

## THE DRAINFIELD

The drainfield receives wastewater from the septic tank. For every gallon of wastewater that enters the septic tank from the house, a gallon of wastewater enters the drainfield from the tank.

The drainfield is made up of a network of perforated pipes laid in gravel filled trenches (2-3 feet wide) or beds (up to 10 feet wide) in the soil. Wastewater trickles out of the pipes, through the gravel layer, and into the soil for final treatment. The size and type of drainfield depends on the estimated daily wastewater flow from the home and soil conditions.

Every new drainfield is required to have a designated replacement area. It must be maintained as a reserve in case the existing drainfield ever needs to be replaced.

## THE SOIL

The soil below the drainfield provides treatment and disposal of the wastewater. After water passes into the soil, most of it percolates through the soil, eventually entering the groundwater.

Local groundwater is the source of drinking water for almost everyone in Thurston County.

A small amount of wastewater is taken up by plants through their roots, or it may evaporate from the soil. Most of it filters through the soil in small open spaces, called soil pores. Chemical and biological processes in the soil treat the wastewater before it reaches groundwater, or a restrictive layer, such as hardpan or bedrock. These processes work best where the soil is somewhat dry, absorbent, with plenty of oxygen for at least 3 feet below the drainfield.



SEPTIC SYSTEM CARE  
BEGINS WITH YOU



Produced by:

**Thurston County Public Health  
and Social Services Department**

Environmental Health Division

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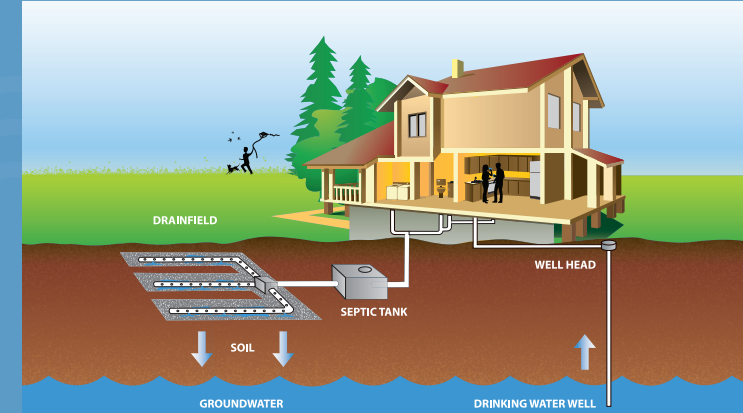
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**[www.co.thurston.wa.us/health](http://www.co.thurston.wa.us/health)**

Thank you to Clallam County for providing graphics.

# HOW YOUR GRAVITY SEPTIC SYSTEM WORKS



Many households in Thurston County depend on on-site septic systems to treat and dispose of sewage and wastewater from their homes. A well designed, installed, and maintained septic system can provide years of reliable service. **Regular maintenance is the key!**

When septic systems are not maintained, sewage can back up into the home or surface in the yard, exposing your family, neighbors and pets to raw sewage.

There are many different types of septic systems to fit a wide range of soil and site conditions. The following information will help you understand a gravity flow (also known as a standard) septic system.

## SEPTIC TANK

The purpose of the septic tank is to separate solids from liquids and prevent solids from reaching the drainfield. A typical septic tank is a large rectangular or cylindrical container made of concrete, fiberglass, or plastic. It may have one or two compartments, depending on how old it is. All of the wastewater from the toilets, baths, kitchen and laundry flow into the septic tank. Once in the tank, heavy solids settle to the bottom where bacteria breaks them down to form a sludge layer. Lighter materials such as fats, oils and greases float to the top to form a scum layer. The liquid portion of the wastewater moves through the middle, or clear zone of the tank and flows out of the outlet pipe, into a drainfield. A properly working septic tank is full of wastewater. For every gallon of water that enters the tank from the home, a gallon of water is pushed out of the tank through the outlet baffle and enters the drainfield. Solids remain in the septic tank and gradually build up over time.

