STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

AGRICULTURAL USE APPROVAL #21-AUA-XXX
for
_____

In accordance with the provisions of Section 11506(1)(g) of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and specifically R 299.4111,_____, located at _____,_____, Michigan (Company), is granted approval by the authorized representative of the Director of the Department of Environment, Great Lakes, and Energy (EGLE) to land apply _____ (Material) produced only at the _____, Michigan, facility.

This document provides the aforementioned Company with the approved procedures and conditions whereby the Company may land apply or otherwise dispose of the Material. The application of the Material to land shall be in accordance with this approval and is based on the information submitted by the Company in Appendix A.

The Company and the Director agree to the following conditions:

SECTION 1

The Company may manage the Material, which is generated from _____, in accordance with the conditions of this document and other appropriate and applicable state and federal laws including, but not limited to, the requirements for land application of the Material under the provisions of Title 40 of the Code of Federal Regulations, Part 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices.

SECTION 2

If the Material is to be applied to agricultural land, the application shall be in accordance with the following conditions and restrictions:

A. Restriction on Winter Application

The Company shall ensure that the Material is not applied to the soil during the winter or to any sites where the soil is frozen or covered with snow unless:

1. Application of the Material is done in accordance with Section 2.CC of this approval.

2. A plan for winter application has been submitted and approved by the Materials Management Division (MMD). A winter application plan shall

include measures necessary to verify there will be no adverse impact on groundwater or surface water including a hydrogeological study and development of a groundwater monitoring program for each site that is proposed to receive the Material under such conditions, unless justification is provided to show that a hydrogeological study and groundwater monitoring program is not warranted.

B. Sampling and Analyses

1. The Company shall analyze a representative sample of the Material at least 6 to 12 weeks prior to each land application event. The sample collection and analysis shall be done in accordance with the United States Environmental Protection Agency's (US EPA's) methods described in SW-846 or other US EPA methods, if authorized by EGLE, MMD. The Material shall be analyzed for total concentrations of the following parameters contained in the Solids and Nutrients list and reported on a dry weight basis. In addition, on an annual basis, a representative sample shall be collected and analyzed for the parameters contained in the Toxicants list. The parameters shall be analyzed using the levels of detection contained in Appendix B.

Solids and Nutrients	**Toxicants**
Percent Dry Solids	Arsenic (milligrams/kilograms [mg/kg])
Percent Total Kjeldahl Nitrogen	Barium (mg/kg)
Percent Ammonium Nitrogen	Cadmium (mg/kg)
Percent Nitrate Nitrogen	Chromium (mg/kg)
Percent Phosphorus	Copper (mg/kg)
Percent Potassium	Lead (mg/kg)
Calcium (mg/kg)	Mercury (mg/kg)
Magnesium (mg/kg)	Molybdenum (mg/kg)
Sodium (mg/kg)	Nickel (mg/kg)
Chloride (mg/kg)	Selenium (mg/kg)
Sulfate (mg/kg)	Silver (mg/kg)
Biological Oxygen Demand (mg/kg)	Zinc (mg/kg)
	Aluminum (mg/kg)
	Iron (mg/kg)
	Boron (mg/kg)
	Volatile Organic Compounds (US EPA Method 8260 "Plus")
	Semi-volatile Organics (US EPA Method 8270)

If the samples, taken in accordance with these requirements over a two-year period, demonstrate that the chemical analysis of the Material is homogeneous, the Company may petition the MMD for a reduced sampling and testing protocol.

2. The Company shall ensure that representative samples are obtained from each structure from which the Material may be removed for land application. Alternate sampling protocols may be submitted for approval by the MMD.

3. The MMD may request additional analysis due to circumstances such as, but not limited to, changes in applicable laws, substantial changes in wastewater treatment plant operations, or significant variability in chemical analytical data.

C. Crop Fertilization

The Material shall be applied only to agricultural lands that need fertilization as demonstrated by results of laboratory soil tests identified in Section 2.D of this document. These fields must currently be in use, or planned for use in the next growing season, for crop production or harvest. It is highly recommended that fall applications of Material be restricted to fall planted crops such as winter wheat, forage stands, or for silvicultural use.

