Water Resources Division

Compost Wastewater & Stormwater Permit Information Compliance Assistance for Yard Clippings Composting Facilities

The Michigan Department of Environmental Quality (DEQ), Water Resources Division (WRD), understands the beneficial use of compost and the potential growth within the yard clippings composting industry. Appropriate management of compost wastewater and stormwater is very important at yard clippings composting facilities. A 2014 study performed by WRD staff indicated that compost wastewater generated at yard clippings composting facilities has the potential to negatively impact waters of the state if not handled properly. Other states nationwide have been working to address this issue and now the Michigan DEQ, WRD is committed to partnering with the yard clippings composting industry in order to advise operators of the appropriate options for handling compost wastewater and stormwater discharged to waters of the state from yard clippings composting facilities.

The intent of this compliance assistance document is to provide yard clippings composting facility operators with the information needed to determine the applicable wastewater discharge permits in order to operate in compliance with state and federal laws.

Environmental Impacts From Compost Wastewater Discharges

Compost wastewater discharges from yard clippings composting facilities can contain significant levels of nutrients, heavy metals, oil and grease, soluble salts, Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), tannins and phenols from decomposing leaves, herbicides, pesticides, fungicides and fecal coliform. The negative impacts to waters of the state from poorly managed compost wastewater include, but are not limited to, the following:

- The high BOD and COD loads cause oxygen depletion in surface water, which could cause fish and aquatic organism mortality. Additionally, high BOD and COD loads can cause oxygen depletion in the soil column, which can result in the release and mobilization of metals in the groundwater.
- The high level of nutrient loads to surface waters stimulates excessive growth of aquatic vegetation and algae causing accelerated eutrophication of water bodies. High levels of nutrients, such as nitrates, are also a human health concern in the groundwater.
- Tannins and lignins are natural dissolved organic acids derived from woody materials that give yard clippings compost wastewater a tea color. Discharges of compost wastewater can negatively impact the natural color of water bodies.
- A high level of fecal coliform in the discharge is a human health concern.

DEQ Statutes Regulating Yard Clippings Composting Facilities

Part 115 Regulations related to management of solid waste:

Links to the yard clippings composting regulations and other composting information are available on the **DEQ Composting website**. Act 212 of 2007 (PA 212) amends Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The statute and administrative rules are available at the **DEQ Solid Waste Statutes and Rules website**.

Newly established yard clippings composting facilities must meet the following water-related setback requirements:

- 100 feet from a body of surface water, including a lake, stream, or wetland
- 2,000 feet from a type I or type IIA water supply well
- 800 feet from a type IIB or type III water supply well
- 500 feet from a church or other house of worship, hospital, nursing home, licensed day care center, or school, other than a home school
- 4 feet above groundwater

Yard clippings composting facilities in operation on December 1, 2007 must be at least 100 feet from a body of surface water, including a lake, stream, or wetland.

All yard clippings composting facilities must prevent the pooling of water by maintaining proper slopes and grades, and properly manage stormwater runoff.

Yard clippings composting facilities must not create a facility as defined in Part 201 Environmental Remediation, of the NREPA. Sites who manage stormwater properly and who do not have any pooling of water may still create a facility as defined in Part 201. For example, well-drained soils may readily transmit compost leachate from the bottom of the compost pile to the groundwater and groundwater contamination may result. It is recommended that yard clippings composting facility operators carefully choose site locations, design the site, and manage the compost piles to avoid creating a Part 201 facility. If you have a concern, contact the DEQ Solid Waste Staff regarding site design.

Discharges to waters of the state are regulated by Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.3101 et seq. Specific sections of Part 31 of NREPA that apply to the discharge of compost wastewater are:

Section 324.3109 (1) which states:

A person shall not directly or indirectly discharge into the waters of the state a substance that is or may become injurious to any of the following:

(a) To the public health, safety, or welfare.

(b) To domestic, commercial, industrial, agricultural, recreational, or other uses that are being made or may be made of such waters.

(c) To the value or utility of riparian lands.

(d) To livestock, wild animals, birds, fish, aquatic life, or plants or to their growth or propagation.
(e) To the value of fish and game.

Section 324.3112 (1) which states:

A person shall not discharge any waste or waste effluent into the waters of this state unless the person is in possession of a v alid permit from the department.

