



west virginia department of environmental protection

Division of Water and Waste Management
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Jim Justice, Governor
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West Virginia Department of Environmental Protection Sewage Lagoon Closure/Cleaning Procedures

Sewage treatment lagoons and ponds will occasionally need to have the sludge removed so that the pond can operate properly. These lagoons may also be replaced with a new treatment system or completely taken out of service. In any of these cases proper treatment and disposal of the wastewater and sludge contained in the lagoon is necessary. *An approval letter from the Division of Water and Waste Management is required before any pond or lagoon is cleaned or closed.*

In many situations, the wastewater and sludge remaining in the lagoon will have to be removed. The person coordinating the pond cleaning/closure should determine the most feasible disposal options for their particular situation. The “clear water” in the pond can often be pumped through the new treatment system or into a municipal sewage collection line. If a means to disinfect the water is still available, the “clear water” can sometimes be discharged into the permitted receiving stream. In certain situations, closure in place may be approved. Again, approval from the Division of Water and Waste Management is needed before these closure activities occur.

Disposal options for the sewage sludge remaining in the pond include land application, pumping by a permitted septic hauler, and landfilling. If the landfill option is chosen, the sludge must be dewatered or dried until it is at least 20% solids by weight (Sludge in lagoons is typically 5-10% solids.)

Obtaining Approval from the Division of Water and Waste Management

1. Gather the following information:

- Approximate dimensions of the pond
- Depth of water
- Depth of sludge in bottom of the pond
- Proposed method of disposal of the liquid
- Proposed method of sludge removal, transportation, and disposal
- Sludge sample results (See List of Parameters on Page 3)

2. Contact the sludge management inspector (Mark Bolling) at 304-465-1919 ext 3011 or the regional DEP inspector, to schedule a site visit. If land application is being proposed, the land application site must be approved and soil samples obtained (See List of Parameters). The loading rate (gallons/acre) will be determined based on the soil and sludge sample results.
3. Gather additional information (for applicable disposal method):
 - *Landfill*: Method of dewatering, name of landfill
 - *Septic Hauler*: Name of hauler, method of disposal to be used
 - *Wastewater Plant*: Written permission from wastewater treatment facility
 - *Land application*: Soil sample results, name of land owner & lessee, location, site maps, acreage, land owner agreement, crop type, method of adding/mixing lime with the sludge or other means of achieving pathogen and vector reduction.
4. Submit information from Steps #1 and #3 to the Division of Water and Waste Management, Permitting Program, 601 57th Street SE, Charleston, WV 25304; and provide a copy to the sludge management inspector, Division of Water and Waste Management, Environmental Enforcement, 601 57th Street SE, Charleston, WV 25304.
5. If approval is granted by the Division of Water and Waste Management, proceed with closure/cleaning according to the approval letter.
6. If the lagoon is being closed, it should be leveled to surface grade, limed, fertilized, and seeded, after the sludge is removed from the lagoon.
7. After land application is completed, notify the Division of Water and Waste Management of the total amount of sludge that was land applied and the date of completion.

Landowner Agreement (minimum requirements)

- Must be signed by sludge generator, landowner(s), and lessee, if applicable
- Landowner must agree to allow DEP access for inspection and sampling
- Landowner must agree to not graze livestock or harvest hay for at least 30 days after sludge application is completed
- Generator must agree to land apply only sludge that meets all Federal and State requirements, and to abide by all site restrictions during the spreading operation.

Closure In Place

A facility may *request* to close a lagoon “in place” without removing any sludge if there is less than six inches of sludge in the bottom of the lagoon. The amount of sludge will need to be verified by a DEP inspector, and a sludge sample will still be required. There are two types of closure in place that may be considered for lagoons with less than six inches of sludge. The first type involves removing the “clear water” and blending acceptable fill material with the sludge. The lagoon should be leveled to surface grade, limed, fertilized, and seeded.

The second type involves abandoning the lagoon in place. This option should only be considered for lagoons that are properly enclosed by fencing and there is no future use of the property envisioned. The influent piping shall be disconnected to ensure no wastewater is added to the abandoned lagoon. The discharge structure would remain in place to ensure that precipitation doesn't cause lagoon flooding. There will be no discharge during this time frame. If you anticipate discharge, you will have to obtain prior approval from the Director. No closure can take place until an approval letter is given from the Division of Water and Waste Management.

Time Frame for Closure

Ponds and lagoons should be properly closed as soon as practical after being taken out of service, but in no case longer than one year. Weather may be a factor in determining when closure can occur. The job coordinator should communicate with their local DEP inspector regarding closure times.

List of Parameters

Arsenic	Total Nitrogen
Cadmium	Phosphorous
Chromium	Potassium
Copper	Calcium
Lead	Magnesium
Mercury	pH
Molybdenum	Percent solids (sludge only)
Nickel	Fecal Coliform (sludge only)
Selenium	Volatile Solids (sludge only)
Zinc	

Questions/Contact

Alice Cooper, Permitting Program
Phone: (304) 926-0499 ext 1103

Mark Bolling, Environmental Inspector
Phone: (304) 465-1919 ext 3011