca">www@cramahetownship.ca</a> / <a href="mailto:jwww_1@xplornet.ca">jwww_1@xplornet.ca</a>
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Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.	Works Number								Data Period Month Year		Days		Discharge Type	Update Code
4 6	1 2 0 0 0 0 8 8	0 7 2 0	3 1	2	R									
1 2	3 11	16 19	20 21	22	80									

C.P.	Flows									
0 1										
12 13	Total Flow	(10 <sup>3</sup> m <sup>3</sup> )	5 0 0 1 0	Dec.	3	Monthly Results				
	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	5 0 0 1 5		3	21.536				
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	5 0 0 2 0		3	0.695				
						1.033				
			30 34	35		38 46				

2 6	BYPASS									
12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	5 0 0 2 6	Dec.	3					
	Duration	(hrs)	8 0 5 6 3		1					
	Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	5 0 0 4 0		3					
	Duration	(hrs)	8 0 5 6 5		1					
			30 34	35		38				

# Occurrences

0 3	RAW SEWAGE									
12 13	BOD <sub>5</sub>	(mg/L)	0 0 0 0 1	Dec.	0	168.60				
	Suspended Solids	(mg/L)	0 0 0 0 6		0	134.80				
	TKN	(mg/L)	0 0 0 2 0		2	35.52				
	Total Phosphorus	(mg/L)	0 0 0 3 3		1	3.55				
			30 34	35		38				

# of Samples
5
5
5
5

0 4	FINAL EFFLUENT									
12 13	BOD <sub>5</sub>	(mg/L)	0 0 0 0 1	Dec.	1	5.20				
	Suspended Solids	(mg/L)	0 0 0 0 6		1	8.40				
	Ammonia + Ammonium	(mg/L)	0 0 0 1 9		2	0.18				
	TKN	(mg/L)	0 0 0 2 0		2					
	Total Phosphorus	(mg/L)	0 0 0 3 3		2	0.53				
	(Representative of Final Discharge)		30 34	35		38				

5
5
5
5

0 7	DISINFECTION									
12 13	Chlorine Used	(kg as Cl <sub>2</sub> )	5 0 3 2 0	Dec.	1	64.23				
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> )	8 0 4 1 0		1	2.98				
	Chlorine Residual	(mg/L as Cl <sub>2</sub> )	8 0 4 2 0		1	0.01				
	(Representative of Final Discharge)		30 34	35		38 48 51				

Operator Telephone Number 613-284-7290 – Ted Joynt ORO	Email address <a href="mailto:wwt@cramahetownship.ca">wwt@cramahetownship.ca</a> / <a href="mailto:jwwwc_1@xplonnet.ca">jwwwc_1@xplonnet.ca</a>
Comments:	

Return completed form to:

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- Your Environment Officer at your local District/Area MOE Office, (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)



Project Name  
Colborne Wastewater Treatment Plant

Mailing Address  
Unit No. Street No. Street Name  
Toronto Street

Municipality/City/Town Colborne Province ON P.O. Box 357 Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

Mailing Address  
Unit No. Street No. Street Name  
Same As Above

Municipality/City/Town Province Postal Code

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 0 8 8	0 9 2 0	3 0	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	Flows	Parameter Code	Dec.	Monthly Results
0 1	Total Flow	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 1 0	3	16.886
	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 1 5	3	0.563
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 2 0	3	0.705
		30 34	35	38 46

2 6	BYPASS	Parameter Code	Dec.		# Occurrences
	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 2 6	3		0.00
	Duration	(hrs) 8 0 5 6 3	1		
	Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 4 0	3		
	Duration	(hrs) 8 0 5 6 5	1		
		30 34	35	38	

0 3	RAW SEWAGE	Parameter Code	Dec.		# of Samples
	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	0	137.25	4
	Suspended Solids	(mg/L) 0 0 0 0 6	0	103.00	4
	TKN	(mg/L) 0 0 0 2 0	2	36.05	4
	Total Phosphorus	(mg/L) 0 0 0 3 3	1	3.19	4
		30 34	35	38	

0 4	FINAL EFFLUENT	Parameter Code	Dec.		
	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	1	3.00	4
	Suspended Solids	(mg/L) 0 0 0 0 6	1	7.50	4
	Ammonia + Ammonium	(mg/L) 0 0 0 1 9	2	0.10	4
	TKN	(mg/L) 0 0 0 2 0	2		
	Total Phosphorus	(mg/L) 0 0 0 3 3	2	0.41	4
	(Representative of Final Discharge)	30 34	35	38	

0 7	DISINFECTION	Parameter Code	Dec.		
	Chlorine Used	(kg as Cl <sub>2</sub> ) 5 0 3 2 0	1	27.71	
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8 0 4 1 0	1	1.64	
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8 0 4 2 0	1	0.01	4.00
	(Representative of Final Discharge)	30 34	35	38	48 51

Operator Telephone Number 613-284-7290 Email address [wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [www.1xplonet.ca](http://www.1xplonet.ca)

Comments:

Return completed form to:

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- Your Environment Officer at your local District/Area MOE Office, (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)





Project Name  
**Colborne Wastewater Treatment Plant**

Mailing Address  
Unit No. **1** Street No. **1** Street Name **Toronto Street**

Municipality/City/Town **Colborne** Province **ON**

P.O. Box  
**357**  
Postal Code  
**K0K 1S0**

Operating Authority  
**The Corporation of the Township of Cramahe**

Mailing Address  
Unit No. **Same As Above** Street No. **Same As Above** Street Name **Same As Above**

Municipality/City/Town **Same As Above** Province **Same As Above**

P.O. Box  
**Same As Above**  
Postal Code  
**Same As Above**

File No.

