



July 12, 2017

Tracking Number: 352392
Authorization Number: 108537

REGISTERED MAIL

CITY OF KELOWNA
1435 WATER STREET
KELOWNA, BC
V1Y 1J4

Dear Permittee:

Enclosed is Permit 108537 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the permittee to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this permit will be carried out by staff from the Environmental Protection Division's Regional Operations Branch. Plans, data and reports pertinent to the permit are to be submitted by email or electronic transfer to the Director, designated Officer, or as further instructed.

Yours truly,

A handwritten signature in black ink, appearing to be 'Luc Lachance', written in a cursive style.

Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

Enclosure

cc: Environment Canada



**MINISTRY OF
ENVIRONMENT**

**PERMIT
108537**

Under the Provisions of the Environmental Management Act

**City of Kelowna
551 Commonage Road
Vernon, B.C. V1H 1G3**

is authorized to discharge contaminants to the air from a composting facility located at 551 Commonage Vernon, British Columbia subject to the requirements listed below. Contravention of any of these requirements is a violation of the *Environmental Management Act* and may lead to prosecution.

Unless otherwise defined in this authorization, terms used in this authorization have the same meaning as those defined in the *Environmental Management Act* and Organic Matter Recycling Regulation.

1. AUTHORIZED DISCHARGES

1.1. Authorized Source

This section applies to the discharge of air contaminants from various areas of the composting facility. The site reference number for this discharge is E307813.

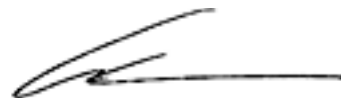
1.1.1. The rate of the discharge is variable.

1.1.2. The authorized discharge period is continuous.

1.1.3. The characteristics of the discharge are that of typical emissions of a biosolids composting facility.

1.1.4. The authorized works are all paved surfaces, the aeration pads, one (1) primary receiving building, one (1) water supply pump house including the pumps, chlorination and filtration apparatus, one (1) drainage pump house, one (1) ECS Aerated Static Pile System comprised of 18 zones for primary composting and 18 zones for secondary composting, four (4) biofilters for primary composting area and

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three (3) biofilters for secondary composting area, related sumps, pipes, holding tanks and related appurtenances.

1.1.5. The Permittee must not operate under this authorization unless the authorized works are complete and fully operational.

1.1.6. The location of the authorized works approximately located as shown on Site Plan attached.

2. GENERAL REQUIREMENTS

2.1. Maintenance of Works and Emergency Procedures

The Permittee must regularly inspect the authorized works and maintain them in good working order. The Permittee must maintain all asphalt surfaces and must repair cracks and significant damages to prevent and avoid leachate infiltration. Records of inspection and maintenance activities must be kept and made available upon request.

In the event of an emergency or condition beyond the control of the Permittee including, but not limited to, unauthorized fires arising from spontaneous combustion or other causes, or the detection of leachate migration outside of onsite confinement, the Permittee must take remedial action to prevent any unauthorized discharges. The Permittee must immediately report the emergency or condition and the remedial action that has and will be taken to the RAPP line (1-877-952-7277, #7272 from mobile phone) or electronically at this link: <http://www.env.gov.bc.ca/cos/rapp/form.htm>.

The Director may require the Permittee to reduce or suspend operations until corrective steps have been taken to prevent unauthorized discharges.

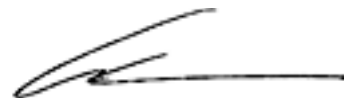
2.2. Bypasses

The Permittee must not allow any discharge authorized by this authorization to bypass the authorized works, except with the prior written approval of the Director.

2.3. Signage

The Permittee must erect a sign at the main entrance to the site which identifies the following: site name, owner and operator, contact phone number and address, hours of operation, tipping fees (if applicable) and prohibition of hazardous wastes. The lettering on the sign must be such that it is clearly readable from a distance of 3 meters by the public when they approach the entrance of the site.

