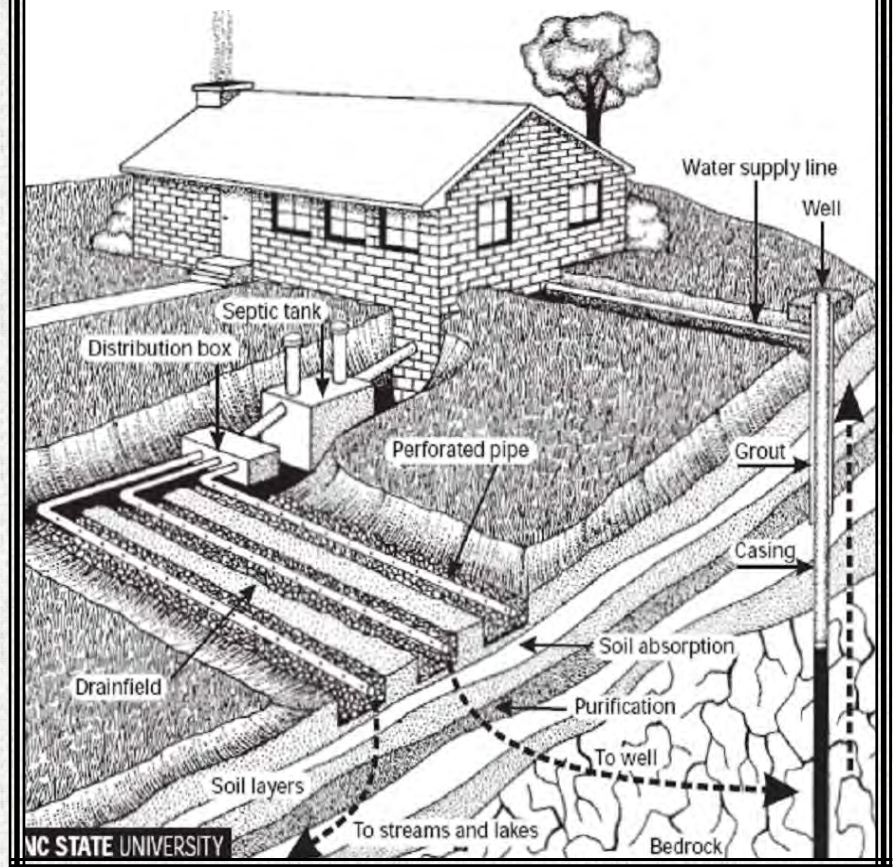


The Use and Care of Aging Septic Systems



If a septic system does not work as designed, sewage can pond on top of the ground or drain into a creek or lake. These conditions degrade the quality of surface waters and can lead to the spread of diseases. Your septic system needs regular attention and care.

This publication is designed to give you basic information about your system. It includes some great trouble shooting tips. If you need additional assistance, please contact your local health department or your county's Soil and Water Conservation District.

How Old is Your System?

Very Old Systems (>35 years)

Often have only a tank plus a tile which runs to a ditch. Such systems are illegal; when discovered, they have to be replaced.

Old Systems (15-35 years)

These were usually installed to meet the minimum standards of the time. Compared to modern systems, old systems often have small septic tanks and absorption fields. The trenches are generally deep (three or four feet) in the ground and may not all be the same length.

Recent Systems (<15 years)

If properly installed and maintained, they can last for decades. Since it costs much less to maintain an existing system than to replace a failed one, homeowners have a strong financial incentive to keep their systems in good shape.

Troubleshooting System Failures

Common Problem 1

Water will not drain from toilets and sinks, or drains very slowly. This means that the system is not absorbing water as it should. First, check to see that the pipes leading to and from the septic tank and distribution box are clear. If the tank and the box are OK, the problem is in the finger system. It is possible that recent rains have filled up the trenches with water. If so, the system will work again when it dries out. If rain is not the problem, the trenches are probably full of sludge and have become water-tight, which will require a new absorption field.

Common Problem 2

Septic water (black and smelly) bleeds out of the fingers to the surface. The tank and pipes are probably all right, since the effluent is reaching the fingers, but it is not being absorbed by the trenches. First, try all possible water conservation measures—you may simply be overloading the system. Second, dig up and check the distribution box. It may be directing most of the water to one or two fingers, so part of the system is overloaded and the rest is underused. If these approaches do not succeed, you probably need a new absorption system.

Common Problem 3

The system will not take water and there is an alarm buzzer going off. This system has a dosing tank with a pump in it, and the alarm is telling you that the pump has failed. Replace the pump.

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Routine Maintenance

Most importantly, have your tank pumped out regularly. Yes, some people will tell you that they have not pumped their tank in twenty years and their system still works fine, but you can not count on this. If the septic field fails, you will have to have another field installed, which costs thirty or forty times what a pump-out costs.

How often you need to have your tank pumped will depend on the size of your tank and the number of people in your household. See the chart below on recommended frequency.

Estimated Tank Pumping Frequency in Years

Tank Size (Gallons)	Number of People in Household		
	2	4	6
1000	6	2.5	1.5
1250	7.5	3.5	2
1500	9	4	2.5

If your tank system is small, limit the amount of water that goes into it. Use low-flow fixtures, run the washing machine and dishwasher only when they are full, and take short showers instead of baths. Water conservation is always important but particularly important during lengthy rains.

