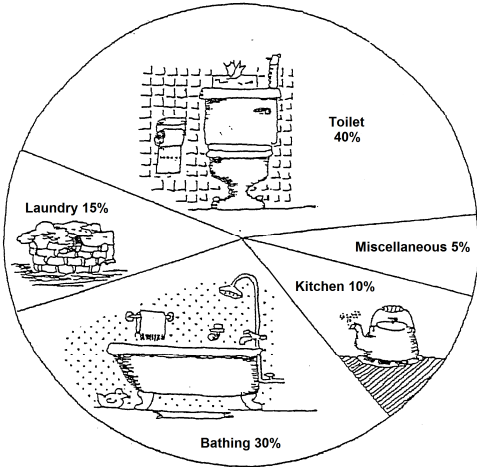


# Get To Know Your Septic System....

## How a Septic System Works:

Septic systems dispose of household sewage, or wastewater, generated from several sources, including sinks, toilet use, bathing, washing machines, and other cleaning activities.



Wastewater carries all those things that “go down the drain,” such as human waste, dirt, food, paper, soap, detergents, and cleaning products. It contains dissolved nutrients, household chemicals, grease, oil, microorganisms (including some that cause disease), and solid particles.

The septic system’s purpose is to remove these contaminants and then discharge treated wastewater to the soil without harming either human health or the environment. A septic system consists of an underground, watertight tank, or “septic tank,” and a drain field.

## Septic Tank:

A septic tank has three main functions:

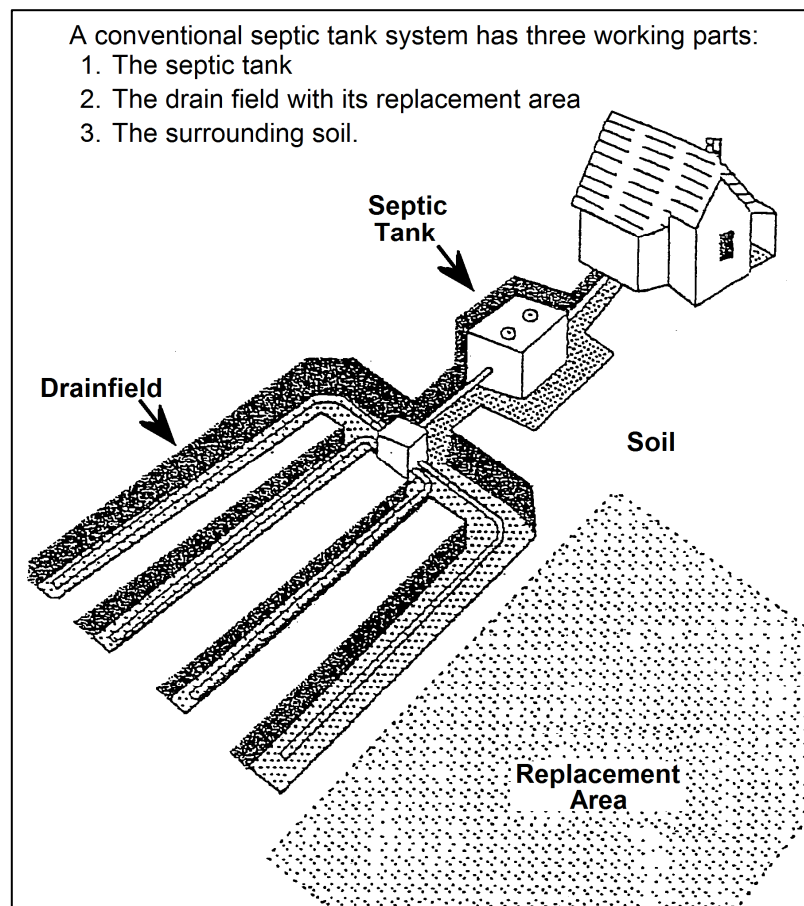
- To remove as many solids as possible from household wastewater before sending the liquid, known as “effluent,” to the drain field.
- To decompose solids in the tank.
- To store solids that do not decompose.

When raw wastewater enters the tank, heavy solids in the wastewater sink to the bottom of the tank as sludge. Light solids, such as grease and paper, float to the surface as scum. Baffles or tees keep the solids from leaving the tank and entering the drain field. The longer the wastewater remains in the tank, the more time there is for solids to separate out.

