

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 8650-D5YGSG
Issue Date: August 23, 2024

2270386 Ontario Limited
162 Cumberland St, No. 300
Toronto, Ontario
M5R 3N5

Site Location: Brooks Road Landfill
160 Brooks Road North
Lot 24, Conc. 1 North, Cayuga
County of Haldimand,
N0A 1E0

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:

amendment, usage and operation of the Proposed and previously Existing industrial sewage works serving Brooks Road Landfill Site (formerly Edwards Landfill Site), including a Dissolved Air Flotation (DAF), chemical addition, with a previous approved Rated Capacity of 45 m³/day, with a Peak Daily Flow of 60 m³/day, discharging the treated effluent to roadside ditch along Brooks Road, comprising;

PROPOSED WORKS- Leachate Treatment System

Addition of DAF to the Existing Leachate Treatment Process

One containerized, packaged H2Flow Dissolved Air Flotation (DAF) unit designed for solids removal from the Aeration Tank 1 effluent, model Alpha 10 with a working volume of approximately 5 m³, and dimensions of 3.475m x 1.32m x 1.56m, rated for a maximum flow rate of 10 m³/h and Surface hydraulic loading rate of 4 m/hr, recirculation rate of 1.7 l/min against a nominal discharge head (low resistance, short pipe lengths), receiving effluent from the Existing Aeration Tank 1 up to a maximum flow of 10 m³/h, returning the treated effluent to Existing Aeration Tank 2 by gravity, with sludge return to Aeration Tank 1, complete with a flowmeter, chemical injection system, air compressors, sludge removal system, and effluent pumps;

Chemical Addition

Addition of the external carbon source to feed line to Aeration Tank up to a maximum rate of 2.0 L/hour, for improvement of nutrient ratio for improved treatment performance;

Blower lines connection

Blowers line connection of the two (2) blowers to both of the Existing Aeration Tanks

Chemical addition of an anti-foaming agent to the MBR tanks.

One fractional horsepower metering pump feeding antifoam chemical (Foamtrol AF3556 or equivalent) directly to the MBR Tanks at a rate of 0.1 to 0.2 L/hour;

EXISTING WORKS

A stormwater management facility and a leachate collection, treatment, and disposal system to service the Brooks Road Landfill Site (formerly Edwards Landfill Site), located in Part of Lot 24, Concession 1, North of Talbot Road, Haldimand County, discharging to a roadside ditch along the east side of Brooks Road, consisting of the following:

Leachate Treatment System

A leachate treatment system designed and installed for a Rated Capacity of 200 m³/day to service the Brooks Landfill Site, located at the south-central side of the landfill site, with an effluent discharge system to discharge effluent to a roadside ditch along Brooks Road with a Rated Capacity of 45 m³/day, with a Peak Daily Flow of 60 m³/day and such other removal of effluent from the Landfill Site in compliance with law, including Ontario Regulation 347, and consisting of the following:

- One (1) leachate collection sump located in the south-east corner of Stage One part of the landfill, equipped with one (1) 6.3 L/sec at 14 m TDH pump discharging through one (1) approximately 35 m long 76.2 mm diameter forcemain into the primary settling tank described below.
- One (1) 28 m³ **Primary Settling Tank** receiving leachate from the existing leachate collection sump, equipped with baffle walls and one (1) 7 L/sec at 9.0 m TDH PST pump, three (3) level floats, and pH monitor, discharging through one (1) 500 micron opening strainer installed on the feed line to an aeration system described below.
- One (1) **Aeration System (currently being amended as per the Proposed Works)** comprising of two (2) 114 m³ capacity concrete aeration tanks in series; each tank equipped with 1" lateral air diffusers, two (2) air blowers, each with 910 m³/hr (530 cfm) capacity at 13 psi head loss; the second tank fitted with three (3) level floats, with Aeration Tank 1 discharging the effluent to a current Proposed DAF system via a submersible pump rated for up to 10 m³/hr at a TDH of 14m, discharging via one (1) 66 m³/hr capacity at 106 m TDH feed pump to the Membrane Biofiltration Reactor (MBR) described below;

