



Ministry of
Environment

**Procedure to apply for a Permit under the
Environmental Management Act
for the composting of biosolids and food waste**

June 2016

Environmental Protection Division
Regional Operations Branch

In addition to a Permit Application, the Ministry of Environment requires the following support documents to be submitted in order to apply for a Permit under the *Environmental Management Act* for the composting of biosolids and food waste:

- An Environmental Impact Study
- An Operating Plan
- An Odour Management Plan
- A Leachate Management Plan

The above noted support documents are to be signed and sealed by a qualified professional¹ with appropriate expertise and experience, and shall consider all of the information presented below as a minimum. In the event that some of the below information requirements do not pertain to the subject facility, sufficient justification must be provided.

The operation is expected to follow best management practices to prevent impacts to human health and the environment.

Permit Application:

A standard Permit Application form is to be used. A copy of the standard application form can be found at the following website:

<http://www2.gov.bc.ca/assets/gov/environment/waste-management/waste-discharge-authorization/formstemp/approvalapplication.pdf>

Additional guidance for the Permit Application process can be found at the following website:

<http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/permit-or-approval-application-process/application-forms-and-guidance>

Public Notification:

Public Notification, as per the Public Notification Regulation is required for all Permits under the *Environmental Management Act*. Where the proposed facility is on Agricultural Land Reserve the Agricultural Land Commission shall also be notified. Additional guidance on the public notification requirements can be found here:

<http://www2.gov.bc.ca/assets/gov/environment/waste-management/waste-discharge-authorization/consultation.pdf>

¹ “Qualified Professional” refers to an applied scientist or technologist specializing in a particular applied science including, but not necessarily limited to, agronomy, biology, chemistry, engineering, geology, or hydrogeology and: who is registered in British Columbia with their appropriate professional organization, acting under that association’s Code of Ethics and subject to disciplinary action by that association; and who, through suitable education, experience, accreditation and knowledge, may be reasonably relied on to provide advice within their area of expertise.

Reference materials:

The following reference material shall be used as a guide in creating the Permit Application support documents:

Compost Facility Requirements Guideline: How to Comply with Part 5 of the Organic Matter Recycling Regulation, dated March 2004. <http://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/compost.pdf>

Land Application Guidelines for the Organic Matter Recycling Regulation and the Soil Amendment Code of Practice, dated March 2008. <http://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/landappguidelines.pdf>

Support Documents to be submitted with Permit Application:

The Ministry requires the following support documents to be submitted along with a Permit Application:

Environmental Impact Study (required for all facilities regardless of size)

The Environmental Impact Study (EIS) details the nature and scale of the composting facility, how this project will impact the physical, chemical and biological environment and its inhabitants, and the measures that can be taken to reduce, alleviate, mitigate and monitor for impacts. The EIS is required to be conducted by a qualified professional with expertise and experience in conducting environmental impact studies and assessments.

The intent of the EIS is to determine whether the operation of the facility and the production of compost will substantially alter or impair the usefulness of the environment or adversely affect human or ecological health in the area. The EIS must, in general, do the following:

- Establish pre-facility conditions in the receiving environment;
- Establish monitoring activities to occur before and after construction and/or operations commence;
- Assess existing and potential uses of the receiving environment, including in the airshed, surface waters and groundwater;
- Determine whether environmental quality guidelines will be met in the receiving environments;
- Assess if the proposed operation will adversely affect human health or the environment; and
- Provide recommendations to ensure the proposed facility will not impact human health or the environment.

Key information requirements for the EIS include:

- *Facility Information:*
 - *General*
 - Location of facility (civic address, long/lat and legal description).
 - Property owner.
 - Existing zoning and land use.

- *Facility Design*
 - Method of composting including:
 - Time/Temperature.
 - Mixing procedure.
 - Description of the process from start to finish.
 - Class of compost to be created.
 - Storage/curing.
 - Proposed use/destination of created compost.
 - Maximum amount of compost to be created per year.
 - Maximum amount of compostable material to be imported.
 - Types/amounts of additional materials to be added such as bulking agents.
 - Odor control technology employed.
 - Utilities available at the site (water, power, phone and sewer).

- *Design Drawings and Site Plans*
 - Clearly show all works at the site including:
 - Receiving area.
 - Compost area.
 - Curing area.
 - Leachate tanks (if applicable).
 - Closest water body.
 - Closest drinking water well.
 - Closest neighbor.

