

CERTIFICATE OF APPROVAL**AIR**

NUMBER 5427-7EVP89

Issue Date: October 29, 2008

Lafleche Environmental Inc.
17125 Lafleche Road, Rural Route No. 1
Moose Creek, Ontario
K0C 1W0

Site Location: Eastern Ontario Waste Handling Facility (Lafleche Landfill)
17125 Lafleche Road, Moose Creek
North Stormont Township, United Counties of Stormont, Dundas and Glengarry, Ontario

You have applied in accordance with Section 9 of the Environmental Protection Act for approval of:

construction and operation of an aerobic composting facility in the landfill site, receiving and processing up to a maximum of 400 tonnes per day and 40,000 tonnes per year of *feedstock*, up to a maximum of 100 tonnes per day and 12,000 tonnes per year of *SRM* on a contingent basis, and up to 200 tonnes per day and 40,000 tonnes per year of *bulking agent*, for composting in the aerobic composting tunnels. The aerobic composting facility comprises the following operations and equipment:

- one (1) enclosed building in which the *feedstock* delivered to the *Facility* in truck is received and unloaded on the tipping floor. *Bulking agent* is delivered to the *Facility* and unloaded in an outdoor area bounded by three (3) movable walls for storage, and moved inside the enclosed building on an as-needed basis. Inside the building, the *feedstock* and *bulking agent* are mixed in an industrial mixer to produce a fairly homogeneous mixture, which is then conveyed to six (6) aerobic composting channels, divided into (2) bunkers each of which consists of three (3) channels, for composting. Each channel is cast in concrete, has a length of 109.76 metres, a width of 3.35 metres and a height of 2.39 metres, and is aerated by an in-floor aeration system. The composting material in each channel, which effectively is a single windrow, is turned by a compost turner which in effect moves the material forward through the channel, until composting is complete when the material reaches the other end of the channel. The material will stay in the channel for a minimum of 25 days for composting to be completed. On a contingent basis, *SRM* will be composted in one of the two (2) bunkers, following the same mixing and composting processes as described above for the *feedstock*. Each bunker is enclosed by its own polyethylene cover to capture and contain the air from the composting channels. The *feedstock* unloading area, *feedstock* and *bulking agent* mixing area and the space below the cover of each bunker are kept under negative pressure by a ventilation system. The air drawn that ventilation system is conveyed by air ductworks to:

- one (1) in-ground, open top, upflow biofilter, measuring 73.8 metres long and 24.4 metres wide, filled with a combination of woodchips and over-sized composted materials as media to a height of 0.91 metre for removal of odour in the incoming air, and equipped with necessary humidification chamber for incoming air relative humidity control and surface irrigation system, exhausting into the atmosphere at a maximum volumetric flow rate of 36.6 cubic metres per second, at 1.22 metres above grade.

The materials harvested from the composting tunnels are handled in accordance with the applicable terms and conditions in the *Waste C of A* issued to the *Company*;

all in accordance with Schedule "A" contained in this *Certificate*.

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

- (1) "*Act*" means the *Environmental Protection Act*.
- (2) "*AERMOD*" means the dispersion model developed by the American Meteorological Society/U.S. Environmental Protection Agency Regulatory Model Improvement Committee (AERMIC) including the PRIME (Plume Rise Model Enhancement) algorithm, used to calculate one-hour average concentrations of a contaminant at the *Point of Impingement* and at the most impacted *Sensitive Receptor*.
- (3) "*bulking agent*" means the leaf and yard waste, *wood waste* and straw/hay/corn stalks that are mixed with the *feedstock* for composting in the aerobic composting tunnels as described in the *Company's* application, this *Certificate* and in the supporting documentation submitted with the application, to the extent approved by this *Certificate*.
- (4) "*Certificate*" means this Certificate of Approval, including Schedule "A" and "B", issued in accordance with Section 9 of the *Act*.
- (5) "*Company*" means Lafleche Environmental Inc.
- (6) "*District Manager*" means the District Manager, Ottawa District Office, Eastern Region of the *Ministry*.
- (7) "*Equipment*" means the one (1) biofilter described in the *Company's* application, this *Certificate* and in the supporting documentation submitted with the application, to the extent approved by this *Certificate*.
- (8) "*Facility*" means the entire composting operation in the *Site* including where the *Equipment* as listed in the *Certificate* is located.

