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6 CRR-NY 361-2.4
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OFFICIAL COMPILATION OF CODES, RULES AND REGULATIONS OF THE STATE OF NEW YORK
TITLE 6. DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CHAPTER IV. QUALITY SERVICES
SUBCHAPTER B. SOLID WASTES
PART 361. MATERIAL RECOVERY FACILITIES
SUBPART 361-2. LAND APPLICATION AND ASSOCIATED STORAGE FACILITIES

6 CRR-NY 361-2.4
6 CRR-NY 361-2.4

# 361-2.4 Permit application requirements for land application facilities.

A land application facility that is not an exempt facility or subject to the registration provisions of section 361-2.3 of this Subpart must obtain a permit and must submit an application, which includes the requirements identified in this section and section 360.16 of this Title. The application must include:

(a) A soil survey map from the U.S. Department of Agriculture's Soil Conservation Service, with a key to the soil survey, indicating the location of land application. Location-specific soil investigation results must be provided, if deemed necessary by the department, based on soil and hydrogeologic conditions at the site.

(b) Information concerning the depth to bedrock and groundwater and the source of these data.

(c) A land application operation plan that includes:

(1) the amount of land that will be used and the crops to be grown;

(2) timing of planting and harvesting;

(3) timing and amount of waste delivery, application rate, and any supplemental waste or fertilizer that will be used (including manure);

(4) descriptions of field stockpile storage, if applicable;

(5) provisions for waste storage or disposal when land application is restricted (e.g., due to weather or other site conditions); and

(6) a description of how the design and operating requirements in section 360.19 of this Title and section 361-2.5 of this Subpart will be satisfied.

(d) Calculations showing the proposed daily and annual hydraulic loading, in gallons per acre.

(e) Biosolids land application. In addition to the requirements outlined in subdivisions 361-2.4(a) through (d) of this section, an application for a permit for a land application facility involving biosolids must contain the following information:

(1) A description of the biosolids including:

(i) a description of each source including the name of the wastewater treatment plant, annual biosolids production, the amount of biosolids to be land applied and a description of the Federal or State pretreatment program, where applicable. Wastewater and partially treated biosolids that are generated at one treatment plant and are treated at another wastewater treatment facility before land application are not considered separate sources;

(ii) a description of the quality of the biosolids, including analytical results, as identified below:

(a) the required parameters for analysis are found in Table 1 in section 361-3.9 of this Part;

(b) the minimum number of analyses, for each biosolids source is outlined in Table 2 in section 361-3.9 of this Part;

(c) for each analysis, the sampling date, location, and protocol used to obtain representative samples must be provided;

(d) a minimum of six months of biosolids production must be represented by the analytical results submitted. With the exception of pH and total solids, all results must be reported on a dry weight basis;

(e) analyses for other pollutants can be required, on a case-specific basis, based on information from the pretreatment program and other sources;

(f) all analyses must be performed by a laboratory certified by the Department of Health for that type of analysis, using methods acceptable to the department, unless use of an alternate laboratory or method is authorized by the department. Copies of the original laboratory results must be included with the permit application;

(g) the analysis requirement can be satisfied in part or in whole by recent samples analyzed for and reported to the department;

(h) analyses performed more than one year before the date the permit application is submitted are not acceptable;

(i) all samples must be representative of the biosolids to be land applied; and

(j) a table summarizing the analytical results must be provided, including the mean and range of the results found.

(2) A detailed description of the processes to reduce pathogenic organism content and to reduce vector attraction including:

(i) the methods that will be used for pathogen reduction and vector attraction reduction;

(ii) the monitoring and data gathering procedures that will be undertaken to demonstrate compliance including type, location, and frequency; and

(iii) for existing systems, recent operating data and/or analytical data that demonstrate that the system can meet the pathogen and vector attraction reduction criteria.

(3) Calculations showing the proposed nutrient loading rates, including nitrogen, phosphorus, and potassium. The loading rate calculations must be based on the biosolids analyses, impacts of previous waste applications, addition of supplemental nutrients, and the nutrient requirements of the crops grown.