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2.4. Access Security

The Permittee must provide adequate security for the facility and restrict access to authorized personnel.

2.5. Qualified Professionals

The Permittee must cause a qualified professional to certify that all new works are constructed in accordance with submitted plans and specifications. All documents submitted to the Director by a qualified professional must be signed by the author(s).

2.6. Litter Control

The Permittee must use the best practical means available to prevent the scatter of litter at the site. The Permittee must clean up any litter that may have escaped the site and scattered into the neighbouring property, along access roads, in drainage ditches, along fences, into surrounding trees or elsewhere on the site. The Director may require the Permittee to implement a specified frequency of clean-up and other additional requirements for litter control.

2.7. Vehicle Leaving Site

The Permittee must ensure, before any vehicle transporting compostable materials leaves the site, that the wheels of the vehicle do not contain compostable materials. If tracking of compostable material outside of the facility becomes a problem the Director may require that a wheel rinsing station be installed at the facility.

2.8. Air Quality

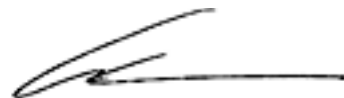
The Permittee must suppress odours created within the compost area to the satisfaction of the Director. If air quality becomes a concern, the Director may require the Permittee to implement additional control measures on emission sources.

3. OPERATIONAL REQUIREMENTS

3.1. Compostable Materials

3.1.1. The Permittee is only authorized to process the stabilized municipal sewage sludge, unprocessed and untreated wood residuals and yard waste.

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3.1.2. The Permittee must not receive or process more than 36,400 wet tonnes of stabilized sewage sludge per year.

3.1.3. Primary Composting Area

The Permittee must select and implement a secondary odour treatment for all primary composting piles to complement the biofilters for the period of May to October of each year. The Permittee must select a secondary odour treatment by October 31, 2018 and submit to the Director for approval. If the selected and approved secondary odour treatment is not implemented by June 30th, 2019, the Permittee will have to use a cover for all primary composting piles from May to October each year.

3.2. Biofiltration Cover

The Permittee must maintain at all times, for the purpose of odour control, a biofiltration cover for all compost piles located in the primary and secondary compost areas, consisting of:

- 0.3 m secondary teardown, or
- 0.3 m oversized material (overs), or
- A blend of secondary teardown and overs, or
- Another covering layer of a type and thickness that is acceptable to the Director.

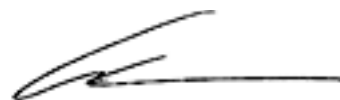
The Permittee must account for the biofiltration cover when calculating the carbon to nitrogen ratio to ensure that optimal composting conditions are maintained throughout the process. In order for the biofiltration cover to be effective, the Permittee must maintain optimal moisture content in the biofiltration material.

3.3. Design and Operating Plan

The Permittee must submit an updated design and operating plan by May 31, 2019. The plan must be prepared by a qualified professional. The plan must describe, but not be limited to, the design, operations, acceptable materials, leachate management, monitoring programs, reporting requirements and performance requirements. In addition, the operating plan must:

- 3.3.1. Demonstrate that the biofilters are of adequate size and capacity for the facility's design;
- 3.3.2. Establish a schedule of site-specific maintenance activities for the biofilters;
- 3.3.3. Describe how records are kept for all maintenance activities performed on site;

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3.3.4. Explain how the biofiltration cover is integrated in the C:N ratio;

3.3.5. Include contingency plans in case of supply shortage (hog, ash) ; and,

3.3.6. Include an asphalt maintenance program, which describes inspection protocols and maintenance activities.

The Permittee must operate the facility in accordance with the design and operating plan. The Director may request additional information with respect to the design and operating plan and specifications that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the plans and specifications must address.

3.4. Leachate Management

The Permittee must ensure that all leachate generated from the composting operation, buildings, paved open surface areas, outdoor curing areas, finished compost storage areas, and truck marshalling area is collected and directed to the leachate collection system. The Permittee must maintain all collection channels and catch basins to ensure proper drainage.

