

PROPOSED AMENDMENTS TO THE RULES
OF THE GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
RELATING TO WATER QUALITY CONTROL, CHAPTER 391-3-6

The Rules of the Department of the Natural Resources, Chapter 391-3-6, Water Quality Control, are hereby amended and revised for specific Rules, or such subdivisions thereof as may be indicated.

[**Note: Underlined text is proposed to be added. ~~Lined-through~~ text is proposed to be deleted.**]

CHAPTER 391-3-6 WATER QUALITY CONTROL

Rule 391-3-6-.17 Sewage Sludge (Biosolids) Requirements

- (1) **Purpose.** The purpose of Rule 391-3-6-.17 is to establish requirements for the beneficial use of sewage sludge through land application. This rule includes general requirements, pollutant limits, pathogen and vector attraction reduction requirements, operational standards, management practices, monitoring, record keeping reporting, and permitting requirements.
- (2) **Definitions.** All terms used in this Rule shall be interpreted in accordance with the definitions as set forth in the Act unless otherwise defined in this Paragraph or in any other Rules of this Chapter:
- (a) "Aerobic digestion" is the biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air.
 - (b) "Agricultural land" is land on which a food crop, feed crop, or a fiber crop is grown. This includes land used as pasture.
 - (c) "Agronomic rate" is the sludge application rate based on a dry weight basis determined:
 - 1. to provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop or vegetation grown on the land; and
 - 2. to minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the groundwater.
 - (d) "Anaerobic digestion" is the biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air.
 - (e) "Annual pollutant loading rate" is the maximum amount of a pollutant that may be applied to a unit area of land during a 365-day period.
 - (f) "Annual sludge application rate" is the maximum amount of sewage sludge (dry weight basis) that may be applied to a unit area of land during a 365-day period.
 - (g) "Applier" is the person who applies bulk sewage sludge to the land.
 - (h) "Biosolids" means any sewage sludge, as defined in 391-3-6-.17 (2)(gg), that fulfills all requirements under this chapter, and is used in a beneficial manner.
 - (i) "Bulk sewage sludge" or "bulk biosolids" is sewage sludge that is not sold or given away in a bag or other container for application to the land.
 - (j) "Cover crop" is a temporary crop, such as winter rye or clover, planted to protect the soil from erosion and to provide humus or nitrogen when plowed under.

- (k) "Cumulative pollutant loading rate" is the maximum amount of an inorganic pollutant that may be applied to an area of land.
- (l) "Density of microorganisms" is the number of microorganisms per unit mass of total solids (dry weight) in the sewage sludge.
- (m) "Domestic sewage" is water waste and wastewater from humans or from household operations that are discharged to or that otherwise enter a treatment works.
- (n) "Dry weight basis" means calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass (i.e., essentially 100 percent solids content).
- (o) "Exceptional quality sludge" is sewage sludge that meets the pollutant concentrations in 391-3-6-.17 (5) Table 3, one of the Class A pathogen requirements in 391-3-6-.17 (7)(a) and one of the vector attraction reduction requirements in 391-3-6-.17 (8)(a) through (h).
- (p) "Facility" means any NPDES point source or any other system or activity that may be regulated by the Water Protection Branch of the EPD, including land application systems regulated under 391-3-6-.11, and industrial pretreatment systems regulated under 391-3-6-.08.
- (q) "Feed crops" are crops produced primarily for consumption by animals.
- (r) "Fiber crops" are crops such as flax and cotton.
- (s) "Food crops" are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.
- (t) "Forest" is a tract of land thick with trees and underbrush.
- (u) "Land application" or "applied to the land" means the spraying or spreading of sewage sludge on the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil at agronomic rates for the purpose of soil conditioning or fertilization of crops or vegetation grown in the soil.
- (v) "Land with a high potential for public exposure" is land that is frequently used by the public. This includes but is not limited to public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
- (w) "Land with a low potential for public exposure" is land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest, and a reclamation site located in an unpopulated area.
- (x) "Monthly average" is the arithmetic mean of all measurements taken during the month.
- (y) "Other container" is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of 2,200 pounds or less.
- (z) "Pasture" means land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.
- (aa) "Pathogenic organisms" are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.
- (bb) "pH" means the logarithm of the periodical of the hydrogen ion concentration.
- (cc) "Pollutant" is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or a pathogenic organism that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could, on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.
- (dd) "Pollutant limit" is a numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilograms of total solids); the amount of a

pollutant that can be applied to a unit area of land (e.g., pounds [per acre]); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre).

(ee) "Preparer" is either the person who generates sewage sludge during the treatment of domestic sewage or a combination of domestic sewage and industrial wastewater in a treatment works or the person who derives a material from sewage sludge.

(ff) "Reclamation site" means drastically disturbed land that is reclaimed using sewage sludge or product derived from sewage sludge. This includes, but is not limited to, strip mines and construction sites.