- One (1) 200 m³/day Rated Capacity **Membrane Biofiltration Reactor (MBR) Treatment System** consisting 8 mm diameter membranes housed in four (4) 200 mm diameter tubular modules installed in series and providing a filtration surface area of 36.7 m² per module, designed to operate at maximum pressure of 8 Bar (116 psi) at 40° C with a circulation velocity of 3 m/sec, providing a total filtration area of 146.8 m², equipped with one (1) 200 m³/hr capacity MBR recirculation pump to be used to recirculate activated sludge across the membranes, discharging to a UV disinfection system described below.
- Two (2) **UV Disinfection Units** operating in parallel, each unit capable of providing minimum UV dosage of 40 mJ/cm² at a flow of 114 L/min, discharging by gravity to an effluent transfer tank described below.
- Effluent discharge system consisting of:
 - One (1) 12.5 m³ capacity **Effluent Transfer Tank** equipped with one (1) 7 L/sec at 11 m TDH capacity effluent pump and three (3) level floats, to be used as temporary storage tank to transfer effluent to the existing effluent discharge holding tanks described below;
 - Three (3) 150 m³ capacity **Effluent Discharge Holding Tanks**;
 - Discharge piping from the **Effluent Discharge Holding Tanks** and flow measuring device for a Rated Capacity of 45 m³/day with a Peak Daily Flow of 60 m³/day, discharging to the roadside ditch;
 - Discharge piping from the **Effluent Discharge Holding Tanks** and control valve for loading of haulage units for lawful removal of effluent from the Site;
- One (1) 12.5 m³ capacity **Sludge Storage Tank**, providing approximately eight (8) days sludge storage capacity, equipped with one (1) 7 L/sec at 7 m TDH capacity sludge pump transferring sludge to the landfill for disposal.
- A chemical feed system consisting of:

Nitrification

- one (1) 9 L/hr at 44 psi capacity chemical metering pump dosing **magnesium hydroxide** from a dual wall storage tank to the aeration tank described above for alkalinity control.

Phosphorus Removal

- one (1) 9 L/hr at 44 psi capacity chemical metering pump dosing **alum** into the feed line of the aeration tank described above for phosphorus removal.

Acid Cleaning

- one (1) 24 L/hr at 145 psi capacity chemical metering pump dosing **citric acid** into the MBR feed piping during an acid cleaning of the membranes to remove calcified minerals.

Oxidation Cleaning

- one (1) 78 L/hr at 145 psi capacity chemical metering pump dosing **sodium hypochlorite** into the MBR feed piping during a chlorine cleaning of the membranes to remove accumulated sludge.

Alkaline Cleaning

- one (1) 24 L/hr at 145 psi capacity chemical metering pump dosing **magnesium hydroxide** into the MBR feed piping during an alkaline cleaning of the membranes to remove accumulated fats, oil, and grease.

Leachate Collection System

- a leachate collection, transmission, and storage, designed to handle a maximum of 60 m³/day of leachate generated from the site, consisting of two (2) 75.7 L/min capacity leachate pumps and one (1) 50 mm diameter HDPE forcemain;

Stormwater Management System

A stormwater management facility to service the Brooks Road Landfill Site with a total drainage area of 14.91 ha and an approved landfill footprint of 6.07 ha, designed to provide quantity and quality control of stormwater runoff from storm events with up to 1:100 year return frequency, consisting of the following:

Stormwater Management System (SWMS)

A stormwater management system to provide quality and quantity control of stormwater runoff from the site during the active operation and post closure of the landfill site, consisting of the following:

- one (1) perimeter ditch running from the north-east corner of the landfill site along the east side and south side of the landfill foot print, having a 0.3 m bottom width, a minimum of 1.0 m depth, and 3H:1V side slopes on the road side, conveying collected stormwater runoff to a stormwater management pond described below;
- one (1) perimeter ditch running from the north-east corner of the landfill site along the north side and west side of the landfill foot print, having a 0.3 m bottom width, a minimum of 1.0 m depth, and 3H:1V side slopes on the road side, conveying collected stormwater runoff to a stormwater management pond described below;
- one (1) inlet structure including two (2) 600 mm diameter concrete culverts and an open swale covered with turf reinforcement mat discharging into a forebay described below;
- one (1) forebay with approximate length of 29 m, upstream width of 4 m and downstream width of 15 m, a permanent pool depth of 0.60 m, and side slopes of 4H:1V, equipped with a berm with top elevation 197.85 m AMSL, discharging to a stormwater management pond described below;

