

Maintaining Your Septic System

A Guide for Homeowners

El Paso County Public Health

Buried beneath your back yard, it is out there — constantly working. When you're at work, it is working. When you're eating dinner, it continues working. And when you're sleeping, it's still out there in the dark — working. What is it? Your septic system. It may be the most overlooked and undervalued utility in your home; but with proper care and maintenance, your septic system can continue to work for you for decades.

Caring for your home septic system is your responsibility. This publication is designed to show you how your septic system works, why and how to maintain it, and how to avoid some common problems with septic systems. You should know that proper use and care of your septic system not only protects you and your family; it protects our community and our environment.

What's in it for you? Plenty!

Caring for your septic system properly is very important. Here are just a few reasons:

Protect our community environment: A failing septic system can release pollutants that damage our environment. Pollutants such as nitrates and phosphates, for example, can cause excessive algae growth in lakes and streams, impairing aquatic life. Chemicals improperly disposed of through a septic system also can pollute local water sources and can contribute to early system failures.

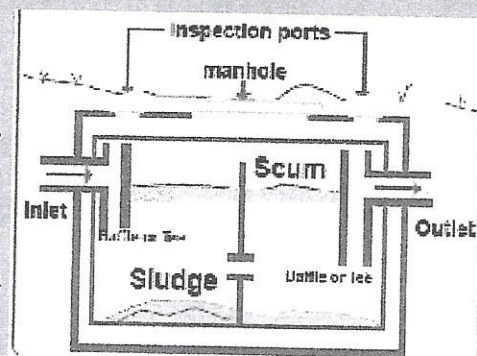
Protect your health: When a septic system fails, inadequately treated wastewater can reach the groundwater. Bacteria and viruses from human waste can cause diarrhea, hepatitis, and typhoid fever. Many serious outbreaks of these diseases have been caused by contaminated drinking water.

Protect your money: Failing septic systems are expensive to repair or replace, and improper maintenance by homeowners is a common cause of early system failure. The minimal amount of preventive maintenance that septic systems require costs very little in comparison to the cost of a new system. For example, it typically costs \$3,000 to \$10,000 to replace a failing septic system, compared to \$100 to \$300 average per year to maintain one. Failing septic systems also can hurt your property values and those of others in our community.

How your septic system works

There are two main parts to the basic septic system: the **septic tank** and **leachfield**. Household wastewater first flows into the septic tank, where it should stay for at least a day to allow heavy solids to settle to the bottom as sludge and grease and light solids float to the top as scum. Sludge and scum remain in the tank so that naturally occurring bacteria can break them down. But sometimes the bacteria can't finish the job and septic tanks need to be pumped out periodically.

When a septic system works properly, new wastewater from the house pushes the separated wastewater in the septic tank out into the leachfield, which provides additional treatment by



allowing the wastewater to trickle through a filtering system composed of perforated pipes or chambers, gravel and soil. Bacteria in the soil also helps to break down the waste.

One problem can occur if the household uses so much water in a short time that wastewater is pushed out into the leachfield before solids have had a chance to settle out. Solids damage the leachfield pipes or chambers and can strain the system unnecessarily. So homeowners should stagger their laundry throughout the week and try to do no more than two wash loads per day.



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Inspections and maintenance key to healthy system

Septic system maintenance is a lot like automobile maintenance — a little effort on a regular basis can save a lot of money and significantly prolong the life of the system.

Get your septic system inspected annually to ensure that it is working properly and to determine when the septic tank should be pumped. At this time, all compartments should be pumped. Systems that have moving parts may require more frequent inspections.

It's a good idea to be present when your system is inspected and/or pumped, but be aware that the toxic gases that exist in septic tanks can kill you in minutes. Even looking into the tank can be dangerous. Leave inspections and pumping to trained professionals.

A professional contractor should do a thorough inspection to include:

Locating the system: Even a professional may have trouble locating the system if the access to your tank is buried. One way to find your system is to go to the basement and determine which direction the sewer pipe is heading as it goes out through the basement wall. Back outside, the inspector will use an insulated probe inserted into the soil to locate the buried piping. Once the system components are found, be sure to sketch a map and keep it on hand to save time on future service visits.

(The El Paso County Department of Health and Environment may have a drawing of the components from 1966 to date for your convenience.)

Uncovering the manhole and inspection ports: This may require some digging in the yard. If they are buried, it will help in future inspections if elevated access covers or risers are installed.

