

**ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER 8458-CUKF7S  
Issue Date: August 11, 2023

Geosyntec Consultants International, Inc.  
605 Boxwood Drive  
Cambridge, Ontario  
N3E 1A5

Site Location: 605 Boxwood Drive  
City of Cambridge,  
Regional Municipality of Waterloo

*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:*

a research and testing facility for the treatment of Contaminated Soil consisting of,

- one (1) exhaust system equipped with two (2) granular activated carbon units in series, each containing approximately 800 kilograms of activated carbon, discharging to the air through a stack having a maximum volumetric flow rate of 0.60 cubic meters per second, an exit diameter of 0.15 meters, and extending 15 meters above grade, serving:
  - one (1) Rapid Screening Test reactor to treat a maximum of 0.7 cubic meters of Contaminated Soil using smouldering combustion;
  - one (1) Intermediate Scale Reactor to treat a maximum of 0.17 cubic meters of Contaminated Soil using smouldering combustion;
  - one (1) Intermediate Scale Reactor to treat a maximum of 0.5 cubic meters of Contaminated Soil using smouldering combustion; and
  - two (2) Pilot Hotpads to treat to treat between 10 to 20 cubic meters of Contaminated Soil using smouldering combustion;
- one (1) exhaust system equipped with a carbon filter discharging to the air through a stack having a maximum volumetric flow rate of 0.99 cubic meters per second, an exit diameter of 0.20 meters, and extending 10.2 meters above grade, serving:

- one (1) Column Test Unit to treat a maximum of 0.03 cubic meters of Contaminated Soil using smouldering combustion;
- one (1) fumehood; and
- one (1) reactor room enclosure;
- one (1) diesel-fired generator set having a maximum rating 100 kilowatts;

all in accordance with the Environmental Compliance Approval Application submitted by Geosyntec Consultants International, Inc., dated July 20, 2022 and signed by David Major, Vice President; and the supporting information including the Emission Summary and Dispersion Modelling report prepared by Hurlburt Environmental Engineering, dated July 20, 2022 and signed by Antje Hurlburt; and an Acoustic Assessment Report prepared by Hurlburt Environmental Engineering, dated July 7, 2022 and signed by Antje Hurlburt.

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

1. "Approval" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
2. "Best Management Practices Plan" means the document titled "Best Management Practices Plan: Control of Fugitive Dust Emissions During Ex-Situ Self-sustaining Soil Treatment Operations", dated March 17, 2022, prepared by Savron and describes measures to minimize dust emissions from the Facility;
3. "Company" means Geosyntec Consultants International, Inc., that is responsible for the construction or operation of the Facility and includes any successors and assigns;
4. "Contaminated Soil" means the contaminated soil received at the Facility and destined for treatment by smouldering combustion;
5. "Director" means a person appointed for the purpose of section 20.3 of the EPA by the Minister pursuant to section 5 of the EPA;
6. "District Manager" means the District Manager of the appropriate local district office of the Ministry, where the Facility is geographically being operated;
7. "EPA" means the Environmental Protection Act, R.S.O. 1990, c. E.19;
8. "Equipment" means the soil treatment and vapour extraction systems described in the Company's application, this Approval and in the supporting documentation submitted with the application, to the extent approved by this Approval;
9. "ESDM Report" means the Emission Summary and Dispersion Modelling Report prepared in accordance with section 26 of O. Reg. 419/05 and the Procedure Document by Hurlburt

Environmental Engineering, dated July 20, 2022 and signed by Antje Hurlburt, submitted in support of the application including any addendum submissions made during the Ministry's review of the Company's application;