- one (1) wet detention stormwater management pond (**SWMS Pond**) to be located on south west corner of the site providing a total storage capacity of 6,768 m³ consisting of a permanent pool storage volume of 1,266 m³ (at elevation 197.85 m AMSL) with a maximum depth of 0.60 m and an extended storage volume of 5,502 m³ with an extended storage depth of 0.34 m (at elevation of 198.19 m AMSL);
- one (1) outlet structure consisting of one (1) 150 mm diameter perforated PVC pipe with an invert elevation of 197.85 m AMSL, equipped with 75 mm orifice plate, an outlet control valve, and one (1) 600 mm x 1200 mm concrete catch basin, discharging to a roadside ditch along the east side of Brooks Road;
- one (1) emergency by-pass structure consisting of a 2.0 meter wide rip-rap spillway at invert elevation of 199.10 m AMSL discharging to a roadside ditch along Brooks Road;

including all other mechanical system, and control system, piping, 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 Schedule A.

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

1. "Approval" means this entire document and any schedules attached to it, and the application;
2. "BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;
3. "CBOD5" means 5 day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in unfiltered sample;
4. "Daily Concentration" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;
5. "Director" means a person appointed by the Minister pursuant to section 5 of the EPA for purposes of Part II.1, EPA;
6. "District Manager" means the District Manager of the Hamilton District Office;
7. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
8. "Existing Works" means those portions of the Works included in the Approval that have been constructed previously;
9. "Equivalent Equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;

10. "Limited Operational Flexibility" (LOF) means any modifications that the Owner is permitted to make to the Works under this Approval;
11. "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;
12. "Monthly Average Concentration" means the arithmetic mean of all Daily Concentrations of a contaminant in the effluent sampled or measured, or both, during a calendar month;
13. "Monthly Average Daily Flow" means the cumulative total sewage flow to the sewage works during a calendar month divided by the number of days during which sewage was flowing to the sewage works that month;
14. "Notice of Modifications" means the form entitled "Notice of Modifications to Sewage Works";
15. "Owner" means 2270386 Ontario Limited and its successors and assignees;"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended;
16. "Proposed Works" means the sewage works described in the Owner's application, this Approval, to the extent approved by this Approval;
17. "Rated Capacity" means the Monthly Average Daily Flow for which the Works are approved to handle;
18. "Works" means the approved sewage works, and includes Proposed Works, 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 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* shall be included in the notification;
 - d. change of name of the corporation and a copy of the most current information filed under the *Corporations Information Act, R.S.O. 1990, c. C.39* shall be included in the notification.
2. 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 the Operating Agency;
 - b. change of the Operating Agency, including address of the new Operating Agency.
3. 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.
4. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

3. CONSTRUCTION OF PROPOSED WORKS

1. All Proposed Works in this Approval shall be constructed and installed and must commence operation within **one (1) year** of issuance of this Approval, after which time the Approval ceases to apply in respect of any portions of the Works not in operation. In the event that the construction, installation and/or operation of any portion of the Proposed Works is anticipated to be delayed beyond the time period stipulated, the Owner shall submit to the Director an application to amend the Approval to extend this time period, at least six (6) months prior to the end of the period. The amendment application shall include the reason(s) for the delay and whether there is any design change(s).
2. Upon completion of construction of the Proposed Works, the Owner shall prepare and submit a written statement to the District Manager, certified by a Licensed Engineering Practitioner, that the Proposed Works is constructed in accordance with this Approval.

3. **One (1) week** prior to the commencement of the operation of the Proposed Works, the Owner shall notify the District Manager (in writing) of the pending start-up date.
4. Within **one (1) year** of completion of construction of the Proposed Works, a set of record drawings of the Works shall be prepared or updated. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be readily accessible for reference at the Works.
5. 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.
6. The Owner shall ensure that the treatment technologies are installed in accordance with the manufacturer's installation manual.

4. EFFLUENT OBJECTIVES - Leachate Collection and Treatment System

1. The Owner shall use best efforts to design, construct and operate the works in accordance with the Objectives listed in the table included in the **Schedule B**.
2. 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.
3. The Owner shall use best efforts to maintain the pH of the effluent from the works within the range of 6.5 to 8.5, inclusive, at all times.
4. The Owner shall ensure that the influent Flow to the treatment works is within the design capacity of the Sewage Treatment Works.
5. The Owner shall include in all reports submitted in accordance with Condition 11 a summary of the efforts made and results achieved under this Condition.