D. Soil Sampling and Analysis

Prior to application, the Company shall ensure that soil samples are obtained in accordance with Michigan State University (MSU) Cooperative Extension Service Bulletin E-498 and testing is done to determine soil pH, liming requirements, and nutrient needs according to procedures and recommendations outlined in MSU Cooperative Extension Service Bulletin E-550a or applicable updates for each site that is to receive the Material.

E. Fertilizer Equivalency of the Material

The Company shall calculate the fertilizer equivalency of the Material on a per dry ton basis, using the average of the results of the appropriate Material analysis obtained in compliance with Section B.1 and the following formulas:

Phosphorus (P) (as P_2O_5)

Percent Total P X 46 = pounds Phosphate (P_2O_5) per dry ton

Potassium (K) (as K_2O)

Percent Total K X 24 = pounds of Potassium (K_2O) per dry ton Available Nitrogen

Percent Ammonium-N (NH_4^+) + % Nitrate-N (NO_3^-) = % Inorganic-N

Percent TKN-N (Kjeldahl Nitrogen) - % NH_4^+ = % Organic-N

(Percent Inorganic-N X 20) + (Percent Organic X 4) = Pounds Available Nitrogen/dry ton

F. Material Application Limits

The Company shall ensure those annual applications of the Material and constituents contained in the Material applied to agricultural land do not exceed any of the following:

1. The agronomic rate for the crop to be grown on the site subsequent to the application of Material to the site. Agronomic rates are defined as those rates that provide the nitrogen and other nutrient needs of the crop, but do not overload the soil with nutrients or other constituents, which may eventually leach to groundwater, limit crop growth, or adversely impact soil quality.

2. The nitrogen addition recommendation as stated in the results of the soil test.

3. 0.23 pounds/acre/year of cadmium

4. The Company shall not apply Material that is hazardous waste under the federal Resource Conservation and Recovery Act of 1976 or Part 111, Hazardous Waste Management, of the NREPA, and the associated administrative rules.

5. The limits established in this Section shall take into account all previous applications of biosolids, wastes, septage, or wastewater to a site from either the Company's facility or any other business or facility, such that the agronomic rate for nutrients and the annual and cumulative loading of metals and organic pollutants are not exceeded.

6. The concentration of contaminants that would cause the creation of a "facility" as defined by Part 201, Environmental Remediation, of the NREPA, as contained in Appendix C. Activity inconsistent with this approval does not constitute a permitted release as defined in Part 201 of the NREPA.

G. Agronomic Rate

The Company shall ensure that the agronomic rate of Material application to agricultural land, as required in Section 2.F.1, is based upon the Material analysis, as required in Section 2.B.1, the formulas for determining the Material's fertilizer equivalency, as required in Section 2.E, and the results and recommendations from soil tests conducted, as required in Section 2.D.

Furthermore, the agronomic rates for Material application shall be calculated considering all nutrient additions to the site from commercial fertilizer and animal manure.

H. Phosphorus Limit

1. The Company shall ensure that when soil test levels of Bray P1 phosphorus reach 150 pounds per acre (75 parts per million [ppm]), the annual application of phosphorus contained within the Material does not exceed the phosphorus needs of the specific crop being grown on the site receiving the Material.

2. The Company shall ensure that no Material is applied to any site where soil test levels of Bray P1 phosphorus equal or exceed 300 pounds per acre (150 ppm) and that no Material is applied to such a site until the soil test levels of Bray P1 phosphorus have decreased to no more than 250 pounds per acre (125 ppm), at which time the Company may apply the Material pursuant to the conditions established in Section 2.G.1 of this approval.

I. Site Selection

The Company shall ensure that the Material is not applied to a site previously used for land application of biosolids, wastes, septage, or wastewater without written permission of the MMD.

