wellcare® information for you about

Your Well & Septic System

More than 15 million homes depend on private well systems for drinking water and other uses. More than 25 million homes rely on private septic systems to dispose of waste water on their property. Homeowners with both wells and septic systems must take care to maintain these systems in order to insure the purity of their drinking water.

How Septic Systems Work

A septic system is a highly efficient, self-contained, underground wastewater treatment system. The National Small Flows Clearing House (NSFC), part of the National Environmental Services Center at West Virginia University, offers the following excellent description of how septic systems work:

> A septic system consists of two main parts – *a septic tank* and *a drainfield*. The septic tank is a watertight box, usually made of concrete or fiberglass, with an inlet and outlet pipe. Wastewater flows from your home to the septic tank through the sewer pipe.
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> The septic tank treats the wastewater naturally by holding it in the tank long enough for solids and liquids to separate. The wastewater forms three layers inside the tank. Solids lighter than water (such as greases and oils) float to the top, forming a layer of scum. Solids heavier than water settle at the bottom of the tank, forming a layer of sludge. This leaves a middle layer of partially clarified wastewater.
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> The layers of sludge and scum remain in the septic tank where bacteria found naturally in the wastewater work to break down the solids. The sludge and scum that cannot be broken down are retained in the tank until the tank is pumped. The layer of clarified liquid flows from the septic tank to the drainfield or to a distribution device, which helps to uniformly distribute the wastewater in the drainfield.
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> A standard drainfield (also known as a leachfield, disposal field, or a soil absorption system) is a series of trenches or a bed lined with gravel or course sand and buried one to three feet below the ground surface. Perforated pipes or drain tiles run through the trenches to distribute the wastewater. The drainfield treats the wastewater by allowing it to slowly trickle from the pipes out into the gravel and down through the soil. The gravel and soil act as biological filters.

Installing a Septic System

A septic system must be installed a minimum distance away from drinking water wells, streams, lakes and houses, in order to protect water quality from wastewater working through the system. Distances are established both horizontally, which applies across the surrounding landscape and protects surface water, and vertically, which applies to distances underground and protects ground water.

State health departments set the minimum distance standards, which can range from 25 to 200 feet separation from a septic tank and 50 to 400 feet separation from a drainfield. Check with your water well professional, septic tank service company or local health department for standards in your area.

If you buy a property on which the septic system does not meet minimum separation standards, test your drinking water at least twice each year to ensure your drinking water is safe.

Managing Your Septic System

A properly maintained septic system is no threat to the ground water that supplies your well. However, if your septic system is failing, wastewater can carry contaminates such as nitrates, harmful bacteria and viruses into ground water.

Your septic system, just like your drinking water well system, needs a regularly scheduled maintenance program. Create a septic maintenance log and keep it with your well maintenance log.

The NSFC recommends having your septic system inspected every two years and having the septic tank pumped out every three to seven years, depending on the demand placed on it.

Demand is based upon the number of people in your household, the amount of wastewater generated (based on the number of people in the household and the amount of water used), and the volume of solids in the wastewater (e.g., using a garbage disposal will increase the amount of solids).

Make sure that everyone in the household is careful about what they flush into the septic system. Never dispose of green leafy vegetables or hazardous materials in your sinks or toilets, as these can clog the system or pass through it and contaminate ground water. Don't flush chemicals, grease, disposable diapers, paper towels, kitty litter, cigarette butts, coffee grounds, dental floss, hair, paint, pesticides, varnish, thinners or waste oil.

Also take care of your septic system's drainfield. The NSFC recommends the following strategies to protect the field and prolong its functional life:

- Do not drive over the drainfield with cars, trucks or heavy equipment.
- Do not plant trees or shrubbery in the drainfield area, because the roots can get into the lines and plug them.
- Do not cover the drainfield with hard surfaces, such as concrete or asphalt. Grass is the best cover, because it will help prevent erosion and help remove excess water.
- Do divert surface runoff water from roofs, patios, driveways and other areas away from the drainfield.

For more information on septic systems

The National Small Flows Clearing House of the National Environmental Services Center at West Virginia University offers three brochures in print and on-line on septic system operation and maintenance. Call 800-624-8301 or 304-293-4191 or go to http://www.nesc.wvu.edu/nsfc/nsfc_septicnews.htm

For more information on your drinking water

The following sites provide up-to-date information on efforts to protect public water supplies and steps you can take as a private well owner:

Home*A*Syst Program	**www.uwex.edu/homeasyst**
Water Quality Association	**www.wqa.org**
The Groundwater Foundation	**www.groundwater.org**
American Water Works Association	**www.awwa.org**
wellcare® Hotline for Well Owners	**888-395-1033**

For more information about wells and other wellcare® publications

wellcare® is a program of the **Water Systems Council (WSC). WSC** is a national nonprofit organization dedicated to promote the wider use of wells as modern and affordable safe drinking water systems and to protect ground water resources nationwide. **Well owners and others with questions about wells or well water can now call the new wellcare® hotline at 888-395-1033 or visit www.watersystemscouncil.org**

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