5. COMPLIANCE LIMITS - Leachate Collection and Treatment System

1. The Owner shall operate and maintain the Leachate Collection and Treatment System such that compliance limits for the Final Effluent parameters listed in the table included in **Schedule C** are met.
2. In the event of any instance of non-compliance with the effluent limits stipulated under Condition 5(1), the Owner shall implement the "Contingency and Remedial Action Plan for the Works (**On-site leachate treatment system**)" prepared under Condition 8(1), and shall determine appropriate control measures to achieve effluent limits and the 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 Director and a copy to the District Manager.

3. If compliance with effluent limits are not met within the time lines approved under Condition 5(1), the Owner shall discontinue effluent discharge from the Works and implement off-site disposal of leachate for proper treatment.
4. In the event that any of the control measures proposed under Condition 5(2) require the installation or an upgrade of the Works, the Owner shall submit an application to the Director for an amendment of this Approval.

6. EFFLUENT - VISUAL OBSERVATIONS

1. Notwithstanding any other condition in this Approval, the Owner shall ensure that the effluent from the works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen or foam on the receiving waters.

7. SPECIAL CONDITION - Leachate Collection and Treatment System

1. The Owner shall operate the roadside ditch discharge system for the On-Site Leachate Treatment System at the approved Rated Capacity of 45 m³/day and Peak Daily Flow of 60 m³/day until an approval is issued by the Director to operate the roadside ditch discharge system at a higher rated capacity. To obtain approval for using the roadside ditch discharge system at a higher rated capacity, the Owner shall complete a detailed receiving surface water assimilative capacity study and submit the study report along with a proposal for effluent limits to the Ministry's Regional Technical Support Section for review and recommendation. Upon receiving review comments and recommendation of the effluent limits from the Technical Support Section, the Owner shall submit to the Director an application for amendment of this Approval and a detailed design brief for approval of the higher rated capacity for the roadside ditch discharge system.

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 staffing and training, including training in all procedures and other requirements of this Approval and the OWRA and relevant regulations made under the OWRA, process controls and alarms and the use of process chemicals and other substances used in the Works.
2. The Owner shall prepare/update 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. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Spills Action Centre (SAC) and District Manager;
 - f. procedures for receiving, responding and recording public complaints, including recording any followup actions taken.
3. The Owner shall maintain an up to date operations manual and make the manual readily accessible for reference at the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.
 4. The Owner shall undertake an inspection of the condition of the stormwater management ponds and ditches, at least once a year, and undertake any necessary cleaning and maintenance to prevent the excessive build-up of sediment and/or decaying vegetation.
 5. The Owner shall undertake an inspection and necessary maintenance of the SWMS pond and associated erosion controls including temporary berms, silt fences, rocks and straw bale check dams at least once a year to ensure that the Works are effectively protecting the environment.
 6. The Owner shall maintain a logbook to record the results of the stormwater management pond inspections and any cleaning and maintenance operations undertaken and shall keep the logbook at the site or operational office of the Owner for inspection by the Ministry.
 7. The stormwater run-off generated from the active waste fill area shall be considered contaminated and treated as leachate. The Owner shall ensure that any precipitation falling unto active waste fill areas, not under interim cover, shall be directed to the leachate collection system.
 8. **ADDITIONAL OPERATION AND MAINTENANCE - LEACHATE TREATMENT SYSTEM**
 - a. Within six (6) months of the issuance date of this Approval, the Owner shall update and submit for approval to the Director and a copy to the District Manager a "**Contingency and Remedial Action Plan for the Works (On-site leachate treatment system)**" which shall provide detailed action plans that will be implemented during any event when the effluent toxicity limits set under Condition 5 (1) are not met;
 - b. Leachate generated at the landfill Site shall be collected, treated and disposed of using the on-site leachate treatment system;

- i. Notwithstanding Condition 8(1), leachate generated at the landfill Site that is not treated using the on-site leachate treatment system shall be removed to an off-site facility that is approved by the Ministry to treat leachate generated at the landfill Site.
- ii. In the event there is effluent from leachate that has been treated in the on-site leachate treatment system that cannot be disposed of to the roadside ditch, such effluent may be disposed of to an off-site facility provided such disposal is completed lawfully, including pursuant to Ontario Regulation 347.
- c. Leachate generated at the Landfill Site that is not treated using the on-site leachate treatment system shall not be discharged to the natural environment at any time.