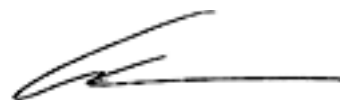
The Permittee must select an impermeable containment system to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste or compost. The Permittee must submit the new Leachate Management System Plan to the Director for approval before November 30, 2017. The Permittee must cease to use the drainage trench or the drainage pond after October 31, 2018 to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste unless the drainage trench and the drainage pond are lined with an impermeable liner.

3.5. Odour Management

The Permittee must submit to the Director for approval an updated odour management plan by November 30, 2017. The plan must be prepared by a qualified professional and must do the following:

3.5.1. Identify all odour generating areas including, but not limited to: receiving, mixing, primary composting, curing or secondary composting, screening, leachate collection system, aeration systems, biofilters, grinding and storage.

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- 3.5.2. Identify appropriate mitigating strategies employed for each area and provide a summary table in the plan.
- 3.5.3. Identify all parameters and optimal ranges in the compost process needed to limit odour generation. Compost process parameters to be identified include, but are not limited to, feedstock type, bulking materials, bulk density, particle size, carbon to nitrogen ratios, moisture, temperature, oxygen, peak odour times (i.e. Day 3 or 7), pile turning schedules.
- 3.5.4. Outline all best management practices and emission control technologies aimed at reducing odour generation being employed at the facility.
- 3.5.5. Identify other best management practices and emission control technologies that could potentially be used on site to further reduce and control odour.
- 3.5.6. Include an odour monitoring program. The program must describe how odours are monitored on-site and off-site.
- 3.5.7. Include a complaint management process which includes a complaint form, any investigative actions to be taken and any mitigation actions to be taken.

The Permittee must operate the facility in accordance with the approved odour management plan, and any requirements which the Director may attach to the odour management plan as a condition of approval.

3.6. Change to Plans

The Permittee must keep the design and operating plan up to date and must notify the Director of any changes to the plan within 30 days of the change.

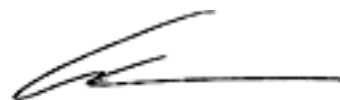
3.7. Closure of the Facility

Before closure of the facility, the Permittee must apply or distribute all compost in accordance with the Organic Matter Recycling Regulation, and all unprocessed organic matter must be removed from the facility and dealt with in accordance with the *Environmental Management Act*.

A final closure plan must be submitted 90 days prior to deactivation of the site to the Director for review and approval. The final closure plan and associated engineered closure works must be compatible with the planned end-use of the compost facility.

3.8. Additional Requirements

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The Permittee must ensure the following requirements are met:

- 3.8.1. Class A compost must meet the requirements of pathogen reduction processes, vector attraction reduction, pathogen reduction limits, quality criteria, sampling and analysis – protocols and frequency, and record keeping as outlined in the Organic Matter Recycling Regulation.
- 3.8.2. Biosolids used as feedstock for the production of Class A compost must not exceed the standards for Class B biosolids set out in Column 3 of Schedule 4.
- 3.8.3. At least half of the compost stored at 551 Commonage Road, Vernon, BC must be removed annually from the facility.
- 3.8.4. The receiving, storage, processing and curing areas of the composting facility must be located on asphalt, concrete or another similar impermeable surface that is capable of withstanding wear and tear from normal operations and that will prevent the release of leachate into the environment.
- 3.8.5. Residuals from the composting process must be stored so as to prevent vector attraction, and be disposed of on a regular basis in accordance with the *Environmental Management Act*.
- 3.8.6. Residuals that are stored at a composting facility must not at any time exceed 15 cubic meters in total.

4. MONITORING REQUIREMENTS

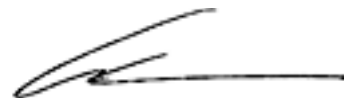
4.1. Odour emissions

The Permittee must continue to monitor air emissions at the facility and in the surrounding areas using existing e-noses and H₂S monitors. The Permittee must monitor odour emissions in accordance with the approved odour management plan and results must be presented and interpreted in the annual report.