(gg) "Sewage sludge" means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage or a combination of domestic sewage and industrial wastewater in a treatment works. Sewage sludge includes, but is not limited to scum or solids removed in primary, secondary, or advanced wastewater treatment processes. Sewage sludge does not include ash generated during the firing of sewage sludge incinerator, grit and screenings generated during preliminary treatment of domestic sewage in a treatment works, treated effluent, or materials excluded from definition of "sewage sludge" by O.C.G.A. § 12-5-30-3(a)(1).

(hh) "Sludge management plan" means a detailed plan of operation for land application of sewage sludge, or any other method of sewage sludge disposal other than co-disposal in a permitted sanitary landfill. The plan shall, at a minimum, comply with the regulations and any additional requirements established by the EPD pursuant to the Federal Act Section 405(d), the Resource Conservation and Recovery Act (RCRA), and 40 CFR 503.

(ii) "Specific oxygen uptake rate (SOUR)" is the mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in the sewage sludge.

(jj) "Stockpile" means to place sewage sludge on land in piles or in any other manner that does not constitute application to the land as defined in 391-3-6-.17 (2)(u).

(kk) "Total solids" are the materials in sewage sludge that remain as residue when the sewage sludge is dried at 103 to 105 degrees Celsius.

(ll) "Treat or treatment of sewage sludge" is the preparation of sewage sludge for final use or disposal. This includes, but is not limited to, thickening, stabilization, dewatering of sewage sludge.

(mm) "Treatment works" is either a Federally owned, publicly owned, or privately owned device or system used to treat, recycle or reclaim either domestic sewage or combination of domestic sewage and industrial wastewater.

(nn) "Unstabilized solids" are organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

(oo) "Vector attraction" is the characteristic of sewage sludge that attracts rodents, flies, mosquitos, or other organisms capable of transporting infectious agents.

(pp) "Volatile solids" is the amount of the total solids in sewage sludge lost when the sewage sludge is combusted at 550 degrees Celsius in the presence of excess air.

(qq) "Wetlands" means those areas that are inundated or saturated by surface water or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(3) **Coverage.**

- (a) This rule applies to any person who prepares sewage sludge for land application or who applies sewage sludge to the land, to any sewage sludge applied to the land, and to the land on which sewage sludge is applied.
- (b) This rule does not apply to:
1. Processes used to treat sewage or processes used to treat sewage sludge before final use or disposal, except as provided in 391-3-6-.17 (7) and 391-3-6-.17 (8).
 2. Sewage sludge determined to be hazardous in accordance with 40 CFR 261.
 3. Grit and screenings generated during preliminary treatment of domestic sewage or a combination of domestic sewage and industrial wastewater in a treatment works.
 4. Sludge generated during treatment of process wastewater at an industrial facility. A facility operated by the federal government is an industrial facility for the purpose of this rule if it treats any wastewater generated by an industrial process.
 5. Disposal of sewage sludge by means other than land application at agronomic rates with the exception of sewage sludge applied to reclamation sites.
 6. Domestic, commercial, or industrial septage, or any mixture thereof.
 7. Sludge generated during treatment of drinking water.
 8. Sewage sludge with a concentration of polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry weight basis).
 9. The incineration of sewage sludge.
 10. Ash generated during the firing of sewage sludge in a sewage sludge incinerator.
- (c) Other exclusions:
1. The operator of any treatment Processes to Further Reduce Pathogens as described in 40 CFR 503 Appendix B, or any treatment process determined by the EPD to be equivalent to a Process to Further Reduce Pathogens which results in the derivation of compost from sewage sludge shall obtain a Solid Waste Handling Permit from EPD according to 391-3-4, unless the composting operation is part of a treatment works already regulated by an NPDES, LAS or other permit from EPD, in which case that permit will be modified in accordance with this rule to incorporate any necessary requirements for regulating the composting operation. ~~The end product shall be regulated by the Georgia Department of Agriculture.~~ Compost derived from any Processes to Significantly Reduce Pathogens as described in 40 CFR 503 Appendix B shall comply with the requirements contained in this rule.
 2. The operator of any treatment process which consists of heat drying or incinerating sewage sludge shall obtain an Air Quality Permit from EPD in accordance with 391-3-1 and a processing permit by rule in accordance with 391-3-4-.06 (3)(d). ~~If the heat drying process results in the derivation of a product for agricultural application, the end product shall be regulated by the Georgia Department of Agriculture.~~
 3. ~~Preparers proposing to sell or give away sewage sludge in a bag or other container for application to the land, must first obtain approval from the Georgia Department of Agriculture.~~
 43. If sewage sludge is ultimately disposed of by land application or surface disposal, and is not beneficially used as a recovered material, the owner or operator of the site shall obtain a Solid Waste Handling Permit from the EPD in accordance with 391-3-4.
- (4) **Permits Required.** The requirements in this Rule shall be implemented through a permit:
- (a) All facilities in Georgia which generate sewage sludge from the treatment of domestic (or industrial) sewage shall obtain either an NPDES permit as described in 391-3-6-.06, a land application system (LAS) permit as described in 391-3-6-.11, or a local or State pretreatment

permit as described in 391-3-6-.08 through -.10, regardless of their method of handling sewage sludge.

