



AUTHORIZATION TO OPERATE A LAND TREATMENT SYSTEM
FOR THE
AGRICULTURAL UTILIZATION OF SLUDGE

Pursuant to the provisions of 7 Del. C., §6003

Kent County Levy Court
555 Bay Road
Dover, Delaware 19901

is hereby granted a permit to operate land treatment systems for the agricultural utilization of Class B sludge generated by the Kent County Wastewater Treatment Facility. This permit is limited to the application of stabilized Class B sludge from the Kent County Wastewater Treatment Facility at agronomic rates to the site designated in this permit, known as the Vineyard Farm.

Should Class A sludge from the Kent County Wastewater Treatment Facility be utilized on the Vineyard Farm, the Class A sludge shall be prepared and applied in accordance with State Distribution and Marketing (DM) Permit Number DM 2402-K-03 (as amended), Part III, B. of the Department of Natural Resources and Environmental Control's (Department) Guidance and Regulations Governing the Land Treatment of Wastes, the Kentorganite Class A Biosolids Fertilizer Product label, and in accordance with applicable requirements in this permit.

The application rates, monitoring requirements and other permit conditions are set forth in Parts I, II and III hereof.

Gordon Woodrow, Program Manager
Commercial and Government Services
Division of Water
Department of Natural Resources
and Environmental Control

Date Signed

Part I

A. GENERAL DESCRIPTION OF OPERATION

The operation involves the land application of Class B stabilized sludge from the Kent County Wastewater Treatment Facility onto the site location listed below. Class A sludge generated at the Kent County Wastewater Treatment Plant may also be land applied to the site location listed in this permit. Class B sludge shall be delivered to the site in accordance with Delaware Waste Transporters Permit No. OH-11.

Sludge stabilization of Class B sludge will be achieved by an approved alternative found in Part III, (B), Section 133 or 134 of the Guidance and Regulations Governing The Land Treatment of Wastes, and Title 40 Code of Federal Regulations, Part 503, Standards for the Use or Disposal of Sewage Sludge. Should Class A sludge be utilized at the Vineyard Farm, stabilization of Class A sludge shall be in accordance with State Permit Number DM 2402-K-03 (as amended).

B. SITE LOCATION

1. The Vineyard Farm North and South Fields Site Description:

The site consists of one parcel of land consisting of approximately 148 acres, of which approximately 119 acres are suitable for land application. The Vineyard Farm is located on the east side of Carpenter Bridge Road (Road #35) approximately 1 mile southwest of Frederica.

Tax parcel number: SM-00-140.00-01-76.00-000



Note: Refer to land application map in Exhibit V-3 sheet 1 of the March 2016 project development report (PDR) for the specific land application area, seasonally restricted areas, monitoring well locations and exclusion areas. Refer to Exhibit I-1 for a map showing land application acreages, setback areas and sensitive areas. The sensitive area in the northeast part of the north field shall not have sludge applied to the surface without incorporation and shall never have sludge applied if rainfall is forecast within 72 hours of a predicted rain event. The sensitive area noted in the southeast area of the south field shall be limited to seasonal application (May through August) unless the groundwater level is confirmed to be at least 20 inches below the depth of tillage prior to sludge application in this area.

C. REGULATORY AND SUPPORTING DOCUMENTS:

The land treatment operations shall be conducted in accordance with the following documents:

1. The Department of Natural Resources and Environmental Control's Guidance and Regulations Governing the Land Treatment of Wastes, Part III, (B); (October 1999 Revision);
2. Title 40 of the Code of Federal Regulations Part 503, Standards for The Use and Disposal of Sewage Sludge, Final rule date February 19, 1993;
3. Title 3, Chapter 22, The Department of Agricultural Nutrient Management Law;
4. State Permit Number DM 1902-K-03;
5. The Letter of Intent dated December 11, 2013;
6. Hydrogeologic Evaluation for Land Application of Biosolids at the Vineyard Farm dated July 28, 2014;
7. The Soils Evaluation for Land Application of Biosolids for Vineyard Farm, Carpenters Bridge Road dated August 4, 2014.; and,
8. The revised Project Development Report (PDR) for the Vineyard Farm, dated March, 2016.
9. The request to renew State Permit Number AGU 2104-K-03 dated May 29, 2026.

