CARE & MAINTENANCE
OF
A Wastewater Treatment System in Lake County

Lake County Environmental Health

Guidelines for Planting on and Near Septic Drainfields

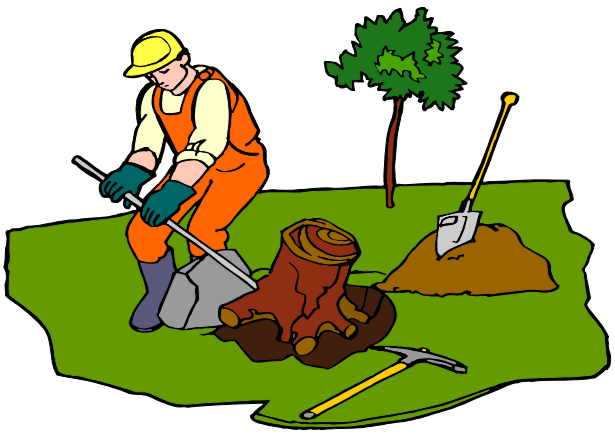
It is very important that the integrity of the drainfield be kept intact and that the soil does not wash away. A permanent vegetation cover is required to minimize topsoil loss. Open sites are more susceptible to frost heaving, and erosion. Plants trap snow, which acts as a mulch and prevents erosion.

- Topsoil on the drainfield should be a minimum of 6 inches and a maximum of 30 inches.
- Use minimal tilling when planting, and establish a cover as soon as possible to limit erosion.
- Use plants that do not like water or wet soil near the septic system. This will prevent their root systems from interfering with the system. The larger the plant, the more extensive (not necessarily deeper) the root system.
- Do not plant trees and shrubs on the drainfield; they may be planted at the foot or on side slopes. Frame the drainfield with trees and shrubs at a distance, but use only herbaceous (non-woody) plants on the drainfield itself. Trees should be planted a minimum of 20 feet from the edge of the drainfield. Trees known for seeking water reservoirs, such as poplar, maple, willow, and elm should be planted at least 50 feet from the drainfield.
- Avoid irrigation and fertilization on a drainfield. Use plants that can withstand dry conditions.
- Minimize traffic on the drainfield, both human and animal, to avoid soil compaction. Do not exercise pets or stake pets on septic drainfields. Never drive a car or other vehicle across the drainfield or mow when the soil is wet. Compacted soil can lead to soil erosion and impedes the flow of air around the system. In winter, activity on a drainfield can cause frost to penetrate, resulting in freezing problems.
- Do not plant edible plants, such as vegetables and herbs, on a drainfield.
- Annually inspect the drainfield for animal damage, such as burrowing and tunneling. Control animals at the first sign of tunneling or burrowing before damage is extensive.

Herbaceous plants, such as wildflowers and grasses, are good choices for drainfield plantings. Grasses are especially desirable due to their fibrous root system, which hold soil in place. Grasses also provide year around cover. Planting a combination of seeds and plants will make a faster cover. Use a mulch of clean straw or a cover crop of annual ryegrass or oats to prevent erosion while the plants become established.

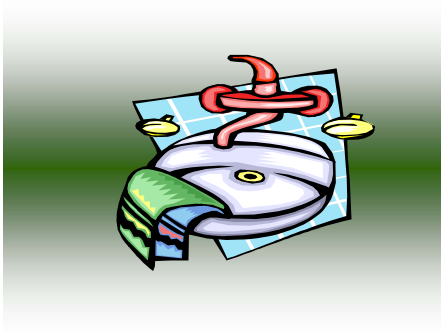
Low maintenance law grasses, such as fine fescues, can make a dense cover and only need to be mowed once or twice a year. Mow in October and late June to reduce weeds. Fescues are traditional low grasses that tolerates dry soils and shady sites. A mixture of fine-textured fescues, such as creeping red, hard, and sheep's fescues or traditional lawn grasses, such as common Kentucky bluegrass and perennial ryegrass, can be planted on a drainfield and regularly mowed.

