Homeowner's Guide to On-site Sewage Systems (OSS)

Environmental Health

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WHAT IS A SEPTIC SYSTEM AND HOW DOES IT WORK?

Overview

OSS serve residences and businesses in the county that do not have a city sewer connection available. They are designed to treat and dispose of wastewater on the same properties that produce it. Generally speaking, there are three main components to a septic system; the tank(s), the transport lines, and the drainfield. The type of system that can be installed on a site is largely dependent on the type and amount of suitable soil that is found on the property.

The Septic Tank

In Washington State, septic tanks are two compartment concrete, fiberglass, or polyethylene containers that range from 1,000 to 1,500 gallons in volume. In many OSS, septic tanks are the primary source of pretreatment for wastewater. Heavier solids settle to the bottom as "**sludge**" and lighter solids (i.e. grease, oils, & soaps) float to the top as "**scum**", leaving a relatively clear zone of effluent in the middle that will eventually flow out to the drainfield for treatment in the soil. In the septic tank, anaerobic bacteria use the organic matter as a food source and can reduce the volume by up to **40%**.

The Drainfield

After pretreatment in the septic tank, the mostly solid free effluent flows through the transport piping to the drainfield where it will receive treatment from aerobic bacteria in the soil. Drainfields come in many varieties, including: conventional gravel and pipe, gravelless chambers, mounds, subsurface drip, or proprietary systems. The drainfield spreads out the wastewater, allowing it to be stored in the pore spaces of the soil, gravel, or sand as it is dispersed. Some may be absorbed by plants and passed by evapotranspiration in to the atmosphere. Biological treatment and filtering occur in good unsaturated soils, and relatively safe water is eventually returned to the ground water and natural hydrological cycle. In saturated (wet) soils, the soil is less able to provide an effective treatment. This may occur in areas with high ground water tables, or in shallow, rain saturated soils.

SEPTIC SYSTEM MYTHS

Myth: "Septic tank additives are necessary to help the system operate properly."

Fact: Natural human waste contains all the ingredients necessary for septic tank function. It is not necessary to add chemicals, yeast, bacteria, rotten meat, or enzymes to the tank. Some products can actually harm the system and even contribute to the groundwater contamination.

Myth: "Any bleach, detergent, or drain cleaner can harm the septic system."

Fact: When used in normal household quantities, these products do not harm the system, as they are adequately diluted. Excessive use, however, may disturb the septic tank or drainfield bacterial action. Do not dispose of drain cleaners, or any other household chemicals directly into your septic system. The chemicals can disrupt your system, and contaminate the ground water.

Myth: "Boy, my system must be working great because I haven't had to pump the tank in 15 years!"

Fact: This equates to "Boy, my car engine must be working great because I haven't had to change the oil in 50,000 miles." When the septic system fails because of clogging, pumping the tank will be too little, too late, and system replacement may be several thousand dollars. It's cheaper insurance to clean the septic systems "oil filter" (tank) every three years.

Myth: It's "OK" to use "grey water" (sink, shower, or laundry discharge) on my yard or garden.

Fact: Current regulations do not allow anyone to discharge grey water on the ground surface. Greywater can contain pathogenic organisms and should be disposed of in an approved septic system.

HOW DO I MAINTAIN MY SEPTIC SYSTEM?

Repairs are expensive! Extend the life of your system by practicing proper routine maintenance.

Solids accumulate differently depending on use, but a good place to start is by pumping every 3 years, or when the sludge level is 12-18 inches in depth. After your first pumping, your licensed pumper can tell you how often your system should be serviced. Both compartments should be pumped, and all solids removed. Systems that incorporate pumps and pump tanks should also be inspected by a licensed pumper. In addition, be sure the pumper checks the inlet and outlet baffles for good condition.

Practice Water Conservation:

Studies have indicated that you can reduce your water use by half to two-thirds (2/3) with the following methods and save money on water, well-pump electricity, and hot water costs.

- **Repair leaky faucets and toilets.**
- Take showers instead of a bath.
- **Use stoppered sink basins, and do not let water run while doing dishes or brushing teeth.**
- Do full loads of laundry, preferably on different days to not overload the system.

Non-conventional or Proprietary Systems:

Non-conventional systems, or systems other than gravity systems, should be checked at least once a year by a certified professional pumper or maintenance provider.

Proprietary systems in Lewis County require an Operations & Maintenance (O&M) permit which requires 2 inspections in the first year, and yearly inspections thereafter. The inspections should be provided only by professionals certified for your system. The permit needs to be renewed every 3 years for your system to remain approved.

Maintenance schedules and recommendations can be found in the Owner's Manual for your system.

DO

Know where your OSS is located and protect it by:

- Keeping a copy of your as-built and knowing where everything is on your property.
- Routing rainwater and drainage away from your system.
- Minimizing garbage disposal use.
- Practicing water conservation.
- Inspect your OSS yearly for any visual signs of distress.

- **Hire a certified pumper or maintenance provider to check your system:**
  - Once every three years for conventional gravity systems.
  - Annually for all other systems.

- **Keep a written log of all pumping and maintenance.**

DON'T

Compromise the soils of your drainfield or reserve area by:

- Allowing vehicle or livestock traffic.
- Building structures.
- Burning on your drainfield.
- Planting deep-rooted or water-loving plants.
- Installing a sprinkler system.
- Covering with impervious materials.
- Allow anything in the system that is not human waste, toilet paper, water, or cleaners used in appropriate amounts, including:
  - Medications.
  - Septic system additives.
  - Coffee grounds.
  - Egg shells.
  - Paint/ paint thinners.
  - Harsh chemicals.

If designed, installed, and maintained properly, OSS are a viable, long-term solution to wastewater treatment and disposal, and can help in protecting public health and water resources.

MAINTENANCE LOG TEMPLATE

Site address:
Tax Parcel Number:
Type of System:
System Designer:
System Installer:
Date Installed

SERVICE HISTORY

Date:	Contractor / Work Completed:

LEWIS COUNTY

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The Lewis County Environmental Health is committed to ensuring a healthy & thriving county.

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