D. SLUDGE APPLICATION LIMITATIONS

1. During the period beginning on the effective date and lasting through the expiration date the permittee is authorized to operate land treatment site as identified on page 3 of this permit for the application of stabilized sludge at agronomic rates. The timing of sludge application to the fields, as well as the quantity and quality of sludge to be land applied, shall be specified in an annual Nutrient Management Plan (NMP) and in accordance with the limitations below.
2. Sludge shall be applied at agronomic rates established for the subsequent cropping plan. Mineralized nitrogen from prior application must be considered in calculating nitrogen application rates.
3. Sludge shall be applied at a rate to meet, but not exceed, the Plant Available Nitrogen (PAN) requirement for the crop(s) grown. All nutrient application rates shall be determined by a Delaware Certified Nutrient Consultant. Estimated crop nutrient uptake requirements shall be based on University of Delaware Cooperative Extension Service crop fertility recommendations and based upon realistic crop yields. The Department may approve alternate fertility recommendations should University of Delaware Cooperative Extension Service crop fertility recommendations not be available for the planned crop rotation. PAN calculations shall also include any residual mineralized nitrogen from previous sludge application. The cropping plan and the nutrient requirement for the crop(s) shall be submitted to the Department for review and approval, prior to the commencement of sludge application activities.
4. Supplemental additions of fertilizers (i.e., commercial fertilizer, manure, Class A biosolids, etc.) shall be limited to amounts necessary to meet crop needs using the written recommendations of a Delaware Certified Nutrient Consultant for the specified crop and anticipated yield.
5. Fields with "high" phosphorus soil levels as defined by Title 3, Chapter 22 of the Delaware Code (the Nutrient Management Law) and the Delaware Nutrient Management Commission (150 FIV) shall be in compliance with a current Nutrient Management Plan and phosphorus management requirements in the Nutrient Management Law. Utilization of the phosphorous site index (PSI) and phosphorus management strategies, as recommended by the University of Delaware Cooperative Extension, may also be utilized to comply with the Nutrient Management Law.
6. For any portions of the sludge application area where the depth to seasonal high-water table is less than 20 inches but greater than 12 inches, application is limited to May, June, July or August. Sludge shall only be applied when the actual water table depth is at least 20 inches below the maximum depth of tillage as defined in Part I, K. 3 and pursuant to Part III, (B), Subsection 138.6 of the Guidance and Regulations Governing the Land Treatment of Wastes.
7. The depth to water of all observation wells and/or monitoring wells surrounding

application fields must be monitored and the results recorded before land application begins each calendar year. Groundwater level measurements shall increase to monthly during land application activities. The frequency of water-level monitoring must increase to weekly in any monitoring well containing a depth to water reading that is within 3 feet of the ground surface. Should water-level readings indicate that areas of the sludge field have or likely have a water table that is within 20 inches of the ground surface, sludge application in these areas must cease immediately and be discontinued until the limiting situation has passed. Annual water-level monitoring can resume once the DTW readings drop to less than 3 feet below ground surface. The Department may also require hand auger borings to confirm depth to groundwater prior to the application of Class B biosolids.

8. Only sludge, which has been treated to Process to Significantly Reduce Pathogens (PSRP) or Process to Further Reduce Pathogen (PFRP) requirements, as defined in Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes, shall be applied to any of the land treatment sites in this permit.
9. A sufficient amount of lime to adjust the soil pH to a value of 6.2 or above shall be applied to the site prior to sludge application. If lime stabilized sludge is to be utilized for land application, a sufficient amount of lime stabilized sludge shall be added to the application site to raise the pH to 6.2 or above at the time of application.
10. Sludge may not be applied when the ground is frozen, saturated or covered with snow or during periods of rain or runoff. Sludge may not be applied from December 7 through February 15 unless the permittee receives written approval from the Department to land apply sludge during this period.
11. Fields that receive land application of sludge must have appropriate vegetation established and harvested during the growing season(s) to receive nutrient uptake credits. Fields must be planted with appropriate vegetation or a cover crop within one (1) month of completing sludge application, unless prohibited by weather conditions in which case vegetation must be established as soon as practicable.
12. The sludge shall be applied so that the application is uniform. As long as no-till farming is continued to be practiced at the Vineyard Farm, applied sludge may remain unincorporated provided that sludge migration from the application area does not occur and odors and nuisances are not created by the sludge.
13. If objectionable odors, vectors, or other nuisance conditions from land application activities regulated under this permit impact neighboring properties, the Department may require the addition of lime (or another odor mitigating substance) to the land application fields after application of sludge and/or require lime to be added to sludge prior to land application. In addition, if the Department determines nuisance vectors from land application activities are affecting neighbors, pest management practices shall be immediately