4	6
1	2

Works Number

1	2	0	0	0	0	0	8	8
3								11

Data Period

Month				Year			
1	0	2	0				
16				19			

Days

3	1
20	21

Discharge Type

2
22

Update Code

R
80

C.P.

0	1
12	13

### Flows

Total Flow

(10<sup>3</sup>m<sup>3</sup>)

Parameter Code				
5	0	0	1	0
30				34

Dec.
3
35

Monthly Results

18.961
0.612
0.711
46

Average Daily Flow  
Maximum Daily Flow

(10<sup>3</sup>m<sup>3</sup>/d)  
(10<sup>3</sup>m<sup>3</sup>/d)

### BYPASS

2	6
12	13

Plant Bypass Volume

Duration

Secondary Bypass Volume

Duration

(10<sup>3</sup>m<sup>3</sup>)

(hrs)

(10<sup>3</sup>m<sup>3</sup>)

(hrs)

5	0	0	2	6
8	0	5	6	3
5	0	0	4	0
8	0	5	6	5
30				34

Dec.
3
1
3
1
35

38

# Occurrences


### RAW SEWAGE

0	3
12	13

BOD<sub>5</sub>

Suspended Solids

TKN

Total Phosphorus

(mg/L)

(mg/L)

(mg/L)

(mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	2	0
0	0	0	3	3
30				34

Dec.
0
0
2
1
35

124.80
98.40
30.06
2.67
38

# of Samples

5
5
5
5

### FINAL EFFLUENT

0	4
12	13

BOD<sub>5</sub>

Suspended Solids

Ammonia + Ammonium

TKN

Total Phosphorus

(Representative of Final Discharge)

(mg/L)

(mg/L)

(mg/L)

(mg/L)

(mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	1	9
0	0	0	2	0
0	0	0	3	3
30				34

Dec.
1
1
2
2
2
35

2.00
8.80
0.10
0.42
38

5
5
5
5

### DISINFECTION

0	7
12	13

Chlorine Used

Chlorine Dosage

Chlorine Residual

(Representative of Final Discharge)

(kg as Cl<sub>2</sub>)

(mg/L as Cl<sub>2</sub>)

(mg/L as Cl<sub>2</sub>)

5	0	3	2	0
8	0	4	1	0
8	0	4	2	0
30				34

Dec.
1
1
1
35

85.06
4.49
0.01
38

4.49
48
51

Operator Telephone Number  
613-284-7290 – Ted Joynt ORO

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [www.1xplonnet.ca](http://www.1xplonnet.ca)

Comments:

Return completed form to:

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2. Your Environment Officer at your local District/Area MOE Office, (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)

Project Name  
**Colborne Wastewater Treatment Plant**

Mailing Address  
Unit No. **1** Street No. **1** Street Name **Toronto Street**

Municipality/City/Town **Colborne** Province **ON** PO Box **357**  
Postal Code **K0K 1S0**

Operating Authority  
**The Corporation of the Township of Cramahe**

Mailing Address  
Unit No. Street No. Street Name **Same As Above**

Municipality/City/Town Province Postal Code

File No.

4	6
1	2

Works Number

1	2	0	0	0	0	0	8	8
3								11

Data Period

Month				Year			
1	0	2	0				
16				19			

Days

3	1
20	21

Discharge Type

2
22

Update Code

R
80

C.P.

3	6
12	13

**RAW SEWAGE**

Parameter Code


30

34

Dec.


35

Monthly Average Results


No. of Samples


0

4

**FINAL EFFLUENT**

E.Coli Geomean /100

Lethality DM %

Lethality Trout %

CBOD Loading kg/d

TSS Loading kg/d

TP Loading kg/d

Max pH

Min pH

Parameter Code


30

34

Dec.

0

35

Monthly Average Results

78.32
1.22
4.89
0.25
7.60
6.96

No. of Samples

5
5
5
5
5
5

Operator Telephone Number  
613-284-7290 – Ted Joynt ORO

Email address  
[wwt@cramahetownship.ca](mailto:wwt@cramahetownship.ca) / [www.1@xplornet.ca](http://www.1@xplornet.ca)

Comments:

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2. Your Environment Officer at your local District/Area MOE Office, (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)

Fields marked with an asterisk (\*) are mandatory.