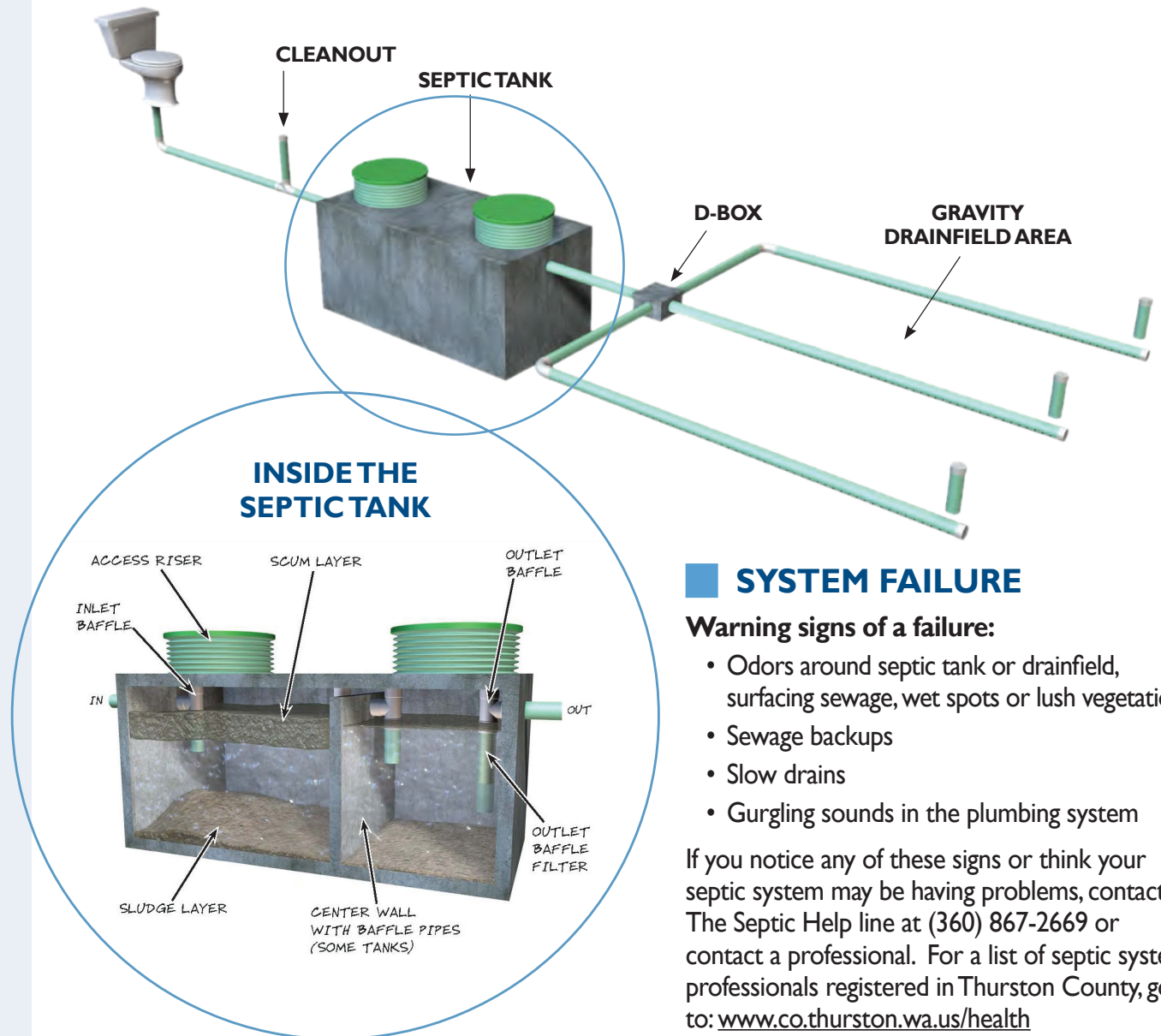
If not removed by regular pumping, solids can overflow out of the tank and into the drainfield where they clog the soil and cause the septic system to fail.

Gravity septic systems need to be inspected every three years. An inspection includes measuring the scum and sludge layers to determine if pumping is needed.

**The septic tank should be pumped when the scum and sludge levels take up more than one third of the working depth of the tank.**

### A GRAVITY-FLOW SEPTIC TANK SYSTEM HAS THREE MAIN WORKING PARTS:

- 1 Septic tank
- 2 Drainfield and reserve or replacement area.
- 3 Soil underneath and around the drainfield.



## SYSTEM FAILURE

### Warning signs of a failure:

- Odors around septic tank or drainfield, surfacing sewage, wet spots or lush vegetation.
- Sewage backups
- Slow drains
- Gurgling sounds in the plumbing system

If you notice any of these signs or think your septic system may be having problems, contact The Septic Help line at (360) 867-2669 or contact a professional. For a list of septic system professionals registered in Thurston County, go to: [www.co.thurston.wa.us/health](http://www.co.thurston.wa.us/health)