- *Characterization of Local Environment and Nearby Receptors:*
 - Inventory of existing and potential uses of the receiving air shed, surface waters and groundwater by humans, plants and animals (the receptors).
 - First Nations use of surrounding land and resources.
 - Soil type/topography.
 - Site weather conditions (rainfall, snowfall, temperatures, typical wind direction).
 - Summary of surrounding property uses/types/buffer areas.
 - Location/proximity of closest resident, commercial establishment and institution such as schools or hospitals.
 - Location/proximity and characterization of closest water body.
 - Location/proximity of closest wells (well records search).
 - Groundwater information/depth/flooding potential.
 - First Nations land claims and/or entitlements.

- *Assessment of Potential Impacts*
 - Characterization of the source materials to be composted (type/source/volume).
 - Composting method and equipment (additional detail to be provided in the facility design and design drawings section).
 - Identify the various receptors most likely to be impacted.
 - Determine whether environmental quality guidelines will be met or exceeded.

- Predict if the proposed operation will adversely affect human health or the environment.
- Identify potential odour impacts during facility operation .
- Identify potential noise impacts during facility operation.

- *Proposed Mitigation Measures*
 - May include reference to measures included in other documents: Operating Plan, Odour Management Plan and Leachate Management Plan.

- *Ongoing Monitoring*
 - Proposed monitoring plan.
 - Monitoring objectives.
 - Monitoring locations.
 - Sampling frequency.
 - Proposed analysis.
 - Sampling and analytical lab methodology.
 - Rationale for proposed sampling program.
 - Proposed assessment techniques.
 - Proposed data quality assurance and quality control (QA/QC) programs.
 - Reporting schedule.

Operating Plan

The Operating Plan shall detail the operation of the composting facility. It is intended to detail day to day operation of the facility such that it will be operated in a safe and environmentally friendly manner. The Operating Plan is to contain mitigation measures the Operator is to undertake in the event of an upset or event that has a potential alter or impair the usefulness of the environment or adversely affect human or ecological health in the area. Key information requirements for the Operating Plan include:

- Contact Person(s).
- Source material(s) receiving procedure.
- Proposed initial processing (blending/bulking):
 - Carbon/nitrogen ratio and nutrient balance.
 - Moisture content.
- Active composting:
 - Time/temperature recording procedure.
 - Moisture/temperature content monitoring and adjustment.
 - Aeration method/proposed frequency.
- Sampling/analysis plan.
- Residual management (foreign material).
- Animal attractant/vector control.
- Contingency plan (fires/spills/complaints/dust).
- Screening/maturation procedure.
- Intended distribution/use.

- Composting Personnel Training Plan ².
- Closure plan.

More information is available in Chapter 9 of the Compost Facility Requirements Guideline.

Odour Management Plan ³

The Odour Management Plan shall detail the various sources of odour from the facility and the potential impacts to neighbouring land uses. This would include types of odours, conditions that may lead to odour releases and the various practices to mitigate and reduce the odour potential. Key information requirements for the Odour Management Plan include:

- Odor predictions for various activities in the process.
- Procedures to minimize odors at each stage of the process.
- Aeration process.
- Mitigation methods.
- Odour complaint procedures.
- Contingency procedures in the event of ongoing odor issues.

More information is available in Chapter 5 of the Compost Facility Requirements Guideline.

Leachate Management Plan ⁴

The Leachate Management Plan shall detail leachate control and treatment. This would also include the prevention of various forms of precipitation from generating excess leachate. Leachate is to be minimized and should be reused when possible to minimize or eliminate effluent disposal. Key information requirements for the Leachate Management Plan include details relating to:

- Roof/cover.
- Impermeable surfaces.
- Leachate collection/reuse.
- Storm water management.
- Leachate storage.
- Leachate disposal/treatment/overflow prevention options.
 - Note: Subsurface disposal will likely require additional information to be provided.
- Groundwater protection.

More information is available in Chapter 6 of the Compost Facility Requirements Guideline.

² An example of a Composting Personnel Training Plan can be found in Appendix B of *Compost Facility Requirements Guideline: How to Comply with Part 5 of the Organic Matter Recycling Regulation*

³ An example of an odour management plan can be found in Appendix C of *Compost Facility Requirements Guideline: How to Comply with Part 5 of the Organic Matter Recycling Regulation*

⁴ An example of a leachate management plan can be found in Appendix D of *Compost Facility Requirements Guideline: How to Comply with Part 5 of the Organic Matter Recycling Regulation*