- (9) "*feedstock*" means the non-hazardous domestic, commercial, institutional or industrial organic waste received and processed in the *Facility* for composting, and includes up to 300 tonnes per day of digested and undigested biosolids that are dewatered and up to 100 tonnes per day of *food waste*, with a combined total receiving rate up to 40,000 tonnes per year as described in the *Company's* application, this *Certificate* and in the supporting documentation submitted with the application, to the extent approved by this *Certificate*.
- (10) "*food waste*" means waste from kitchens, restaurants, food processing operations, waste of vegetable and animal origin, packaging materials that have been in direct contact with and are contaminated by these wastes and waste of a similar nature and characteristics, including waste that is liable to become putrid, rotten or decayed.
- (11) "*Fugitive Odour Control Plan*" means a document or a set of documents that provides written instructions to staff of the *Company* for the purpose of meeting Condition 6 in this *Certificate*.
- (12) "*Manager*" means the Manager, Technology Standards Section, Standards Development Branch of the *Ministry*, or any other person who represents and carries out the duties of the Manager, as those duties relate to the conditions of this *Certificate*.
- (13) "*Manual*" means a document or a set of documents that provide written instructions to staff of the *Company* for the purpose of meeting Condition 5 in this *Certificate*.
- (14) "*Ministry*" means the Ontario Ministry of the Environment.
- (15) "*O. Reg. 419/05*" means the Ontario Regulation 419/05, Air Pollution - Local Air Quality, as amended.
- (16) "*Publication NPC-205*" means the *Ministry* Publication NPC-205, "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", October 1995.
- (17) "*Publication NPC-232*" means the *Ministry* Publication NPC-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", October 1995.
- (18) "*pH*" means the negative logarithm of the hydrogen ion concentration in moles per litre.
- (19) "*Point of Impingement*" has the same meaning as in s. 2 of *O. Reg. 419/05*.
- (20) "*Pre-Test Information*" means the information outlined in Section 1 of the *Source Testing Code*.
- (21) "*Sensitive Receptor*" means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from odour discharges from the *Facility*, including one or a combination of:
- (a) private residences or public facilities where people sleep (e.g. single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.),

- (b) institutional facilities (e.g. schools, churches, community centres, day care centres, recreational centres, etc.),
 - (c) outdoor public recreational areas (e.g. trailer parks, play grounds, picnic areas, etc.), and
 - (d) other outdoor public areas where there are continuous human activities (e.g. commercial plazas and office buildings).
- (22) "*Site*" means the entire property on which the *Company* operates the landfilling activities and the *Facility*.
- (23) "*Source Testing Code*" means the Source Testing Code, Version 2, Report No. ARB-66-80, dated November 1980, prepared by the *Ministry*, as amended.
- (24) "*Source Testing*" means sampling and testing to measure the rate of emission of odour as required under this *Certificate* from the *Equipment* exhaust under the scenarios specified in the terms and conditions of this *Certificate* and under process conditions which represent a maximum operating range achievable at the time of the measurement or within the approved operating capacity of the *Facility*.
- (25) "*SRM*" means the Specified Risk Material defined in the *Waste C of A* and includes, at a minimum, but is not limited to, (a) the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle aged 30 months or older; and (b) the distal ileum of cattle of all ages. It may also include other additional materials as defined by the federal Health of Animals Regulations, C.R.C. c. 296, as amended from time to time.
- (26) "*Start-up Date*" means the date when *feedstock* is first received at the *Facility*.
- (27) "*Waste C of A*" means the Provisional Certificate of Approval (Waste Disposal Site) number A420018 dated November 4, 1999 and all the Notices associated with the certificate issued to the *Company*.
- (28) "*wood waste*" means waste that is wood or a wood product, including tree trunks and tree branches greater than seven (7) centimetres diameter, that is not painted/coated or contaminated with chromated copper arsenate, ammoniacal copper arsenic pentachlorophenol or creosote, is not particleboard, composite wood or part of an upholstered article, or an article to which a rigid surface treatment is affixed or adhered, unless the rigid surface treatment is predominantly wood or cellulose.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