Try not to put extraneous materials into the septic tank. If you have a garbage disposal, use it sparingly. Other than toilet paper, do **not** put paper products in the system at all. Avoid using solvents, harsh cleaners, and disinfectants, which can all kill off the bacteria in the tank. The less you stress the system, the longer it will last.

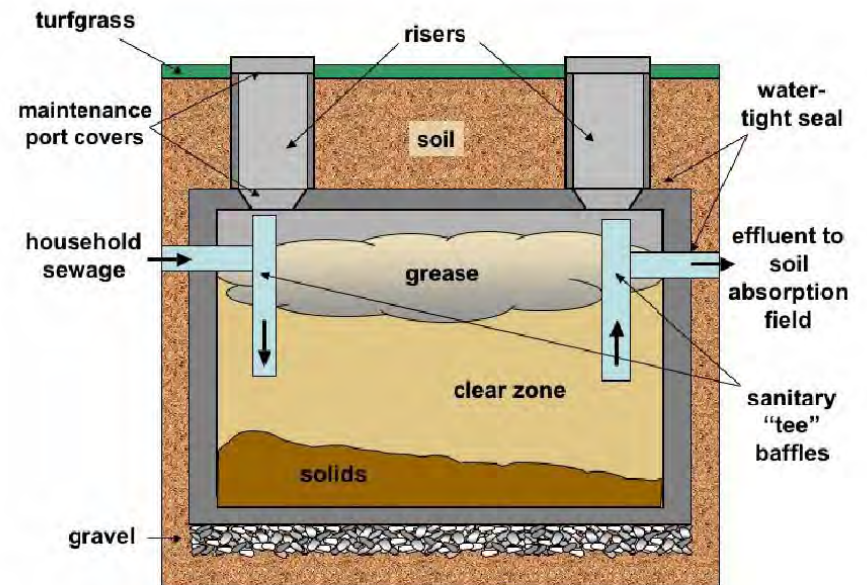


How to Investigate What You Have

First, check with your local health department. If your system is not too old, they may have a diagram of it in the file.

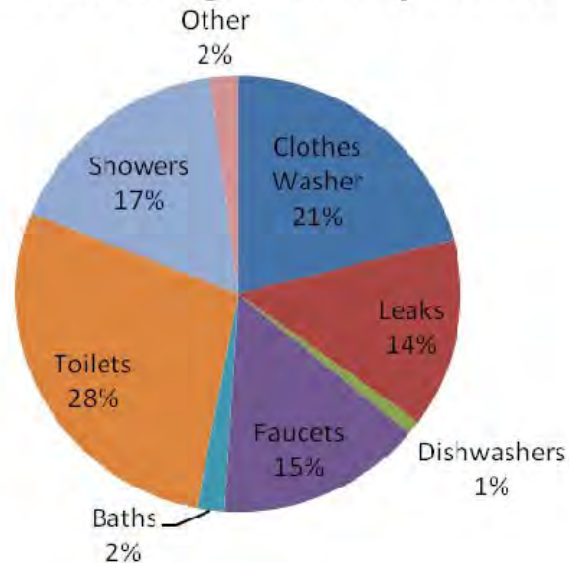
If there are no records of your system, start out by locating the septic tank and absorption field trenches with a soil probe.

Compare the size of your system with a current system. These days, a modern system will have 167 linear feet of fingers for each bedroom in the house. (Be aware that sometimes houses have additions built onto them, but the septic system is not always changed to keep up with the larger house.) If your system is much smaller than the standard, you should devise a plan to keep from overstressing it.



Cross Section Of A Septic Tank

Typical Water Use (Per Person) In An American Single Family Home



(Source: AWWA Residential End Use Study, 1999)

Signs of a Failing Septic System

1. House drains empty slowly.
2. Sewage backs up into the house.
3. Wet, smelly spots appear in the yard.
4. Your septic tank is piped to a ditch or stream.
5. Your washing machine or sink is piped to a ditch or stream.
6. When it rains, you have problems with drains.
7. When you do laundry, wet spots show up in the yard.
8. You have to pump your septic tank more than once a year.
9. The grass around the septic tank is greener than anywhere else.
10. The area around your septic tank or drainfield stays wet even when it has not rained recently.

Reasons that Systems Fail

Septic systems work because the ground absorbs water from the trenches. This water flows slowly through small channels and cracks between the soil particles. Naturally occurring soil bacteria clean up the waste during this process.

Gradual failure

As the system operates, bacteria in the septic tank digest most, but not all, of the solid matter. The undigested part sinks to the bottom of the tank in the form of sludge. If the sludge builds up too deep, it will flow out of the tank and into the fingers, where it can plug up the pores in the trenches and keep them from absorbing water.

Intermediate failure

Each septic system has a maximum amount of water that it can handle. If more water goes in than the system can absorb, either the system will quit working and back up into the house, or the water will find some other exit (usually to the surface of the ground). At first, this will only happen during rainy periods when the water table is high; later, the problem will become chronic. To avoid this type of failure, sources of excess water (sump pump lines, downspouts, pool drains, etc.) should not be connected to the septic system.

Rapid Failure

If the ground is heavily compressed, the channels in the soil close up and water can no longer percolate into the ground. This type of failure occurs when a massive structure (swimming pool, driveway, patio, etc.) is built over the septic field, or when heavy vehicles are driven across the field.