

Guidelines for Preparation of Sludge Management Plans

INTRODUCTION

NPDES and LAS permits typically contain language that requires the permittee to submit a sludge management plan to EPD for written approval before disposing of municipal sewage sludge by any method other than co-disposal in a permitted sanitary landfill. These guidelines are to assist in preparation of sludge management plans. Separate guidelines for land application at agronomic rates are available. Methods include composting, heat drying, heat treatment, and incineration.

PERMITTING / LICENSING

As discussed in the *Rules and Regulations for Water Quality Control* (Chapter 391-3-6-.17(3)), the operator of any treatment Process to Further Reduce Pathogens as described in 40 CFR 503 Appendix B that results in compost shall obtain a Solid Waste Handling permit from EPD unless the composting operation is part of a treatment works already regulated by an NPDES or LAS permit. The operator of any treatment process that consists of heat drying or incinerating sewage sludge must obtain an Air Quality Permit through EPD's Air Protection Branch and a processing permit by rule. 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. They have a specialty fertilizer (distributed for non-farm use) licensing program that applies to the marketing of sludge products.

PLAN CONTENTS

A sludge management plan for a sludge to be applied to lawns or home gardens following composting, heat treatment, or other treatment process must contain the following items:

1. Results for the following metals from an approved laboratory on their letterhead and less than six months old – Arsenic, Cadmium, Copper, Lead, Mercury, Nickel, Selenium, and Zinc – reported on a dry weight basis with the units of mg/kg. If the concentrations exceed the following limitations, the plan cannot be approved:

METAL	Concentration, mg/kg
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

2. The plan must demonstrate how one of the six alternatives contained in 391-3-6-.17(7)(a) for meeting Class A pathogen requirements is to be met. The plan must specify which alternative is being used and provide sufficient information to show how the alternative is to be met. Note that if the alternative requires meeting a specific temperature for a length of time, the plan must provide both temperature and time information.

3. The plan must demonstrate how one of the eight alternatives contained in 391-3-6-.17(8)(a) – (h) for meeting vector attraction reduction requirements is to be met. The plan must specify which requirement is being met and provide sufficient information to show how it is to be accomplished.
4. The plan must provide the status of any other approvals and/or permits required from other branches of EPD or the Department of Agriculture. If the sludge is to be sold or given to a third party for their further processing and eventual disposal to the public, the third party may obtain the Agriculture approval rather than the permittee. In that case, the Sludge Management Plan should specify the third party and give the status of their Agriculture approval.
5. The plan must provide sufficient details on the sludge treatment process to support the project. Note that if the plan involves a modification to the treatment plant, the submittals of engineering materials must be prepared by or under the direct supervision or review and bear the signed seal of a Georgia P.E.

If the Sludge Management Plan is for a sludge incinerator, it must contain information to demonstrate compliance with Subpart E of the federal sludge regulations, 40 CFR Part 503. It must also address the status of the required air permit(s) and disposal of the ash.

Following EPD review of the plan and any revisions required by comments on the plan, the applicant will be sent a public notice for publication in the local newspaper. EPD will also run a statewide public notice of the proposed plan. The applicant will also be sent the draft LAS or NPDES permit modifications. The wording of the permit language will vary depending upon the type of proposed project. Examples of a public notice (for a composting project) and permit modification (for land application) are attached. After the public notice period, if no significant adverse comments are received, EPD will revise the permit and formally approve the plan.

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Public Notice

LAS Permit No. GA02-XXXX

NOTICE OF ADDENDUM TO LAND APPLICATION SYSTEM PERMIT TO DISCHARGE WASTEWATER ONTO A LAND APPLICATION SYSTEM AND THEN INTO WATERS OF THE STATE OF GEORGIA

Having reviewed the Sludge Management Plan that has been submitted, the Georgia Environmental Protection Division (EPD) is considering amending the LAS permit for the following applicant, subject to special conditions:

City XYZ, P.O. Box 123, XYZ, Georgia 30123 - Modification of LAS Permit No. GA02-XXXX to approve a Sludge Management Plan for a composting operation to be located at the XYZ pretreatment plant.

Persons wishing to comment on the proposed determination are invited to submit comments in writing to the EPD address below, within thirty (30) days of the date of publication of this notice. All comments received prior to or on that date will be considered in the formulation of final determinations regarding the compost operations. "City XYZ Sludge Management Plan" should be placed at the top of the first page of comments. A public hearing may be held where EPD finds a significant degree of public interest in the composting. Additional information regarding public participation procedures is available by writing the EPD.

The Sludge Management Plan is available for review at the EPD, Engineering & Technical Support Program, 4220 International Parkway, Suite 101, Atlanta, Georgia 30354, between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday and at City's offices during normal business hours.

Please bring this to the attention of persons who you know will be interested.

PART IV

A. APPROVED SLUDGE MANAGEMENT PLAN

1. The permittee's approved Sludge Management Plan shall be implemented in accordance with Chapter 391-3-6-.17 of the State Rules and EPD's, "*Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates*", unless a more stringent requirement is stated in this Permit, and shall be enforceable through this Permit.
2. The permittee will submit an annual report pertaining to the most recent calendar year, as required under Chapter 391-3-6-.17(14) of the State Rules. The annual report shall be submitted to EPD no later than January 31 of the following year.
3. The permittee will maintain records of the amount of sludge land applied to each site. The amount of sludge land applied during each calendar year will be reported in the annual report in units of dry tons per year.
4. The permittee will monitor in accordance with the following requirements:
 - a. The pH of the sludge and soil mixture from each field within each land application site will be measured once per year. The sample will be a separate, composite sample of each soil type present and will be representative of field conditions.
 - b. The sewage sludge shall be monitored for the following parameters at the frequencies specified in Part IV.A.5:

Parameter	Units*
Total nitrogen	Percent
Ammonia-nitrogen	Percent
Nitrate-nitrogen	Percent
Volatile solids	Percent
Total solids	Percent
pH	Standard units
Arsenic	mg/kg
Cadmium	mg/kg
Copper	mg/kg
Lead	mg/kg
Mercury	mg/kg
Molybdenum	mg/kg
Nickel	mg/kg
Selenium	mg/kg
Zinc	mg/kg

*Units must be reported on a dry weight basis with the exception of pH.

- c. The pathogen density requirements listed in Chapter 391-3-6-.17(7) of the

State Rules shall be monitored at the frequency listed in Part IV.A.5.

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- d. The vector attraction reduction requirements listed in Chapter 391-3-6-.17(8)(a) through (8)(h) of the State Rules shall be monitored at the frequency listed in Part IV.A.5.

5. Monitoring Frequency:

<u>Amount of Sewage Sludge* (dry tons/year)</u>	<u>Frequency</u>
0-300	Once/year
300-1,600	Once/quarter
1,600-16,000	Once/two months
>16,000	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.

6. In accordance with Chapter 391-3-6-.17(12) of the State Rules, sewage sludge samples shall be analyzed using EPA approved methods contained in 40 CFR Part 503.8.
7. A proposed addition (or removal) of a new land application site(s) will be subject to EPD's review and approval process as outlined in the Guidelines for Land Application of Sewage Sludge (Biosolids). Upon written approval of the Director, addition or removal of a land application site(s) will be considered as amending the approved Sludge Management Plan and as an addendum to the permit.