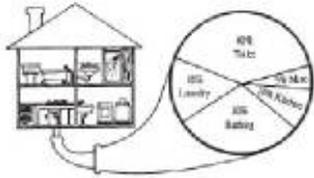

What Everyone Should Know About Septic Tank Systems

"What Everyone Should Know About Septic Tank Systems"

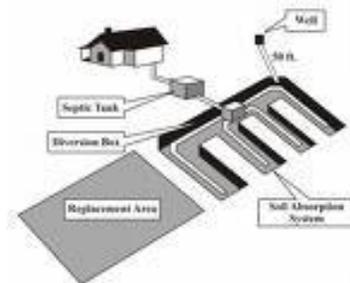


All household waste is disposed of through the septic system. The proper operation of the septic system is essential to public and private health, to property values, and to the environment. To see if you know enough about your septic system, answer the following questions. If you cannot answer all the questions, your septic system could become a huge aggravation, public nuisance, health hazard, and financial burden.

THE HOUSEHOLD PLUMBING AND WASTE SYSTEM:

If you are like most people, you know very little about your septic tank system. This is understandable. In urban and suburban areas there are sewers to carry household waste to municipal wastewater treatment facilities. In more rural areas, however septic tank systems provide the functions of both sewers and treatment facilities.

- *Do you know what a septic tank is and how it works?
- *Do you know what kind of soil absorption area you have and how it works?
- *Do you know what causes septic systems to fail?
- *Do you know what it costs to replace a failed septic system?
- *Do you know how to keep a septic system from failing?
- *Do you know that failed and failing septic systems contribute to pollution?



These are very serious questions. The health of your family and the value of your property rely heavily upon the answers to these questions. "An ounce of prevention is worth a pound of cure" was never more true than it is with septic tank care. A small commitment to the care of your septic system will protect you indefinitely from the nightmare created by a failing system. This pamphlet will attempt to give you a clear picture of how household waste is treated from drain line to soil.

The quantity and composition of waste generated in the home varies according to the number of residents, their personal water usage, and the water-utilizing appliances in the home.

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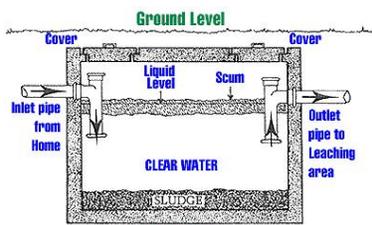
THE SEPTIC SYSTEM:

The septic system is a small, on-site sewage treatment and disposal system buried in the ground. A conventional septic system has two essential parts: (1) the septic tank and (2) the soil absorption area. There are other types of advanced on-site sewage treatment systems but we will not be discussing those here. Here we will focus on the basics that apply to conventional septic systems.

The Septic Tank

The septic tank was patented in London around 1900. *Webster's Dictionary* defines the septic tank as "a tank in which waste matter is decomposed through bacterial action." The modern septic tank is a watertight box usually made of precast concrete, High Density Poly Ethylene (HDPE), or reinforced fiberglass. When household waste enters the septic tank several things occur:

1. Organic solid material floats to the surface and form a layer of what is commonly called "scum". Bacteria in the septic tank biologically convert this material to liquid.
2. Inorganic or inert solid materials and the by-products of bacterial digestion sink the bottom of the tank and form a layer commonly known as "sludge".
3. Only clear water should exist between the scum and sludge layers. It is this clear water - and *only* this clear water - that should overflow into the soil absorption area.



Healthy Septic Tank

4. Solid material overflowing into the soil absorption area should be avoided at all costs. It is this solids overflow that clogs soil pores and causes septic systems to fail. Two main factors cause solid material to build up enough to overflow:
 - (a) bacterial deficiency, and
 - (b) lack of sludge removal (ie pumping the tank). Bacteria **MUST BE PRESENT** in the septic tank to break down and digest the organic solids **UNLESS** any harm is done to the bacteria. Bacteria are very sensitive to environmental changes. Check the labels of products

you normally use in the home. Products carrying harsh warnings such as "HARMFUL OR FATAL IF SWALLOWED" will harm bacteria.

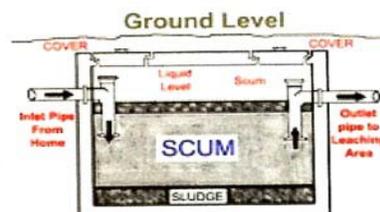
The following commonly-used home care products - even when used according to directions - can reduce the bacteria population required for proper septic tank operations.

Detergents	Bleaches	Cleaning Compounds
Disinfectants	Acids	Sink & Tub Cleaners
Toilet Cleaners	Polishes	Caustic Drain Openers

People rarely think of the effect these products have on the septic tank system when the products go down the drain. What kind of effect do you think *anti-septics* have on your septic tank?

Bacteria must be present to digest the scum. If not digested, the scum will accumulate until it overflows, clogging the soil absorption.

