Franklin County Stormwater Management Program

Septic System Maintenance

About 1 million households in Ohio are located beyond the reach of city sewers and must treat and dispose of the wastewater that they generate on the lot. Like all of the appliances and structures in your home, sewage treatment systems require care and will eventually have to be upgraded or even replaced. Cities hire professional operators to take care of their sewage treatment systems. For homes with individual sewage treatment systems, the homeowner is responsible for providing care and maintenance.

Septic systems consist of two parts. The first is the septic tank, which collects the untreated sewage from the house. The purpose of the tank is to allow the solid materials in the wastewater to settle out of the water and to be broken down by bacterial action. The remaining water and the suspended particles that it contains then flow into the second part of the system, the soil absorption filed, or leaching field. Here, the water flows through a series of pipes that lay in the ground. The water trickles out of the pipes and it is absorbed into the soil. Bacteria in the soil break down the sewage and cleans the water

Septic systems are simple to operate and when they are properly designed, constructed, and maintained, they do an excellent job of removing pollutants from wastewater to protect Ohio's water resources. Property owners must do a few important things to keep their system operating for 20 to 30 years.

Conserve Water

Since the soil must absorb all of the water that is used in your home, the best thing that a resident can do to maintain their septic system is use less water. Water conservation includes:

- Repair water leaks, such as toilet valves that don't seal and dripping faucets.
- Space out water use throughout the day and week. For example, avoid washing all of your laundry on one day.
- Install water conserving fixtures like low flow shower heads, low flow toilets, and even purchase a front-loading washing machine.

Careful Landscaping

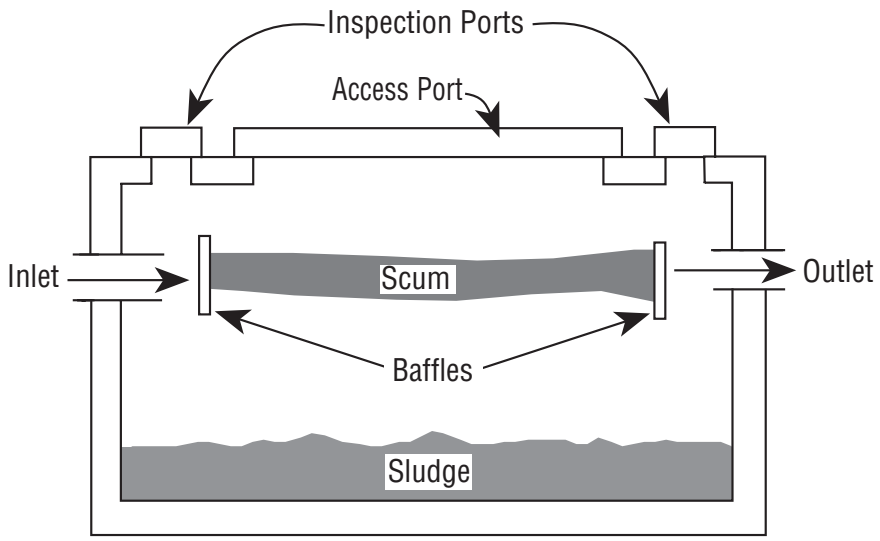
The soil absorption system (or leach field) is the most important part of a septic system, so it is important to protect the area where it was installed by:

- Diverting downspouts and other rainwater drainage away from the soil absorption system area. The extra rainwater can overwhelm the leach field.
- Parking cars, boats, other vehicles, or heavy equipment away from the soil absorption system area. If the soil is compacted, the leach field has difficulty accepting wastewater, causing it to surface in the yard or back-up into the house.
- Keeping pavement, decks, above ground pools, and out buildings off of and away from the soil absorption system area. Construction activity can compact the soil and the structures limit access to the leach field for maintenance.
- Not putting additional soil fill over the soil absorption system area. Increasing the depth of soil over the leach field limits the infiltration of air into the soil needed by the microorganisms to renovate wastewater.

Pump the Septic Tank

Septic tanks allow solids to settle out of sewage and break them down. Over time the accumulated solids take up too much room in the tank which reduces reducing the space in the tank that is available for settling. When this happens, solids start to escape from the tank and which clogs the soil in the soil absorption field. Before this happens, the septic tank should be pumped to remove the solids.

- Don't wait for the system to back-up before you pump your septic tank. Backs-ups can be caused by clogging of the soil from sewage solids carried out of an unmaintained septic tank. Once the sewage backs-up, the damage to the leaching field is already done.
- Do not use biological or chemical additive in place of septic tank pumping.
- Pump the tank based on the size of the tank and the number of people using it. The table is a guide for routine septic tank pumping.
- When the tank is pumped, have the baffles inspected. If they are missing or broken, the tank will short circuit and not work properly. Have the baffles replaced with sanitary tees.



Cross section of a septic tank.