(i) The following formulas must be used to calculate plant-available nitrogen, unless the use of an alternative formula is approved by the department:

NI = percent inorganic nitrogen = percent ammonia + percent nitrate

NO = percent organic nitrogen = percent total kjeldahl nitrogen - percent ammonia

NH3 = percent ammonia

NO3 = percent nitrate

N = nitrogen

A = value based on treatment method employed

A values: A = 2 for composted biosolids

A = 4 for anaerobically digested biosolids

A = 6 for aerobically digested, lime stabilized and air dried biosolids

For waste incorporated into the soil:

Pounds available N per dry ton biosolids = (NI x 20) + (NO x A)

For waste surface applied:

Pounds available N per dry ton biosolids = (NH3 x 10) + (NO3 x 20) + (NO x A)

(ii) If the soil has received biosolids in the past two years, the residual nitrogen in the soil must be included in the nutrient loading calculation. The residual nitrogen must be subtracted from the nitrogen needs of the crop grown before determining the appropriate application rate. The following table must be used to determine the release rate of residual nitrogen:

| Release of Residual Nitrogen during Biosolids Decomposition in Soil | | |
|---|---|---|
| Years since last AR Values | | |
| biosolids application | | |
| A=2 | A=4 | A=6 |
| 1 0.90 | 1.60 | 2.10 |
| 2 0.51 | 0.72 | 0.95 |
| AR = Residual Nitrogen Factor | | |
| Residual Available N (pounds N per acre) = | | |
| Original Application Rate (dry ton per acre) x Original NO (percent) x AR | | |

(iii) The value(s) used for the nutrient needs of the crop(s) grown must be based on the results of a soil test and resulting nutrient recommendation, or equivalent justification for the value chosen. Copies of the nutrient recommendations must be submitted.

(iv) For phosphorus, 30 percent of the phosphorus applied with the biosolids must be assumed to be available for plant use. For potassium, 100 percent of the potassium applied with the biosolids must be assumed to be available for plant use.

(4) Information concerning the soil pH of the plow layer including the source of this information, and method for adjusting soil pH, if required.

(5) Soil quality data including analyses for pH, arsenic, cadmium, chromium (total), copper, lead, mercury, molybdenum, nickel, selenium, and zinc:

(i) A minimum of 1 analysis is required for every 50 acres, or fraction thereof.

(ii) Each soil sample must be a composite of a minimum of 10 randomly selected sample locations.

(iii) The sampling depth must be consistent with the depth of biosolids incorporation.

(iv) The criteria in clauses (e)(1)(ii)(*f*), (*g*), and (*j*) of this section must be followed.

(6) A biosolids monitoring, sampling, and analysis plan that outlines:

(i) the location, purpose, frequency and method for biosolids sampling; and

(ii) the protocol used to obtain representative samples and the laboratory that will be used for each analysis.

**(f) Industrial waste and other waste land application.**

In addition to the requirements outlined in subdivisions (a)-(d) of this section, the application for a permit for a land application facility involving waste other than biosolids must contain the following information:

(1) A detailed description of each waste to be land applied, including, at a minimum, the following information:

(i) the source, process, or treatment systems from which the waste originates, including a list and the quantity of all chemicals added during these processes. Material safety data sheets or other data sources providing information specific to these chemicals must be included; and

(ii) treatment or processing techniques used before land application.

(2) Analyses of the waste in accordance with the frequency, parameters, and protocol outlined in paragraph (e)(1) of this section.

(3) In addition to the analyses required in paragraph 361-2.4(e)(1) of this section, the following analyses, in whole or part, may be required, as determined by the department:

(i) fecal coliform, salmonella sp., enteric viruses, viable helminth ova, other applicable pathogens; and

(ii) any or all of the pollutants identified in Part 375 of this Title or by the department.

(4) An outline of the proposed application rates and justification for the values chosen.

(5) For waste containing any domestic sewage or septage, a detailed description of the processes to reduce pathogenic organisms and vector attraction or sufficient data to demonstrate that human pathogenic organisms are not present in the waste.

(6) A waste monitoring, sampling, and analysis plan that outlines:

(i) the location, purpose, frequency and method for waste sampling;

(ii) the analytical parameters;

(iii) the protocol used to obtain representative samples and for the preparation and preservation of samples; and

(iv) and the laboratory that will be used for analyses.

6 CRR-NY 361-2.4
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