Project Name

Colborne Water Pollution Control Plant

## Facility Address

Unit Number	Street Number 1108	Street Name Ontario	PO Box
Municipality/City/Town Township of Cramahe		Province ON - Ontario	Postal Code K0K 1S0
Operating Authority The Corporation of the Township of Cramahe			

## Mailing Address

Unit Number	Street Number 1	Street Name Toronto	PO Box 357
Municipality/City/Town Colborne		Province ON - Ontario	Postal Code K0K 1S0

File No.	Works Number *	Data Period *	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 8 8	Month Year 1 1 2 0 2 0	3 0	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	0 1	Flows	Parameter Code	Dec.	Monthly Results
12 13		Total Flow (10 <sup>3</sup> m <sup>3</sup> )	50010	3	19.312
		Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50015	3	0.625
		Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	50020	3	0.968
			30 34	35	38
2 6		Bypass			# of Occurrences
12 13		Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	50026	3	0.000
		Duration (hours)	80563	1	0.0
		Secondary Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	50040	3	0.000
		Duration (hours)	80565	1	0.0
			30 34	35	38
0 3		Raw Sewage			# of Samples
12 13		BOD <sub>5</sub> (mg/L)	00001	0	150
		Suspended Solids (mg/L)	00006	0	152
		TKN (mg/L)	00020	2	36.77
		Total Phosphorus (mg/L)	00033	1	3.5
			30 34	35	38
0 4		Final Effluent			
12 13		BOD <sub>5</sub> (mg/L)	00001	1	
		CBOD <sub>5</sub> (mg/L)	00002	1	2.0
		Suspended Solids (mg/L)	00006	1	6.2
		Ammonia + Ammonium (mg/L)	00019	2	0.12
		TKN (mg/L)	00020	2	
		Total Phosphorus (mg/L)	00033	2	0.25
			30 34	35	38
0 7		Disinfection			
12 13		Chlorine Used (kg as Cl <sub>2</sub> )	50100	1	91.5
		Chlorine Dosage (mg/L as Cl <sub>2</sub> )	80410	1	4.8
		Chlorine Residual (mg/L as Cl <sub>2</sub> )	80420	1	0.0
			30 34	35	38

Operator Telephone Number  
613-284-7290

Operator Email Address \*  
jwvc\_1@xplor.net.ca

Comments

ORO Ted Joynt / OIC Phil Kelly 905-396-0007

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- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
[Report.Colborne@WPCP.ca](mailto:Report.Colborne@WPCP.ca)

Project Name  
Colborne Water Pollution Control Plant

## Facility Address

Unit Number	Street Number 1108	Street Name Ontario	PO Box
Municipality/City/Town Township of Cramahe		Province ON - Ontario	Postal Code K0K 1S0

Operating Authority  
The Corporation of the Township of Cramahe

**Mailing Address**

Unit Number	Street Number 1	Street Name Toronto	PO Box 357
Municipality/City/Town Colborne		Province ON - Ontario	Postal Code K0K 1S0

File No.	Works Number *								Data Period *				Days		Discharge Type	Update Code	
4 6	1	2	0	0	0	0	8	8	Month	Year							
	1	1	2	0	2	0											
1 2	3							11	16				19	20 21	22	80	

[illegible]

0	4	Final Effluent	Parameter Code	Dec	Monthly Average Results	# of Samples
12	13	Alkalinity, Total (mg/L)	00051	4		
		Conductivity 25°C (µS/cm)	91004	4		
		E. Coli (CT/100ml)	91000	4	63.0000	4
		Nitrate, Unfiltered reactive (mg/L)	00022	4		
		Nitrite, Unfiltered reactive (mg/L)	00021	4		
		pH	80770	4	7.5000	4
		Temperature, Water (°C)	80250	4		
		Un-ionized Ammonia (mg/L)	91012	4		
		Dissolved Oxygen (mg/L)	00003	4		
		Hydrogen Sulphide (mg/L)	83008	4		
		CBOD Loading			1.2500	4
		TSS Loading			3.9100	4
		TP Loading			0.1600	4
		Max pH			7.5000	4
		Min pH			7.3000	4

Operator Telephone Number  
613-284-7290

Operator Email Address  
jwwc\_1@xplornet.ca

Comments

Ted Joynt ORO / Phil Kelly OIC 905-396-0007

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Fields marked with an asterisk (\*) are mandatory.

Project Name

Colborne Water Pollution control Plant

## Facility Address

Unit Number	Street Number 1108	Street Name Ontario	PO Box
Municipality/City/Town Colborne		Province ON - Ontario	Postal Code K0K 1S0

Operating Authority

Corporation of the Township of Cramahe

## Mailing Address

Unit Number	Street Number 1	Street Name Toronto	PO Box 357
Municipality/City/Town Colborne		Province ON - Ontario	Postal Code K0K 1S0

File No.	Works Number *	Data Period *	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 8 8	1 2 2 0 2 0	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	0 1	Flows	12 13	Total Flow	(10 <sup>3</sup> m <sup>3</sup> )	50010	3	29.099
		Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	50015	3	0.906		
		Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	50020	3	1.258		
				30 34	35	38		
2 6	Bypass	12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	50026	3	0.000	# of Occurrences
	Duration	(hours)	80563	1	0.0		0	
	Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	50040	3	0.000		0	
	Duration	(hours)	80565	1	0.0			
			30 34	35	38			
0 3	Raw Sewage	12 13	BOD <sub>5</sub>	(mg/L)	00001	0	189	# of Samples
	Suspended Solids	(mg/L)	00006	0	141		5	
	TKN	(mg/L)	00020	2	31.86		5	
	Total Phosphorus	(mg/L)	00033	1	5.1		5	
			30 34	35	38			
0 4	Final Effluent	12 13	BOD <sub>5</sub>	(mg/L)	00001	1		
	CBOD <sub>5</sub>	(mg/L)	00002	1	2.3		5	
	Suspended Solids	(mg/L)	00006	1	5.8		5	
	Ammonia + Ammonium	(mg/L)	00019	2	0.10		5	
	TKN	(mg/L)	00020	2				
	Total Phosphorus	(mg/L)	00033	2	0.20		5	
			30 34	35	38			
0 7	Disinfection	12 13	Chlorine Used	(kg as Cl <sub>2</sub> )	50100	1	105.2	
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> )	80410	1	3.7			
	Chlorine Residual	(mg/L as Cl <sub>2</sub> )	80420	1	0.0		7	
			30 34	35	38			