implemented by the utilization of appropriate pesticides in accordance with State and Federal requirements. The Department may require additional odor, vector, and/or nuisance control measures to be taken for any sludge application under this permit, if deemed necessary.

14. At minimum, crop harvest restrictions in Part III, (B), Section 138.3 of the Guidance and Regulations Governing the Land Treatment of Wastes, shall be implemented.
15. Buffer zones established pursuant to Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes and the 2016 PDR (as amended), whichever are more stringent, shall be maintained at all times for sludge application. A minimum application setback distance of 200 feet from western edge of the right of way on Carpenter Bridge Road will be maintained. Additionally, an application setback in accordance with engineering drawing V-3 Sheet 1, from the Kent County Vineyard Farm 2016 Project Development Report, must be maintained from Carpenter Bridge Road and the southeast corner of the South Field. During the "Pre-Start Up" inspection as required in Part III, 6., of this permit, the Department may require increased buffer zones as allowed in Section 138.2.2 of Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes. Considerations may include adjacent land use, type of sludge, sludge application method, sludge application rate, sludge quality and level of treatment, land slopes, vegetative cover used, the nature of surrounding bodies of water and any other factors considered relevant by the Department.
16. Public access to the sludge application area must be restricted for at least twelve (12) months after sludge application, unless sludge has been treated
17. No sludge shall be applied if sample analysis yields pollutant concentrations in excess of the following values:

Arsenic	75 mg/kg	Cadmium	85 mg/kg	Chromium	3000 mg/kg
Copper	4300 mg/kg	Lead	840 mg/kg	Mercury	57 mg/kg
Molybdenum	75 mg/kg	Nickel	420 mg/kg	Selenium	100 mg/kg
Zinc	7500 mg/kg	PCB	3 mg/kg		

E. GROUNDWATER LIMITATIONS

Application of sludge to the designated fields shall not cause groundwater quality to exceed applicable Federal or State drinking water standards on an average annual basis. If down-gradient public or private water supply wells exceed applicable Federal or State drinking water standards as a result of the land application of sludge, the permittee shall be required to provide a Department-approved alternative potable water supply to the affected parties at no cost to them.

F. MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to apply stabilized sludge at agronomic rates to the sludge application sites found in Part I, of this permit. Applications shall be monitored by the permittee as specified below:

1. STABILIZED SLUDGE

- a. When Class B sludge is prepared for land application in accordance with this permit, monitoring is required as specified below:

Parameter	Unit Measurement	Minimum Frequency	Sample Type
Moisture Content	percent	Monthly	Composite
Total Nitrogen as N (Moist & Dried)	percent	Monthly	Composite
Organic Nitrogen as N (Moist & Dried)	percent	Monthly	Composite
Ammonium and Nitrate Nitrogen as N (Moist & Dried)	percent	Monthly	Composite
pH	S.U.	Monthly	Composite
Volatile Solids	percent	Monthly	Composite
Phosphorus as P (dry weight basis)	percent	Monthly	Composite
Potassium (dry weight basis)	percent	Monthly	Composite
Aluminum (dry weight basis)	mg/kg	Monthly	Composite
Arsenic (dry weight basis)	mg/kg	Monthly	Composite
Cadmium (dry weight basis)	mg/kg	Monthly	Composite
Chlorides (dry weight basis)	mg/kg	Monthly	Composite
Chromium (dry weight basis)	mg/kg	Monthly	Composite
Copper (dry weight basis)	mg/kg	Monthly	Composite
Lead (dry weight basis)	mg/kg	Monthly	Composite
Mercury (dry weight basis)	mg/kg	Monthly	Composite
Molybdenum (dry weight basis)	mg/kg	Monthly	Composite
Nickel (dry weight basis)	mg/kg	Monthly	Composite
Selenium (dry weight basis)	mg/kg	Monthly	Composite
Sodium (dry weight basis)	mg/kg	Monthly	Composite
Zinc (dry weight basis)	mg/kg	Monthly	Composite
Fecal Coliform (MPN dry wt. basis)	colonies/g	Monthly	Composite
PCB's (dry weight basis)	mg/kg	Annually	Composite
PFAS (dry weight basis)	ug/kg	Quarterly [^]	Composite
Priority Pollutant Scan	-----	Every 3 years	Composite

