

Contact Information:

WY Association of Rural Water Systems  
 P.O. Box 1750, Glenrock, WY 82637  
 Phone: 307-436-8636  
 Fax: 307-436-8441  
 warws@warws.com

National Environmental Service Center  
 West Virginia University  
 P.O. Box 6064  
 Morgantown, WV 26506-6064  
 Phone: 800-624-8301 or 304-293-4191  
 www.nesc.wvu.edu

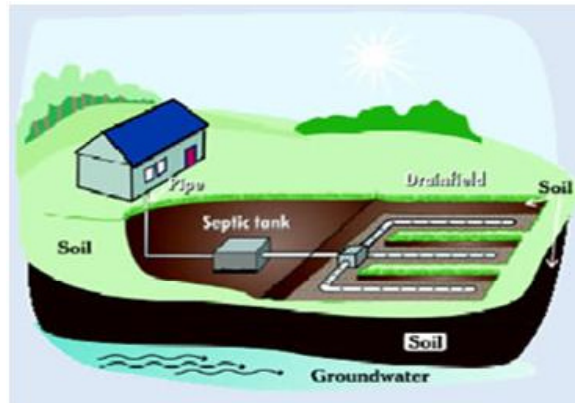
WY Department of Environmental Quality  
 Water Quality Division  
 122 West 25th Street  
 Herschler Building, 4th Floor-West  
 Cheyenne, WY 82001  
 Phone: 307-777-7781  
 Fax: 307-777-5973  
 http://deq.state.wy.us/wqd/

Your Local County Conservation District  
 and Government Offices



Poor maintenance is a common cause of septic system failure. A septic system does NOT have an infinite life span. Even well designed and maintained systems eventually need to be replaced.

# A Homeowner's Guide to Septic Systems



**Learn to Protect and Maintain your septic system for your health and safety, as well as water resources**

## Homeowners Self Assessment

Septic System Features	Higher Risk (H)	Lower Risk (L)	Result H or L
Can you locate your septic tank?	No	Yes	
Is there a cleanout between the house and the septic tank?	No	Yes	
Can you locate your leach field?	No	Yes	
What is the distance from the septic system to surface water / (Canals, streams, river, et.)	Less than 100 ft away	More than 100 ft. away	
Does terrain slope toward or away from surface water?	Toward	Away	
What is the slope of the terrain?	Steep to moderate	Flat	
What are the soil types?	Gravelly or rocky soil. Water runs easily through, or tight clay soil that water cannot penetrate	Medium textured soils that allow water infiltration	
What is the distance to any well?	Less than 100 ft. away	More than 100 ft. away	
Is the groundwater from any such well used for human drinking water?	Yes	No	
Did you test your well water supply to establish a baseline data?	No	Yes	
Do you test your drinking water supply at least annually?	No	Yes	
Determine the relationship between your septic tank size and the size of your household. Septic tanks are commonly 1000, 1250, or 1500 gallon tanks. Divide septic tank size (in gallons) by number of bedrooms in your home. (1000 gallons ÷ 2 bedrooms = 500 gallons per bedroom)	Less than 250 gallons per bedroom	More than 250 gallons per bedroom	
Is an impermeable surface such as concrete, asphalt, or brick located over the leach field?	Yes	No	
Are there one or more of the following signs of system malfunction: septic odor, ponding, or wastewater breakout, burnt out grass or ground staining over leach field or patches of lush green grass over leach field?	Yes	No	
Are any trees, shrubs, or other plants with extensive root systems in the vicinity (10 ft.) of the leach field?	Yes	No	
Are heavy objects (cars, etc.) or evidence from such objects in the vicinity of the leach field?	Yes	No	
Are stormwater sump pumps, foundation drains, or roof runoff diverted to flow into the septic system?	Yes	No	
Is there an apparent cave-in or exposed component?	Yes	No	
When was the septic tank last pumped?	More than 5 years ago	Less than 5 years ago	
Do you have emergency contact information readily available in the event that your septic system fails?	Yes	No	

## Your Septic System is Your Responsibility!

Homeowners are responsible for the maintenance of their septic system, protecting their investment.

If properly designed, constructed, and maintained, your septic system can provide long-term, effective treatment of household wastewater. A malfunctioning system can contaminate surface and groundwater, which may be your drinking water source.