Operator Telephone Number

613-284-7290

Operator Email Address \*

jwwc\_1@xplor.net.ca

Comments

Ted Joynt ORO / Phil Kelly OIC (905)-396-0007

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- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*

[britney.williams@ontario.ca](mailto:britney.williams@ontario.ca)



## **Appendix E – Lethality Testing**



AquaTox Testing & Consulting Inc.  
B-11 Nicholas Beaver Road  
Puslinch, ON N0B 2J0  
Tel. (519) 763-4412  
Fax. (519) 763-4419

## CONFIRMATION OF SAMPLE RECEIPT

Work Order : **242434**

**Ted Joynt**  
**The Corporation of the Township of Cramahe**  
**1 Toronto Street, P.O. Box 357**  
**Colborne ON**  
**K0K 1S0**

### WE HAVE RECEIVED THE FOLLOWING SAMPLE(S) :

Sample	Date Collected	Date Received	Temp. on Arrival (° C)	Volume/ Container	Sample Type
Final Effluent Sample Station #2	2020-06-04	2020-06-08	19	1 x 23 L pail	WATER

### COMMENTS

A copy of the chain of custody has been provided in a separate attachment.

Please review the information above. For revisions, please contact your AquaTox Project Management Team at (519) 763-4412.

**Your Project Manager is :** Tori Carleton





AquaTox Testing & Consulting Inc.  
B-11 Nicholas Beaver Road  
Puslinch, ON N0B 2J0  
Tel. (519) 763-4412  
Fax. (519) 763-4419

## PRELIMINARY

### ACUTE LETHALITY REPORT SUMMARY

Work Order : 242434

**Ted Joynt**  
**The Corporation of the Township of Cramahe**  
**1 Toronto Street, P.O. Box 357**  
**Colborne ON**  
**K0K 1S0**

### RESULTS

Substance	Date Collected	Date Tested	Species / Test	LC50	Mortality in 100% Concentration (%)
Final Effluent Sample Station #2	2020-06-04	2020-06-08	Dm SC	-	3.3
	2020-06-04	2020-06-08	RBT SC	-	0

RBT = rainbow trout

Dm = *Daphnia magna*

\* = pH Stabilized

SC = single concentration

### Test Protocols

Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna*. Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments)

Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 and February 2016 amendments) .

***Although test results are generated under strict QA/QC protocols, the results provided herein, along with any unsigned test reports, faxes, or emails are considered preliminary.***

## **Appendix F - Calibration Reports**

## FIELD SERVICES REPORT

**REPORT OF:** Mike Humphries

**DATE OF SERVICE:** September 16, 2020

**CUSTOMER / ADDRESS:**

Colborne WWTP  
Ontario Street  
Colborne, Ontario

**CONTACT:** Ted Joynt

**EMAIL:**

**PURPOSE FOR SERVICE:**

Check operation and calibration of OCM III measuring Final Effluent leaving the plant.

**SYSTEM CONFIGURATION:**

OCM III, REV 3.31  
XRS-5C transducer  
TS2 temperature sensor

**APPLICATION:**

Primary element: 6" Parshall Flume  
Maximum flow: 6000 m<sup>3</sup>/day  
Maximum head: 34.0746 cm

**OBSERVATIONS / CHANGES MADE:**

Totalizer As Found	5183597	m <sup>3</sup>
Totalizer As Left	5183609	m <sup>3</sup>

Zero As Found	88.382110	cm
Zero As Left	87.430740	cm
Change in Zero	0.951370	m

OCM Flow Table

Head Applied (m)	Head Displayed (m)	Error (%)	Calculated Flow (m <sup>3</sup> /d)	Flow Displayed (m <sup>3</sup> /d)	Error (%)	Calculated MA Output	Measured mA Output	Error (%)
0.00	0.0000	0.00	0.00	0.00	0.00	4.00	3.99	-0.25
0.10	0.0998	-0.20	865	864	-0.09	6.31	6.30	-0.10
0.20	0.1997	-0.15	2585	2580	-0.21	10.89	10.87	-0.23
0.30	0.3004	0.13	4906	4916	0.20	17.08	17.12	0.21
0.34	0.3400	-0.22	6000	5988	-0.20	20.00	19.97	-0.15

**CONCLUSIONS / RECOMMENDATIONS:**

OCM III is functioning as expected giving good accurate results.

## FIELD SERVICES REPORT

**REPORT OF:** Mike Humphries

**DATE OF SERVICE:** September 16, 2020

**CUSTOMER / ADDRESS:**

Colborne WWTP  
Ontario Street  
Colborne, Ontario

**CONTACT:** Ted Joynt

**EMAIL:**

**PURPOSE FOR SERVICE:**

Check operation and calibration of OCM III on Raw Influent coming into Plant.