Sludge samples shall be collected following dewatering from a location that allows for representative sampling of the sludge. All sludge samples shall be taken and analyzed in accordance with Section 151 of the Department's Guidance and Regulations Governing the Land Treatment of Wastes. See Part I J. for reporting frequencies.

[^] See Part I. G for additional information.

NOTE: The 126 priority pollutants list can be found in 40 CFR, Part 423, Appendix A, 1987

2 SLUDGE STABILIZATION PROCESS MONITORING

All approved Class B sludge prepared for land application at the site must meet the requirements in Part III, Section 133.1.2.5 (lime stabilization) of the Guidance and Regulations Governing the Land Treatment of Wastes. The permittee must obtain approval from the Department to utilize a different Class B stabilization process. If Class B sludge for application under this permit is not produced in a calendar year, the permittee shall be exempt from the sludge stabilization process monitoring requirements of this permit. See Part I, J. for reporting requirements.

3 VECTOR ATTRACTION REDUCTION

Vector attraction reduction must be achieved by pH adjustment, "pH of sewage sludge shall be raised to 12 or higher by alkaline addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours" or other alternative methods for achieving vector attraction reduction found in Subsection 135 of Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes, may be employed with prior Department approval.

4. SOIL MONITORING

Soil monitoring shall commence at least thirty (30) days prior to land application at the locations and frequency outlined below. The permittee shall be exempt from the requirements of this section if no sludge is land applied. A copy of all soil monitoring results required by this permit shall be submitted to the Department in accordance with Part I, J.2 of this permit. The Department may modify the sampling frequency based upon review of continuing or additional analyses.

Parameter	Unit Measurement	Minimum Frequency	Sample Type
pH	S.U.	Annually	Composite
Phosphorus as P (dry weight basis)	mg/kg	Annually	Composite
Potassium (dry weight basis)	mg/kg	Annually	Composite
% Organic Matter	percent	Annually	Composite
Arsenic (dry weight basis)	mg/kg	*	Composite
Cadmium (dry weight basis)	mg/kg	*	Composite
Copper (dry weight basis)	mg/kg	*	Composite
Chromium (dry weight basis)	mg/kg	*	Composite
Lead (dry weight basis)	mg/kg	*	Composite
Mercury (dry weight basis)	mg/kg	*	Composite
Molybdenum (dry weight basis)	mg/kg	*	Composite
Nickel (dry weight basis)	mg/kg	*	Composite
Selenium (dry weight basis)	mg/kg	*	Composite
Zinc (dry weight basis)	mg/kg	*	Composite
Aluminum (dry weight basis)	mg/kg	Annually	Composite
Magnesium (dry soil basis)	mg/kg	Annually	Composite
Manganese (dry soil basis)	mg/kg	Annually	Composite
Iron (dry weight basis)	mg/kg	Annually	Composite
Sodium (dry soil basis)	mg/kg	Annually	Composite
PFAS (dry weight basis)	ug/kg	Every 5 years [^]	Composite

[^] At minimum, one soil sample shall be collected for every 10 acres. See Part 1.G for additional information.

NOTE: Composite soil samples representing each soil series identified within each sludge application area shall be collected. Soil chemistry testing shall be in accordance with the Methods of Soil Analysis published by the American Society of Agronomy. See Part I, J.1 for reporting requirements.

* If Class B sludge is applied during the effective period of this permit, the parameters above marked with a * shall be monitored at least once during the effective period of this permit. Parameters marked with a * are not required to be sampled if only "Class A" "EQ" sludge is applied during the effective period of this permit.