(b) Facilities in Georgia which handle sewage sludge by one or more of the following requirements, as applicable:

1. If a facility intends to utilize land application or intends to sell or give sludge away as a means of sludge handling, the facility shall submit a Sludge Management Plan to the EPD for approval. The Sludge Management Plan shall, at a minimum, comply with the requirements contained in 391-3-6-.17 as well as any additional requirements as determined by the EPD. Upon approval by the EPD, the plan will become part of the facility's NPDES or LAS permit.

2. If bulk sewage sludge from more than one permittee will be land applied to the same site or sites, or if both bulk sewage sludge from a permittee and an industrial sludge will be land applied on the same site or sites, the owner or operator of the site shall obtain an LAS permit in accordance with 391-3-6-.11.

(c) If the sewage sludge is generated outside of the State of Georgia but will be transported to a site in Georgia for land application, the owner or operator of the site shall obtain an LAS permit in accordance with 391-3-6-.11.

(d) Any person who prepares sewage sludge shall ensure that the applicable requirements in this part are met when the sewage sludge is land applied, fired in a sewage sludge incinerator, or disposed of by any means other than landfilling in an approved municipal solid waste landfill.

(e) Any person who uses or disposes of sewage sludge through any practice for which requirements are established in this Rule shall comply with these requirements.

(5) Pollutant Limits.

(a) Bulk sewage sludge and sewage sludge sold or given away in a bag or other container shall comply with the pollutant ceiling concentration limits in Table 1 as well as the following requirements:

1. Bulk sewage sludge applied to agricultural land, forests, public contact sites, or reclamation sites shall comply with either the pollutant concentration limits in Table 3 or, in the event that the pollutant concentration limits in Table 3 cannot be met, with the cumulative pollutant loading rates in Table 2.

2. Bulk sewage sludge applied to lawns and home gardens shall comply with the pollutant concentration limits in Table 3.

3. Sewage sludge sold or given way in bags and containers as defined in 391-3-6-.17 (2)(y) shall with the pollutant concentration limits in Table 3 or the annual sewage sludge application rates which are based on the annual pollutant loading rates in Table 4. Annual sewage sludge application rates shall be calculated in accordance with EPD requirements.

Table 1 -- Ceiling Concentration Limits

Pollutant	Ceiling Concentration (mg/kg)*
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100

Zinc 7500
* Dry weight basis

Table 2 -- Cumulative Pollutant Loading Rates

Pollutant	Cumulative Pollutant Loading Rate (lbs/acre)
Arsenic	37
Cadmium	35
Copper	1338
Lead	268
Mercury	15
Nickel	375
Selenium	89
Zinc	2498

Table 3 - Pollutant Concentration

Pollutant	Monthly Average Concentrations (mg/kg)*
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

* Dry weight basis

Table 4 - Annual Pollutant Loading Rates

Pollutant	Annual Pollutant Loading Rate (lbs/acre/year)
Arsenic	1.8
Cadmium	1.7
Copper	67
Lead	13
Mercury	0.76
Nickel	19
Selenium	4.5
Zinc	125

(6) Operational Standards -- Pathogens and Vector Attraction Reduction.

(a) The Class A pathogen requirements contained in 391-3-6-.17 (7)(a) shall be met when bulk sewage sludge is applied to a lawn or home garden or when sewage sludge is sold or given away in a bag or other container for application to the land.

(b) The Class A pathogen requirements contained in 391-3-6-.17 (7)(a) or the Class B pathogen requirements contained in 391-3-6-.16 (7)(b) and the site restrictions described in 391-3-6-.17 (7)(c) shall be met when bulk sewage sludge is applied to agricultural land, forests, public contact sites, or reclamation sites.

(c) Sewage sludge that is applied to the land shall meet one of the vector attraction reduction requirements contained in 391-3-6-.17 (8)(a) through (h) except that bulk sewage sludge that is applied to agricultural land, forests, public contact sites, or reclamation sites may instead meet the vector attraction reduction requirements contained in 391-3-6-.17 (8)(i) or (j).

(7) **Pathogen Requirements.** This paragraph contains the requirements for a sewage sludge to be classified as either Class A or Class B with respect to pathogens as well as specific site restrictions for land application of a Class B sewage sludge.

(a) **Class A Sewage Sludge.** To be classified as Class A with respect to pathogens the sewage sludge shall meet the requirements in 391-3-6-.17 (7)(a) 1. as well as the requirements of one of the six alternatives described in 391-3-6-.17 (7)(a) 2. through (a)7. The Class A pathogen requirements shall be met either before or at the same time the vector attraction reduction requirements are met, with the exception of the vector attraction reduction requirements in 391-3-6-.17 (8)(f) through (h).