**SYSTEM CONFIGURATION:**

OCM III, REV 3.31  
XRS-5C transducer  
TS2 temperature sensor

**APPLICATION:**

Primary element: 6" Parshall Flume  
Maximum flow: 6000 m<sup>3</sup>/day  
Maximum head: 34.0746 cm

**OBSERVATIONS / CHANGES MADE:**

Totalizer As Found	2241758	m <sup>3</sup>
Totalizer As Left	2241779	m <sup>3</sup>
Zero As Found	66.731420	cm
Zero As Left	66.282270	cm
Change in Zero	0.449150	m

**OCM Flow Table**

Head Applied (m)	Head Displayed (m)	Error (%)	Calculated Flow (m <sup>3</sup> /d)	Flow Displayed (m <sup>3</sup> /d)	Error (%)	Calculated MA Output	Measured mA Output	Error (%)
0.00	0.0000	0.00	0.00	0.00	0.00	4.00	4.00	0.00
0.10	0.1002	0.20	865	867	0.25	6.31	6.32	0.22
0.20	0.1997	-0.15	2585	2582	-0.13	10.89	10.88	-0.13
0.30	0.2995	-0.17	4906	4895	-0.23	17.08	17.04	-0.26
0.34	0.3393	-0.43	6000	5960	-0.67	20.00	19.90	-0.50

**CONCLUSIONS / RECOMMENDATIONS:**

OCM III is functioning as expected giving good accurate results.



## OPEN CHANNEL METER III

**USER:** Colborne WWTP

**SERIAL #:**

**LOCATION:** Inlet

**TAG #:** Raw

Par	As found	As Left	Description	Par	As found	As left	Description
0	0		Language	U0	1.58		
1	0		Dimensional units	U1			
2	0		Temperature units	U2			
3	0		Primary element	U3			
4	1		Calculation method	U4			
5	7		Units flow rate	F 4	X	OK	Time
6	6000		Flow at max head	F 5	X	OK	Date
7	34.0746		Height of max head	F 6	3.32		Eprom #
8	0		Volts in at zero velocity	F 11			Totalizer master reset
9	0		Velocity @ 5 volts in	D0	2.72		Head
10			Velocity @ max flow	D1	104		Flow rate
11			N/a	D2	949309.1		Short totalizer *
12			N/a	D3	4716	C	Flow rate maximum
13			Display damping	D4	0	C	Flow rate minimum
14			Display lighting	D5	20.03		Temperature
15	1		Relay 1 assignment	D6	40.07	C	Temperature max.
16			Relay 1 high setpoint	D7	-18.52	C	Temperature min.
17			Relay 1 low setpoint	D8			Velocity
18			Relay 2 assignment	D9	64		Target range
19			Relay 2 high setpoint	D10	4.18		mA output
20			Relay 2 low setpoint	D11			DC volts internal
21			Relay 3 assignment	D12			Velocity volts
22			Relay 3 high setpoint	D13			Auxiliary input volts
23			Relay 3 low setpoint	D14	9639		Temperature sensor ohms
24			mA assignment	D15			Self test checksum
25			Custom mA	D16	16	C	Restarts
26			Span mA	D17	0		Exceptions
27	30		Damping mA (sec)	D18	100		Echos
28			Emulator tracking mA o/p	A0			Head point 1
29	60		Fail-safe timer (sec)	A1			Flow point 1
30			Fail-safe analog mode	A2			Head point 2
31			Failsafe mA (default)	A3			Flow point 2
32	3		Totalizer multiplier	A4			Head point 3
33	2		Display flow-rate dec point #	A5			Flow point 3
34			Printer mode	A6			Head point 4
35			Printer timing	A7			Flow point 4
36			Measurement interval	A8			Head point 5
37	5		Serial data rate (baud)	A9			Flow point 5
38			Site #	A10			Head point 6
39	2		Data logging rate	A11			Flow point 6
40			Log rapid setpoint	A12			Head point 7
41			Log normal set point	A13			Flow point 7
42			Head determination	A14			Head point 8
43			Volts in for zero head	A15			Flow point 8
44			Head @ 5 volts in	A16			Head point 9
45	0.5		Low cutoff head	A17			Flow point 9
46	66.73142	66.28227	Range @ zero head	A18			Head point 10
47	30.48264		Blanking distance	A19			Flow point 10
				A20			Head point 11
				A21			Flow point 11