9. ADDITIONAL OPERATION AND MAINTENANCE - STORMWATER MANAGEMENT

- a. Before the commencement of operation of the Works, the Owner shall prepare a "**Stormwater Contingency and Remedial Action Plan**" for the Works and provide a copy to the District Manager.
- b. The Owner shall operate the Works in a **normally open position**. The Owner shall compare monitoring results obtained from the Works under Condition 10(1) with the trigger levels of the selected trigger parameters listed in **Schedule E (Trigger level table)** to identify any potential leachate impact to stormwater discharged from the ponds.
- c. In the event that a monitoring result for any of the parameters listed in **Schedule E** exceeds its corresponding trigger level concentration, the Owner shall re-sample within two weeks period to confirm the trigger level concentration exceedance for that parameter.
- d. In the event that the trigger level concentration exceedance of any parameter of concern is not confirmed after the second round of sampling conducted under Condition 9(3), then, normal stormwater monitoring shall be resumed.
- e. In the event that the trigger level concentration exceedance of any parameter of concern is confirmed after the second round of sampling conducted under Condition 9(3), the Owner shall operate the Works in a normally closed position and notify the District Manager forthwith.
- f. While operating the Works in a normally closed position, the Owner shall implement the "Stormwater Contingency and Remedial Action Plan" prepared under Condition 9(1) and collect a grab sample and analyze for the trigger parameters listed under Schedule E at a weekly frequency preferably after a rainfall event.

- g. The Owner shall resume operating the Works in a normally open position if monitoring results for all trigger parameters from three (3) consecutive sampling events conducted under Condition 9(6) are less than their respective trigger level concentrations.
- h. Discharge of contaminated stormwater from the Works to storm sewer/surface water is prohibited, except where it is necessary to avoid loss of life, personal injury, danger to public health or severe property damage.

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 2.b.
 - c. definitions for frequency:
 - i. Monthly means once every month;
 - ii. 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 for the scheduled sampling program, except when the actual scheduled monitoring frequency is three (3) or more times per week.
- 2. 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; and

- d. for any parameters not mentioned in the documents referenced in Paragraphs 2.a, 2.b and 2.c, the written approval of the District Manager shall be obtained prior to sampling.
 - e. 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.
3. 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. Influent flow to each of the Sewage Works by continuous flow measuring devices and instrumentations;
 - b. Final Effluent discharged from the Sewage Treatment System 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;
 - c. The owner shall install and maintain (a) continuous flow measuring device(s) to measure the flow rate of the effluent discharged from the sewage works, with an accuracy to within plus or minus fifteen (15) per cent of the actual flow rate for the entire design range of the flow measuring device and record the flow rate at a daily frequency..

10. LIMITED OPERATIONAL FLEXIBILITY

- 1. The Owner may make pre-authorized modifications to the sewage pumping stations and Sewage Works in accordance with the document "Limited Operational Flexibility - Protocol for Pre-Authorized Modifications to Private Works" (**Schedule F**), 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 Licensed Engineering Practitioner 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 specified in Condition 5, and in writing within **seven (7) days** of non-compliance.

2. In addition to the obligations under Part X of the EPA and O. Reg. 675/98 (Classification and Exemption of Spills and Reporting of Discharges) made under the EPA, the Owner shall, within **fifteen (15) days** of the occurrence of any reportable spill as provided in Part X of the EPA and O. Reg. 675/98, 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 a schedule of implementation.
3. The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
4. The Owner shall prepare performance reports on a calendar year basis and submit to the District Manager in an electronic format 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 monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;
 - b. a summary and interpretation of all flow data and results achieved in not exceeding the Maximum Daily Flow and/or Rated Capacity of the Works.
 - c. a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, and a comparison to the Effluent objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
 - d. a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;
 - e. a summary of all operating issues encountered and corrective actions taken;
 - f. 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;
 - g. a summary of any effluent quality assurance or control measures undertaken;
 - h. a summary of the calibration and maintenance carried out on all Influent 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;

- i. a summary of efforts made to achieve the Effluent objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions when any of the Effluent 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;
- j. 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;
- k. a summary of any complaints received and any steps taken to address the complaints;
- l. a summary of all situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;
- m. 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 modificatio
- n. any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es) / equipment groups in the Proposed Works;
- o. any other information the District Manager requires from time to time.

