

The Septic System

The typical system consists of **tank, the distribution box,**

three main components: the **septic** and the **drainfield.**

The Septic Tank

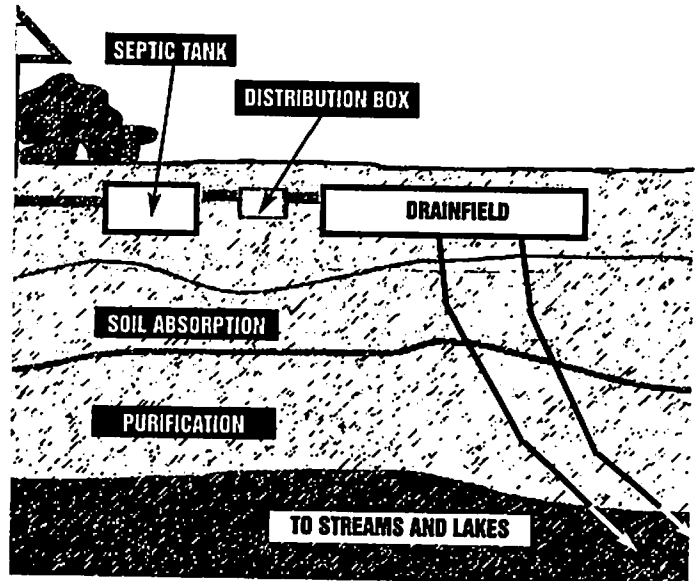
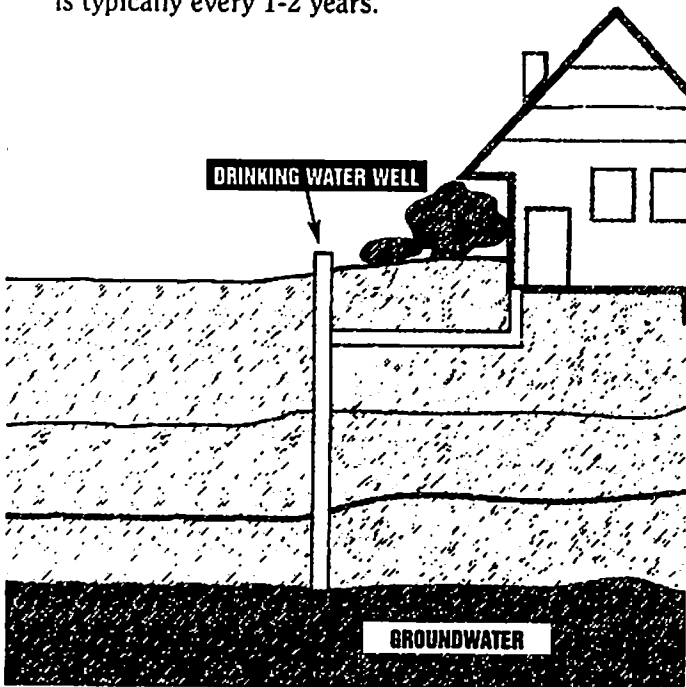
Upon exiting the house, the wastewater enters the septic tank which is designed to separate solids and liquids. Solids settle to the bottom, grease and scum from household detergents float to the top, and the gray water stays in between. The solids on the bottom of the tank create billions of their own anaerobic (without oxygen) bacteria which cause natural decomposition. These bacteria decompose the waste but eventually leave a liquid and solid layer which cannot be further decomposed. There should be no need to add additional bacteria or enzymes to the tank. Eventually the tank will fill with solids and scum, requiring it to be pumped. The recommended frequency for pumping is typically every 1-2 years.

The Distribution Box

The liquid, or gray water, which contains some dissolved solids, grease, and scum flows to the distribution box where it is evenly dispersed into the drainfield. If you cannot find the distribution box, any pumping service can assist you in its location.

The Drainfield

The drainfield, made up of perforated piping laid in gravel, retains the gray water until absorbed by the soil. Aerobic (requires oxygen) bacteria in the soil consume the organic pollutants remaining in the gray water as it filters through the soil eventually leaving only pure water.



WHY DOES A SEPTIC SYSTEM FAIL?

The appearance of any of the signs of septic system failure may not necessarily mean that your system has failed; however, it is important to understand how your system works in order to properly diagnose problems and to determine how Septic-Scrub™ can help you.

A septic system is a large part of the value of a home. Replacing a clogged drainfield or a complete system can cost from \$20,000 to \$30,000 or more. Timely and proper care should prevent problems from ever occurring.

Maintenance of a septic system should include a regular periodic pumping program, careful monitoring of what goes into the system, and routine restoration of the drainfield with Septic-Scrub.

HOW DOES YOUR DRAINFIELD WORK?

A septic system simply consists of a septic tank and a distribution field. Properly maintained, the system should last for many years.

The septic tank collects liquid and solid waste from the house. Anaerobic (absence of oxygen) bacteria digest some of the solids and grease contained in the waste; however, they cannot digest all of it and there will always be a natural buildup of solids in the tank, even if other additives are used.

The only way to keep the septic tank functioning properly is to have the tank solids pumped by a local pumping service. While the need for pumping depends on many factors such as usage, size, and wastes added, it is recommended by many local health authorities and the Environmental Protection Agency that a system be pumped every one to two years. While the pumping frequency may vary, every *septic tank should be pumped at least every three years*. The regular pumping of a septic tank is the only maintenance generally required for that part of the system. Failure to maintain a regular pumping schedule, or even the use of some additives, can cause more solids to pass through the septic tank increasing the likelihood of drainfield failure.