4.2. Surface Water Monitoring

The Permittee must continue to implement a surface water monitor program as required in writing by the Director and in accordance with recommendations from a Qualified Professional. The Director may request additional information or changes with respect to the monitoring program based on monitoring results and upon submission and review of the Leachate Management System Plan, required under Section 3.5.

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4.3. Environmental Impact Study

The Permittee must retain on site a copy of the most recently submitted environmental impact study for inspection. The Director may request additional information with respect to the environmental impact study that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the impact study must address.

4.4. Air Emissions Review Study

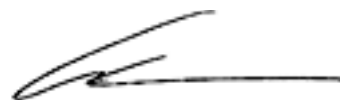
The Permittee must retain the services of a qualified professional to review and analyze all emissions data collected at the facility with e-noses, H₂S monitors and odorous gas measurements. The report must be submitted by March 31, 2018 and must:

- 4.4.1. Describe odour emissions on-site for each odour generating area;
- 4.4.2. Describe how odours are migrating off-site and identify all affected areas;
- 4.4.3. Use quantitative and qualitative units for descriptions;
- 4.4.4. Include daily, seasonal and annual trends;
- 4.4.5. Discuss how meteorological conditions effect odour generation and dispersion;
- 4.4.6. Provide a qualitative assessment of how odours have improved since 2010;
- 4.4.7. Report on the effectiveness of odour mitigation strategies used at the facility;
- 4.4.8. Discuss calibration schedule/requirements of the OdoWatch system; and
- 4.4.9. Make recommendations on how the facility could further reduce its odour emissions.

4.5. Foul Air Study

The Director may request the Permittee to conduct a foul air study or similar study to measure the effectiveness of the facility's odour management plan and to quantify the odours migrating off-site.

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4.6. Sampling Procedures

The Permittee must carry out sampling in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2013", or the most recent edition, or by alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-field-sampling-manual>

4.7. Analytical Procedures

The Permittee must carry out analyses in accordance with the procedures described in the "British Columbia Laboratory Manual, 2015 ", or the most current edition, or by suitable alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at: <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance/bc-environmental-laboratory-manual>

5. REPORTING REQUIREMENTS

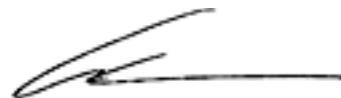
5.1. Maintenance of Records

The Permittee must maintain all records and plans required by this authorization and produce them for inspection by an officer when requested.

5.2. Electronic Submission

The Permittee must submit all data required to be submitted under this permit by email to the Ministry's Routine Environmental Reporting Submission Mailbox (RERSM) at Envauthorizationsreporting@gov.bc.ca. For guidelines on how to properly name the files and email subject lines or for more information visit the Ministry website: <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox>

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5.3. Spill Reporting

The Permittee must immediately report all spills to the environment (as defined in the Spill Reporting Regulation) in accordance with the Spill Reporting Regulation, which among other things, requires notification to the Provincial Emergency Program at 1-800-663-3456.

5.4. Non-Compliance

The Permittee must immediately notify the Director or designate by email at EnvironmentalCompliance@gov.bc.ca of any non-compliance with the requirements of this authorization by the Permittee and take remedial action to remedy any effects of such non-compliance. The Permittee must immediately notify the Director or designate of any non-compliance with the requirements of this Permit and take appropriate remedial action. Written confirmation of all non-compliance events, including available test results is required within 24 hours of the original notification unless otherwise directed by the Director, Environmental Protection.

Within 30 days of the non-compliant event, the Permittee must submit to the Director, Environmental Protection, a written report including, but not necessarily limited to, the following:

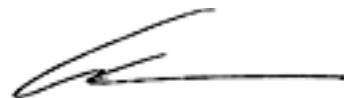
- (a) all relevant test results related to the noncompliance;
- (b) an explanation of the most probable cause(s) of the noncompliance; and
- (c) remedial action planned and/or taken to prevent similar noncompliance(s) in the future.

