
ENVIRONMENTAL Fact Sheet



29 Hazen Drive, Concord, New Hampshire 03301 • (603) 271-3503 • www.des.nh.gov

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Sludge Land Application Sites in New Hampshire

What is sludge and what types can be land applied?

The New Hampshire Department of Environmental Services (NHDES) Administrative Rules Env-Wq 802.43 defines sludge as: “the solid or semisolid material produced by a water and wastewater treatment processes, excluding domestic septage; provided, however, sludge which is disposed of at solid waste facilities permitted by the department shall be considered solid waste. This includes industrial sludge and sludge mixed with another sludge or another material.”

Biosolids are a type of sludge derived from a sewage wastewater treatment facility (WWTF) that meets the standards for **beneficial use** specified by NHDES. This material has received a *Sludge Quality Certification (SQC)*, per Env-Wq 809 for land application from the NHDES for **beneficial use** for agricultural purposes.

Short paper fiber (SPF) is also used in land application as a soil conditioner. SPF is sludge derived from a pulp or paper mill wastewater treatment facility and must also obtain an SQC prior to being land applied. Hydrosolids are also used as a soil amendment for top soil blending. Hydrosolids are residuals derived from the drinking water treatment process.

Sludge that is not certified cannot be land applied and must be disposed of at a landfill or other permitted method.

Why permit land application for sludge/biosolids?

As population and businesses increase in New Hampshire, so does the volume of wastewater that must be processed both at municipal and industrial wastewater treatment facilities. There are several options available to dispose of the sludge produced by these facilities, including landfilling, incineration, land application and disposal out-of-state. Land applying sludge/biosolids involves the recycling of nutrients and other beneficial organic matter, which increases sustainability of soil fertility in New Hampshire. Land application of sludge/biosolids must be performed at agronomic rates (not in excess of annual plant/crop nutrient requirements).

A typical *sludge land application site* involves the land application of sludge/biosolids for *beneficial use* purposes where the nutrient content and soil conditioning properties, or both, of the sludge/biosolids supply agronomic and soil conditioning benefits such as nitrogen, phosphorus, micronutrients, and/or organic matter, for a crop, forested land, or a nursery. These materials may also be used to improve and/or promote

establishment of vegetation on soils that have been severely disturbed or which are in a poor vegetative state (e.g. gravel pit reclamation).

Issuing sludge site permits helps to ensure that the land application of residuals is done in a manner that protects human health and the environment. It also allows the department to monitor the site, respond to emerging contaminants, and protect groundwater and drinking water.

How do I obtain a permit?

The person or entities proposing to land apply sludge or biosolids at a site must be granted approval for a *Sludge Site Permit* and a *Sludge Quality Certificate* through NHDES' Wastewater Engineering Bureau. The permit process requires the permit applicant to evaluate the site for suitability, including determining: existing soils characteristics; proximity to surface waters, threatened or endangered species, designated rivers, groundwater protection areas, and other sensitive receptors and surrounding land uses, etc.

The applicant must also provide a Sludge Site Management Plan. This plan needs to include: the proposed method of land application; prior treatment, stockpiling and storage provisions for the material; the "spreadable acreage"; the generator(s) and corresponding SQC numbers for sludge that will be received at the site; the estimated volume of sludge proposed to be land applied; an estimated maximum annual nutrient loading amount of nitrogen or phosphorus, if phosphorus is the limiting nutrient; an odor control plan; a site nutrient management plan per the recommendations of a certified advisor; and the agronomic rate calculations in accordance with 40 CFR Part 503; etc.

If a *Sludge Site Permit* is issued by NHDES, the permit holder must adhere to very specific federal and state regulations and standards, in addition to any applicable local regulations, best management practices, and permit conditions that protect human health and the environment. The permittee is also subject to annual testing and reporting requirements.

How do I obtain additional information?

Additional information related to septage and sludge can be found at the [NHDES Wastewater Engineering Residuals Management](#) page, including the [Sludge Management Rules, Env-Wq 800](#), the [Sludge Quality Certification \(SQC\) Fact Sheet](#) and the [Sludge Site Application Form](#). You may also contact us via email at: SludgeandSeptage@des.nh.gov.