1. Either the density of fecal coliform in the sewage sludge shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is land applied or is prepared for sale or given away in a bag or other container for application of the land.

2. Alternative 1. The temperature of the sewage sludge shall be maintained at a specific value for a period of time.

(i) When the percent solids of the sewage sludge is seven percent or higher, the temperature of the sewage sludge shall be 50 degrees Celsius or higher; the time period shall be 20 minutes or longer; and the temperature and time period shall be determined using equation (3), except when small particles of sewage sludge are heated by either warmed gases or an immiscible liquid.

$$(3) D = \frac{131,700,000}{10^{0.1400t}}$$

Where,

D = time in days.

t = temperature in degrees Celsius.

(ii) When the percent solids of the sewage sludge is seven percent or higher and small particles of sewage sludge are heated by either warmer gases or an immiscible liquid, the temperature of the sewage sludge shall be 50 degrees Celsius or higher, the time period shall be 15 seconds or longer, and the temperature and time period shall be determined using equation (3).

(iii) When the percent solids of the sewage sludge is less than seven percent and the time period is at least 15 seconds, but less than 30 minutes, the temperature and time period shall be determined using equation (3).

(iv) When the percent solids of the sewage sludge is less than seven percent; the temperature of the sewage sludge is 50 degrees Celsius or higher; and the time period is 30 minutes or longer, the temperature and time period shall be determined using equation (4).

$$(4) D = \frac{50,070,000}{10^{0.1400t}}$$

Where,

D = time in days.

t = temperature in degrees Celsius.

3. Alternative 2. The sewage sludge pH shall be raised to above 12 standard units and shall remain above 12 standard units for 72 hours. At the end of the 72 hour period, the sewage sludge

shall be air dried to achieve greater than 50 percent solids. The temperature of the sewage sludge shall be maintained above 52 degrees Celsius for at least 12 hours while the sewage sludge pH is above 12 standard units.

4. Alternative 3. The sewage sludge shall be analyzed before pathogen treatment to determine whether the sewage sludge contains enteric viruses.

(i) If the density of enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis), the sewage sludge shall be considered Class A until the next monitoring episode.

(ii) If the density of enteric viruses is equal to or greater than one Plaque-forming Unit per four grams of total solids (dry weight basis), the sewage sludge shall be analyzed for enteric viruses after pathogen treatment. The sewage sludge shall be considered Class A if the density of enteric viruses after pathogen treatment is less than one Plaque-forming Unit per four grams of total solids and the values or range of values for the pathogen treatment process operating parameters are documented. Once the enteric virus reduction is demonstrated for the pathogen treatment process, the sewage sludge shall be considered Class A as long as the pathogen treatment operating parameters are consistent with the documented values or ranges of values.

5. Alternative 4. The sewage sludge shall be analyzed before pathogen treatment to determine if the sewage sludge contains viable helminth ova.

(i) If the density of viable helminth ova is less than one per four grams of total solids (dry weight basis), the sewage sludge shall be considered Class A until the next monitoring episode.

(ii) If the density of viable helminth ova is equal to or greater than one per four grams of total solids (dry weight basis), the sewage sludge shall be analyzed for viable helminth ova after pathogen treatment. The sewage sludge shall be considered Class A if the density of viable helminth ova after pathogen treatment is less than one per four grams of total solids and the values or range of values for the pathogen treatment process operating parameters are documented. Once the viable helminth ova reduction is demonstrated for the pathogen treatment process, the sewage sludge shall be considered Class A as long as the pathogen treatment operating parameters are consistent with the documented values of ranges of values.

6. Alternative 5. The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) or the density viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is either land applied, prepared for sale, or given away in a bag or other container for application to the land.

7. Alternative 6. The sewage sludge shall be treated in one of the Processes to Further Reduce Pathogens as described in 40 CFR 503. Appendix B or treated in a process determined by the EPD to be equivalent to a Process to Further Reduce Pathogens.

(b) Class B Sewage Sludge. To be classified as Class B with respect to pathogens the sewage sludge shall meet one of the following alternatives.

1. Alternative 1. Seven samples of the sewage sludge shall be collected at the time of land application. The geometric mean of the density of fecal coliform in the samples shall be less than either 2,000,000 Most Probable Number per gram of total solids or 2,000,000 Colony Forming Units per gram of total solids.

2. Alternative 2. Sewage sludge that is to be land applied shall be treated in one of the Processes to Significantly Reduce Pathogens as described in 40 CFR 503 Appendix B or treated in a process that is equivalent to a Process to Significantly Reduce Pathogens, as determined by the EPD.

(c) Restrictions for Land Application Sites Receiving Class B Sewage Sludge.

1. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.

2. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer before incorporation, or for 38 months after application when the sewage sludge remains on the land surface for less than four months before incorporation.

3. All other crops, as well as feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.

4. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.

5. Turf grown on land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the EPD.

6. Public access to land with a high potential for public exposure shall be restricted for one year after application of sewage sludge.

7. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.

8. Additional restrictions as may be determined by the EPD.

(8) **Vector Attraction Reduction.** Sewage sludge that is land applied, including sewage sludge sold or given away in a bag or other container for application to the land, shall meet one of the vector attraction reduction requirements contained in 391-3-6-.17 (8)(a) through (8)(h) except that bulk sewage sludge that is applied to agricultural land, forests, public contact sites, or reclamation sites may instead meet the vector attraction reduction requirements contained in 391-3-6-.17 (8)(i) or (8)(j).

(a) The mass of volatile solids in the sewage sludge shall be reduced by at least 38 percent.

(b) If the mass of volatile solids in an anaerobically digested sewage sludge cannot be reduced by at least 38 percent, vector attraction reduction can be demonstrated by anaerobically digesting a portion of the previously digested sewage sludge in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. The volatile solids shall be measured at the beginning and end of the forty day test period. Vector attraction reduction is achieved when the volatile solids in the sewage sludge are reduced by less than 17 percent over the test period.

(c) If the mass of the volatile solids in an aerobically digested sewage sludge cannot be reduced by at least 38 percent, vector attraction reduction can be demonstrated by aerobically digesting a portion of the previously digested sewage sludge that has a maximum of 2 percent solids in the laboratory in a bench-scale unit for thirty additional days at 20 degrees Celsius. The volatile solids shall be measured at the beginning and end of the thirty day test period. Vector attraction reduction is achieved when the volatile solids in the sewage sludge are reduced by less than 15 percent over the test period.

(d) The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at 20 degrees Celsius.

(e) Sewage sludge shall be treated in an aerobic process for at least fourteen days. During that time, the temperature of the sewage sludge shall be maintained above 40 degrees Celsius with the average temperature above 45 degrees Celsius.

- (f) The sewage sludge pH shall be raised to 12 standard units or higher by addition of alkaline material and shall remain at 12 standard units or higher for two hours and then 11.5 standard units or higher for an additional 22 hours without the addition of more alkaline material.
- (g) If sewage sludge does not contain unstabilized solids generated in a primary wastewater treatment process, the percent solids shall be equal to or greater than 75 percent based on the moisture content and total solids before mixing with other materials.
- (h) If sewage sludge contains unstabilized solids generated in a primary wastewater treatment process, the percent solids shall be equal to or greater than 90 percent based on the moisture content and total solids before mixing with other materials.
- (i) Injection of Sewage Sludge.
1. Sewage sludge shall be injected below the surface of the land.
 2. No significant amount of the sewage sludge shall be percent on the land surface within one hour after the sewage sludge is injected.
 3. Class A sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.
- (j) Incorporation of Sewage Sludge.
1. Sewage sludge shall be incorporated into the soil within six hours after land application.
 2. Class A sewage sludge that is to be incorporated into the soil shall be applied to the land within eight hours after being discharged from the pathogen treatment process.
- (9) **General Requirements.**
- (a) No person shall land apply sewage sludge except in accordance with the requirements in this rule and the permit as well as any additional requirements as determined by the EPD.
- (b) No person shall land apply bulk sewage sludge subject to the cumulative pollutant loading rates in 391-3-6-.17 (5) Table 2 to a site on which any of the cumulative pollutant loading rates in 391-3-6-.17 (5) Table 2 have been reached.
- (c) No person shall land apply bulk sewage sludge to a site on which the nitrogen requirements have been met for the calendar year.
- (d) The preparer shall provide the person who land applies bulk sewage sludge written notification of the analytical results obtained in accordance with 391-3-6-.17 (11) and 391-3-6-.17 (13).
- (e) The person who land applies sewage sludge shall obtain information needed to comply with the requirements in this subpart.
1. Before bulk sewage sludge subject to the cumulative pollutant loading rates in 391-3-6-.17 (5) Table 2 is applied to the land, the applier shall contact the EPD to determine if bulk sewage sludge subject to cumulative pollutant loading rates has been previously applied to the site.
 - (i) If bulk sewage sludge has been applied to the site and the cumulative amount of each pollutant applied to the site is known, that amount shall be subtracted from the cumulative pollutant loading rate for each pollutant in 391-3-6-.17 (5) Table 2 to determine the additional amount of each pollutant that can be applied to the site. For arsenic, mercury, and selenium, the cumulative amount of each pollutant applied to the site since July 20, 1993 shall be utilized for the calculations. For copper, lead, zinc, nickel, and cadmium the cumulative amount of each pollutant applied to the site since the first bulk sewage sludge application shall be utilized for the calculations.