5. PLANT TISSUE AND GRAIN ANALYSIS

None is required at this time.

6. GROUNDWATER MONITORING

Parameter	Unit Measurement	Minimum Frequency	Sample Type
Depth to Water	hundredths of a foot	Annually	In-Situ
Dissolved Oxygen	mg/l	Annually	Field Test
pH	S.U.	Annually	Field Test
Specific Conductivity	UMHOS/CM	Annually	Field Test
Temperature	°C	Annually	Field Test
Ammonium as N	mg/l	Annually	Grab
Nitrate Nitrogen as N	mg/l	Annually	Grab
Total Nitrogen as N	mg/l	Annually	Grab
Total Phosphorus	mg/l	Annually	Grab
Total Dissolved Solids	mg/l	Annually	Grab
Chloride	mg/l	Annually	Grab
Sodium	mg/l	Annually	Grab
PFAS	ng/L	Every 6 Months^	Grab

- a. Groundwater samples shall be collected and analyzed individually from all monitoring wells (MW-1 = 246596, MW-2 = 246598, MW-3 = 246597, MW-4 = 246599, MW-5 = 246600, "MW-A" = 256986, and "MW-B" = 256994). All groundwater samples shall be taken in compliance with the monitoring requirements specified above and shall be taken at each monitoring well in accordance with procedures approved by the Department and listed in the Department's Field Manual for Groundwater Sampling (March, 1988). A request to suspend groundwater monitoring may be made when sludge has not been applied for three or more consecutive years.
- b. Groundwater monitoring results for each monitoring well shall be reported using the State of Delaware Well Identification Tag Number that is required on all wells in accordance with the Delaware Regulations Governing the Construction and Use of Wells, Section 10, A.
- c. After notice and opportunity for a hearing, the Department may modify the list of parameters to be monitored and/or the frequency of monitoring by the permittee based upon observations of ground water quality trends in the area.
- d. If sludge has not been applied for three (3) or more years, the permittee may request suspending groundwater monitoring at the corresponding farm.
- e. See Part 1.G for additional information.

G. SCHEDULE OF COMPLIANCE

1. PFAS monitoring shall commence at least thirty (30) days prior to land application at the locations and frequency outlined below. The permittee shall

be exempt from the requirements of this section if no sludge is land applied. The permittee shall have the samples analyzed by EPA Method 1633, 1633A, or another laboratory method approved by the Department in writing. The frequency of sampling for the effective period of this permit shall be as follows:

- a. Biosolids: One composite sample shall be collected quarterly. The permittee may request to reduce the sampling frequency after one year.
- b. Soil: Composite samples shall be collected every 5 years. At least one composite sample shall be collected from every 10 acres of permitted land. Each sample shall be a composite sample of soils collected at a depth of approximately 1 foot below the soil surface. Prior to sampling, a sampling plan shall be submitted to the Department for review and approval. If the permittee does not intend to use an application site during the effective period of this permit, PFAS soil sampling may be deferred until the permittee determines that the application site will be used. PFAS soil sampling shall be conducted at least ninety (90) days prior to the proposed biosolids application date on any farm field that had not already been sampled for PFAS during the effective period of this permit.
- c. Groundwater: One grab sample shall be collected every 6 months. The permittee may request to reduce the sampling frequency after one year.

H. BONDING

Not Required

I. MONITORING

1. Representative Sampling:

Samples and measurements taken as required in this permit shall be representative of the volume and nature of the sludge to be land applied.

2. Recording of Results:

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date and time of sampling and/or measurement;
- b. The person(s) who performed the sampling and/or measurement;
- c. The dates and times the analyses were performed;
- d. The person(s) who performed the analyses; and,

e. The results of each analysis.

3. Records Retention:

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation shall be retained for five (5) years. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Department.