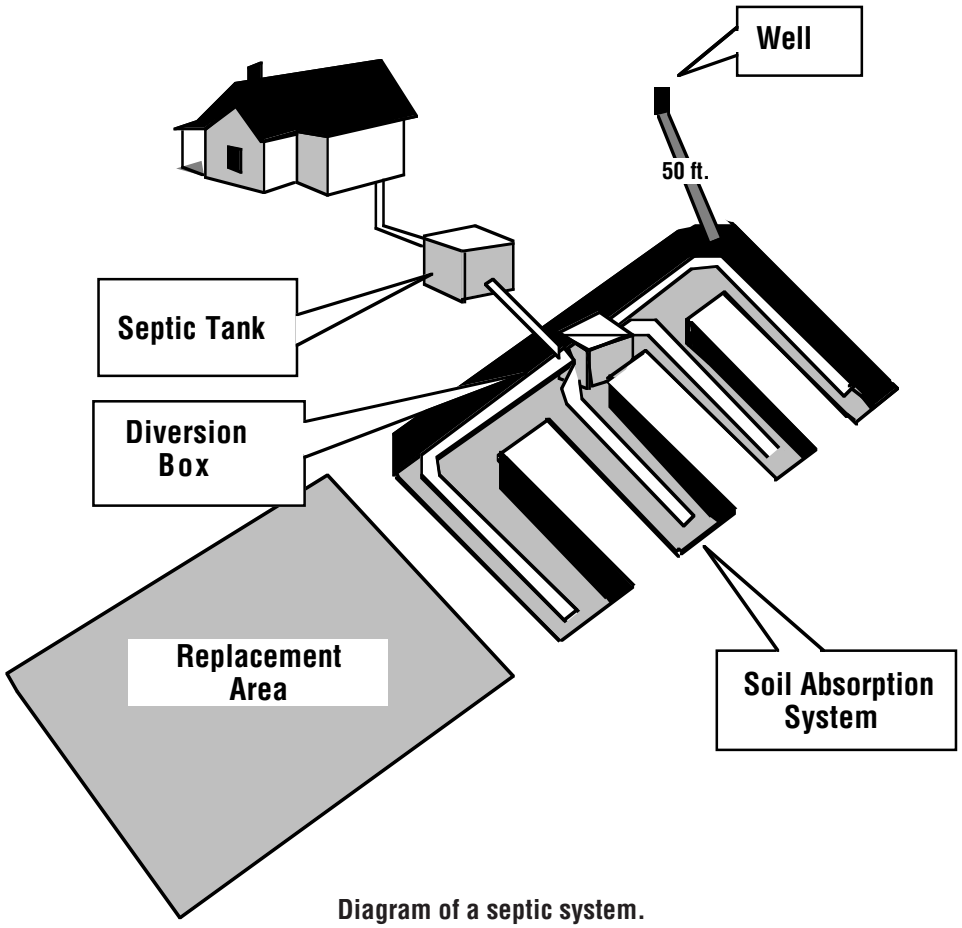


Diagram of a septic system.

Table 1. Estimate Septic Tank Pumping Frequencies in Years (For Year-Round Residence)

Tank Size (gal)	Household Size (Number of People) 1	2	3	4	5	6	7	8	9	10
500	5.8	2.6	1.5	1.0	0.7	0.4	0.3	0.2	0.1	—
750	9.1	4.2	2.6	1.8	1.3	1.0	0.7	0.6	0.4	0.3
1000	12.4	5.9	3.7	2.6	2.0	1.5	1.2	1.0	0.8	0.7
1250	15.6	7.5	4.8	3.4	2.6	2.0	1.7	1.4	1.2	1.0
1500	18.9	9.1	5.9	4.2	3.3	2.6	2.1	1.8	1.5	1.3
1750	22.1	10.7	6.9	5.0	3.9	3.1	2.6	2.2	1.9	1.6
2000	25.4	12.4	8.0	5.9	4.5	3.7	3.1	2.6	2.2	2.0
2250	28.6	14.0	9.1	6.7	5.2	4.2	3.5	3.0	2.6	2.3
2500	31.9	15.6	10.2	7.5	5.9	4.8	4.0	4.0	3.0	2.6

Note: More frequent pumping needed if garbage disposal is used.

- Never enter a septic tank. Any work or repairs should be made from the outside. The septic tank produces toxic gases that can kill a person in a matter of minutes. When working on a tank, make sure it is well ventilated and someone is standing nearby. Never enter a tank to retrieve someone who fell in. Call emergency services and put a fan at the top of the tank to blow in fresh air.
- To facilitate future cleaning, install risers to the surface of the ground before burying the tank.

Upgrade System

Just like the house roof, driveway, and furnace, septic systems require upgrades and possibly replacement. Expect to have to upgrade a properly designed and installed septic system every 20 to 30 years.

Standards have changed and research has developed new and better approaches to treating sewage onsite to protect the health of the residents, the community, and the environment. While some older systems may have met standards when they were installed, upgrades and replacements will take advantage of the tremendous advances scientists and engineers have developed to improve wastewater treatment. Be prepared for new or upgraded systems to be different from the system that may have been installed decades ago.

Professional Management

Few homeowners are prepared to operate and maintain a wastewater treatment system. Communities have always hired professional operators to run wastewater treatment plants. Some communities are now hiring operators to inspect and manage septic systems. Professional management offers many advantages for Ohio communities.

- Avoids the high cost of constructing sewer lines.
- Prevents discharge of water pollutants to steams, rivers, and lakes.
- Enables communities to maintain disperse development patterns.
- Maintains the independence of small communities to manage their own wastewater treatment concerns.

Talk to your community leaders about establishing a septic system management program, so that all of the systems in your area receive proper and regular inspection and management. To learn more about onsite wastewater management consult the OSU Extension series on Onsite Wastewater Management AEX-750 through 754. These and other wastewater treatment publications can be found at www.ag.ohio-state.edu/~setll.

Franklin County Stormwater Management Program Partners:

Franklin County Commissioners, Franklin County Board of Health, Franklin County Engineer/Drainage Engineer, Franklin County Development Department, Franklin County Township Trustees, Franklin County Sanitary Engineer, and Franklin County Soil and Water Conservation District

Visit the Franklin County Board of Health WWW site at www.franklincountyohio.gov/health

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