

System Maintenance

Proper maintenance of a septic tank and drainfield is critical to keep the system functioning properly. This protects human health and the environment. In addition, it delays the need to repair or replace a system, thereby saving the homeowner money.

Have the septic tank pumped regularly

One of the most important things you can do to keep the system functioning properly is to have the septic tank pumped regularly. Scum and/or sludge could build up and be carried to the drainfield if the tank is not pumped regularly. This would clog the drainfield and not allow wastewater to be treated, and wastewater might form a pond in the yard or back up into the house. At this point, the owner could be facing costly repairs or replacement instead of minimal maintenance expenses.

Several factors determine tank-pumping frequency, including the number of people living in the home, water usage and whether a garbage disposal is used. Many experts recommend pumping a tank every two to three years. Depending on the factors listed above, a tank may need to be pumped more or less frequently. A safe approach is to have the tank checked annually until it is determined that pumping is required. Once the pumping interval is established, use that time frame until there is a change in water use patterns. Additional people living in the home, children becoming teenagers, the installation of a garbage disposal, or the addition of a whirlpool tub could all increase water usage and wastewater generation. Conversely, fewer people living in the home could decrease water use and wastewater generation.

According to the federal Environmental Protection Agency, "Onsite Wastewater treatment Systems Manual": "Tanks should be pumped when sludge and scum accumulations exceed 30 percent of the tank volume or are encroaching on the inlet and outlet baffle entrances. Periodic pumping of septic tanks is recommended to ensure proper system performance and reduce the risk of hydraulic failure. If systems are not inspected, septic tanks should be pumped every 3 to 5 years depending on the size of the tank, the number of building occupants, and household appliances and habits. Commercial systems should be inspected and/or pumped more frequently, typically annually. There is a system available that provides continuous monitoring and data storage of changes in the sludge depth, scum or grease layer thickness, liquid level, and temperature in the tank. Long-term verification studies of this system are under way. Accumulated sludge and scum material stored in the tank should be removed by a certified, licensed, or trained service provider and reused or disposed of in accordance with applicable federal, state, and local codes."

Pumping a septic tank

In Wisconsin, a certified septage servicing operator (pumper) may legally pump a septic tank. A good pumper will:

- Inspect the tank first to determine if pumping is necessary.
 - Remove and clean the filter
 - Pump wastewater through the manhole or access port, not the inspection pipe. The inspection pipe is too small to see if the tank is sufficiently emptied, or if there are any problems.
 - Loosen and stir up materials by pumping, back flushing and repumping, or using a mechanical agitator.
 - Check that baffles or tees (or filters on newer systems) are in place and working. These are vital to prevent the drainfield from clogging.
 - Dispose of septage from the tank in a safe, legal manner. This may be at a municipal wastewater treatment plant or through land application if allowed by local codes and done according to septage disposal regulations.
 - Not allow anyone to smoke in the vicinity because volatile gases may be present.

Conserve water and spread out water usage

Conserving water to reduce the amount of wastewater that needs to be treated and distributing water flow to the septic tank over an extended period of time will extend the life of a system. Wastewater should remain in the septic tank long enough, at least 24 hours, for heavy solids to settle out forming sludge and light solids to float to the top forming scum. Except immediately after pumping, a septic tank contains wastewater to its full capacity at all times. As a gallon of wastewater flows into the tank from the house, a gallon of effluent flows out of the tank into the drainfield. If wastewater moves in and out of the tank too rapidly due to constant flow for extended periods of time or heavy water flow at any given time, solids remain suspended in the wastewater and may move with the effluent out of the tank and into the drainfield. Solids can clog a drainfield, decreasing its ability to disperse wastewater into the soil. This can lead to costly repairs or even replacement.

Spread out water usage by following these suggestions:

- Wash one or two loads of laundry a day, rather than three or more loads in one day.
- Install low-flow water fixtures, low volume toilets, and low water use appliances when replacing.
- Check for and repair leaky faucets, toilets and other leaks in the plumbing system.
- Take short showers rather than baths.
- Turn off the faucet while brushing teeth or shaving.
- If you use a water softening unit, select one with demand initiated regeneration in which the need to regenerate is determined by measuring gallons of water used, or by measuring the change in the electrical conductivity of the resin bed, or by sensing a change in water hardness.

Manage solids in wastewater

Manage what is flushed down the toilet or drain to reduce the amount of solids in wastewater. More solids in wastewater will require more frequent septic tank pumping.

- Do not flush cigarettes, diapers, feminine hygiene products, paper toweling or facial tissue. They may not break down readily and will contribute to the scum or sludge layers. Dispose of these items with other solid waste.
- Do not overuse the garbage disposal. It grinds up food products that settle out in the tank, adding considerably to the sludge buildup and the amount of organic matter that needs treatment.
- Do not put grease or oils down the drain. Grease and oils from cooking, frying and skin lotions increase the scum layer in the septic tank.
- Use liquid detergents instead of powdered detergents. Powdered detergents have "fillers" in them that add to the sludge layer.
- Use toilet tissue that breaks down rapidly. Test by placing a tissue sample in a jar of water, cover the jar opening, and shake vigorously. The toilet paper should fall apart rapidly when shaken.
- Install a filter on the washing machine water discharge line to trap lint and clean according to manufacturer's directions.
- Have an effluent filter installed at the outlet of the septic tank to help prevent solids from flowing into the drainfield. Have it cleaned according to manufacturer's directions.