J. Storage

The Company shall only store the Material in an appropriately constructed structure that does not result in an unpermitted discharge to the environment or cause nuisance conditions, pursuant to the NREPA, and the rules promulgated under Part 115 or other applicable regulations. The Material may be stored on-site at the aforementioned facility in _____, Michigan. Any storage at any location shall be in accordance with applicable state and federal regulations.

K. Stockpiling

The Company shall ensure that the Material is not stockpiled or staged at any application site, for a period to exceed 30 days, in an unconfined manner, which may cause an unpermitted release to the environment or cause nuisance conditions. The temporary staging areas shall comply with the isolation distances for surface application specified in Section 2.O of this approval.

L. Incorporation and Application to Forage Crops

The Company shall ensure that each load of the Material, which is surface applied to agricultural soil, is incorporated into the soil within 48 hours after application to land, unless approval for an alternate period is obtained from the MMD district supervisor. If the Material is surface applied to an existing forage stand, which cannot be disturbed by incorporation, it must be applied within 7 days following harvest of the forage. Crop harvest means the gathering and physical removal of a crop from the site on which the crop was grown.

M. Pooling and Ponding

The Company shall ensure that the Material is not applied in a manner that adversely restricts soil permeability or causes ponding, pooling, or runoff in the area.

N. Slope Limit

The Company shall ensure that the Material is not surface applied to slopes exceeding a 6 percent grade that are vegetated or injected into slopes that exceed a 12 percent grade.

O. Isolation Distances

The Company shall ensure that the Material is not applied within the following isolation distances for the application methodology used at the application site:

	Application Methodology Distance in Feet	
	Surface	Subsurface
Municipal Water Supply	2,000	2,000
Domestic Wells	150	150
Homes and Commercial Buildings	500	100
Public Roads and Property Lines	150	25
Surface Water	150	50

P. Site Delineation

The Company shall ensure that flags or other markers, to delineate areas that are not to receive Material, are placed onto the site before land application begins.

Q. Depth to Groundwater

The Company shall ensure that the Material is not applied to an application site unless the water table is at least 30 inches below the surface of the soil at the time of application.

R. Direct Discharges

The Company shall ensure that the Material or constituents contained in the Material do not come into direct contact with surface water, groundwater, or wetland area as defined by the NREPA, and the administrative rules promulgated thereunder, unless approved or permitted by EGLE.

S. Erosion and Sedimentation Control

The Company shall ensure that application of the Material does not cause erosion or sedimentation in accordance with Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the administrative rules promulgated under Part 91.

T. Prohibition of Mixture with Other Wastes

Prior to application of the Material, the Company shall ensure that the Material covered in this approval is not mixed with other wastes or wastewaters from the subject facility or from other facilities that are not inert as defined by Part 115 or the administrative rules promulgated under Part 115, unless appropriate approvals or permits as required by state and/or federal law are obtained.

U. Air Quality

The Company shall ensure that the Material removed, stored, transported, or land applied from its treatment or storage facility is managed in such a way so as to prevent nuisance conditions or the release of fugitive dust or visible emissions in violation of the Part 55, Air Pollution Control, of the NREPA, or the administrative rules promulgated under Part 55. EGLE may require the land application of Material to cease if the EGLE, Air Quality Division, verifies a violation of R 336.1901 of the Part 55 Rules.

V. Transport and Prevention of Spills

The Company shall ensure that vehicles used to transport the Material comply with the Michigan Vehicle Code, 1949 PA 300, as amended (MVC), and the rules promulgated under the MVC. The Material shall be covered to prevent loss to the environment during transport and delivery to application sites.

W. Compliance

The Company shall ensure that all contractors, subcontractors, and other persons involved with the land application of the Material are trained on the conditions of this AUA and comply with these conditions.

X. Accurate and Uniform Application

The Company shall ensure that appropriate, calibrated equipment is used to apply the Material to assure accurate and uniform distribution to all application sites.

Y. Other Disposal

The Company shall ensure that all Material not land applied in accordance with the conditions and restrictions contained herein are disposed of at an appropriately licensed disposal facility.

