

HOW A SEPTIC SYSTEM WORKS

By Septic Preservation Services



Underground Wastewater Treatment Structures

Septic systems are underground wastewater treatment structures, commonly used in rural areas without centralized sewer systems. They use a combination of natural and proven man-made technology. Septic systems treat wastewater from bathrooms, kitchen drains, and laundry. Before septic systems (and city sewers) were created, dirty waste and wastewater were simply thrown out in streets, fields, streams, ponds, rivers, or oceans creating ugly pollution problems.

A typical septic system consists of a septic tank which is connected to a dwelling by plumbing. The septic tank does most of the waste and wastewater processing. The water then passes into a soil absorption field or drainfield, which can also be called a leachfield. Typically, all waste or effluent from the home drains out a main pipe and runs into the septic tank which is buried in the ground.

Septic tanks are typically made of concrete, fiberglass or polyethylene. The tank is a watertight box with a cover that has inlet and outlet pipes. Septic tanks treat wastewater naturally by holding it in the tank long enough for solids and liquids to separate. Solids settle down to the bottom forming sludge, while any oil and grease float to the top as scum. Compartments and a T-shaped outlet prevent the sludge and scum from leaving the tank and traveling into the drainfield area. The layers of sludge and scum remain in the septic tank where bacteria found naturally in the wastewater work to break them down. Anything that cannot be broken down stays in the tank until the tank is pumped out by a professional service company. The middle layer of clarified liquid flows from the septic tank to the drainfield, or to a distribution device that helps to uniformly distribute the wastewater in the drainfield.

A standard drainfield includes a series of trenches or a bed lined with gravel or coarse sand. The trenches or bed are buried one to three feet below the ground surface. Perforated pipes or drain tiles run through the trenches to distribute the wastewater. The drainfield further treats the wastewater by allowing it to slowly trickle from the pipes out into the gravel and down through the ground soil.

The gravel and ground soil act as natural biological filters. If the drainfield is overloaded with too much liquid, it will flood just like any natural grassy area can if saturated by rain. If the septic system is overused and the drainfield overloads, sewage will flow to the ground surface or create backups in toilets and sinks. In a properly performing septic system, drainfield wastewater percolates into the soil, naturally removing harmful coliform bacteria, viruses and nutrients. (Coliform bacteria is a group of bacteria predominantly inhabiting the intestines of humans or other warm-blooded animals. It is an indicator of human fecal contamination.) After the final cleansing by nature, human wastewater is no longer a threat or a pollutant if a septic system is working well and designed appropriately for the dwelling it is serving.

Maintaining Your Septic System

How Is Size Determined? What is Important to Keep Out of it?



The size of the septic system is determined by engineers and is based on the number of bedrooms in a house rather than the size of a home. The number of people living in a home is important in determining the parameters of the system. The more people, the larger the system because there will be greater demand for it to process wastewater from toilet use, showers, dish washing, laundry, and so on.

The septic tank has a cover, and regular pumping of the contents is important to keep the system running smoothly. Pumping every 2-5 years is recommended depending on how much demand is put on the system. Many times the covers are under the ground and must be located for pumping, but adding risers to the covers to keep them visible is recommended to make pumping easier.

It is important to keep grease and fats out of the septic system as well as feminine products, diapers and wipes. Toilet paper should be the only thing you flush down the toilet. Too many chemicals including bleach can upset the organic balance of the system. The natural bacterial organisms that break down the effluent can be killed off or diminished if too many chemicals are used on a regular basis.

This is a basic septic system. Depending on a home's landscape, some systems may need to use pumps to send effluent up hill to a system. Filters are recommended to keep harmful lint and other material out of the system.

Septic Preservation Services Has A Great Maintenance Program

To keep your septic system functioning smoothly and extend the life of your system worry free, give septic preservation services a call to get on their schedule at 877-378-4279 or visit septicpreservation.com.