J. REPORTING

1. The permittee shall submit to the Department and landowners an annual operation report on or before February 1 of each year for the previous calendar year. The annual report shall be in a format acceptable to the Department. The annual operation report shall include the following:
 - a. If no sludge is applied, the annual operation report shall consist of a letter to the Department by the permittee stating that no land application of sludge occurred in the previous calendar year and include information required in d., g., and i. below.
 - b. The daily operational record (as specified in Part II, A.1);
 - c. The weight (wet and dry tons) and volume of sludge utilized at the land application site;
 - d. The weight of nitrogen, phosphorus and potassium, from sludge, applied to each field. Supplemental fertilizers must be reported separately;
 - e. Any changes in ownership of the land where the operation is conducted or any change in any lease agreement for the use of such land that may affect or alter the operator's rights upon such land;
 - f. A chemical analysis of soil from each field for the constituents identified in Part I, F.4. The results shall be compared to the corresponding soils data submitted as a part of the Project Development Reports. The procedure for soil analysis shall be consistent with Department guidance;
 - g. Groundwater analysis from monitoring wells for the constituents identified in Part I, F.6.
 - h. Site maps of the same scale and contour interval as the maps submitted with the Project Development Reports, showing the boundaries within each field where sludge has been applied during the previous year;
 - i. For each site: the cropping scheme followed during the previous year

and anticipated for the coming year; Crop yield data and an explanation of which portions of the plants were harvested; Results of plant tissue and grain analyses, if required; Identification of fields to be used during the coming year; Sludge application rates for the coming year based on nitrogen mineralization calculations from previous sludge application practices;

- j. Any other information required by the Department.
2. Monitoring well data and sludge analytical and stabilization process monitoring data obtained during the previous period shall be summarized for each period and submitted no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be electronically submitted to the Department to biosolids_de@delaware.gov.
- If more than one sample is analyzed during any month, a table showing the range of constituent concentration values shall be prepared and included with the submittal. Monthly reports may be submitted electronically or in any format specified by the Department.
- When submitting monitoring results, copies of the original laboratory sheets should be included. If more than one sample is analyzed during any month, a table showing the range of constituent concentration values shall be prepared and included with the submittal.
3. The permittee shall submit copies of all monitoring results required in condition J.2 above to the landowner of each site.
4. The permittee shall maintain monthly sludge inventory data. This data shall include at a minimum (a) the quantity of sludge generated, (b) quantity of sludge stored on site, and (c) quantity of sludge transported off site. Transportation records shall include the date, quantity, carrier used, and the final destination of each shipment. The inventory data shall be maintained at the facility and be made available to the Department in accordance with Part I, I.3 of this permit.

5. Test Procedures

Test procedures for all analyses shall conform to the applicable test procedures identified in Part III, (B), Section 151 of the Department's Guidance and Regulations Governing the Land Treatment of Wastes, unless otherwise specified in this permit.

K. DEFINITIONS

1. "Agricultural Utilization" means the application rate of wastes or sludge or sludge products which shall not exceed the nutrient needs of the crop grown on the particular soil plus the other assimilative pathways in soils (e.g. immobilization with organic material, volatilization, and leachate in compliance with drinking water standards). This term may be used interchangeably with "agronomic rate".
2. "Composite" means a series of grab samples which have been collected in a manner such that the final sample is representative of the volume and characteristics of the material to be analyzed.
3. "The Department" means the Delaware Department of Natural Resources and Environmental Control.
4. "Depth of Tillage" means the maximum depth at which sludge can be found after injection or incorporation into the soil.
5. "Land application" means the placement of sludge, treated sludge, or any other product containing these materials within 2 feet below the surface of land used to support vegetative growth.
6. "PFRP" means Process to Further Reduce Pathogens. This term means the same as Class A sludge or Class A biosolids.
7. "PSRP" means Process to Significantly Reduce Pathogens. This term means the same as Class B sludge.
8. "Phosphorus Site Index or PSI" means the assessment tool approved as a State Technical Standard designed to evaluate the site characteristics and management factors in determining Phosphorus loss to the environment.
9. "Sewage" means water-carried human or animal wastes from septic tanks, water closets, residences, buildings, industrial establishments, or other places, together with such groundwater infiltration, subsurface water, admixture of industrial wastes or other wastes as may be present.
10. "Sewage sludge" means sludge which derives in whole or in part from sewage.
11. "Sludge" means the accumulated semi-liquid suspension, settled solids, or dried residue of these solids that is deposited from (a) liquid waste in a municipal or industrial wastewater treatment plant, (b) surface or ground water treated in a water treatment plant, whether or not these solids have undergone treatment. Septage is included herein as sludge.
12. "Treatment" means a process which alters, modifies, or changes the biological, physical, or chemical characteristics of sludge or liquid waste.
13. "Vector Attraction" is the characteristic of sewage sludge that attracts rodent, flies, mosquitoes, or other organisms capable of transporting infectious agents.

