

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 3824-CM5UR7
Issue Date: January 4, 2023

Vineland Research and Innovation Centre
4890 Victoria Ave N Box 4000
Lincoln, Ontario
L0R 2E0

Site Location: Tree Culture Research Park at the Vineland Research and
Innovation Centre
4890 Victoria Ave N
Lincoln Town, Regional Municipality of Niagara
L0R 2E0

*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:*

the establishment of Works for the collection, transmission, and disposal of infiltrated water from the
plants irrigation system, consisting of the following:

- 20 groups of 4-tree cell units (total of 80 units), each a 4.5 m long, 4.5 m wide, and 1.3 m deep HDPE box positioned around a 1.2 m central precast concrete manhole, with a 2.5 m wide "Utility Row" separating each cell and a 9 m wide "Maintenance Row" separating each group.
- A drainage layer at the bottom of each tree cell to drain to a pipe beneath the cell and connect to a collection manhole (1 per each group of 4 tree cells). Lids on the manhole to allow technicians to sample infiltration from each tree cell. Collected infiltration water from each tree cell to be directed via 150 mm HDPE pipes to the final collection manhole in the northeast corner of the system.
- Collected infiltration water to be pumped from the final manhole via a two 0.5 horsepower submersible sump pumps to a mobile surface storage tank at Viking Avenue (adjacent to the Vineland buildings and parking lot).
- Collected infiltration in the storage tank to be sampled and tested; water meeting criteria to either be used for irrigation onsite, be discharged to the on-site storm sewer system (ultimately discharging to Lake Ontario 200 m to the north), discharged to the on-site sanitary sewer subjected to Town of Lincoln sanitary sewer limits or (if criteria are not met) to be transported offsite for disposal at an approved receiver.

including all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned Works;

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

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

1. "Approval" means this entire document and any schedules attached to it, and the application;
2. "District Manager" means the District Manager of the Niagara District Office of the Ministry;
3. "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;
4. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;
5. "Grab Sample" means an individual sample of at least 1000 millilitres collected in an appropriate container at a randomly selected time over a period of time not exceeding 15 minutes;
6. "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;
7. "Owner" means Vineland Research and Innovation Centre and its successors and assignees;
8. "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;
9. "Works" means the sewage works described in the Owner's application, and this Approval;

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 CONDITION

1. The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. Except as otherwise provided by these conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.

3. Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.
4. The Conditions of this Approval are severable. If any Condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2. CHANGE OF OWNER

1. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
 - a. change of Owner or operating authority, or both;
 - b. change of address of Owner or operating authority or address of new Owner or operating authority;
 - c. change of partners where the Owner or operating authority is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Partnerships Registration Act*;
 - 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. In the event of any change in ownership of the Works, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager.
3. The Owner shall ensure that all communications made pursuant to this condition refer to the number of this Approval.

3. OPERATIONS MANUAL

1. The Owner shall prepare an operations manual prior to the commencement of operation of the Works, that includes, but not necessarily limited to, the following information:
 - a. operating procedures for routine operation of the Works;
 - b. inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
 - c. repair and maintenance programs, including the frequency of repair and maintenance

for the Works;

- d. contingency plans and procedures for dealing with potential spill, and any other abnormal situations and for notifying the District Manager; and
 - e. complaint procedures for receiving and responding to public complaints.
2. The Owner shall maintain the operations manual up to date through revisions undertaken from time to time and retain a copy at the location of the Works. Upon request, the Owner shall make the manual available for inspection and copying by Ministry personnel.

4. EFFLUENT OBJECTIVES

1. The Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials listed as effluent parameters in the effluent objectives table in **Schedule B** are not exceeded in the effluent from the Works.

5. EFFLUENT LIMITS

1. The Owner shall design, construct and operate the Works such that the concentrations of the materials listed as effluent parameters in the effluent limits table in **Schedule C** are not exceeded in the effluent from the Works.
2. For the purposes of determining compliance with and enforcing subsection (1):
 - a. non-compliance with respect to a Concentration Limit is deemed to have occurred when any single sample analyzed for a parameter named in Column 1 of the Effluent Limits Table listed in **Schedule C** is greater than the corresponding maximum concentration set out in Column 3 of the Effluent Limits Table listed in **Schedule C**;

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. EFFLUENT MONITORING AND RECORDING

1. The Owner shall, upon commencement of operation of the Works, carry out a monitoring program and all samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
2. Samples shall be collected and analyzed at the sampling point(s), at the sampling frequencies and using the sample type specified for each parameter listed in the effluent monitoring table

included in **Schedule D**:

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:
 - a. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;
 - b. the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition) as amended from time to time by more recently published editions;
 - c. in respect of any parameters not mentioned in (a) - (b), the written approval of the District Manager, which approval shall be obtained prior to sampling.
4. 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.

8. REPORTING

1. One week prior to the start up of the operation of the Works, the Owner shall notify the District Manager (in writing) of the pending start up date.
2. The Owner shall report to the District Manager or designate, any exceedance of any parameter specified in Conditions 4 and 5 orally, as soon as reasonably possible, and in writing within seven (7) days of the exceedance.
3. 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.
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 monitoring data and a comparison to the effluent limits outlined in Condition 5, including an overview of the success and adequacy of the Works;
 - b. a description of any operating problems encountered and corrective actions taken;

- c. a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- d. a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- f. a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 4;
- g. 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 or operating authority 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 operation manual is included to ensure that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the owner's operation of the Works.
4. Condition 4 and 6 regarding effluent 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.
5. Condition 5 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.
6. Condition 7 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.
7. Condition 8 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. Environmental Compliance Approval Application for Industrial Sewage Works submitted by Golder Associates Ltd., dated August 22, 2022, and signed by Ian J. Potter, President & CEO, Vineland Research and Innovation Centre, and all supporting documentation and information.

Schedule B

Effluent Objectives Table

(measured in the final manhole prior to batch discharge of water in the surface storage tank)

Effluent Parameter	Average Calculator	Objective
Chloride (as Cl)	Single Sample Result	120 mg/L

Schedule C

Effluent Limits Table

(measured in the final manhole prior to batch discharge of water in the surface storage tank)

Effluent Parameter	Average Calculator	Limit
Total Suspended Solids	Single Sample Result	25 mg/L
Total Phosphorus	Single Sample Result	0.02 mg/L
Nitrate (as NO ₃ ⁻)	Single Sample Result	13 mg/L
Unionized ammonia	Single Sample Result	0.02 mg/L
pH	Single Sample Result	between 6.5 - 8.5 inclusive

Schedule D

Effluent Monitoring Table

Location & Frequency	Monthly sampling from the mobile storage tank during the month when discharge would occur to the city's storm sewer.
Sample Type	Grab
Parameters	pH, Total Suspended Solids, Total Ammonia, Unionized ammonia**, Nitrate, Nitrite, Total Phosphorus, Chloride, and in-situ measurements (pH, temperature, conductivity and turbidity)

**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.

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.

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

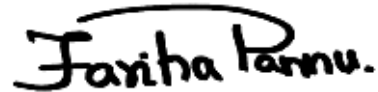
* Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca

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 4th day of January, 2023



Fariha Pannu, P.Eng.

Director

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

MK/

c: District Manager, MECP Niagara
Christopher Davidson, Golder Associates Ltd.