Z. Recordkeeping

The Company shall maintain records on the amount of the Material applied at each application site, the site identification number (per the Site Identification Form [SIF] contained in Appendix D), and property description of each application site used. The Company shall maintain all records for five years after the Material was last applied and shall make them available for review by the staff of MMD, upon request.

AA. Annual Report

By October 31st of each year, a report shall be submitted to EGLE by the Company listing the total quantity of Material produced per month for the preceding year, a listing of the land application sites, and the quantity of Material applied to each site, the total amount of Material land applied, and the total amount of Material disposed in a manner other than land application. The report shall cover the period between October 1st of the previous year and September 30th. The report shall be sent via email at EGLE-MMD-SWS-Reporting@michigan.gov.

BB. EGLE Access and Informed Consent

The Company shall allow access by authorized representatives of EGLE to all land receiving the Material that is owned by the Company. For those sites that the Company does not own, the Company shall obtain the landowner(s) consent to apply the Material, in writing, prior to placing the Material on the land. The written consent shall indicate that the landowner has been informed of the nature of the Material and grants the Company permission to apply the Material to a specific site in accordance with the terms and conditions specified in this AUA. The written consent shall include a statement allowing authorized representatives of EGLE access to the sites. If the consent is terminated by the landowner(s), the site is removed from the Company's land application program, or there is a change in land ownership, the Company shall notify the MMD in the yearly report required in Section 2.AA. Upon termination of consent by the landowner(s) or change in land ownership, the Company shall immediately cease application of the Material to the application site until written consent, consistent with this Section, is obtained from the new landowner(s) and a copy is submitted to the MMD.

CC. Winter Application

EGLE does not approve of winter application of waste materials to land on a continual basis. If it is necessary for the Company to land apply the Material on a continual basis, refer to Section 2.A of this approval. Those facilities that need to winter apply because of inadequate storage for winter, equipment failure, or unavailable alternate disposal options shall only winter apply the Material in accordance with the following:

1. The facility shall notify the MMD, in writing, 21 days in advance of the need to winter apply any time from December 21 to March 21. The notification shall include, at a minimum, an explanation of the need to winter apply, the maximum volume of the Material intended to be winter applied and justification for that volume, a mass balance for the proposed application period, and an explanation of how existing storage will be utilized to the maximum extent possible to minimize the volume of Material to be winter applied. The facility shall also submit a plan describing the actions that will be taken to ensure that land application will not be needed for subsequent winters. The MMD will provide timely review of the notification, will approve or deny the plan verbally, and shall follow up in writing.

2. All Material that is winter applied shall be subsurface injected such that no Material is present on the land surface or in the injection furrow in contact with ambient air. The Material must be completely covered by soil in the injection furrow to minimize odors related to the Material, to reduce the potential for vector attraction, and to eliminate the possibility of off-site movement of the Material via surface runoff.

3. The slope of winter application sites shall not exceed 6 percent. All injection applications shall be done perpendicular to the slope to minimize rill erosion in the ejection furrows from melt waters and precipitation events.

4. Soil frost shall not exceed three inches.

5. For each winter application site, the facility shall submit the information included in the Sample SIF, with all the information required to be submitted in accordance with Section 3 of this approval. The information included in the Sample SIFs shall be received by the MMD at least three weeks prior to winter application, unless the MMD approves an alternate time frame due to unforeseen circumstances. At the end of the three-week period, if the MMD has not identified the reasons that a site should not be used, the site may be used by the facility for winter application.

6. Winter application of the Material shall not degrade groundwater or surface water.

7. Winter application of the Material shall be in accordance with these and all other conditions of this approval.

THE FOLLOWING CONDITIONS APPLY ONLY TO MATERIALS WITH A HUMAN SEWAGE COMPONENT WHICH ARE LAND APPLIED:

DD. The Company shall ensure that crops grown for direct human consumption are not grown on any site which has received Materials for a period of 18 months subsequent to the final application of the Materials to the site. The Company

shall ensure that food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of the Material when the Material remains on the land surface for four months or longer period prior to incorporation into the soil. The Company shall ensure that food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of the Material when the Material remains on the land surface for less than four months prior to incorporation into the soil.