Part 303, **Wetlands Protection of the NREPA requires a permit to dredge, place fill, and/or to maintain a use in a regulated wetland**. This includes site modifications and the placement, processing, and storage of yard clippings compost.

Part 31 Water Resources Protection of the NREPA also includes what is commonly called the "Floodplain Regulatory Authority", which requires a permit for any occupation, construction, filling, or grade change within the 100 year floodplain of a river, stream, or drain. This includes site modifications and the placement, processing, and storage of yard clippings compost.

The DEQ recommends that anyone who intends to operate a yard clippings composting facility contact all applicable federal, state, and local governmental entities to ensure that all legal obligations are met.

Stormwater Discharge Permitting

How to avoid a stormwater permit…
Some yard clippings composting facilities that might otherwise be required to obtain a stormwater permit can implement management practices that will enable them to avoid this requirement, as follows:

1. If the yard clippings composting facility is managed such that no stormwater from the site is discharged to a surface water of the state, a stormwater permit is not required.

2. If the yard clippings composting facility does discharge stormwater from the site to a surface water of the state, but is managed in such a way as to prevent the exposure of stormwater to all relevant composting activities and materials, a stormwater permit is not required. Yard clipping composting facilities that meet these conditions would qualify for a No Exposure Certification.

National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater Permit
Commercial and municipal yard clippings composting facilities that meet all of the following criteria need to obtain an NPDES Industrial Stormwater Permit:

- The facility's activity is categorized under a federally regulated SIC code and / or the facility meets the definition of a yard clippings composting facility under the Part 115 rules. Most commercial yard clippings composting facilities are categorized under SIC code 2875, which is federally regulated. SIC code designation is used to describe what the primary source of revenue for a facility is and / or the industrial activity that employs the most employees. It is common for facilities to have multiple SIC codes to accurately describe the full range of their industrial activities.

- The facility has exposure of industrial materials and / or activities to stormwater.
    - Industrial materials and / or activities associated with yard clippings composting facilities include but are not limited to: vehicles and equipment maintenance, outdoor fuel and chemical storage, dust suppression activities, exposed soil, material loading and staging areas, access and haul roads, vehicle tracking of sediment, etc.
- Stormwater from the site discharges to a surface water of the state.

NPDES Municipal Separate Storm Sewer (MS4) Permit

Municipalities with MS4 permit coverage are required to meet permit requirements for discharges from a yard clippings composting facility to the municipality's regulated MS4. MS4 permits prohibit illicit discharges which are defined as any discharge to, or seepage into, a regulated MS4 that is not composed entirely of stormwater or uncontaminated groundwater. Discharges of contaminated stormwater and compost wastewater would be considered illicit discharges and therefore prohibited under an MS4 permit. These types of discharges would not be considered illicit if they are authorized by an NPDES permit with applicable effluent limitations and monitoring requirements.

Compost Wastewater Discharge Permitting

Regulatory permitting for yard clippings composting facilities can include a NPDES Industrial Stormwater Permit, an Individual NPDES Wastewater Discharge Permit, and/or a Groundwater Discharge Permit.

How to avoid a wastewater permit…

Some yard clippings composting facilities can be properly managed such that compost wastewater is not generated (pooling, ponding, drainage collection, or runoff), and therefore, do not require a discharge permit. To qualify for the exemption from a permit, yard clipping composting facilities must be authorized in compliance with Part 115 and not violate Rule 323.2204 of the Part 22 Groundwater Rules. This rule prohibits potentially injurious discharges, runoff, ponding, pooling, or flooding of adjacent properties, erosion, nuisance conditions, violation of the Part 4 Water Quality Standards, and the creation of a facility as defined by Part 201 of the NREPA. Please be aware that precautions should be taken to avoid violations of Rule 323.2204 even if you do not generate compost wastewater. Contact DEQ Groundwater Discharge District Compliance Staff if you are concerned about the Part 22 exemption criteria.

Yard clippings composting facilities that cannot avoid the generation of compost wastewater may be able to avoid a permit if the compost wastewater is collected in a fully contained (lined) storage structure that meets specific criteria. However, the compost wastewater must not be discharged from the storage structure to surface or groundwater of the state. In this case, options for the legal disposal of collected compost wastewater include:

- Hiring a liquid industrial waste hauler to pump and haul it to a wastewater treatment plant
- Authorized connection to a sanitary sewer system
- Controlled reapplication of the compost wastewater to actively composting piles to promote evaporation if the reapplication does not cause pooling, ponding, or runoff

Please contact Groundwater Discharge Compliance Staff (**Michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/About-Us/Staff-Groundwater-Discharge-Part31.pdf**) for more information about compost wastewater collection and storage standards.