Checking connections: Flushing the toilets, running water in the sinks and running the washing machine through a cycle will help to determine if the household plumbing is all going to the system and working correctly.

Measuring the scum and sludge layers: The professional contractor will measure the scum and sludge layers. If the sludge depth is equal to one third or more of the liquid depth, the tank should be pumped. Be aware it is most prudent to conduct regular inspections and pump as recommended.

Checking the tank and the leachfield: The inspector will check the condition of the baffles or tees and the walls of the tank for cracks, and the drainfield for any signs of failure. If the system includes a distribution box, drop box, or pump, these need to be checked, too.



What you should do

Keep good records

It is very important to keep a detailed record of all inspections, pumpings, permits, repairs, and any other maintenance to your system along with a sketch of where your septic system is located. Having this information on hand for service visits can save you both time and money.

Protect the tank and leachfield

Protect your septic system from potential damage. Don't plant anything near your septic system other than grass that doesn't require irrigation. Don't allow anyone to drive or operate heavy machinery over any part of the system. Also, don't build anything over the leachfield or allow livestock to compact the soil over a leachfield.

Limit Additives/System Cleaners

While many products on the market claim to help septic systems work better, there is no magic potion to cure an ailing system. In fact, most engineers and sanitation professionals believe that commercial septic system additives are, at best, useless, and at worst, harmful.

There are two types of septic system additives: biological (like bacteria, enzymes, and yeast) and chemical. The biological additives are harmless, but some chemical additives can potentially harm the soil in the leachfield and contaminate the groundwater.

What you put into your septic system greatly affects its ability to do its job. Remember, your septic system contains living organisms that digest and treat waste. As a rule of thumb, do not dispose of anything in your septic system that can just as easily be put in the trash. The more solids that go into the tank, the more frequently the tank will need to be pumped and the higher the risk for problems.

In the kitchen, avoid washing food scraps, coffee grounds, grease and cooking oil down the drain. Use the same common-sense approach in the bathroom. Don't use the toilet to dispose of plastics, paper towels, facial tissues, tampons, sanitary napkins, cigarette butts, dental floss, disposable diapers, condoms, kitty litter, etc. Only body waste and toilet paper should be flushed down the toilet.

When used as recommended by the manufacturer, most household cleaning products will not adversely affect the operation of your septic tank. Drain cleaners are an exception, however, and only a small amount of these products can kill the bacteria and temporarily disrupt the operation of the tank.

Household cleaners such as bleach, disinfectants and toilet bowl cleaners should be used in moderation

only in accordance with product labels. Overuse of these products can harm your system.

Do not use your septic system to dispose of hazardous household chemicals. Even small amounts of paints, varnishes, paint thinners, waste oil, anti-freeze, photographic solutions, pharmaceuticals, antibacterial soaps, gasoline, oil, pesticides, and other organic chemicals can

destroy helpful bacteria and the biological processes taking place within your system. These chemicals also pollute the groundwater. Be sure to dispose of leftover hazardous chemicals at an approved hazardous waste collection center. For

more information, contact the Household Chemical Waste Collection Facility at (719) 520-7878.



How appliances may affect your septic system

Hot Tubs/Whirlpools

Hot tubs and whirlpools have become more common in the home as a source of therapy. The soothing, swirling waters of a spa may be good for a homeowner, but the large amounts of water that drain from the hot tub are not good for your septic system.

Emptying large quantities of water from a hot tub into your septic system can overload a system and stir the solids in the tank, pushing them into the leachfield, eventually causing it to fail.

Hot tub water should instead be cooled and then drained onto turf or landscaped areas of your property, well away from the septic tank, leachfield and house.



Garbage Disposals

It's best not to use a garbage disposal if you have a septic system. Some of the small food scraps that come out of a disposal can be broken down by bacteria, but most just add to the solids in a tank and require pumping more often. In fact, Colorado requires a larger size leachfield if a garbage grinder/disposal unit is in operation in the house.

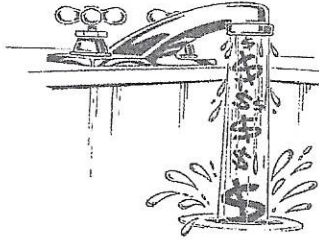
Water Softeners

Some freshwater purification systems, including water softeners, pump hundreds of gallons of water into the septic system all at once. This can agitate the solids and allow excess to flow into the leachfield. Consult a plumbing professional about alternative routing for such freshwater treatment systems.