## OPEN CHANNEL METER III

**USER:** Colborne WWTP

**SERIAL #:**

**LOCATION:** Effluent

**TAG #:** Final

Par	As found	As Left	Description	Par	As found	As left	Description
0	0		Language	U0	1.58		
1	0		Dimensional units	U1			
2	0		Temperature units	U2			
3	0		Primary element	U3			
4	1		Calculation method	U4			
5	7		Units flow rate	F 4	X	OK	Time
6	6000		Flow at max head	F 5	OK		Date
7	34.0746		Height of max head	F 6	3.31		Eprom #
8	0		Volts in at zero velocity	F 11			Totalizer master reset
9	0		Velocity @ 5 volts in	D0	2.00		Head
10			Velocity @ max flow	D1	65		Flow rate
11			N/a	D2	708360.6		Short totalizer *
12			N/a	D3	5829	C	Flow rate maximum
13			Display damping	D4	31.56	C	Flow rate minimum
14			Display lighting	D5	23.19		Temperature
15	1		Relay 1 assignment	D6	36.13	C	Temperature max.
16			Relay 1 high setpoint	D7	-15.01	C	Temperature min.
17			Relay 1 low setpoint	D8			Velocity
18			Relay 2 assignment	D9	86		Target range
19			Relay 2 high setpoint	D10	4.15		mA output
20			Relay 2 low setpoint	D11			DC volts internal
21			Relay 3 assignment	D12			Velocity volts
22			Relay 3 high setpoint	D13			Auxiliary input volts
23			Relay 3 low setpoint	D14	9222		Temperature sensor ohms
24			mA assignment	D15			Self test checksum
25			Custom mA	D16	16	C	Restarts
26			Span mA	D17	0		Exceptions
27	30		Damping mA (sec)	D18	99		Echos
28			Emulator tracking mA o/p	A0			Head point 1
29	60		Fail-safe timer (sec)	A1			Flow point 1
30			Fail-safe analog mode	A2			Head point 2
31			Failsafe mA (default)	A3			Flow point 2
32	3		Totalizer multiplier	A4			Head point 3
33	2		Display flow-rate dec point #	A5			Flow point 3
34			Printer mode	A6			Head point 4
35			Printer timing	A7			Flow point 4
36			Measurement interval	A8			Head point 5
37	5		Serial data rate (baud)	A9			Flow point 5
38			Site #	A10			Head point 6
39	2		Data logging rate	A11			Flow point 6
40			Log rapid setpoint	A12			Head point 7
41			Log normal set point	A13			Flow point 7
42			Head determination	A14			Head point 8
43			Volts in for zero head	A15			Flow point 8
44			Head @ 5 volts in	A16			Head point 9
45	0.5		Low cutoff head	A17			Flow point 9
46	88.38211	87.43074	Range @ zero head	A18			Head point 10
47	50		Blanking distance	A19			Flow point 10
				A20			Head point 11
				A21			Flow point 11

## Flowmeter Verification Certificate Transmitter

Colborne

Customer

Order code

PROMAG 53 P DN350

Device type

EA095116000

Serial number

V2.03.00

Software Version Transmitter

16.09.2020

Verification date

WW header to Lake

Plant

-----

Tag Name

0.9786 - 0.9786

K-Factor

-13

Zero point

V1.05.03

Software Version I/O-Module

15:14

Verification time

## Verification result Transmitter: Passed

Test item	Result	Applied Limits
Amplifier	Passed	Basis: 0.55 %
Current Output 1	Passed	0.05 mA
Pulse Output 1	Not tested	0 P
Test Sensor	Passed	

### FieldCheck Details

550149

Production number

1.07.10

Software Version

04/2020

Last Calibration Date

### Simubox Details

8781637

Production number

1.00.01

Software Version

04/2020

Last Calibration Date

Date

Operator's Sign

Inspector's Sign

### Overall results:

The achieved test results show that the instrument is completely functional, and the measuring results lie within +/- 1% of the original calibration. <sup>1)</sup>

The calibration of the Fieldcheck test system is fully traceable to national standards.

1) Prerequisite is an additional proof of electrode integrity with a high voltage test.

## FieldCheck - Result Tab Transmitter

Customer	Colborne	Plant	WW header to Lake
Order code		Tag Name	-----
Device type	PROMAG 53 P DN350	K-Factor	0.9786 - 0.9786
Serial number	EA095116000	Zero point	-13
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	16.09.2020	Verification time	15:14

Verification Flow end value ( 100 % ): 384.845 l/s

Flow speed 4.00 m/s

Passed / Failed	Test item	Simul. Signal	Limit Value	Deviation
	<b>Test Transmitter</b>			
✓	Amplifier	19.242 l/s (5%)	1.50 %	-0.58 %
✓		38.485 l/s (10.0%)	1.00 %	-0.01 %
✓		192.424 l/s (50.0%)	0.60 %	0.01 %
✓		384.846 l/s (100%)	0.55 %	0.04 %
✓	Current Output 1	4.000 mA (0%)	0.05 mA	0.004 mA
✓		4.800 mA (5%)	0.05 mA	0.003 mA
✓		5.600 mA (10.0%)	0.05 mA	-0.011 mA
✓		12.000 mA (50.0%)	0.05 mA	0.003 mA
✓		20.000 mA (100%)	0.05 mA	0.007 mA
—	Pulse Output 1	---	---	---
		<b>Start value</b>	<b>Limits range</b>	<b>Measured value</b>
	<b>Test Sensor</b>			
✓	Coil Curr. Rise	29.600 ms	0.000..52.500 ms	30.625 ms
✓	Coil Curr. Stability		---	---
✓	Electrode Integrity	mV	0.0..300.001 mV	9.746 mV

Legend of symbols

✓	✗	—	?	!
Passed	Failed	not tested	not testable	Attention



## FieldCheck: Parameters Transmitter

Customer	Colborne	Plant	WW header to Lake
Order code		Tag Name	-----
Device type	PROMAG 53 P DN350	K-Factor	0.9786 - 0.9786
Serial number	EA095116000	Zero point	-13
Software Version Transmitter	V2.03.00	Software Version I/O-Module	V1.05.03
Verification date	16.09.2020	Verification time	15:14

Curent Output	Assign	Current Range	Value 0_4mA	Value 20 mA		
Terminal 26/27	VOLUME FLOW	4-20 mA active	0.0 l/s	250.01 l/s		
Pulse Output	Assign	Pulse Value	Output signal	Pulse width		
Terminal 24/25	VOLUME FLOW	0.114 m3/P	Passive/Positive	100.01 ms		

Actual System Ident.