Part II

A. MANAGEMENT REQUIREMENTS

1. Land Application of Sludge

The permittee shall prepare and maintain an operational record for each day that sludge is applied and when any other management activities are conducted at the land application sites. The daily operational record shall include the following:

- a. The date, type, and wet and dry weights of the sludge applied;
- b. The facility from which the sludge originated;
- c. A record of any major deviations from the operating plan;
- d. General daily weather conditions;
- e. The application rate for sludge;
- f. A map for each site showing the area of daily activity;
- g. A record of all actions taken to correct violations of the Delaware Environmental Protection Act and the Department's Regulations; and,
- h. Management undertaken, such as planting and harvesting of crops, fertilizers and chemicals added, irrigation frequency, techniques used, etc.

2. Change in Operation

The application of sludge to the sites authorized herein shall be consistent with the terms and conditions of this permit. The application of sludge at levels in excess of the amount necessary to provide plant available nitrogen for the crop being grown, in accordance with the limits identified in Part I, D of this permit, shall constitute a violation of the permit. Any anticipated facility expansion, production increase, or change in site conditions which would affect the land limiting constituent, create a new land limiting constituent, or adversely affect site conditions must be reported to the Department. Upon review of this information, the Department may invoke the provisions of Part II, B.6 of this permit.

3. Noncompliance Notification

The permittee shall report to the Department:

- a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facilities or activities, if that alteration or addition would result in any significant change in information that was submitted during the permit application process;

- b. In writing thirty (30) days before any anticipated change which would result in noncompliance with any permit condition or Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes;
- c. Orally within twenty-four (24) hours from the time the permittee became aware of any noncompliance which may endanger the public health or the environment, at (800) 662-8802. In addition, a call must be placed at (302) 739-9946 during normal business hours, and;
- d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any noncompliance unless extended by the Department;

This report shall contain:

- 1) A description of the noncompliance and its cause;
 - 2) The period of noncompliance including to the extent possible, times and dates and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - 3) Steps taken or planned to reduce or eliminate reoccurrence of the noncompliance.
- e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Department. Those facts or the correct information shall be included as a part of this report.
4. Minimize Impacts

The permittee shall take all necessary actions to eliminate and correct any adverse impact on the public health or the environment resulting from permit noncompliance.

B. RESPONSIBILITIES

1. Renewal Responsibilities

At least one hundred eighty (180) days before the expiration date of this permit, the permittee shall submit a new application for a permit or notify the Department of the intent to cease operation by the expiration date. In the event that a timely and sufficient reapplication has been submitted and the Department is unable, through no fault of the permittee, to issue a new permit before the expiration date of this permit, the terms and conditions of this permit are automatically continued and remain fully effective and enforceable.

2. Entry and Access

The permittee shall allow the Department, consistent with 7 Del. C., Chapter 60, to:

- a. Enter the permitted facilities;
- b. Inspect any records that must be kept under this permit;
- c. Inspect any facility, equipment, practice, or operation permitted or required by this permit;
- d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility or land application site.

3. Provide Information

The permittee shall furnish to the Department within a reasonable time, any information requested, including copies of records, which may be used by the Department to determine whether cause exists for modifying, revoking, reissuing, or terminating the permit, or to determine compliance with the permit or Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes.

4. Transfer of Ownership or Control

This permit may be transferable to a new owner or operator provided that the permittee notifies the Department by requesting a minor modification of the permit before the date of transfer and provided that the transferee shows evidence of a legal right to use the site and is otherwise in compliance with all applicable provisions of Part III, (B), of the Department's Guidance and Regulations Governing the Land Treatment of Wastes.

5. Operation of Facility

The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, control and monitoring, which are installed or used by the permittee to achieve compliance with this permit or Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes.