(ii) If bulk sewage sludge subject to the cumulative pollutant loading rates in 391-3-6-.17 (5) Table 2 has been applied to the site and the cumulative amounts of pollutants applied to the site are unknown, no additional amount of each pollutant shall be applied to the site.

2. Before bulk sewage sludge is land applied, the applier shall contact the EPD to determine whether bulk sewage sludge has been previously applied to the site. If bulk sewage sludge has been previously applied to the site, the amount of mineralized nitrogen from previous sewage sludge applications that is available for crop uptake, as well as the amount of nitrogen from other sources that is available for crop uptake, shall be taken into account in determining the agronomic loading rate.

(f) When a preparer provides bulk sewage sludge to an applier, the preparer shall provide the applier notice and necessary information to comply with the requirements in this subparagraph.

(g) When a preparer provides sewage sludge to another preparer, the person who provides the sewage sludge shall provide the person who receives the sewage sludge notice and necessary information to comply with the requirements in this subparagraph.

(h) The applier shall provide the owner or lease holder of the land application site notice and necessary information to comply with the requirements in this subparagraph.

(i) Any person who land applies bulk sewage sludge subject to the cumulative pollutant loading rates in 391-3-6-.17 (5) Table 2 shall provide written notice to the EPD before the initial application to a site, and the EPD shall retain the notice and provide access to it. The notice shall include:

1. The location, by either street address or latitude and longitude, of the land application site.

2. The name, address, telephone number, and permit number (if appropriate) of the person who will apply the bulk sewage sludge.

(10) Management Practices.

(a) Bulk sewage sludge shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Federal Endangered Species Act (16 U.S.C. §§ 1531 - 1544) or its designated critical habitat.

(b) Bulk sewage sludge shall not be applied to an agriculture land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow covered so that the bulk sewage sludge enters a wetland or others waters of the State of Georgia except as provided in a permit issued pursuant to the Georgia Water Quality Control Act and 391-3-6-.06-

(c) Site restrictions, buffer areas, and any additional EPD requirements shall apply to the land application of bulk sewage sludge. Class B sewage sludge shall also be subject to the site restrictions in 391-3-6-.17 (17)(c). Reduction of buffer areas on sites where exceptional quality sludge is land applied will be considered by the EPD upon written request. However, in no case shall bulk sewage sludge be applied to areas located 35 feet or less from waters of the State of Georgia.

(d) Bulk sewage sludge shall not land applied at greater than agronomic rates except on reclamation sites. Agronomic rates shall be calculated using the sludge application rate determination procedures as determined by the EPD. The application rate for sewage sludge on reclamation sites shall be determined on a case-by-case basis.

(e) Sewage sludge that is sold or given away in a bag or other container for land application shall have a label affixed to the bag or other container or an information sheet shall be provided to the person who receives the sewage sludge. The label or information sheet shall contain the following information.

1. The name and address of the person who prepared the sewage sludge.
 2. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instructions on the label or information sheet.
 3. The annual sludge application rate that does not cause any of the annual pollutant loading rates in 391-3-6-.17 (5) Table 4 to be exceeded.
 4. ~~Any additional information required by Georgia Department of Agriculture rules.~~
 - (f) Under no conditions may sewage sludge be stockpiled at a land application site.
- (11) **Monitoring.**
- (a) The pollutants listed in 391-3-6-.17 (5), the pathogen density requirements listed in 391-3-6-.17 (7) and the vector attraction reduction requirements listed in 391-3-6-.17 (8)(a) through (8)(h), and any additional parameters contained in the permit, shall be monitored at the frequency listed in Table 5.

Table 5 -- Monitoring Frequency

Amount of Sewage Sludge (dry tons/year)*	Frequency
0 – 300	once/year
300 – 1600	once/quarter
1600 – 16000	once/two months
16000 or greater	once/month

*The "amount of sewage sludge" refers to either the amount of bulk sewage sludge (dry weight) applied to the land or the amount of sewage sludge (dry weight) received by a preparer that sells or otherwise distributes sewage sludge in a bag or other container for application to the land.

(b) After the sewage sludge has been monitored at the frequency in Table 5 for two years, the EPD may reduce the monitoring frequency for the pollutants listed in 391-3-6-.17 (5). In no case shall the monitoring frequency be less than once per year.

(12) **Analytical Methods.** Representative sewage sludge samples shall be analyzed in accordance with the methods contained in 40 CFR 503.8. Test methods used to determine toxicity, such as the Toxicity Characteristic Leachate Procedure, may be used to determine whether sewage sludge is hazardous, but shall not be used for the purpose of determining compliance with any of the inorganic pollutant requirements contained in this rule.