125.0

## **Appendix G- Bypass Report**

## Colborne WWTP Quarterly Bypass and Plant Overflow Report 2020

This report is submitted to fulfill requirements of ECA 6418-BN2NUC Section 4 (6)

Plant Works # 120000088

Quarter	Event #	Date	Volume	Duration	Reason/Cause	Treatment	Disinfection
			m <sup>3</sup>	hr			
February 15, 2020	N/A	N/A	N/A	N/A	No bypass events	N/A	N/A
May 15, 2020	N/A	N/A	N/A	N/A	No bypass events	N/A	N/A
August 15, 2020	N/A	N/A	N/A	N/A	No bypass events	N/A	N/A
November 15, 2020	N/A	N/A	N/A	N/A	No bypass events	N/A	N/A

The plant has a peak flow attenuation pond to which some flow is diverted during high flows and directed back for treatment as inflow diminishes.

**Appendix H- Operators Licensing**



# WASTEWATER OPERATOR LICENCE / PERMIS D'EXPLOITANT DE RESEAU D'EGOUT

**EDWARD A. JOYNT**

has met the requirements under Ontario Regulation 129/04 made under the Ontario Water Resources Act, 1990 for the Wastewater Operator Licensing Program. / a satisfait aux exigences en vertu du Règlement de l'Ontario 129/04 pris en application de la Loi de 1990 sur les ressources en eau de l'Ontario du Programme de délivrance des permis d'exploitant de réseau d'égout.

**WASTEWATER COLLECTION FACILITY  
INSTALLATION DE COLLECTE DES EAUX USÉES**

**CLASS/CATEGORIE 2**

Expiry Date:  
Date d'expiration:

**February 29, 2024**

**17609**

Licence No.  
Permis n°

C 51029



Director  
Directeur(trice)





# WASTEWATER OPERATOR LICENCE / PERMIS D'EXPLOITANT DE RESEAU D'EGOUT

**ANDREW W. HARPER**

has met the requirements under Ontario Regulation 129/04 made under the Ontario Water Resources Act, 1990 for the Wastewater Operator Licensing Program. / a satisfait aux exigences en vertu du Règlement de l'Ontario 129/04 pris en application de la Loi de 1990 sur les ressources en eau de l'Ontario du Programme de délivrance des permis d'exploitant de réseau d'égout.

**WASTEWATER TREATMENT FACILITY  
INSTALLATION DE TRAITEMENT DES EAUX USÉES  
OPERATOR-IN-TRAINING/APPRENTI(E)-OPÉRATEUR(TRICE)**

Expiry Date:  
Date d'expiration:

**November 30, 2023**

**OT99102**

Licence No.  
Permis n°

C 47581



Director  
Directeur(trice)





# WASTEWATER OPERATOR LICENCE / PERMIS D'EXPLOITANT DE RESEAU D'EGOUT

**PHILIP B. KELLY**

has met the requirements under Ontario Regulation 129/04 made under the Ontario Water Resources Act, 1990 for the Wastewater Operator Licensing Program. / a satisfait aux exigences en vertu du Règlement de l'Ontario 129/04 pris en application de la Loi de 1990 sur les ressources en eau de l'Ontario du Programme de délivrance des permis d'exploitant de réseau d'égout.

**WASTEWATER TREATMENT FACILITY  
INSTALLATION DE TRAITEMENT DES EAUX USÉES**

**CLASS/CATEGORIE 1**

Expiry Date:  
Date d'expiration:

**September 30, 2022**

**67307**

Licence No.  
Permis n°

C 46186

Director  
Directeur(trice)



**Ontario** 



**APPENDIX I Sampling Schedule 2021**



Appendix I

2021 Sampling Schedule

**Note:** ECA calls for Monthly Sampling of the Raw Wastewater; the sampling program in Colborne exceeds the ECA requirements and performs sampling weekly.

**Note:** Additional sampling as required for process control will be performed based on raw wastewater and final effluent characteristics.

In house sampling is typically performed weekly or as required for MLTSS and 30 minute mixed liquor settling

Influent - Influent sampling point Inlet Works

Parameters	Sample Type	Frequency
BOD5	8 hour composite	Weekly
Total Suspended Solids	8 hour composite	Weekly
Total Phosphorus	8 hour composite	Weekly
Total Kjeldahl Nitrogen	8 hour composite	Weekly

Final Effluent - Final Effluent sampling point

Parameters	Sample Type	Frequency
CBOD5	8 hour composite	Weekly
Total Suspended Solids	8 hour composite	Weekly
Total Phosphorus	8 hour composite	Weekly
Total Ammonia Nitrogen	8 hour composite	Weekly
Total Residual Chlorine	Grab	Weekly
<i>E. coli</i>	Grab	Weekly
Acute Lethality to Rainbow Trout and Daphnia magna	Grab	Annually
pH*	Grab	Weekly
Temperature*	Grab	Weekly

Lethality sampling will be performed in June 2021. Lethality testing was reduced to annual sampling after 8 clear consecutive sample results.

