

All County and Associates, Inc.

Homeowner's Guide to On-Lot Sewage Systems



What You Need to Know About On-Lot Sewage Systems

Today, homeowners are being pulled in more directions than ever before. With this comes added responsibility to perform routine maintenance on a house. For millions of homeowners, this upkeep includes an on-lot sewage disposal (septic) system.

Care for your drainfield



Use water efficiently



Don't dispose of household wastes



Regularly inspect and maintain your system

1 What is Your Responsibility?

When property designed and installed, an on-site sewage system can provide long-term treatment. It is through improper usage and inadequate maintenance that problems occur. These lead to shortened lifespan, future replacement costs and even downstream pollution.

Did you know, a failing system can pollute drinking water sources? How about that when you sell your home, the system must be in good working order?

This guide provides an overview of the responsibilities to ensuring functionality and longevity.

2 How It Works

There are many designs of on-site sewage systems. They vary based on many factors, including topography, soil properties, usage levels, etc.

That said, most systems contain:

1. In-house plumbing
2. A septic tank
3. A distribution structure
4. A drainfield / absorption area
5. Native Soil

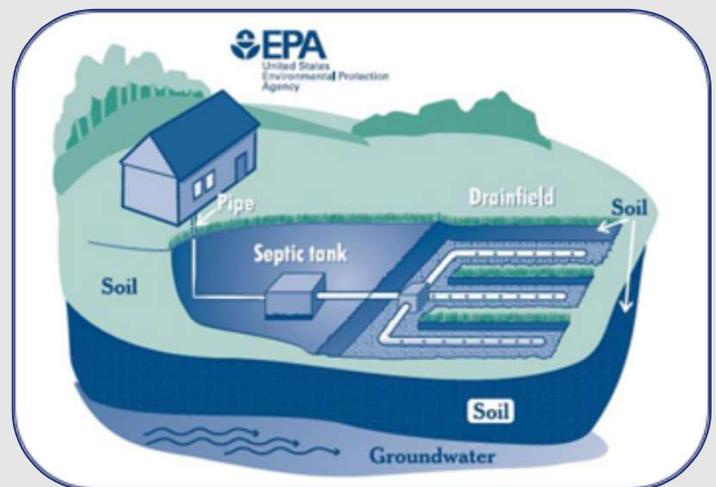


Image Courtesy of US EPA

Did You Know!

On-site sewage systems aliases:

On-lot system | Septic system | Individual sewage disposal system | On-site sewage disposal system | On-Site wastewater treatment system

How It Works - Components

In-House Plumbing

The toilets, sinks, showers, etc. that drain through a network of pipes to the septic tank. Downspouts, foundation drains, air conditioning condensate, and sump pumps should not connect to this network.

Septic Tank

A septic tank is a buried vault for the storage of waste materials. Tank materials include concrete, fiberglass, or polyethylene and must be watertight.

This vault holds the wastewater to allow for the separation of sludge and scum. Sludge is the solid material that settles to the bottom where anaerobic microbes break it down. While scum is the oils, fats, and greases and they rise to the surface of the water. Today, vaults contain two compartments and include a T-shaped baffle over the inlet and outlet. This is to prevent sludge and scum discharges from the tank.