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

1. Condition 1 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 construction of Proposed Works 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 Effluent objectives is imposed to establish non-enforceable Effluent objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
5. Condition 5 and 6 are imposed to ensure that the effluent discharged from the Works to the Brooks Road side ditch meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver.
6. Condition 7 is included to ensure that treatment capacity for the leachate treatment system is established based on proper receiving surface water assimilative capacity assessment and effluent limits requirements.
7. 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.

8. 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 Effluent objectives and compliance limits.
9. 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.
10. 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.

Schedule A

1. Application for Environmental Compliance Approval dated July 26, 2023 and received on August 1, 2023.

Schedule B

Final Effluent Objectives - Leachate Treatment System

Sampling Point: Leachate Storage Tank	
Effluent Parameter	Concentration Objective (milligrams per litre unless otherwise indicated)
CBOD5	5.0
Total Suspended Solids (TSS)	5.0
Total Ammonia Nitrogen (TAN)	1.0
Total Phosphorus (TP)	0.2
Zinc	0.03
Phenols	0.005
Ethylbenzene	0.008

Schedule C

Final Effluent Limits - Leachate Treatment System

Sampling Point: Leachate Storage Tank	
Effluent Parameter	Concentration Limit (milligrams per litre unless otherwise indicated)
Column 1	Column 2
CBOD5	10.0
Total Suspended Solids (TSS)	10.0
Total Ammonia as Nitrogen (TAN)	3.0
Total Phosphorus (TP)	0.29
Toxicity (Daphnia magna)	Non-acutely lethal
Toxicity (Rainbow Trout)	Non-acutely lethal
pH of the effluent maintained between 6.0 to 9.5, inclusive, at all times	

Schedule D

Influent Monitoring Program

Leachate Treatment System

Sampling Point: Leachate Storage Tank			
Parameters	Frequency	Parameter	Frequency
CBOD5	Monthly	Chlorides	Quarterly*
Total Suspended Solids (TSS)	Monthly	Nitrate as Nitrogen	Quarterly*
Total Ammonia as Nitrogen (TAN)	Monthly	Arsenic	Quarterly*
Total Phosphorus (TP)	Monthly	Barium	Quarterly*
pH	Monthly	Boron	Quarterly*
Zinc	Monthly	Chromium	Quarterly*
Phenols	Monthly	Copper	Quarterly*
Ethylbenzene	Monthly	Iron	Quarterly*
		Lead	Quarterly*
		Benzo(a)pyrene	Quarterly*
		Naphtalene	Quarterly*
		Benzene	Quarterly*
		Toluene	Quarterly*

* Spring, Summer, Fall and Winter

Final Effluent Monitoring Program

Leachate Treatment System

Sampling Point(s): Effluent Discharge Pipe, Discharge to Brooks Road Ditch		
Parameters	Sample Type	Frequency
CBOD5	Grab	Monthly
Total Suspended Solids (TSS)	Grab	Monthly
Total Ammonia as Nitrogen (TAN)	Grab	Monthly
Total Phosphorus (TP)	Grab	Monthly
pH	Grab	Monthly
Zinc	Grab	Monthly
Phenols	Grab	Monthly
Ethylbenzene	Grab	Monthly
Chlorides	Grab	Quarterly
Nitrate as Nitrogen	Grab	Quarterly
Arsenic	Grab	Quarterly
Barium	Grab	Quarterly
Boron	Grab	Quarterly
Chromium	Grab	Quarterly
Copper	Grab	Quarterly
Iron	Grab	Quarterly
Lead	Grab	Quarterly
Benzo(a)pyrene	Grab	Quarterly
Naphtalene	Grab	Quarterly
Benzene	Grab	Quarterly
Toluene	Grab	Quarterly
Acute Lethality Test (Rainbow Trout and Daphnia magna)	Grab	Quarterly

Final Effluent Monitoring Program

Stormwater Monitoring

Sampling Point: SWMS Pond Sampling Frequency: Quarterly (Spring, Summer, Fall and Winter)		
General Parameters	Metals	Field Parameters
Alkalinity	Arsenic	Conductivity
Conductivity	Barium	Dissolved Oxygen
Hardness	Boron	pH
pH	Cadmium	Temperature
Chloride	Chromium	
Sulphate	Copper	
Nitrate as Nitrogen	Iron	
Nitrite as Nitrogen	Lead	
Total Ammonia as Nitrogen (TAN)	Mercury	
Total Suspended Solids	Zinc	
Total Dissolved Solids		
Chemical Oxygen Demand	Organics	
Total Phosphorus	Benzo(a)pyrene	
Total Kjeldahl Nitrogen	Ethylbenzene	
Biological Oxygen Demand (BOD5)	Naphthalene	
Phenols		