PERFORMANCE CONDITIONS

1. The *Company* shall ensure that the noise emissions from the *Facility* comply with the limits set in *Publication NPC-205* or *Publication NPC-232*, as applicable.
2. Odour Performance Limit

The *Company* shall operate and maintain the *Facility* so that the maximum 10-minute average concentration of odour at the most impacted *Sensitive Receptor*, calculated in accordance with Schedule "B", resulting from the operation of the *Facility*, shall not be greater than 1.0 odour unit.

MONITORING

3. The *Company* shall monitor and record, as a minimum, the following physical parameters of the *Equipment* at a frequency either as stated herein or as recommended by the *Equipment* supplier:
 - (1) air flow rate to the *Equipment*, hourly,
 - (2) relative humidity and temperature of the air to the *Equipment*, continuously,
 - (3) pressure drop through the media in the *Equipment*, monthly,
 - (4) water irrigation frequency and rate of the surface irrigation system, weekly, and
 - (5) pH of the drainage water from the *Equipment*, monthly.
4. The *Company* shall install and properly operate and maintain continuous monitors at the air ductworks entering the *Equipment* to continuously monitor and record the concentrations of hydrogen sulphide and ammonia in the air entering the *Equipment*.

OPERATION AND MAINTENANCE

5. The *Company* shall ensure that the *Facility* is properly operated and maintained at all times. The *Company* shall:
 - (1) prepare and submit to the *District Manager*, prior to the *Start-up Date* of the *Facility*, and update, as necessary, a *Manual* outlining the start-up and operating procedures for the *Facility* that relate to odour and noise, as well as the operating procedures and a maintenance program for the *Equipment* in accordance with good engineering practice, including:
 - (a) operational procedures during the start-up phase of the *Facility* and the *Equipment* to minimize to the greatest extent possible the emissions of odour and noise in that phase, and routine and emergency operating and maintenance procedures of the *Facility* and the *Equipment* as recommended by the *Equipment* supplier, related to odour and noise emissions including but not limited to during *Equipment* malfunction, power outages, by-passes and other emergency or abnormal operating conditions and procedures for notifying the *Ministry* of such events;
 - (b) physical parameters and their frequencies of monitoring for the *Equipment*, if they are identical to or different from the requirements in Condition 3 above;
 - (c) instructions for any record keeping activities relating to the operation and maintenance of the *Facility* and the *Equipment*;

- (d) all appropriate measures to minimize noise and odour emissions from all potential sources, including but not limited to a contingency plan to deal with the storage of incoming materials when the *Facility* is shut down for emergency reasons; and
 - (e) procedures to record and respond to environmental complaints;
- (2) implement the procedures/recommendations of the *Manual*.
6. The *Company* shall prepare, as part of the *Manual* or a separate document, and implement a *Fugitive Odour Control Plan*, identifying all fugitive odour emission sources from the operation of the *Facility*, for example materials during transfer in the outdoor areas and in and out of the building, during unloading of *feedstock* and opening/closing of doors or bay doors for necessary vehicular or personnel entry/exit, and the compost piles in the curing area, and outlining the physical and procedural controls such as policies and standard operating procedures required in order to prevent or mitigate fugitive odour emissions from those sources in the *Facility*.
7. The *Company* shall keep all exterior doors and bay doors to the enclosed building of the *Facility* closed whenever unprocessed or partially processed materials, or any other substance that could create a negative environmental impact are present inside the building, except when used for necessary personnel or materials/vehicle entrance and exit.
8. The *Company* shall ensure that the *feedstock* unloading area, *feedstock* and *SRM* and *bulking agent* mixing area in the enclosed building of the *Facility* and the space under the cover of each bunker are operated under negative pressure whenever unprocessed or partially processed materials, or any other substance that could create a negative environmental impact are located inside the building or in the composting channels of the bunkers.