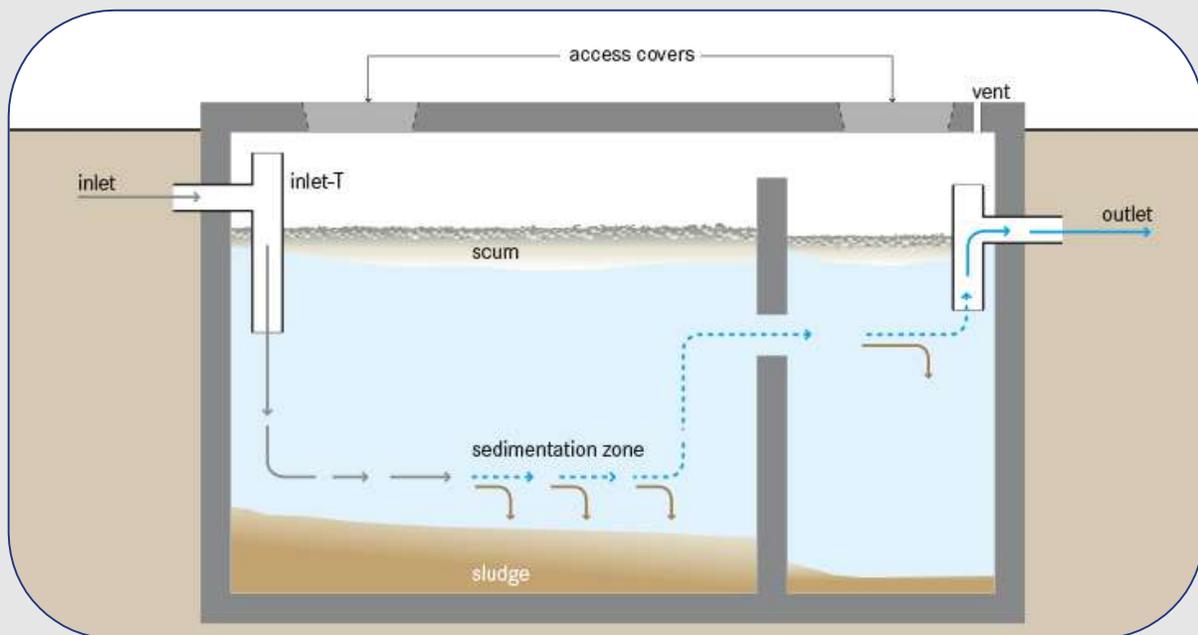


Image Courtesy of Wikipedia

Tip!

To prevent damage and accidental discharge of waste material, sludge and scum need to be periodically removed from the septic tank. This routine inspection and maintenance ensures a system is properly functional and reduced future costs.

How It Works – Components (Cont.)

Distribution Structure

The distribution structure moves effluent to the absorption area.

Drainfield / Absorption Area

The partially treated effluent from the septic tank drains to the absorption area. The absorption area is where effluent and native soil interact.

Native Soil

As the effluent flows through the absorption area it percolates into the native soil. The soil provides further treatment of the effluent before it enters the groundwater. Aerobic microbes in the soils help filter out contaminants, bacteria, viruses, and nutrients.



Image Courtesy of Minnesota Pollution Control Agency

Did You Know!

Finding a historical system might be tough, but finding a modern system is easier. Start by seeing if you received a plot plan showing the location. Another way is by looking for the lids and covers associated with the septic tank. If you cannot locate your system, contact All County and Associates.

3 Why Should I Maintain My System

Maintenance is key to ensuring a system functions throughout the service life. There are two main reasons a homeowner should maintain their system.

Save Money

In 2020, the average sewage system repair or replacement costs \$35,000. With the lack of proper maintenance being the cause.

Protecting Health and the Environment

Untreated sewage discharge can cause groundwater contamination. This poses a threat to drinking water and human health.



Image Courtesy of Washington State DOH

Tip!

It is important to prevent overloading or flooding of the drainfield. This can lead to reduced performance, backups, and sewage flows to the surface. If the primary location fails, most municipalities require a reserve drainfield. It is important to protect and maintain this area like the primary location.

4 How Do I Maintain My System

Inspection and Maintenance

The best way to maintain the system is routine maintenance. This should include an inspection by a certified Sewage Enforcement Officer.

Maintenance starts with pumping out the tank(s) at least every three years. This will allow the inspector a view of the system and ensures it is not overloaded with scum or sludge. Also perform maintenance if scum is within 6" of the outlet or if sludge is within 12" of the outlet.

Inspection of components such as floats, pumps, alarms, etc. should occur more often. Inspection of these items should occur at least yearly.