Schedule E

Stormwater Trigger Parameters

Trigger Parameters	
Parameter	Trigger Level (mg/L)
Un-ionized Ammonia	0.02
Arsenic	0.005
Boron	1.5
pH (unitless)	6.5 to 8.5

Schedule F

Limited Operational Flexibility

Protocol for Pre-Authorized Modifications to 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. 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 or 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;

- e. Replacement, reconfiguration and modifications to pump suction 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 or 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 or realignment of existing sewers (including pipes and channels), 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 or relocation of loading bays, connect/disconnect hook-up systems and unloading/transferring systems;
- b. Replacement or relocation of screens, grit removal units and compactors;
- c. Replacement or relocation of pumps, such as dosing pumps and transfer pumps, valves, piping and appurtenances;
- d. Replacement or relocation of storage tanks/chambers and spill containment systems;
- e. Replacement, relocation or installation of flow measurement and sampling equipment.

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 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 of scum removal mechanism, including scum chamber;
- c. Replacement 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 of scum removal mechanism, including scum chamber;

- c. Replacement 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 of chemical storage tanks, provided that the tanks are provided with effective spill containment.

9. Supplementary Treatment Systems

1. Chemical systems

- a. Replacement or relocation of chemical storage tanks for existing chemical systems only, provided that the tanks are sited with effective spill containment;
- b. Replacement 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 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 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.

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. 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 interconnecting pipes and chambers between cells, provided that the process design operating sequence is not changed;

- d. replace 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.

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

Form 1
Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE DISTRICT MANAGER.

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"> 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.) 2. Confirmation that the anticipated environmental effects are negligible. 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.)

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"> 1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario; 2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA; 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. <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>						
<table border="1"> <tr> <td>Name (Print)</td> <td>PEO License Number</td> </tr> <tr> <td>Signature</td> <td>Date (mm/dd/yy)</td> </tr> <tr> <td colspan="2">Name of Employer</td> </tr> </table>	Name (Print)	PEO License Number	Signature	Date (mm/dd/yy)	Name of Employer	
Name (Print)	PEO 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"> 1. I am authorized by the Owner to complete this Declaration; 2. The Owner consents to the modification; and 3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA. 4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i>. <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>				
<table border="1"> <tr> <td>Name of Owner Representative (Print)</td> <td>Owner representative's title (Print)</td> </tr> <tr> <td>Owner Representative's Signature</td> <td>Date (mm/dd/yy)</td> </tr> </table>	Name of Owner Representative (Print)	Owner representative's title (Print)	Owner Representative's Signature	Date (mm/dd/yy)
Name of Owner Representative (Print)	Owner representative's title (Print)			
Owner Representative's Signature	Date (mm/dd/yy)			

EPB Form

Schedule G

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:
- a. 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;
 - b. 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;
 - c. 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;
 - d. 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:
- a. Group No Bypass Days (**NBPD**) data and Bypass Days (**BPD**) data during a calendar month 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 month and record it as **Monthly Average NBPD Effluent Concentration**;

- c. Obtain the “**Total Monthly NBPD Flow**” which is the total amount of Final Effluent discharged on all NBPD during the calendar month;
- 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 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^{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.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).
1122-BKUPSM issued on February 3, 2020.**

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land Tribunal and in accordance with Section 47 of the *Environmental Bill of Rights, 1993*, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Notice") 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 available 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:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7A 2J3

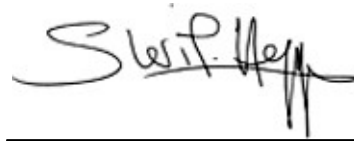
and

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 Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca

This instrument is subject to Section 38 of the *Environmental Bill of Rights*, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at <https://ero.ontario.ca/>, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.
DATED AT TORONTO this 23rd day of August, 2024



Sherif Hegazy, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

KH/

c: District Manager, MECP Hamilton District.
John Levie, P.Eng., Clearford Waterworks Inc.