Bacteria decompose the organic solids that collect in the tank. Solids that do not decompose accumulate in the tank and eventually must be pumped out.

A conventional septic tank system has three working parts:

1. The septic tank
2. The drain field with its replacement area
3. The surrounding soil.



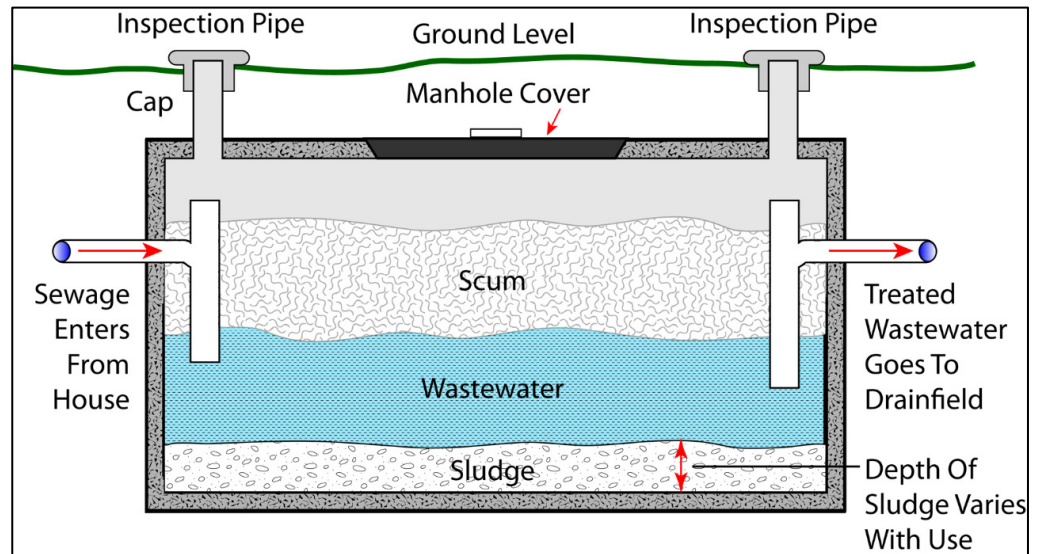
## Drain Field:

Each time raw wastewater enters the tank it forces an equal amount of effluent into the drain field. The typical drain field is a series of perforated plastic pipes placed in gravel filled trenches that are covered with at least 1 foot of soil.

## Septic Tank Maintenance:

The typical septic tank is a large buried rectangular, cylindrical container made of concrete, fiberglass, or polyethylene plastic. Wastewater from you're your toilet, bath, kitchen, laundry, etc, flows into the tank. Heavy solids settle to the bottom where bacterial action partially decomposes them to digested sludge and gases. Most of the lighter solids, such as fats and grease, rise to the top and form a scum layer.

Over time, sludge and scum collect in all septic tanks and must be pumped out. Septic tanks usually need pumping every 2 to 5 years, depending on tank size and use.



## How Often Should You Pump?

This depends on the following:

- Capacity of septic tank
- Flow of wastewater
- Volume of solids in wastewater

Volume of wastewater flow is determined by the type and frequency of common household activities. Water conservation practices in the home will help to limit the flow into the system.

The chart below shows the estimated septic tank pumping frequencies in years (for year round occupancy):

# In Household	Tank Size (in gallons)				
	750	1000	1250	1500	1750
1	9	12	16	19	22
2	4	6	8	9	11
3	3	4	5	6	7
4	2	3	3	4	5
5	1	2	3	3	4

## Caring for your System:

*Practice water conservation.* The more wastewater you produce, the more the soil must treat and dispose of. By reducing and balancing your water use, you can extend the life of the drain field, decrease the possibility of system failure, and avoid costly repairs.

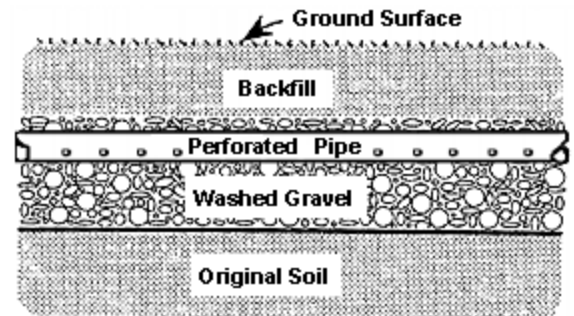
### **To Reduce the Water you Use:**

- Use water saving devices.
- Repair leaky faucets and plumbing fixtures
- Reduce toilet reservoir volume or flow.
- Take shorter showers.
- Take baths with a partially filled tub.
- Wash only full loads of dishes and laundry.