SOURCE TESTING

9. The *Company* shall perform *Source Testing* to determine the rate of emission of odour entering and exiting the *Equipment*. The *Source Testing* shall be conducted under the following two (2) scenarios and under process conditions which represent a maximum operating range achievable at the time of the measurement or within the approved operating capacity of the *Facility*:
- (1) Normal Scenario: under normal situations when *feedstock* is the material in all the composting channels of the two (2) bunkers; and
 - (2) Contingent Scenario: under the contingent situation when *feedstock* is the material in the composting channels in one (1) bunker and *SRM* is the material in the composting channels of the other bunker.
10. The *Company* shall submit, not later than three (3) months after the *Start-up Date* of the *Facility*, to the *Manager* a test protocol, including the *Pre-Test Information* for the *Source Testing* required by the *Source Testing Code*. The *Company* shall finalize the test protocol in consultation with the *Manager*.

11. The *Company* shall not perform *Source Testing* required under this *Certificate* until the *Manager* has accepted the test protocol.
12. The *Company* shall conduct the *Source Testing*, under the Normal Scenario, not later than three (3) months after the *Manager* has accepted the test protocol, or within a period as agreed or directed by the *Manager* or the *District Manager*, but not later than six (6) months after the *Manager* has accepted the test protocol.
13. The *Company* shall *notify* the *District Manager* and the *Manager* in writing of the location, date and time of any impending *Source Testing* required by this *Certificate*, at least fifteen (15) days prior to the *Source Testing*.
14. The *Company* shall submit, whenever a *Source Testing* is completed, a report on the *Source Testing* to the *Director*, the *District Manager* and the *Manager* not later than two (2) months after completing the *Source Testing*. The report shall be in the format described in the *Source Testing Code*, and shall include, but not be limited to:
 - (1) an Executive Summary;
 - (2) records of weather conditions such as ambient temperature and relative humidity, and all operating conditions of the *Facility* including the daily receipt rates of *feedstock* and *bulking agent*, and *SRM* if applicable, and quantities of *feedstock*, *bulking agent*, *SRM* if applicable, materials from the composting channels, compost under curing and finished compost stored both inside the building and outdoor, and the age(s) of the materials in the composting channels, and all operating conditions of the *Equipment*;
 - (3) results of the *Source Testing*;
 - (4) the results of dispersion calculations using the results of the *Source Testing* indicating the maximum 10-minute average concentrations of odour at the *Point of Impingement* and at the most impacted *Sensitive Receptor* calculated in accordance with Schedule "B", to demonstrate that Condition 2 in this *Certificate* is met; and
 - (5) an electronic copy of the input and output files of the dispersion model run.
15. The *Director* may not accept the results of the *Source Testing* if:
 - (1) the *Source Testing Code* or the requirements of the *Manager* were not followed, or
 - (2) the *Company* did not notify the *Director*, the *District Manager* and the *Manager* of the *Source Testing*, or
 - (3) the *Company* failed to provide a complete report on the *Source Testing*.
16. If the *Director* does not accept the results of the *Source Testing*, the *Director* may require re-testing.

17. The *Company* shall conduct *Source Testing*, in the subsequent year after the year in which the *Source Testing* required in Condition 12 above is conducted, and at times and frequency at the discretion of the *District Manager*, under the Normal Scenario to determine the rate of emission of odour from the *Equipment* inlet and exhaust.

RECORD RETENTION

18. 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 operation, maintenance and monitoring activities required by this *Certificate*. These records as well as the *Manual* and the *Fugitive Odour Control Plan* shall be made available to staff of the *Ministry* upon request. The *Company* shall retain:
- (1) all records on the maintenance, repair and inspection of the *Facility* and *Equipment*,
 - (2) all records of the monitored parameters of the *Equipment*,
 - (3) all records of fan failure such that there is no air flow through the *Equipment*,
 - (4) all records on the daily, monthly and annual quantities of incoming materials received and processed and composted on the curing area,
 - (5) all reports of the *Source Testing*,
 - (6) all measures taken to minimize odour emissions from all potential sources; and
 - (7) all records of any environmental complaints; including:
 - (a) a description, time and date of each incident to which the complaint relates;
 - (b) wind direction at the time of the incident to which the complaint relates; and
 - (c) 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.