NPDES Individual Wastewater Discharge Permit
Yard clippings composting facilities that discharge compost wastewater to surface waters of the state require an Individual NPDES Wastewater Discharge Permit. Such a permit will include site-specific effluent limitations and monitoring requirements. Individual NPDES Wastewater Discharge Permits will also include stormwater management language if applicable.

Groundwater Discharge Permit
Yard clippings composting facilities that discharge compost wastewater to the groundwater of the state will require a Groundwater Discharge Permit. Such a permit will include site-specific effluent limitations, monitoring requirements, and an acceptable compost wastewater collection and discharge system.

Definitions

For the purposes of this document these definitions are related to yard clippings compost facilities:

Compost Wastewater – A liquid that is comprised of process water; wash water; and/or leachate that ponds, flows laterally from the base of the compost pile, or collects in an under-drainage system. Stormwater that has been allowed to comingle with compost wastewater, as defined, is considered compost wastewater.

Garbage – Means rejected food wastes including waste accumulation of animal, fruit, or vegetable matter used or intended for food or that results from the preparation, use, cooking, dealing in, or storing of meat, fish, fowl, fruit, or vegetable matter.

Groundwater Discharge – Means any direct or indirect discharge of compost wastewater into the groundwater or onto the ground.

Leachate – Liquid that has moved through the compost pile and exits the bottom of the pile.

Process Water – Means water used to wet the compost piles.

Surface Waters of the State – Means lakes, rivers, wetlands, streams, and all other watercourses and waters, including the Great Lakes, within the jurisdiction of the state of Michigan.

Stormwater – Originates during precipitation (rain, snow, and ice) events. It means stormwater runoff, snow melt runoff, ice melt runoff, and surface runoff and drainage. It does not include stormwater that has been allowed to comingle with compost wastewater.

Surface Water Discharge – Means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

Wash Water – Means a liquid that results from the activity of washing vehicles or equipment on site.

Waters of the State – Means groundwaters, lakes, rivers, wetlands, streams, and all other watercourses and waters, including the Great Lakes, within the jurisdiction of the state of Michigan.

Yard Clippings – Compost material that consists of leaves, grass clippings, vegetable or other garden debris, shrubbery, or brush or tree trimmings, less than 4 feet in length and 2 inches in diameter, that can be converted to compost humus. Yard clippings do not include stumps, agricultural wastes, animal waste, roots, sewage sludge, or garbage.

Frequently Asked Questions – Yard Clippings Composting

What if the yard clippings composting facility or property is leased?
The facility operator rather than the property owner must apply for permit coverage.

What if the vehicle washing, equipment washing, and / or maintenance operations are done by a contractor at a yard clippings composting facility?
The compost operator is responsible for all applicable permits and activities conducted on the site. However, a permit is not required if the yard clippings compost operator or contractor is washing only the portion of the vehicle that was carrying compost and that wash water is discharged in a controlled manner to the yard clippings compost pile. The vehicle / equipment wash water must be maintained within the pile and cannot pond, pool, or run off to the ground. No additives (soaps or other chemicals) may be used. If the discharge of vehicle / equipment wash water does not meet these conditions, please contact Groundwater District Compliance Staff for guidance (**Michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/About-Us/Staff-Groundwater-Discharge-Part31.pdf**).

What happens if the regulations are ignored?
If a required applicant ignores the permit application requirement, the individual may be in violation of federal and state law. Violations may result in fines, legal action, or expose the facility to citizen lawsuits. Federal and state statutes allow fines up to $25,000 per day of violation.

Whom do I contact to get information on how to apply for a permit to discharge to waters of the state?
Industrial Stormwater Permits:
Michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/About-Us/Staff-Industrial-Stormwater.pdf

NPDES Individual Permits:
Michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/About-Us/Staff-NPDES.pdf

Groundwater Discharge Permits:
Michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/About-Us/Staff-Groundwater-Discharge-Part31.pdf

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