Keep potentially hazardous materials out of wastewater

The septic system is not the best way to dispose of some materials. While a septic tank and drainfield system can adequately treat many pathogens in wastewater, it cannot effectively treat all hazardous materials.

- Do not dump unwanted pesticides such as herbicides, fungicides or insecticides down the drain.
- Do not dump paints, thinners or solvents down the drain.
- Do not dump excess medications down the drain.
- Do not overuse cleaning products, including bleach and drain cleaners, and do not dump excess cleaning products down the drain. A septic system can handle typical amounts used for routine cleaning, as well as normal use amounts of anti-bacterial soaps.
- Avoid using automatic toilet cleaning dispensers that release bleach with every flush. This deteriorates the rubber parts and seals in the toilet, and can reduce populations of bacteria in the septic tank that break down waste.

Let the system work naturally

Septic system starters, additives or feeders are not necessary to keep a system working and are not a solution for improperly installed, designed or maintained systems. In some cases, additives may keep materials suspended in the wastewater and allow them to flow out of the tank where they can clog the drainfield or the soil that must assimilate the wastewater.

- Do not use septic system starters.
- Do not use septic system additives.
- Do not use septic system feeders.

Protect the drainfield

While the drainfield does not require maintenance, a few precautions will help ensure proper functioning and a long service life. The drainfield should not be inundated with excess water, as extra water will reduce the ability of wastewater to percolate through the soil as needed for proper treatment. The drainfield should not be compacted; compaction will prevent the drainfield from treating wastewater properly. The structural integrity of the drainfield must be maintained. (Note: Some newer system drainfields contain small diameter pipes that must be cleaned periodically.)

- Divert water from roofs, downspouts, or any other surface water runoff away from the area of the drainfield.
- Do not add large amounts of water to the drainfield by using underground sprinklers. Use a manually operated sprinkler only as it is necessary to maintain the vegetative cover.
- Do not drive vehicles or agricultural equipment over the drainfield.
- Do not site dog kennels or other animal confinement units over the drainfield.
- Do not pasture animals over the drainfield.
- Do not construct driveways, parking lots, sidewalks, patios or buildings over the septic tank or drainfield.
- Maintain all required setback distances when adding buildings or other improvements to the property. There are minimum distances required between the tank or laterals and items such as surface water, wells, and foundations.
- Do not place additional soil over the drainfield other than to fill slight depressions. A slight mounding will ensure runoff of surface water.
- Keep rodents and other burrowing animals out of the drainfield area.
- Do not plant trees or other deep-rooted plants within 5-10 feet of the drainfield. Do not plant trees, such as cottonwoods, with invasive root systems, as they may clog or damage pipes.
- Establish and maintain grass or other suitable vegetative over the drainfield.
- Do not plant vegetables or other annuals that require digging in the soil due to potential contact with pathogens. In addition, this will cause the soil to be bare at times, reducing evapotranspiration of water to the air.
- Mow grass frequently to encourage growth, but remember to let it grow longer before winter.
- Reserve a replacement drainfield area and manage it the same as the present drainfield.

Keep records

Keep detailed records of repairs, pumping and other maintenance activities. Keep a sketch of the location of the septic tank and drainfield for future maintenance. This is important information for potential buyers if the property is ever for sale. Plot plans for your use or other information can often be obtained at the local zoning or health department office.

Troubleshooting Septic Tank / Drainfield Systems

Problems that sometimes occur include sluggish drainage, contaminated drinking water, wastewater surfacing in the yard, odors, or pipes freezing.

- Sluggish or no drainage from fixtures, or backup of wastewater into the house may be caused by: improperly designed and/or installed system; improper plumbing in the house; blockage in house plumbing; improper appliance operation; excess water entering the system; improper elevations in wastewater system; pump failure or improper operation if system is not a gravity flow; blockage in wastewater line between house and septic tank; blockage in septic tank; blockage in line from septic tank to drainfield; blockage in distribution box, drop box or pipe; or blockage at the drainfield/soil treatment interface where wastewater enters soil.

- Contaminated drinking or surface water may be caused by: inappropriate or improperly designed and/or installed wastewater treatment system; system too close to water supply well; direct flow of wastewater to surface or groundwater; improper well construction; broken water supply pipe; broken wastewater lines; leaking septic tank; or a source other than owner's system.

- Sewage odors indoors may be due to: improper plumbing and venting in house; traps not filled with water; wastewater back up into house; wastewater surfacing in yard; or unsealed wastewater ejector sump pump.

- Sewage odors outdoors may be due to: wastewater surfacing in yard; improper plumbing and venting in house; pump station vent or an inspection pipe located too close to house; inspection pipe caps damaged or removed; wastewater back up into house; source other than owner's wastewater treatment system; or unsealed wastewater ejector sump pit.

- Wastewater surfacing in yard may be caused by: excess water entering system; blockage at the drainfield/soil treatment interface where wastewater enters soil; blockage in distribution pipe; improper elevation for drainfield; restricted or impaired flow through the distribution box, drop box, or drainfield; undersized drainfield due to design or construction; pump failure or improper operation; or inappropriate or improperly designed and/or installed system.

- Distribution pipes and/or drainfield freezes in winter may be due to: improper construction; check valve not working in pump to lift wastewater to tank or effluent to drainfield; traffic over subsurface pipes (drainfield, pipe to drainfield, etc.); low wastewater flow rate; or lack of use.

If you have questions or concerns you may contact:

Vernon County Zoning and Sanitarian
318 Fairlane Dr., Suite 227
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Room 227, Erlandson Office Building – Off County Hwy BB, North Side of Viroqua

608-637-5270