NOTIFICATION OF COMPLAINTS

19. The *Company* shall record and respond to each environmental complaint in accordance with Condition 90 contained in the *Waste C of A*.

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

1. Conditions No. 1 and 2 are included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the *Facility*.

3. Conditions No. 3 to 8 are included to emphasize that the *Facility* and the *Equipment* must be maintained and operated according to a procedure that will result in compliance with the *Act*, the regulations and this *Certificate*.
4. Conditions No. 9 to 17 are included to require the *Company* to gather accurate information so that compliance with the *Act*, the regulations and this *Certificate* can be verified.
6. Condition No. 18 is included to require the *Company* to retain records and provide information to the *Ministry* so that compliance with the *Act*, the regulations and this *Certificate* can be verified.
7. Condition No. 19 is included to require the *Company* to notify staff of the *Ministry* so as to assist the *Ministry* with the review of the site's compliance.

SCHEDULE "A"

- (1) Application for Approval (Air & Noise), dated March 12, 2008 and signed by Geoff Lafleche, Lafleche Environmental Inc., and all information and documentation associated with the application.
- (2) Additional information provided by Lafleche Environmental Inc., dated June 5, 2008, July 16, 2008 and signed by Geoff Lafleche.
- (3) Additional information provided by Golder Associates Ltd. on behalf of Lafleche Environmental Inc., dated June 13, 2008, June 17, 2008, August 27, 2008 and signed by Ravi Mahabir, P.Eng.
- (4) Additional information provided by Geoffroy Lafleche, Lafleche Environmental Inc., contained in an email sent September 29, 2008 to Rudolf Wan, P.Eng., Ontario Ministry of the Environment.

SCHEDULE "B"

Procedure to calculate and record the 10-minute average concentration of odour at the *Point of Impingement* and at the most impacted *Sensitive Receptor*

- (a) Calculate and record one-hour average concentration of odour at the *Point of Impingement* and at the most impacted *Sensitive Receptor*, employing *AERMOD* atmospheric dispersion model that employs at least five (5) years of hourly local meteorological data and that can provide results reported as individual one-hour average odour concentrations.
- (b) Convert and record each of the one-hour average concentrations predicted over the five (5) years of hourly local meteorological data at the *Point of Impingement* and at the most impacted *Sensitive Receptor* to 10-minute average concentrations using the One-hour Average to 10-Minute Average Conversion described below; and
- (c) Record and present the 10-Minute Average concentrations predicted to occur over a five (5) year period at the *Point of Impingement* and at the most impacted *Sensitive Receptor* in a histogram. The histogram shall identify all predicted 10-minute average odour concentration occurrences in terms of frequency, identifying the number of occurrences over the entire range of predicted odour concentration in increments of not more than 1/10 of one odour unit. The maximum 10-minute average concentration of odour at the *Sensitive Receptor* will be considered to be the maximum odour concentration at the most impacted *Sensitive Receptor* that occurs and is represented in the histogram, disregarding outlying data points on the histogram as agreed to by the *Director*.

One-hour Average To 10-minute Average Conversion

- (1) Use the following formula to convert and record one-hour average concentrations predicted by the *AERMOD* atmospheric dispersion model to 10-minute average concentrations:

$$\mathbf{X_{10min} = X_{60min} * 1.65}$$

where X_{10min} = 10-minute average concentration
X_{60min} = one-hour average concentration

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

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

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

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

AND

The Environmental Commissioner
1075 Bay Street, 6th Floor
Suite 605
Toronto, Ontario
M5S 2B1

AND

The Director
Section 9, *Environmental Protection Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

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

This instrument is subject to Section 38 of the Environmental Bill of Rights, 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 www.ene.gov.on.ca, you can determine when the leave to appeal period ends.

The above noted works are approved under Section 9 of the Environmental Protection Act.

DATED AT TORONTO this 29th day of October, 2008



Victor Low, P.Eng.
Director
Section 9, *Environmental Protection Act*

RW/

c: District Manager, MOE Ottawa District Office
Area Supervisor, MOE Cornwall Area Office
Ravi Mahabir, P.Eng., Golder Associates Ltd