EE. The Company shall ensure that public access to any site which has received the Material is restricted for no less than 12 months subsequent to the last application of the Material to the site.

FF. The company shall ensure that grazing animals whose products are consumed by humans are not allowed to graze on land which has received the Material for a period not less than 30 days subsequent to the application of the Material to the site upon which the animals are to graze.

SECTION 3

A. Site Information Submitted to EGLE

Prior to applying the Material to a land application site, the Company shall submit the information required on a SIF to the supervisor of the _____District Office of the MMD listed in Appendix E. The Company shall also submit written confirmation from the landowner that the site has not been, and will not be, utilized for septage, biosolids (sludge), or any other regulated waste disposal. The SIF shall be received at least ten days prior to application, unless the MMD approves an alternate period due to unforeseen circumstances. At the end of the ten-day period, unless an alternative period has been approved, if the MMD has not identified the reasons why a site should not be used, the site may be used by the Company for land application of the Material in accordance with these conditions.

B. Site Information Submitted to Neighbors and Local Officials

The Company shall ensure that copies of page 1 of the SIF, a plat map identifying the application site(s), and a letter explaining the proposed activity (i.e., that the Material will be applied to the lands indicated on the SIF) are received by the township supervisor, local health department, and all property owners whose lands are within 200 feet of the area upon which the Material will be applied. The form and letter shall be sent at least three weeks prior to application, unless the MMD approves an alternative period due to unforeseen circumstances. If the Company demonstrates that it is unable to provide notice as required by this subsection, the MMD may waive, in writing, portions of the notice requirements or allow the Company to use a substitute means of providing notice.

SECTION 4

Operations Manual

The Company shall develop and maintain a manual that outlines how the Company and its employees will comply with the requirements of Sections 1 through 3 and shall make the manual available for review by the staff of the MMD, upon request. The manual shall also include an emergency spill response plan that meets the requirements contained in the Part 5 Rules, R 324.2001 through R 324.2009 of the Michigan Administrative Code, for responding to vehicle accidents involving transport equipment.

SECTION 5

EGLE Access to Facility

Authorized representatives of EGLE, upon presentation of their credentials, shall have access to obtain copies of any records, logs, and manuals and shall be allowed to enter the Company facilities at any time in order to observe the operations; verify measurements; collect and analyze samples of the soil, air, Material, wastewater, groundwater; and inspect any treatment facilities, monitoring methods, or equipment.

SECTION 6

Term of Authorization to Land Apply

The Company is authorized to begin land applying the Material pursuant to the conditions of this document on the effective date. The effective date of the approval is the date signed by the Manager of the Solid Waste Section. This authorization to land apply, including sites identified and used per Section 3 of this document, shall expire five years from the effective date.

SECTION 7

Part 201 Liability

In the event that materials placed on the land for beneficial reuse are determined by the department to pose unacceptable risks to public health, safety, welfare, or the environment, a person responsible for the placement or disposal of those materials shall remain liable for the performance of response activities and response activity costs as provided by Part 201.

SECTION 8

Reasons for Revocation of Approval

This approval shall immediately become void for any of the following reasons:

1. The Company does not comply with the conditions of this approval.

2. The Material application results in a release in violation of Part 31, Water Resources Protection, of the NREPA.

2. Additional information demonstrates that the Material is not appropriate for agricultural or silvicultural use.

3. Additional information demonstrates that the Material is causing environmental contamination.

4. The Company makes changes in operations or conditions that result in changes in the chemical characteristics of the Material and render it unsuitable for application to agricultural or silvicultural soils.

5. New state or federal regulations are promulgated that would cause this approval to be invalid.

Violation of the conditions of this approval is subject to the enforcement provisions of Part 31, Part 55, Part 91, Part 111, Part 201, and Part 115 or other applicable state and federal laws/statutes.

STATE OF MICHIGAN
Department of Environment, Great Lakes, and Energy

By: _____
Rhonda S. Oyer, Manager
Solid Waste Section
Materials Management Division

Date: _____

Attachments