The drainfield is the most critical part of a septic system. It is responsible for dissipating the "gray" or "black water" from the septic tank. This part of the system generally consists of a distribution box, where

the gray water is collected and distributed equally to the laterals or drainage pipes for absorption into the soil. Aerobic (presence of oxygen) bacteria in the soil digest the waste matter and leave the clean water to filter through the soil back to the ground. Anaerobic bacteria, dissolved grease, and scum that pass through the tank clog and deteriorate the drainfield. Failure to pump the tank results in an increase of solids going into the drainfield. The anaerobic bacteria react with the sulfur contained in the waste and convert it to sulfides. These sulfides react with the metals in the soil and precipitate as black material. The anaerobic bacteria also produce polysaccharide slimes and gums. These actions and their by-products hinder and eventually stop the natural action of the drainfield by clogging the channels of flow and by preventing aerobic bacterial activity. The results are a slowing of the absorption of water which can lead to blockage and eventual failure of the drainfield. Septic Scrub reacts with the solids to oxidize and destroy the gums and slimes, to oxidize the sulfides to sulfates, and to eliminate some organic matter thereby making the drainfield amenable to aerobic bacterial action.

Septic-Scrub reactions also help restore percolation in the soil, and make oxygen available to the naturally occurring aerobic bacteria. If a drainfield has been converted to an anaerobic system, more bacterial aerobic action must be restored in order for the system to begin to function normally again. Septic-Scrub helps to do this.

When a drainfield fails, the cost to replace it may vary from \$10,000 to perhaps as high as \$30,000 in some parts of the country. Many states now require that a septic system be inspected before a house can be sold. A failing system results in a significant reduction in the value of a house.

In 1993 local health departments reported that 88,000 on site septic systems failed. A nationwide data collection project on septic systems indicated the following common reasons for septic system failure:

- Age
- Unsuitable soils
- Lack of maintenance/pumping (neglect by homeowner)
- High water table
- Excessive water use
- Cesspools
- Improper construction/installation/design
- Clogging of the system

INSTRUCTIONS

Two things that any homeowner can do to maintain a septic system are *regular pumping and maintenance of the drainfield to help prevent clogging.*

The routine use of Septic-Scrub, along with a regular pumping schedule, can help ensure that a septic system will continue to operate effectively for the life of the house.

HOW DO YOU KNOW IF YOUR DRAINFIELD IS FAILING?

A failing drainfield no longer has the capacity to handle the volume of water which it receives. A failing drainfield can have these characteristics: the grass is greener over the drainfield than the rest of the yard; there are odors in the yard; the plumbing backs up; the ground is wet or mushy over the drainfield. The laterals will probably also have standing water in them. These are indications that the drainfield is being converted to anaerobic conditions. A drainfield that is anaerobic will not function properly and it must be restored to aerobic conditions before it will resume normal operation. **Septic-Scrub can help to do this.**

Preventative Maintenance for Systems without Standing Water in the Drainfield

Help prevent drainfield problems by adding Septic-Scrub on a regular basis. If your system is more than five years old, add two bottles the first year into the distribution box or cleanout. Add one bottle a year after that. For systems less than five years old, one bottle a year should be sufficient.

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www.arcan.com or call: 1-888/35ARCAN

The clogging mat in a drainfield is at the bottom where the stone and soil meet. Septic-Scrub must get to this area in order to be most effective. To do so, the drainfield should be as free as possible of standing water.

DEWATERING THE DRAINFIELD

- ① Have the septic tank pumped. If water flows back into the tank from the drainfield, the drainfield is flooded and water must be removed.
- ② There are two ways of dewatering the drainfield. The water level should be at least three inches below the level of the laterals before treatment.
- ③ Locate the distribution box; the professional who pumps the tank will be able to help with this. If there is no distribution box, consider installing a riser of 6" pipe between the septic tank and the drainfield.
- ④ Remove standing water from the drainfield by pumping the distribution box until no more water flows from the field.
- ⑤ *Method 1:* If there is some drainage in the field, let the system rest while the septic tank refills. Wait as long as possible before adding Septic-Scrub.
- ⑥ *Method 2:* A quicker and more reliable method is to dig a posthole in the drainfield through the stones to the soil below. Several holes in various parts of the drainfield may work best. If the drainfield has individual trenches, each trench must be dewatered. Use a pump to remove water until the level is at least three inches below the laterals. This water may be added back to the empty septic tank to minimize costs. Refill the hole before Septic-Scrub addition.

ADDITION OF SEPTIC-SCRUB

- ① Septic-Scrub must be added through the distribution box or through a clean-out between the septic tank and drainfield. A less desirable method is to dissolve Septic-Scrub in water and add it through a hose pushed down the outlet pipe of the septic tank.
- ② If Method 1 was used to dewater the drainfield, add one bottle of Septic-Scrub into the distribution box every other day until four bottles have been added. Flush with a hose until the product is dissolved and distributed into the laterals. Slowly add the first bottle until the foaming in the distribution box has stopped.
- ③ If Method 2 was used, add the first bottle as above, wait 15 minutes and then add the second bottle. Repeat the next day with the other two bottles.

DRYWELLS AND CESSPOOLS

- ① Pump the system of standing water.
- ② Agitate the bottom to break up the "crust". Use a pole or water stream. (DO NOT BREATHE THE MIST)
- ③ Add two bottles into the pit with enough water to dissolve.
- ④ Add two additional bottles the next day.

After any treatment, monitor the system for rising water levels. If water levels rise, add an additional two bottles. Retreat system after six months with two bottles and then at least annually after that.