(13) **Recordkeeping.**

(a) Persons who prepare bulk sewage sludge for land application or who sell or give away sewage sludge in a bag or other container, shall develop the following information and retain it for five years:

1. The concentration of each pollutant listed in 391-3-6-.17 (5), and any additional parameters required by the permit.
2. One of the following certification statements.
 - (i) Certification statement of persons preparing bulk sewage sludge for land application: "I certify, under penalty of law, that the Class (insert "A" or "B") pathogen requirement in 391-3-6-.17 (7) and the vector attraction reduction requirements in 391-3-6-.17 [8] has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and the vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(ii) Certification statement for persons preparing sewage sludge that is sold or given away in a bag or other container: "I certify, under penalty of law, that the management practice in 391-3-6-.17 (10)(e); the Class A pathogen requirement in 391-3-6-.17 (7)(a), and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in 391-3-6-.17 (8)(a) through [h]) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practice, pathogen requirements, and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of the fine and imprisonment."

3. A description of how either Class A or Class B pathogen requirements are met.

4. A description of how the vector attraction reduction requirement is met.

5. The annual sludge application rate that does not cause the annual pollutant loading rates in 391-3-6-.17 (5) Table 4 to be exceeded shall also be retained by the preparer when the sewage sludge is sold or given away in a bag or other container.

6. All other information required as described in the permit.

(b) The person who land applies bulk sewage sludge shall develop the following information. The information in 391-3-6-.17 (13)(b) 1. through 5. shall be retained indefinitely. The information in 391-3-6-.17 (13)(b) 6. through 10. shall be retained for five years.

1. The location, by either street address or latitude and longitude, of each site on which the sewage sludge is applied.

2. The number of acres on which sewage sludge is applied for each site.

3. The date and time of each application of sewage sludge for each site.

4. For bulk sewage sludge subject to the cumulative pollutant loading rates in 391-3-6-.17 (5) Table 2, the cumulative amount of each pollutant listed in 391-3-6-.17 (5) in pounds per acre for each site.

5. The amount of sewage sludge, in dry tons, applied to each site.

6. The following certification statement: "I certify, under penalty of law, that the management practices in 391-3-6-.17 (10), the site restrictions in (insert 391-3-6-.17 (7)(c) only if the sewage sludge is classified as Class B), the vector attraction requirements in (insert 391-3-6-.17 (8)(i) or (8)(j), if one of those requirements is met), and additional requirements set forth by the EPD, have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions (and the vector attraction reduction requirements if applicable) have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

7. A description of how the management practices in 391-3-6-.17 (10) and any additional management requirements set forth by the EPD, or if applicable, contained in the permit, are met for each land application site.

8. A description of how the vector attraction reduction requirements in either 391-3-6-.17 (8)(i) or (j) are met, if applicable, for each land application site.

9. A description of how the site restrictions are met for each land application site.

10. On sites where the sewage sludge is subject to the cumulative pollutant loading rates in 391-3-6-.17 (5) Table 2, the following certification statement and description shall be developed:

(i) "I certify, under penalty of law, that the requirements to obtain information in 391-3-6-.17 (9)(e) have been met for each land application site. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

(ii) A description of how the requirements to obtain information in 391-3-6-.17 (9)(e) are met.

(14) Reporting.

(a) Each facility or person that is permitted under this Rule shall submit to the EPD an annual report containing the information required in 391-3-6-.17 (13) pertaining to the most recent calendar year. The report shall be submitted to the EPD no later than February 19 of the following year.

(b) Any facility permitted under this Rule that generates sewage sludge shall submit to the EPD a monthly report of the volume and concentration, or weight in dry pounds, of solids removed from the facility during that month. This report may be included with the monthly Discharge Monitoring Report described in 391-3-6-.06 (11) but in any case must be submitted to the EPD no later than the 15th day of the following month.

(c) The federal NPDES Electronic Reporting rule, 40 CFR Part 127 and associated amendments, became effective on December 21, 2015. The monthly and annual reporting requirements noted above may include the electronic submission of such items, as applicable and approved by EPD.

(15) **Compliance Period.** Compliance with the standards for land application of sewage sludge shall be achieved in accordance with the dates contained in 40 CFR 503.2.

(16) **Addition of More Stringent Requirements.** On a case-by-case basis, the EPD may impose additional or more stringent requirements when necessary to protect public health and the environment.

(17) Right to Monitor and Assess Fees.

(a) The local governing authority in which a land application site is located may assess the generator of the sewage sludge and the owner of the land application site reasonable fees for environmental monitoring of the site and may hire persons to monitor the site. The assessed fee shall be limited to charges incurred for monitoring those parameters contained in the approved sludge management plan and the permit. Payment of the assessed fee shall be made prior to the application of sewage sludge. Failure to pay such fees, if assessed, shall be grounds for the local governing authority to seek an injunction to stop the land application of sewage sludge.

(18) Application for a Permit.

(a) Any facility with a Georgia NPDES permit that generate sewage sludge for land application, either as bulk sewage sludge or for sale or given away in a bag or other container, or for disposal by any means other than disposal in an approved municipal landfill, shall submit the following information with a NPDES permit application at least 180 days prior to the expiration date of the existing permit.