10. "Exhausted" means the capacity of the GAC to adsorb contaminant emissions is reached, and the granular activated carbon system is no longer able to effectively reduce emissions;
11. "Facility" means the entire operation located on the property where the Equipment and Process is located;
12. "GAC" means granular activated carbon;
13. "Generator Set" means one (1) diesel-fired generator set having a maximum rating 100 kilowatts and used to provide continuous power to two (2) pilot hotpads for a maximum of thirty (30) days annually;
14. "Maximum Acceptable Contaminant Concentration" means the maximum allowable contaminant concentration in the Contaminated Soil that can be processed at the Facility to ensure compliance with O. Reg. 419/05 and is not likely to cause an adverse effect;
15. "Ministry" means the Ministry of the Government of Ontario responsible for the EPA and includes all officials, employees or other persons acting on its behalf;
16. "O. Reg. 419/05" means Ontario Regulation 419/05, Air Pollution – Local Air Quality, as amended;
17. "Procedure Document" means Ministry guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated March 2018, as amended;
18. "Process" means the smouldering combustion treatment process as described in the Company's application, this Approval, and in the supporting documentation submitted with the application, to the extent approved by this Approval;
19. "Publication NPC-300" means the Ministry Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources - Approval and Planning, Publication NPC-300", August 2013, as amended;
20. "Schedule" means the schedules attached to, and forming part of, this Approval, namely:
  - Schedule "A" - Emission Limits;
21. "System Configuration" means the soil treatment system design parameters and equipment operating scenarios assessed to maintain compliance with O. Reg. 419/05 and not cause an adverse effect;
22. System Limitations means the process adjustments that are required to treat Contaminated Soil with varying levels of Targeted Compounds to ensure compliance with O. Reg. 419/05 and not cause an

adverse effect; and

23. "Target Compound(s)" means the soil contaminants as described in the Company's application, this Approval, and in the supporting documentation submitted with the application, to the extent approved by this Approval, that the Process is designed to treat as part of the Remedial Work Plan.

*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. PERFORMANCE REQUIREMENTS**

1. The Company shall, at all times, ensure that the operation of the Equipment and Process at the Facility adhere to the System Configuration and System Limitations assessed in the ESDM Report.
2. The Company shall not process Contaminated Soil at the Facility with contaminant concentrations which exceed the Maximum Acceptable Contaminant Concentration assessed in the ESDM Report.
3. The Company shall ensure that the emissions from the Generator Set will not exceed the emission limits specified in Schedule "A".
4. The Company shall ensure that the GAC is replaced before it is Exhausted.
5. The Company shall ensure that the GAC maintains a minimum removal efficiency to ensure contaminant emissions comply with the ESDM report and O. Reg. 419/05.

### **2. OPERATION AND MAINTENANCE**

1. The Company shall ensure that the Equipment and Process is properly operated and maintained at all times. The Company shall:
  - a. prepare, not later than thirty (30) days after the date of this Approval, and update, as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment and Process, including:
    - i. major components of the Equipment to be used in the Process;
    - ii. routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;

- iii. frequency of inspections and scheduled maintenance for the Equipment and Process;
  - iv. procedures to inspect, test and replace the GAC before it is Exhausted;
  - v. procedures to inspect, test and replace the filter material in the Equipment;
  - vi. procedures to record the quantity of Contaminated Soil processed at the Facility;
  - vii. procedures to record the operation of the Process including the concentrations of Targeted Compounds in the contaminated soil before treatment;
  - viii. procedures to prevent and/or minimize, monitor, and record odour from the Facility, and measures to address odour complaints resulting from the operation of the Facility;
  - ix. procedures to prevent and/or minimize noise and fugitive dust emissions;
  - x. contingency measures to address upset conditions; and
  - xi. procedures to record and respond to environmental complaints;
- b. implement the recommendations of the Manual.

### **3. FUGITIVE DUST CONTROL**

1. The Company shall,
  - a. implement the Best Management Practices Plan for Fugitive Dust for the control of fugitive dust emissions resulting from the operation of the Facility;
  - b. review and update the Best Management Practices Plan for Fugitive Dust annually or at the direction of the District Manager;
  - c. record the results of each review and update the Best Management Practices Plan for Fugitive Dust within thirty (30) days of the completion of the review;
  - d. maintain the updated Best Management Practices Plan for Fugitive Dust at the Facility and provide a copy to the District Manager within forty-five (45) days of the update; and
  - e. implement, at all times, the most recent version of the Best Management Practices Plan for Fugitive Dust.
2. The Company shall record, either electronically or in a log book, each time a specific preventative and control measure described in the Best Management Practices Plan for Fugitive Dust is implemented. The Company shall record, as a minimum:

- a. the date when each emission control measure is installed, including a description of the control measure;
- b. the date when each new preventative measure or operating procedure to minimize emissions is implemented, including a description of the preventative measure or operating procedure; and
- c. the date, time of commencement, and time of completion of each periodic activity conducted to minimize emissions, including a description of the preventative measure/procedure and the name of the individual performing the periodic activity.