Finally, the inspector and pumping company should provide a report. This report includes observations, system condition, and any needed repairs.

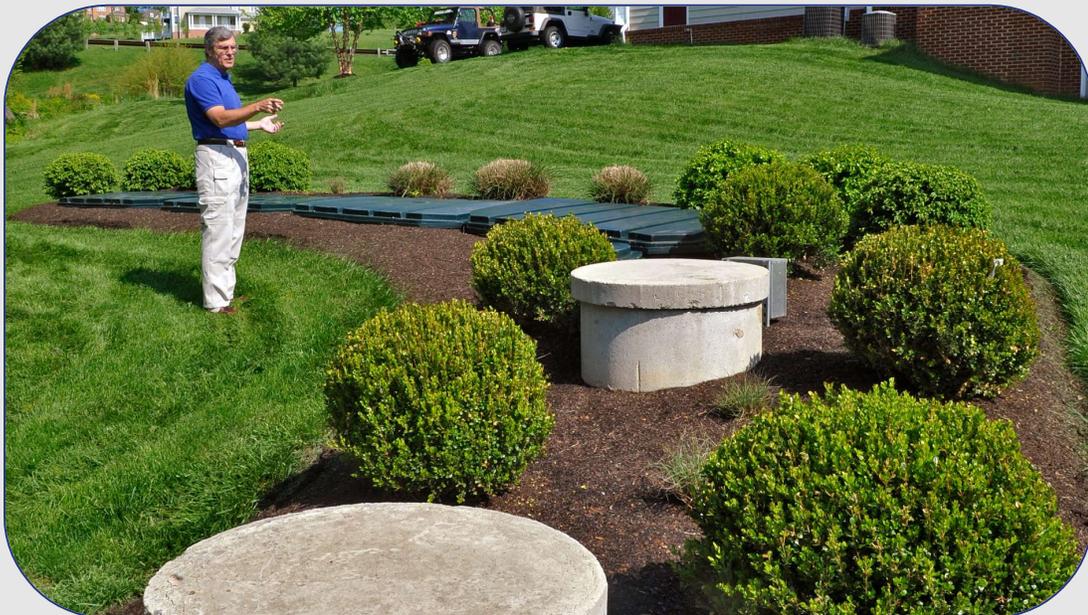


Image Courtesy of realtor.com

Did You Know!

A on-site sewage system inspection should include the following:
locating the system | uncovering the access lids | flushing the toilets |
checking for backups | measuring scum and sludge levels | identifying any
leaks | inspecting mechanical components

How Do I Maintain My System (Cont.)

Watch Your Drains

What goes down the drain can impact on how well a system works. Additionally, it plays a role in the maintenance and longevity of the system.

Many household products can clog the plumbing network leading to the septic tank. Additionally, these products can damage the system components.

Garbage disposals can increase the amount of fats and sludge in a septic tank. While chemicals can destroy the biological process necessary for proper function.

Maintain Your Drainfield

The drainfield is the unsung hero of the septic system. This is the interface with the native soil and where hidden damage can occur. Here are a few things to protect it:

1. Avoid planting trees and shrub nearby.
2. Do not drive or park vehicles on the drainfield
3. Prevent flooding of the drainfield with rainwater



Image Courtesy of US EPA

Tip!

The amount of wastewater generated plays a large role in frequency of maintenance. Homeowners can reduce the volume of wastewater generated. This includes installing high-efficiency toilets, repairing leaking fixtures, and installing faucet aerators.

5 What Can Make My System Fail

An on-site sewage system can fail for many reasons. Overloading a system is the easiest way to damage the functionality and cause a failure. Another reason is a lack of maintenance. Maintenance ensures the system does not develop excessive buildup, broken components or backups.

The first signs of a failure are either a backup into the home or a foul-smelling wet area in the yard. Both of these signs create health risks. Usually by the time either signs are noticed, the harm and damage have occurred.