The sludge in the septic tank - inorganic and inert material - is not biodegradable and will not decompose. If not removed, the sludge will accumulate until it eventually overflows, again clogging the soil absorption area. Installing an effluent filter to the tank outlet is also rec-



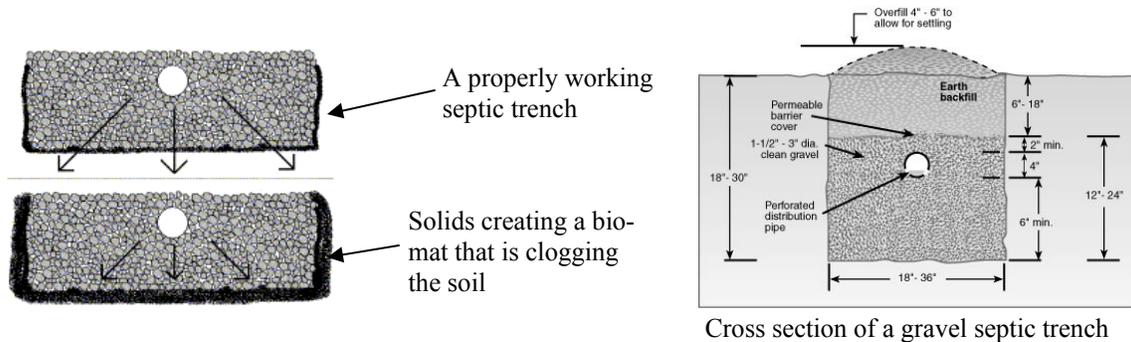
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SOIL ABSORPTION - OR LEACH FIELD:

There are many, many soil absorption or leach field systems - too many to discuss them all. There are, however, two general types of facilities to carry off the overflow water from the septic tank: (1) trench systems and (2) seepage beds.

Trench systems - also called leaching fields, drain fields, or finger systems - generally consist of a network of perforated pipes laid in a gravel-lined trench. Solids that pass through the tank will clog pipe perforations, trench gravel or the soil pores adjacent to the trench. This will cause drainage to slow or eventually stop.



Solids accumulating on the surfaces of the soil will contribute to sluggish drainage or failure.

SEPTIC SYSTEM MAINTENANCE:

The U.S. Government Department of Health, Education, and Welfare Public Health Service says. "A septic tank system will serve a home satisfactorily only if it is properly designed, installed, and adequately maintained. Even a good system which does not have proper care and attention may become a nuisance, and burdensome expense."

Septic system maintenance means two simple things. First, sludge that accumulates in the bottom of the tank must be pumped out periodically. How frequently depends on the size of the tank, the use it gets, and the condition of the system. There is no additive that you can put in the tank that will deal with the sludge. **IT MUST BE PUMPED.** If not pumped, the sludge will eventually overflow into the soil-absorption area. This will clog the system, and it will need to be replaced, at enormous expense and inconvenience.

The second part of septic system maintenance involves the bacteria necessary for solids digestion. If bacteria-killing products are used in the home - as they usually are - the bacteria should be replenished. If the bacteria level is too low, the solids may not be digested properly. The solids can build up too much and overflow into the soil absorption area. This again can clog the system, requiring repair or replacement.

Your septic tank could be overflowing solid material **RIGHT NOW**. You won't know until it blocks the soil absorption system so badly that no more drainage is possible. This blockage takes varying lengths of time. But this is a fact: a neglected system **WILL** get blocked; it **WILL** overflow; it **WILL** have an obnoxious odor; it **WILL** contaminate and pollute; it may also require repair or even replacement. The first septic system "emergency" - a backup or overflow - often marks the beginning of a failing trend. Replacement costs vary, but they can be very, very expensive - especially if contaminated material needs to be removed.

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DO NOT NEGLECT YOUR SEPTIC SYSTEM

Your professional septic contractor can inspect the condition of your system. He can tell you which specific type of soil absorption system you have. If the tank needs to be cleaned, he is equipped to clean it. If there is evidence of bacterial deficiency - such as overly thick scum or solids buildup inside the tank - he can supply you with **CCLS** liquid bacteria/enzymes septic system treatment. **CCLS** contains enzymes immediately available to break down solids buildup in drains, pipes, septic tank and soil absorption system. **CCLS** also contains reproductive bacteria for continued aid in solids digestion and settling, suspended solids removal, and odor control.

Regular septic system maintenance combined with water conservation should give you many years of trouble-free use. If not maintained your septic may fail, requiring excavation and repair or replacement. You will have to endure the expense of this work, as well as aggravation of trucks and equipment on your property and the disruption to your yard.

Which makes more sense to you? Would you drive your car 100,000 miles without an oil change?

Your septic system should last a very long time if properly designed, installed, and maintained. Neglected systems **WILL FAIL**. Isn't it time to start your program of regular pumping and **CCLS**. The well-being of your family and your property value are at stake? **PROTECT THEM - DON'T NEGLECT THEM.**

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