

## WHAT IS A SEPTIC SYSTEM?

A septic system is an on-site sewage treatment and disposal system buried underground. It is composed of a septic tank and a soil absorption area, or drainfield.

The modern septic tank is a water-tight box usually made of reinforced precast concrete, concrete blocks, or reinforced fiberglass, through which no natural bacteria can enter. In this tank, a natural enzymatic bacteria process decomposes organic solids.

The purpose of your tank is to treat household wastes including body wastes, laundry water, bath water, and discarded food. Septic systems are designed to work indefinitely if they are properly installed and maintained. It is critical to have your septic tank pumped out regularly and to maintain proper levels of enzyme and bacteria action.

## HOW DOES YOUR SEPTIC SYSTEM WORK?

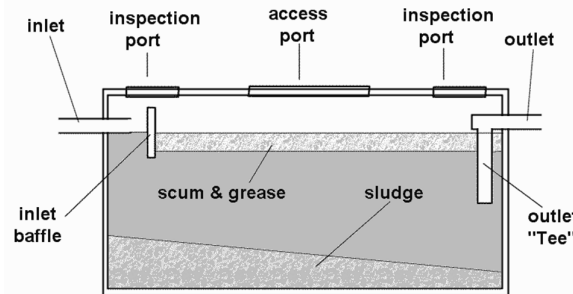
<p><b>Bathing</b> 35%</p>	<p>Laundry 15%</p>
	<p><b>Toilet</b> 35%</p>

*Average proportion of water usage/inflow to septic system*

Waste enters the tank from toilets, sinks, tubs, and drains. Organic solid material floats to the top of the tank, forming a “scum” layer. Inorganic materials and byproducts from

enzyme and bacteria digestion settle to the bottom of the tank, forming a “sludge” layer.

The proper amounts of enzymes and bacteria added to the tank regularly will convert much of these solid materials to liquid, which then flows through your underground pipes to the drainfield. In the drainfield, the enzymes and bacteria continue to help reduce glazing and improve soil absorption.



*Typical septic tank*

*(image from <http://septictankinfo.com>)*

## HOW DO YOU MAINTAIN YOUR SEPTIC TANK?

- **Watch your waste:**
  - Don't pour grease, oil, or other nonbiodegradable substances down the drain.
  - Minimize use of your garbage disposal; those ground-up solids put an extra strain on your septic system.
  - Don't use your toilet as a garbage can: if it didn't come out of your body, and it's not toilet paper, don't flush it.
- **Be a good groundskeeper:**
  - Don't plant trees or shrubs above or near your septic tank or drainfield. Roots will grow toward the water available and clog tank outlets and drain tile. Plant plants with aggressive root systems, like willow and silver maple, well back from your drainfield.

- Divert drainage from your roof and basement sump pump away from the septic system.
- Avoid driving or parking heavy vehicles or equipment over your drainfield and tank. Heavy vehicles can compress the soil in the drainfield, reducing the absorptive capacity. Vehicles may also damage the drain tile and tank.
- **Add enzymes and bacteria... or not?:**
  - In the old days, a septic system naturally sustained its own enzyme and bacteria content thanks to natural enzymes and bacteria that seeped through tank walls and the regular “contributions” in our own waste.
  - With today's watertight systems, the only way the necessary enzymes and bacteria can enter is through your drains. Increased use of household bleach and modern anti-bacterial soaps further weakens the strength of the enzymes and bacteria your septic system needs.
  - Some septic systems may still be able to sustain a healthy level of enzymes and bacteria, but septic professionals increasingly recommend adding enhancers like Rid-X and Lenzyme. Ask your pumper to recommend what's best for your system.

## WHY DO YOU NEED A PUMPING SERVICE?

Even when you follow good maintenance practices, some of the solid waste that enters your tank won't break down. As this sludge accumulates, the tank has less room and less time to break down waste before discharging it into the drainfield. A tank full of sludge can't do its job, so you need to hire a pumping service to mechanically remove those solids and restore the tank to full functionality.

**WHAT HAPPENS IF YOU  
DON'T PUMP YOUR TANK?**

You'll flush your toilet or start your shower or run your washer one morning (likely a morning when you've got to hurry up and get to work), and the water won't drain. That's if you're lucky. It's possible you'll get some backflow, complete with fragrant black crud in your toilet, shower, washing machine, and/or kitchen sink. You don't want that. Pump out your tank, sooner than later.

**SO HOW OFTEN  
SHOULD YOU PUMP YOUR TANK?**

The following table estimates the **maximum** amount of time (in years) that you should allow to go by between pumpings of your septic system, based on the size of your tank and the number of people in your household.

For example, suppose you have a 1500-gallon tank and four people in your household. According to this table, you should pump your tank at least once every 4.2 years.

This table assumes that your system is a newly installed septic system. If you have an older system, it will likely need to be pumped more often.

This table also assumes you are not using an in-sink garbage disposal. Regular garbage disposal use will fill your tank with solids 20% faster. If you use a garbage disposal, you'll want to pump sooner than this table indicates.

This table does not apply to holding tanks with no drainfield. If your house has a holding tank instead of a complete septic system, you will need to pump your tank much more frequently (think *monthly*), depending on use.

**Remember: better safe than sorry!** You will not hurt your system by having it pumped out more frequently than the minimum recommendations of this table. More frequent pumping will help your tank and drainfield last longer and break down waste better. Don't wait

for warning signs: there are none! If your tank is getting full of solids, one day your toilet may flush just fine, but the next day—disaster.

**HOW MUCH WILL IT COST TO PUMP  
YOUR SEPTIC TANK?**

Here in Lake County in 2008, you could get your septic tank pumped for under \$150. Check with your septic service professional for current rates. Whatever price you get will be less than the cost of digging up and replacing a poorly maintained system that fails (think \$4,000 or more).

# Septic Tank Operation and Maintenance *A Homeowner's Guide*

Compiled by the Lake Herman Sanitary  
District  
Lake Herman, South Dakota  
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**District Website:**  
<http://lakeherman.org/SanitaryDistrict/>

Cory Allen Heidelberger, Board President  
home: 605-256-4737  
e-mail: coralhei@lakeherman.org  
postal: 1883 Cottonwood Cove Trail  
Lake Herman, SD 57042

Lawrence Dirks, Treasurer  
home: 605-256-6367  
postal: P.O. Box 85  
Madison, SD 57042

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Much of the text in this document comes from a flier from Lenzyme, Inc., a producer of septic tank enzyme/bacteria additive. That information was supplied by Brad Benson, Royal Flush septic pumping service, Chester, SD. Other information comes from InspectAPedia.com's online septic system maintenance guide, retrieved from the Internet on 2008.08.18 from <http://www.inspect-ny.com/septbook.htm> and associated/linked webpages.

Table I. Septic Tank Pumping Frequency in Years										
Tank (Gallons)	Household size - Number of Occupants									
	1	2	3	4	5	6	7	8	9	10
1000	12.4	5.9	3.7	2.6	2	1.5	1.2	1	0.8	0.7
1250	15.6	7.5	4.8	3.4	2.6	2	1.7	1.4	1.2	1
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	3.9	3.1	2.6	2.2	1.9	1.6
2000	25.4	12.4	8	5.9	4.5	3.7	3.1	2.6	2.2	2
2250	28.6	14	9.1	6.7	5.2	4.2	3.5	3	2.6	2.3
2500	30.9	15.6	10.2	7.5	5.9	4.8	4	3.5	3	2.6

Source: <http://www.inspect-ny.com/septic/tankpump.htm>