Systems failures are not limited to overuse. A system installed in unsuitable soil or even one that has exceeded its lifespan can fail. Other risks include improper use of drainfield areas, tree roots, and defective components.



Image Courtesy of Advanced Septic Services of Florida

Did You Know!

When encountering limiting site conditions, a designer may use an alternative design. This could include new technology. These technologies use media, sand, or mechanical components to promote treatment. Since these technologies are more elaborate, they can need extra inspections.

6 On-Site Sewage System Dos and Don'ts

Dos

- Check with your local Sewage Enforcement Officer before using additives as they do not eliminate the need for pumping and can be harmful.
- Use water efficiently to avoid overloading the septic system. Be sure to repair leaky faucets or toilets immediately.
- Use commercial bathroom cleaners and laundry detergents in moderation. Many people prefer to clean with a mild detergent or baking soda.
- Keep records of repairs, pumpings, inspections, permits issued, and other system maintenance activities.
- Learn the location of your septic system. Keep a sketch of it with your maintenance record for service visits.
- Have your system inspected and pumped as necessary. Consider using a certified Sewer Enforcement Officer for all inspections.
- Plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the drainfield.

Don'ts

- Your septic system is not a trash can. Don't put dental floss, feminine hygiene products, condoms, diapers, cotton swabs, cigarette butts, coffee grounds, cat litter, paper towels, latex paint, pesticides, or other hazardous chemicals into your system.
- Don't use caustic drain openers for a clogged drain. Instead, use boiling water or a drain snake to open clogs.
- Don't drive or park vehicles on any part of your septic system.

This list is from the National Small Flows Clearinghouse and the US EPA Homeowner's Guide to Septic Systems.

Tip!

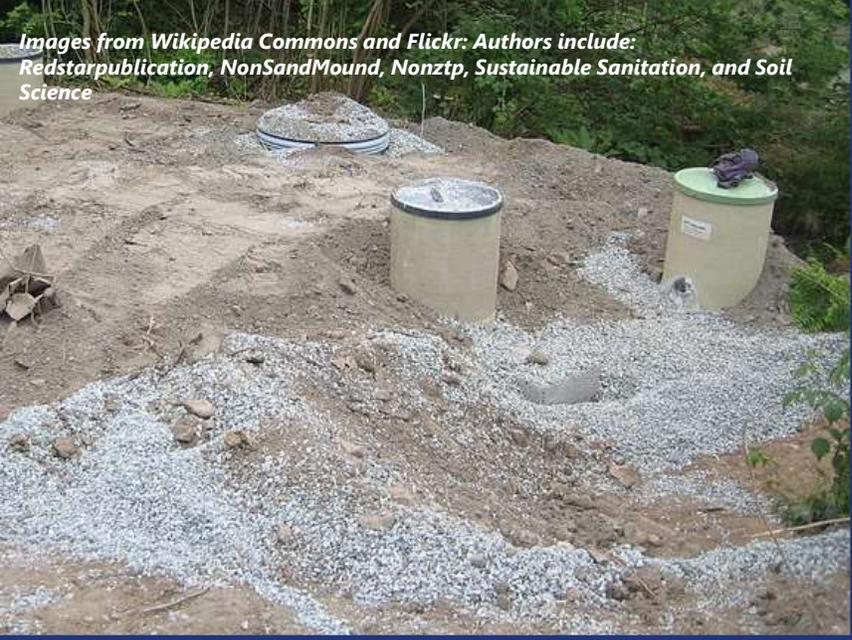
For more information, visit:

PA Association of Sewer Enforcement Officers (www.pa-seo.org)

EPA On-site Sewage Management Homepage (www.epa.gov/owm/septic)

National Small Flows Clearinghouse (www.nesc.wvu.edu)

Images from Wikipedia Commons and Flickr: Authors include: Redstarpublishation, NonSandMound, Nonztp, Sustainable Sanitation, and Soil Science



Helping You Make Informed Decisions

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