6. Permit Revocation and Modification

- a. After notice and opportunity for a hearing, this permit may be modified or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - 1) Violation of any terms or conditions of this permit;
 - 2) Obtaining this permit by misrepresentation or failure to disclose fully all of the relevant facts;
 - 3) Any change in operating conditions that requires either a temporary or permanent permit modification; or
 - 4) If the Department finds that the public health, safety or welfare

requires emergency action, the Department shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, the Department shall provide the permittee a revocation hearing and prior notice thereof. Such hearings shall be conducted in accordance with 7 Del. C., Chapter 60.

- b. The Department may revoke this permit if the permittee violates any permit condition, any provisions of Part III, (B), of the Guidance and Regulations Governing the Land Treatment of Wastes, or fails to pay applicable Department fees.

7. Permit Closure Requirements

- a. All land approved for the Agricultural Utilization of Class B sludge is required to have a closure report when the land is no longer being utilized as described in the permit application when the permit expires. The report must be submitted to the Department within four (4) months of determination that the field(s) will no longer be utilized for sludge application. The closure report shall include the following:
 - 1) A letter from permittee stating the application site(s) (with tax parcel number(s)) that will no longer receive sludge approved by this Permit.
 - 2) A copy of the last sludge, septage and/or waste monitoring results as required in Part 1, F.1 of this permit.
 - 3) A copy of the last soil monitoring results as required in Part 1, F.4 of this permit. A soil test is required after the last land application of sludge, septage and/or waste.
 - 4) A copy of the last groundwater monitoring well results as required in Part I, F.6 of this permit. A groundwater test is required after the last land application of sludge, septage or waste.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under 7 Del. C., Chapter 60.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.

10. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

11. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application or any provision of this permit to any circumstances is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

12. Compliance Required

The permittee shall comply with all conditions of the permit.

13. Reopener

In the event that the Part III, B, of the Guidance and Regulations Governing the Land Treatment of Wastes or applicable Federal Regulations are revised, this permit may be reopened and modified accordingly after notice and opportunity for a public hearing.

Part III

A. SPECIAL CONDITIONS

1. Sludge shall be transported to the land treatment sites in accordance with Delaware Non-Hazardous Waste Transporters Permit No. OH-11.
2. Pre-Start Up
 - a. Prior to the application of sludge, buffer zones, sensitive areas and the areas on which sludge is to be applied must be clearly marked with stakes, flags or other suitable markers acceptable to the Department.
 - b. The permittee must notify the Department at (302) 739-9946 at least two (2) working days prior to the application of sludge to any field.
 - c. Before the permittee can begin to apply sludge to the designated site, a pre-startup inspection may be conducted by the Department to verify that proper buffer zones and non-application areas are suitably marked. Based on the results of the pre-startup inspection, the Department will either:
 - 1) Grant approval for sludge application operations to begin or;
 - 2) Require the permittee to perform additional site preparation (such work must be performed and approved prior to sludge application).
3. Application Measures

If at any time during the sludge application period the depth to groundwater is less than twenty (20) inches from the depth of tillage, all sludge application activities shall immediately cease and the Department shall be notified. Department approval is required before sludge application operations can continue.
4. Post Application Measures
 - a. The facility must provide the Department with a crop plan for the year in which stabilized sludge is to be applied to lands specified in this permit. Any changes to the crop rotation plan must be approved by the Department prior to implementation.
 - b. The Annual Report shall be submitted to the Department as required in Part I, J.1 of this permit. Should the permittee fail to supply the required documents on or before the deadline specified, the Department may revoke this permit.
5. Regulatory Modification

In the event that the Guidance and Regulations Governing the Land Treatment of Wastes or any applicable federal regulations are revised, this

permit may be reopened and modified accordingly after notice and opportunity for a public hearing.

6. The permittee is responsible for compliance with both the Department's Guidance and Regulations Governing the Land Treatment of Wastes and Title 40 of the Code of Federal Regulations, Part 503, Standards for the Use and Disposal of Sludge Compliance with this permit does not constitute compliance with the Federal regulation.

7. Supersedes Previous Permit

This permit supersedes all land application permits previously issued to Kent County Levy Court.

8. If, for any reason, any of the contracts or agreements specified in the Project Development Report any one of the approved sites is cancelled or amended, approval granted for use of that site shall be void.