### **Avoid Physical Damage to your Drain Field:**

Don't build anything over the drain field or areas set aside for future drain fields. This includes patios, carports, and sidewalks. Keep cars and trucks off the drain field to avoid soil compaction. Compacted drain field soils drain poorly, which causes the drain field to become saturated and prevents oxygen from getting into the soil.

Trees and shrubs can be planted near drain fields. Concerns about roots plugging and damaging drain fields persist from the days when clay tile was used for drain field pipe. Roots do not damage modern drain fields built with plastic pipe. In fact, they may help remove water and increase oxygen levels in the drain field. Grass is the best cover for the drain field. However, avoid pasturing large animals over the drain field to prevent soil compaction.



Also, never flood irrigate the drain field area. Flood irrigation will saturate the drain field and may cause the drain field to fail.

### **The Main Causes of Septic System Failure:**

- Infrequent septic tank pumping.
- Overuse of water, especially from leaky faucets or continuously running toilets.
- Improper construction.
- Overuse of garbage disposals or garbage grinders.
- Damage from excavation or from vehicles driving over the system.
- Undersized septic tanks and drain fields.

### **Warning Signs of a Failure:**

- Odors, surfacing sewage, wet spots, or lush vegetation in the drain field area.
- Plumbing or septic tank backups.
- Slow-draining fixture.
- Gurgling sounds in the plumbing system.

If you notice any of these signs or if you suspect your septic tank system may be having problems, contact Polk County Environmental Health for assistance.

# Everyday Care of your Septic System

Take these precautions to keep your septic system working effectively:

## DO:

- **Watch what you put down the drain.** Do not put these things down the drain: fats, oils, grease, egg shells, coffee grounds, facial tissues, kitty litter, sanitary napkins, condoms, wipe-up tissues, disposable dish rags, hair, cigarette butts, sand, soil from garden vegetables or other sources or other non-degradable items. Toilet paper is okay. Studies have shown that most toilet paper brands decompose readily regardless of their color or number of plies.
- **Install a lint trap on the washing machine.** Lint can also clog the septic system.
- **Limit the water entering the tank.** Use water-saving fixtures. Repair toilet floats valves, leaks, and dripping faucets.
- **Keep water from footing drains and water softener dischargers out of the septic system.**
- **Keep toxic and hazardous chemicals out of septic system.** They may harm bacteria working in the septic tank and drain field. These chemicals include paints, varnishes, thinners, waste oils, photographic solutions, poisons, pesticides, and herbicides.
- **Have your tank pumped as needed.**
- Observe the soil absorption system for warning signs of failure.
- **Mow regularly to promote evaporation and removal of water through leaves.** This helps prevent water from unnecessarily infiltrating the soil above the absorption field.
- **Allow accessibility for a pumper truck or backhoe to service your system.**
- **Protect your system from damage.** Keep traffic, such as vehicles, heavy equipment, or livestock off your drain field or replacement area. The pressure can compact the soil or damage the pipes.

## DON'T:

- **Don't flush harmful chemicals into the septic tank.** Grease, cooking fats, newspapers, paper towels, rags, coffee grounds, sanitary napkins, and cigarettes cannot easily decompose in the tank. Chemicals such as solvents, oils, paints, and pesticides are harmful to the system's proper operation and may pollute the ground water.
- **Don't let the tank overload.**
- **Don't install a garbage disposal or grinder.**
- **Don't use drain de-cloggers and septic system cleaners.**
- **Don't fertilize the soil above the drain field.**
- **Don't divert the runoff water from downspouts or other sources onto or toward the absorption system.**
- **Don't build over the septic system.**
- **Don't dispose of water from hot tubs or pools into the septic system.** The large volume of water is too much for the septic tank and drain field to handle properly. In addition, chlorine in the water may harm bacteria in the septic system. Drain hot tubs and pools onto the ground (not into a storm drain) away from the drain field.

By practicing these "Do's and Don'ts," you can improve the system performance, extend the life and usefulness of your septic system, avoid costly repair and replacement costs, and protect our water resources.

For information on the proper disposal of hazardous household waste, call the Recycle Hotline, 1-800-Recycle.