1. The information required in 391-3-6-.06 (5).

(b) Any facility with an NPDES permit that proposes to land apply bulk sewage sludge or that currently land applies sewage sludge but does not have an approved sludge management plan, shall submit the following additional information:

1. Description of the proposed land application site(s):

- (i) Location map(s) with the site(s) clearly denoted.
- (ii) Topographic map(s) with the following features identified and labelled:
 - I. Site boundaries (including buffer areas);
 - II. onsite access roads;
 - III. portions of the 100-year flood plain;
 - IV. location of any soil borings;
 - V. location of houses;
 - VI. location of wells;
 - VII. surface water, including ditches and intermittent streams.
- (iii) Soil survey map(s) with application site(s) clearly denoted.
- (iv) An aerial photograph of the site(s), if available.
 - 2. Soil series descriptions for each series represented, as described in the U.S. Department of Agriculture and University of Georgia, College of Agriculture soil survey(s) for the county(ies) in which each site is located.
 - 3. Soil analysis performed within the last six months, conducted in accordance with the requirements set forth by the EPD.
 - 4. Analysis of the sewage sludge performed within the last six months to include the parameters listed in 391-3-6-.17 as well as any additional parameters required by the EPD.
 - 5. The name of the facility generating the sewage sludge.
 - 6. The amount of sewage sludge to be applied per year. If some of the sewage sludge will be dewatered and some will be liquid, state the amount of each type.
 - 7. Whether the sewage sludge is to be dewatered, liquid, or both and the percent solids.
 - 8. The proposed method for meeting the pathogen reduction requirements in 391-3-6-.17 (7) and vector attraction reduction requirements in 391-3-6-.17 (8).
 - 9. The site use, crops to be grown on site and whether site will be used for grazing.
 - 10. The proposed method of application to the land and a description of operational procedures.
 - 11. A letter of agreement between the permittee and the owner of the site, if the owner is not the permittee.
 - 12. The proposed method for transporting the sludge to the application site.
 - 13. Any other information that the EPD may require.
- (c) Any facility with a LAS permit that generates sewage sludge for land application and has an approved sludge management plan, or generates sewage sludge for disposal by any means other than disposal in an approved municipal landfill shall submit the following information with a LAS permit application at least 180 days prior to the expiration date of the existing permit:
 - 1. The information required in 391-3-6-.11 (5).
- (d) Any facility with a LAS permit proposing to land apply sewage sludge, or that currently land applies sewage sludge but does not have an approved sludge management plan, shall submit the information listed in 391-3-6-.17 (18)(b) 1. through (b)13.
- (e) Any person owning or operating a land application site or sites where bulk sewage sludge from more than one permittee is land applied, or where both bulk sewage sludge from a permittee and an industrial sludge are applied shall submit the following information with a land application system permit application:
 - 1. The information in 391-3-6-.11 (5).
 - 2. The information in 391-6-.17 (18)(b) 1. through (b)13.

(f) Any person owning or operating a land application site on which bulk sewage sludge, generated outside the State of Georgia, is currently land applied, or is proposed to be land applied, shall submit the following information with a land application system permit application:

1. The information in 391-2-6-.11 (5).
2. The information in 391-3-6-.17 (18)(b) 1. through (b)13.

(19) **Notice and Public Participation.**

(a) Notice must be provided for any planned significant changes to the permittee's sewage sludge use or disposal practices or sites.

(b) Notice will be made in accordance with the provisions of Rule 391-3-6-.26. The public notice for permits with an approved Sludge Management Plan will also include publication in one or more newspapers of general circulation in the area affected by the discharge.

(20) **Terms and Conditions of Permits.** All permits, issued under Rule 391-3-6-.17 shall contain the terms and conditions required to comply with one or more of the following: 391-3-6-.06 and 391-3-6-.11.

(21) **Schedules for Compliance.** Notwithstanding any requirements contained in Paragraph 391-3-6-.17 (20), should a schedule for compliance with any requirement of 391-3-6-.17 exceed one year, the milestone dates in the schedule shall not be more than six months apart.

(22) **Modification, Revocation, Reissuance, and Termination of Permits.** Modification, revocation, reissuance, or termination of any permit issued pursuant to this Rule shall comply with one or more of the Rules listed in 391-3-6-.17 (20) above.

(23) **Duration, Continuation and Transferability.** Any permit issued under this Rule will comply with the requirements of one or more of the following: 391-3-6-.06 (15), 391-3-6-.11 (11).

(24) **Enforcement.** Any person who violates any provision of the Act, any rule promulgated and adopted pursuant thereto, or any term, condition, schedule or other requirements contained in a permit issued pursuant to the Act shall be subject to enforcement proceedings pursuant to the Act.

~~(25) **Effective Date.** This rule shall become effective twenty days after filing with Secretary of State's Office.~~

Authority: O.C.G.A. Sec. 12-5-20 *et seq.*