If you have any questions or require clarification please do not hesitate to contact Ted Joynt Acting ORO

## **APPENDIX J - Sludge Tabulation 2020**



## Ontario East Biosolids Program Daily Field Production Report

Date: Aug 19, 2020	Volume Allowed: 1960 m <sup>3</sup>
NASM #: 23595	Volume Prev Spread: 0 m <sup>3</sup>
Site Name: Benedetti - Herley	Volume Remaining: 1960 m <sup>3</sup>
Field #: 1W	Application Rate: 92 m <sup>3</sup> /ha
Hectares: 21.31	Weather Conditions: warm, clear
Acres: 52.66	Field Conditions: dry
Operator: Dan Vinnicombe	Equipment: tanks
Material: liquid	Tile Monitoring Required: no

(if yes fill in last tab)

Load	Arrive Time	Depart Time	Unit #	Driver	Source	m <sup>3</sup>
1	8:30	8:45	7095	Ron	Colborne	40
2	8:45 AM	9:00	7108	Rick	Colborne	40
3	9:40	9:55	7100	Jeff	Colborne	40
4	10:00	10:15	7102	Brent	Colborne	40
5	10:10	10:30	7095	Ron	Colborne	40
6	10:25	10:40	7108	Rick	Colborne	40
7	10:40	11:20	7100	Jeff	Colborne	40
8	11:00	11:30	7102	Brent	Colborne	40
9	11:20	11:45	7095	Ron	Colborne	40
10	11:30	11:55	7108	Rick	Colborne	40
11	11:50	12:15	7100	Jeff	Colborne	40
12	12:20	12:40	7102	Brent	Colborne	40
13	12:35	12:50	7095	Ron	Colborne	40
14	12:45	1:10	7108	Rick	Colborne	40
15	1:05	1:25	7100	Jeff	Colborne	40
16	1:20	1:45	7102	Brent	Colborne	40
17	1:45	2:05	7095	Ron	Colborne	40
18	1:55	2:25	7108	Rick	Colborne	40
19	2:10	2:35	7100	Jeff	Colborne	40
20	2:45	3:00	7102	Brent	Colborne	40
21	3:00	3:15	7095	Ron	Colborne	40
22	3:10	3:35	7108	Rick	Colborne	40
23	3:20	3:50	7100	Jeff	Colborne	40
24	3:50	4:10	7102	Brent	Colborne	40
25	4:00	4:20	7095	Ron	Colborne	40
26	4:15	4:40	7108	Rick	Colborne	40
27	4:40	5:00	7100	Jeff	Colborne	40
Terrapure: 560		Sexsmith: 0		Total = <b>1080</b>		
Smith's: 240		Seaboyer: 280				

## Ontario East Biosolids Program Daily Field Production Report



Date: Aug 20, 2020	Volume Allowed: 1960 m³
NASM #: 23595	Volume Prev Spread: 1080 m³
Site Name: Benedetti - Herley	Volume Remaining: 880 m³
Field #: 1W	Application Rate: 92 m³/ha
Hectares: 21.31	Weather Conditions: cool, clear
Acres: 52.66	Field Conditions: dry
Operator: Dan Vinnicombe	Equipment: tanks
Material: liquid	Tile Monitoring Required: no

(if yes fill in last tab)

Load	Arrive Time	Depart Time	Unit #	Driver	Source	m³
1	7:50	8:15	7108	Rick	Colborne	40
2	8:15 AM	8:30	7095	Ron	Colborne	40
3	8:30	8:45	7100	Jeff	Colborne	40
4	9:05	9:30	7108	Rick	Colborne	40
5	9:5	10:05	7095	Ron	Colborne	40
6	10:05	10:20	7100	Jeff	Colborne	40
7	10:25	10:40	7108	Rick	Colborne	40
8	10:55	11:10	7095	Ron	Colborne	40
9	11:10	11:35	7100	Jeff	Colborne	40
10	11:35	11:55	7108	Rick	Colborne	40
11	11:50	12:15	7095	Ron	Colborne	40
12	12:20	12:35	7100	Jeff	Colborne	40
13	12:40	1:00	7108	Rick	Colborne	40
14	1:00	1:20	7095	Ron	Colborne	40
15	1:20	1:40	7100	Jeff	Colborne	40
16	1:40	2:00	7108	Rick	Colborne	40
17	1:55	2:15	7095	Ron	Colborne	40
18	2:20	2:35	7100	Jeff	Colborne	40
19	2:35	2:50	7108	Rick	Colborne	40
20	2:55	3:15	7095	Ron	Colborne	40
21	3:25	3:45	7100	Jeff	Colborne	40
22	3:45	4:05	7108	Rick	Colborne	40

Terrapure: 600

Sexsmith: 0

Total = **880**

Smith's: 0

Seaboyer: 280