Water softeners also can flush several pounds of salt into a septic system, which may affect the digestion in the septic tank or reduce the permeability in the soil dispersal system.

Use water wisely all around the house

Water conservation is very important for septic systems because continual saturation of the soil in the leachfield can affect the quality of the soil and its ability to naturally remove toxics, bacteria, viruses, and other pollutants from the wastewater.



The most effective way to conserve water around the house is to first reduce or eliminate waste of water. Immediately repair any leaking faucets or running toilets, and use dishwashers only when full.

Laundry

Selecting the proper load size can save you water, energy and money. Also, try not to do more than two laundry loads per day; washing more loads in succession can overload your septic system with water, causing it to pass solids into the leachfield.

Newer energy-efficient clothes washers use 35% less energy and 50% less water than a standard model. Look for appliances that display the Energy Star symbol. This indicates they meet strict energy efficiency guidelines set by the EPA and U.S. Department of Energy.



Use only non-phosphate or low phosphate laundry detergents. Powder detergents with low inert (clay) content also are easier on the septic system.

Bathrooms

Inside a typical household, most of the water used — and potentially saved — is in the bathroom. For example, don't let the water run while washing hands and brushing teeth. Avoid taking long showers and/or install water-saving features in faucets and shower heads. These devices can reduce water use by up to 50%. Low-flush toilets use 1.6 gallons per flush compared to the 3 to 5 gallons used by conventional toilets. Even using a toilet dam or putting a container filled with rocks in the toilet can reduce water use by 25%.

Try to space out activities requiring heavy water use over several days. Also, divert roof drains, surface water, and sump pumps away from the leachfield.

Checklist For Your Septic System

- Do** learn the location of your septic tank and leachfield. Keep a sketch of it handy with your maintenance record for service visits.
- Do** have your septic system inspected annually.
- Do** have your septic tank pumped out by a licensed contractor, approximately every 3 to 5 years, or as often as is appropriate for your system.
- Do** keep your septic tank cover accessible for inspections and pumping. Install risers if necessary.
- Do** call a professional when you experience problems with your system or if there are any signs of failure.
- Do** keep a detailed record of repairs, pumping, inspections, permits issued, and other maintenance activities.
- Do** conserve water to avoid overloading the system. Be sure to repair any leaky faucets or toilets.
- Do** divert other sources of water, like roof drains, house footing drains, and sump pumps, away from the septic system. Excessive water keeps the soil in the leachfield from naturally cleansing the wastewater.
- Don't** go down into a septic tank. Toxic gases are produced by the natural treatment processes in septic tanks and can kill in minutes. Take extreme care when inspecting a septic tank, even when just looking in.
- Don't** allow anyone to drive or park over any part of the system.
- Don't** plant anything over or near the leachfield except grass that doesn't require irrigation. Roots from nearby trees or shrubs may clog and damage the drain lines.
- Don't** dig in your leachfield or build anything over it, and don't cover the leachfield with a hard surface such as concrete or asphalt. The area over the leachfield should have only a grass cover.
- Don't** make or allow repairs to your septic system without obtaining the required Health Department permit. Use professional licensed onsite contractors when needed.
- Don't** use septic tank additives. Under normal operating conditions, these products usually do not help and some may even be harmful to your system.
- Don't** use your toilet as a trash can or poison your septic system and the groundwater by pouring harmful chemicals and cleansers down the drain. Harsh chemicals can kill the beneficial bacteria that treat your wastewater.
- Don't** use a garbage disposal without checking with your local regulatory agency to make sure that your septic system can accommodate this additional waste.
- Don't** allow backwash from home water softeners to enter the septic system, unless strict building codes require connection to the system.
- Don't** allow livestock over the leachfield.

This publication was made possible thanks to *Pipeline* articles from the National Environmental Service Center (NESC).

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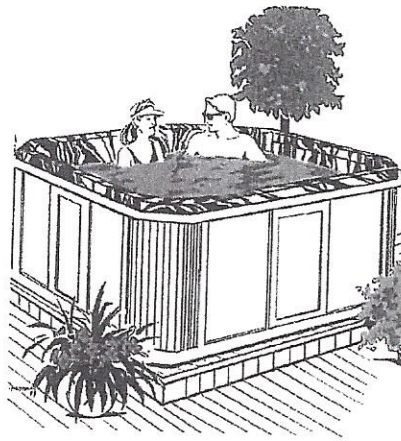
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