Perennial flowers, such as daylilies and peonies, can be grown; however, extra care must be taken to mulch or plant close together so soil will not be exposed and erode. Low maintenance plants that do not need tending and care (remember minimal traffic on the drainfield) are best. Proper selection and placement of plants best suited to the site means that those plants will be healthier, more attractive, and have fewer pest problems.



Source: "Landscaping Septic Systems", Small Flows Quarterly, Fall 2002.

Basic Parts of a Wastewater System



You are a new homeowner in Lake County and you have discovered that you are not connected to public sewer. What do you do when your wastewater treatment (aka septic) system is backing up? You can call Lake County Environmental Health to determine if a copy of the Installation Permit for your septic system is on file. The Installation Permit will help you to locate your septic tank and drainfield. Once your system is located, you can examine the septic tank. Most often, backups are caused by plugged sewer lines from the house to septic tank, a septic tank that is due for pumping, or a pump that is not functioning. Worst case scenario involves a saturated drainfield, a broken deliveryline, or a broken drainfield lateral.

Wastewater treatment systems in Lake County usually consist of a septic tank and a subsurface drainfield. Current regulations require that the septic tank be concrete and water-tight. Metal septic tanks are no longer permitted due to the tendency to collapse due to heavy soils or rust. The septic tanks retains the sewage to allow the heavy solids and lighter scum to separate from the wastewater. This separation process is known as primary treatment. The solids stored in the tank are decomposed by bacteria and are later removed, along with the lighter scum, by a licensed septic tank pumper.

In a conventional gravity flow system, the partially treated wastewater leaves the tank and flows to the distribution box and enters the drainfield trenches. Drainage holes in the laterals allow the wastewater to drain into gravel trenches for temporary storage. In a pressure dosed system, the wastewater flows through an effluent filter into a second chamber in the septic tank. From the second chamber, the effluent is distributed by a pump or siphon to the trenches. The effluent then slowly seeps into the subsurface soil where it is further treated and purified (secondary treatment).

Water Softeners cannot be discharged into wastewater treatment systems!

NEED A CONTRACTOR?

Looking to install or replace a wastewater treatment system? This work may only be completed by a licensed wastewater treatment system installer. Lake County Environmental Health has a list of licensed installers in Lake County. Just give us a call and we will drop the list in the mail.

History of Wastewater Systems in Lake County

In 1969, Lake County adopted Individual Sewage Disposal Regulations , which established permitting and technical requirements for wastewater treatment systems. Prior to 1969, wastewater systems were not required to be permitted by Lake County. In 2002, the regulations were revised, updated, and renamed the Lake County Wastewater Treatment System Regulations. Technical requirements were removed from the regulations since the Montana Department of Environmental Quality has adopted DEQ 4 "Montana Standards for On-Site Subsurface Sewage Treatment Systems." Each county must adopt the standards and utilize the standards when permitting wastewater treatment systems.

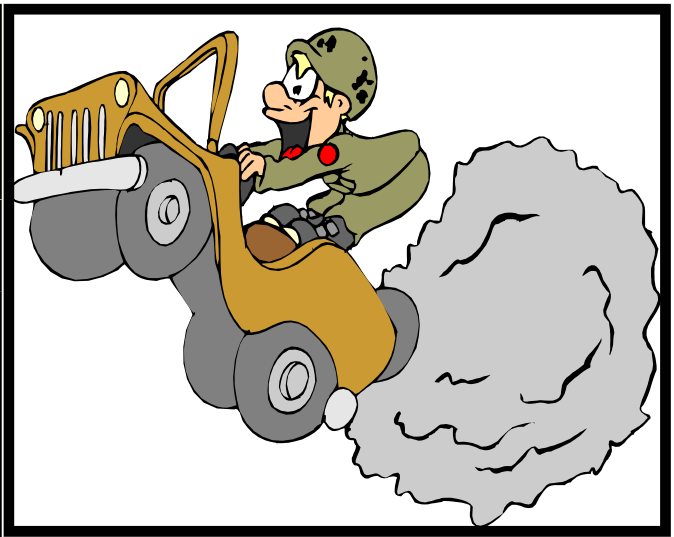
Prior to altering or installing a wastewater system, the homeowner or their agent must apply for an Installation Permit from Lake County Environmental Health. A sanitarian from the office will visit the property and design a system for the proposed use based on State Approval Statements, lot layouts, neighboring development, and site conditions.