5.5. Annual Reporting

The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to:

- 5.5.1. The type and tonnage of compostable materials received for the preceding calendar year;
- 5.5.2. The quantity of finished compost transported off site and the amount stored on site at the end of each calendar year;
- 5.5.3. The results of all monitoring programs as specified in this authorization. The Permittee must ensure that data interpretation and trend analysis, as well as an

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evaluation of the impacts of the discharges on the receiving environment in the previous calendar year must be carried out by a qualified professional;

5.5.4. A summary and analysis of all complaints received in the previous calendar year; and

5.5.5. Any improvements made to the facility or operations to reduce and control odour.

6. LICENCE TO PUBLISH DOCUMENTS

6.1. Subject to 6.2, the Permittee authorizes the Province to publish on the Ministry of Environment website the entirety of any Regulatory Document.

6.2. The Province will not publish any information that could not, if it were subject to a request under section 5 of the Freedom of Information and Protection of Privacy Act, be disclosed under that Act.

6.3. The Permittee will indemnify and save harmless the Province and the Province's employees and agents from any claim for infringement of copyright or other intellectual property rights that the Province or any of the Province's employees or agents may sustain, incur, suffer or be put to at any time that arise from the publication of a Regulatory Document.

GLOSSARY

“Foreign matter” means a contaminant that is not readily decomposed during the composting process, and includes demolition waste, metal, glass, plastic, rubber and leather, but does not include silt, sand, rocks or stones, or gravel less than 2.5 centimeters in diameter, or other similar mineral materials naturally found in soil;

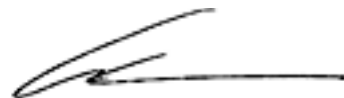
“Oversized material” or “overs” means the product resulting from secondary teardown screening which removes the compost particles smaller than 19 mm.

“Province” means Her Majesty the Queen in right of British Columbia;

“Regulatory Document” means any document that the permittee is required to provide to the Director or the Province pursuant to:

(i) this authorization;

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- (ii) any regulation made under the *Environmental Management Act* that regulates the facility described in this authorization or the discharge of waste from that facility; or,
- (iii) any order issued under the *Environmental Management Act* directed against the Permittee that is related to the facility described in this authorization or the discharge of waste from that facility;

“Residuals” means material that can’t be used in the composting process and includes organic material that can’t be composted because it is unauthorized, or fails to meet OMRR standards, or is defined as foreign matter;

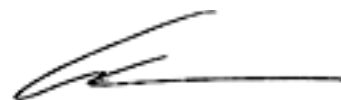
“Secondary teardown” means unscreened compost that has been processed for 24 to 28 days on the primary zone to achieve process to further reduce pathogens (PFRP) and vector attraction reduction (VAR) requirements, then moved to the secondary composting zone where aeration is continued for an additional 24 to 30 days of curing. The secondary teardown at the end of this process is approximately 56 days old and has met OMRR requirements;

“Stabilized municipal sewage sludge” means sludge resulting from a municipal waste water treatment process or septage treatment process which has been sufficiently treated through biological, thermal or chemical stabilization to allow the sludge to be beneficially recycled.

“Untreated and unprocessed wood residuals” means clean (non-contaminated and untreated) wood from lumber manufacture, including: shavings, sawdust, chips, hog fuel, ground mill ends and land clearing waste which has been ground with the majority of the greenery removed and no soil present but does not include construction and demolition debris;

“Yard waste” means clean and untreated wood waste or non-food vegetative matter resulting from gardening operations, landscaping, and land clearing; yard waste does not include wood waste derived from construction or demolition. Neither human or animal food waste that is diverted from residential, commercial or institutional sources, nor manure, is yard waste.

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SITE PLAN



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