#### **4. COMPLAINT RESPONSE**

1. The Company shall post on a sign in a prominent location at the Facility entrance a 24-hour telephone number to contact a designated representative to receive public complaints regarding emissions resulting from the operations at the Facility.
2. The Company shall respond to complaints according to the following procedure:
  - a. record and number each complaint, either electronically or in a log book, and shall include the following information:
    - i. the nature of the complaint;
    - ii. the name and the telephone number of the complainant (if provided); and
    - iii. the time and date of the complaint;
  - b. the Company shall immediately initiate an investigation of the complaint. The investigation shall include, as a minimum, the following:
    - i. a determination of the activities being undertaken in the Facility at the time of the complaint;
    - ii. meteorological conditions including, but not limited to the ambient temperature, approximate wind speed and its direction;
    - iii. an assessment of all the possible cause(s) of the complaint;
    - iv. remedial action(s) to address the cause(s) of the complaint;
    - v. implementation of remedial action(s) to eliminate the cause(s) of the complaint.

- c. the Company shall document the response provided to the complainant, if known, and shall make the document(s) available for inspection by staff of the Ministry upon request. The response shall include,
  - i. the results of the investigation of the complaint;
  - ii. the action(s) taken or planned to be taken to address the cause(s) of the complaint; and
  - iii. follow-up response(s).
- d. the Company shall, within two (2) business days of the complaint, submit a report to the District Manager which fulfils the requirements of Condition 6.

## **5. RECORD RETENTION**

- 1. The Company shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the recording activities required by this Approval, and make these records available for review by staff of the Ministry upon request. The Company shall retain:
  - a. all records on the operation, maintenance, repair and inspection of the Equipment and Process;
  - b. all records on the operation of the Process, including:
    - i. quantity of Contaminated Soil received at the site;
    - ii. the concentration of the Target Compounds measured in the Contaminated Soil;
    - iii. all verification sampling and testing of soil;
  - c. all records of any environmental complaints, including:
    - i. a description, time and date of each incident to which the complaint relates;
    - ii. wind direction at the time of the incident to which the complaint relates; and
    - iii. a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

## **6. NOTIFICATION OF COMPLAINTS**

- 1. The Company shall notify the District Manager in writing, of each environmental complaint within two (2) business days of the complaint. The notification shall include:

- a. this Approval number;
- b. a description of the nature of the complaint;
- c. the time and date of the incident to which the complaint relates;
- d. the wind direction at the time of the incident to which the complaint relates; and
- e. a description of the remedial measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

## **7. NOISE**

1. The Company shall, at all times, ensure that the noise emissions from the Facility comply with the limits set out in Ministry Publication NPC-300.



## SCHEDULE "A"

### Emission Limits

<b>Contaminant</b>	<b>Maximum Limit</b>
Nitrogen Oxides	0.4 kg/MWh
Suspended Particulate Matter	0.02 kg/MWh
Non-Methane hydrocarbons	0.19 kg/MWh
Carbon Monoxide	5.0 kg/MWh

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

1. Condition No. 1 is included to outline the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility.
2. Condition No. 2 is included to emphasize that the Equipment and Process must be maintained and operated according to a procedure that will result in compliance with the EPA, the Regulations and this Approval.
3. Condition No. 3 is included to emphasize that the Equipment and Process must be operated according to a procedure that will result in compliance with the EPA, the Regulations and this Approval.
4. Condition No. 4 is included to require the Company to respond to complaints resulting from the operation of the Facility, according to a procedure that includes methods for preventing recurrence of similar incidents and a requirement to prepare a written report.
5. Condition No. 5 is included to require the Company to keep records and to provide information to staff of the Ministry so that compliance with the EPA, the regulations and this Approval can be verified.
6. Conditions No. 6 is included to require the Company to notify/report to the Ministry so that compliance with the EPA, the regulations and this Approval can be verified.
7. Condition No. 7 is included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility.

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](http://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 11th day of August, 2023



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Nancy E Orpana, P.Eng.

Director

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

BR/

c: District Manager, MECP Guelph  
Antje Hurlburt, Hurlburt Environmental Engineering