If your kitchen has a garbage disposal, you must pump your septic tank more frequently or your system may fail!

Existing Systems

If your system was installed prior to the 1970's, appears to meet the regulations in place at that time, and is functioning correctly, you may continue to utilize the system until it ceases to function. A system is considered to be failing when sewage is surfacing in the drainfield area, sewage is backing up in the house, saturated soil over the drainfield, slow draining toilets or drains, or sewage odors.

If you plan to replace or expand the residence, you must apply for a permit from Lake County Environmental Health.



Do not drive over drainfield or septic tank!!

Tips to Avoid Trouble

DO

Pull and inspect your effluent filter every six months.

Have your tank pumped out and system inspected every 3-5 years by a licensed septic tank pumper.

Keep a record of pumping, inspections, and other maintenance.

Practice water conservation. Repair dripping faucets and leaking toilets, run washing machines and dishwasher only when full, avoid long showers, and use water-saving features in faucets, shower heads and toilets.

Learn the location of your septic system and drainfield. Keep a sketch of it handy for service visits. If your system has a flow diversion valve, learn its location, and turn it once a year. Flow diverters can add many years to the life of your system.

Divert roof drains and surface water from driveways and hillsides away from the septic system. Keep sump pumps and house footing drains away from the septic system as well.

Take leftover hazardous household chemicals to your approved hazardous waste collection center for disposal. Use bleach, disinfectants, and drain and toilet bowl cleaners sparingly and in accordance with product labels.

DON'T

Allow anyone to drive or park over any part of the system. The area over the drainfield should be left undisturbed.

Build or compact the drainfield replacement area.

Make or allow repairs to your septic system without obtaining the required permits.

Use commercial septic tank additives. These products usually do not help and some may hurt your system in the long run.

Discharge water softeners into your septic system.

Use your toilet as a trash can by dumping nondegradables down your toilet or drains. Also, don't poison your septic system and the groundwater by pouring harmful chemicals down the drain. They can kill the beneficial bacteria that treat your wastewater. Keep grease, disposable diapers, plastics, gasoline, oil, paint, paint thinner, pesticides, and antifreezes out of your septic system.

Source: A Reference Guide for Homeowners: Your Septic System, EPA Small Flows Clearinghouse.

CHEMICALS ADDITIVES— ARE THEY NECESSARY?

No, according, to the National Small Flow Clearinghouse. However the clearinghouse notes that "The environmental community and the makers of additives are largely at odds over these products. Engineers assert that a properly designed system operates well without additives, that additives can actually damage a septic tank system, and that no additive can compensate for poor design or inadequate system maintenance. Additive makers say their products help a septic tank do its job more efficiently or help the tank recover when it is malfunctioning."

According to the Small Flow Clearinghouse, "There has been little independent, standardized testing of the products. The consensus of studies documented by the clearinghouse is that between environmental engineers and makers of additives there is no common ground. The general consensus of the septic system literatures and municipal sewage disposal regulations is to stay away from additives—they are not worth the time and cost and certainly are no substitute for proper management, annual inspection and routine pumping.

Source: Montguide, MSU Extension Service MT 9401.

Soil vs. Effluent

The soil below the drainfield provides the final treatment and disposal of the septic tank effluent. After the effluent has passed into the soil, most of it percolates downward and outward, eventually entering the groundwater. A small percentage is taken up by plants through their roots, or evaporates from the soil.

The soil filters the effluent as it passes through the pore spaces. Chemical and biological processes treat the effluent before it reaches groundwater, or a restrictive layer, such as hardpan, bedrock, or clay soils. These processes work best where the soil is somewhat dry and permeable, and contains plenty of oxygen for several feet below the drainfield. The size and type of drainfield depends on the estimated daily wastewater flow and soil conditions.

Source: Montguide, MSU Extension Service MT 9401.

CHECK YOUR EFFLUENT FILTER EVERY SIX MONTHS!!

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