

## Septic Tanks: What Maintenance is needed?

Both the septic tank and the drainfield must be properly maintained. With conscientious maintenance, the system should work correctly for many years. Such maintenance begins with water use and waste disposal habits. Since your family will determine which materials enter the system, you should establish rules for proper use and maintenance.

### Tips for Maintaining Your Septic System

- Do not put too much water into the septic system; typical water use is about 50 gallons per day for each person in the family.
- Do not add materials (chemicals, sanitary napkins, applicators, diapers and other foreign objects) other than domestic wastewater.
- Restrict the use of your garbage disposal.
- Do not pour grease or cooking oils down the sink drain.
- Make a diagram showing the location of your tank drainfield and repair area.
- Periodically have the solids pumped out of the septic tank.
- Maintain adequate vegetative cover over the drainfield.
- Keep surface waters away from the tank and drainfield.
- Keep automobiles and heavy equipment off the system.
- Do not plan any building additions, pools, driveways, or other construction work near the septic system or the repair area.

### Will I Need to Pump the Tank?

After a few years, the solids that accumulate in the septic tank should be pumped out and disposed of at an approved location. If not removed, these solids will eventually overflow, accumulate in the drainfield, and clog the pores (openings) in the soil. This blockage severely damages the drainfield. While some clogging of soil pores slowly occurs even in a properly functioning system, excess solids from a poorly maintained tank can completely close all soil pores so that no wastewater can flow into the soil. The sewage effluent will then either back up into the house or flow across the ground surface over the drainfield. If this happens, you may need to construct a new drainfield on a different part of your lot. Pumping the septic tank after the soil drainfield has become completely clogged will not rejuvenate the system. It will provide only a few days reprieve until the tank fills up again.

## Septic Tank Additives Debated

Should something be added to a septic tank to cure its problems or offer a measure of preventative maintenance? A new septic tank system should not need any additives. The bacteria that carry on the treatment in the tank are present in raw sewage and adding chemicals, especially large amounts of either caustic or acid, to the septic tank can actually be harmful to the system. Additives can include organic solvents, inorganic chemicals (acids, bases, flocculants), or biologicals (bacteria, yeasts, enzymes). Environmental

engineers and the makers of additives are often at odds over these products. This debate is fueled by the lack of any major, independent, standardized testing of the products in recent years.

What is certain is that no additive will compensate for poor design and maintenance. Even well-designed septic systems have a finite life of about 20 years. Additives claiming to eliminate septic tank pumping are usually just moving the problem to the soil absorption field where it's more expensive to fix.

Given the lack of common ground or recent unbiased testing, our best advice remains to monitor sludge and scum levels annually and have the septic tank pumped at least every 2-5 years. We know that works. Be suspicious of product claims for quick cures. Also consider how the \$50-\$100 annual cost of using additives might be more productively used elsewhere.

### **How Will I Know When to Pump the Tank?**

The frequency with which you will need to pump depends on three variables: the size of your tank, the volume of your wastewater, and the solids content of your wastewater. If you are unsure about when to have the tank pumped, observe the yearly rate of solids accumulation. The tank should be pumped if the sludge layer has built up to within 25 to 33 percent of the liquid capacity of the tank. Therefore, a typical 1,000 gallon tank with a 4-foot liquid capacity should be pumped when the solids are 1-foot thick in the bottom of the tank. If the tank is not easily accessible, you may wish to inspect and pump it according to the frequency guidelines in [Table 1](#).

| Tank Size (gallons) | Number of People Using the System |   |   |   |    |
|---------------------|-----------------------------------|---|---|---|----|
|                     | 1                                 | 2 | 4 | 6 | 8  |
| 900                 | 11                                | 5 | 2 | 1 | <1 |
| 1,000               | 12                                | 6 | 3 | 2 | 1  |
| 1,250               | 16                                | 8 | 3 | 2 | 1  |
| 1,500               | 19                                | 9 | 4 | 3 | 2  |

Source: Adapted from "Estimated Septic Tank Pumping Frequency," by Karen Mancl, 1984. *Journal of Environmental Engineering*. Volume 110.

If the septic system is not used very often (as in an infrequently used vacation home with a correctly sized tank), it will probably not need to be pumped as frequently as indicated in the table. If you use a garbage disposal, the tank may need to be pumped more frequently. After a few inspections, you should be able to adjust the schedule according to the rate at which solids accumulate.

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