## Our Local Watersheds

Wyoming watersheds provide the necessary water resources for recreational, agricultural, urban, and wildlife opportunities, not only throughout our Great State, but our neighboring states as well. Our watersheds reach as far as the Pacific Ocean to the west, and the Mississippi River and Gulf of Mexico to the east. Protection of these water resources is critical to maintain the quality of life enjoyed by all.

States are required by the Clean Water Act to periodically conduct water quality assessments on streams, lakes, and reservoirs in the state. They then identify impaired or threatened waters that do not meet applicable water quality standards. The absence of a properly designed, constructed, or maintained septic system can be one of the causes of stream impairment. A “straight pipe” to a stream, if discovered through a DEQ assessment or complaint investigation, would be considered an illegal discharge point and subject to state enforcement action.

Wyoming Association of Rural Water Systems is dedicated to providing training and technical assistance to protect and preserve water ~ our most precious resource.

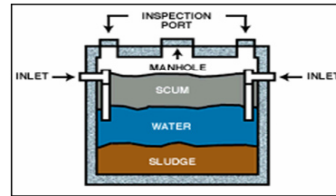
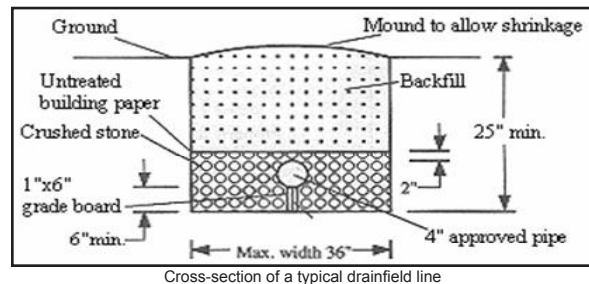
## How Does a Septic System Work?

A typical septic system has four main components: a pipe from the home, a septic tank, a drainfield, and the soil. Microbes in the soil digest and remove most contaminants from wastewater before it eventually reaches groundwater.

The septic tank is a buried, water tight container, made of concrete, fiberglass, or polyethylene. It holds the wastewater long enough to allow solids to settle out, forming a sludge, while oil and grease float to the surface as scum. It also allows partial decomposition of the solid material.

Compartments and a “T” shaped outlet in the septic tank prevent the sludge and scum from leaving the tank. Screens are recommended to keep solids from entering the drainfield.

The drainfield consists of one or more trenches. The trenches contain sections of open, jointed, 4” drain tile or perforated plastic drain pipe laid with holes facing downward. Gravel is placed around the drainfield to prevent the pipe from floating. It is at this location where water is discharged from pipes into the gravel bed and billions of microorganisms break down the pollutants before water begins to percolate through the soils and into the groundwater sources.



## Potential Problems

In older systems, the wastewater (with or without solids removed) is transported directly to a stream or other water source. These systems may never fail or backup and residents may be unaware a problem exists.

In a system that fails to function properly, the wastewater is not treated prior to reaching a water source. This can result in contamination of ground and surface water sources (which may be your drinking water source), odor problems and health risks.

In some locations, such as flood plains, a conventional system may not be suitable, so an alternative system or design may be required.

## Design and Installation

Obtain a permit through your county small wastewater program. Permits are required in accordance with the Wyoming Department of Environmental Quality Rules, Chapter 11, Part D. Keep in mind, it is unlawful to install or make alterations without a permit.

Select a tank that is watertight and corrosion resistant .

Determine tank size: A minimum 1000 gallon tank is required for residences with up to four bedrooms (not bathrooms). An additional 250 gallons is required for each bedroom over four. These tanks should be sized to allow for solids to settle out.

The size of the absorption field is based on the size of the dwelling, the tank, and the soil quality.

Determine the location of tank and leachfield: Check your county land use plan for regulation information which is available at your local County Planning and Zoning Office.

Soil exploration should be used to determine the distance to groundwater or bedrock and to examine the soil texture, structure, and color.

Conduct percolation tests: Contact your local county Planning and Zoning office for more information.

## Maintenance

Your septic system should be inspected by a professional at least every 3 years, and the tank pumped every 3 to 5 years. The tank capacity and the volume of solids influence how often a tank should be pumped. Due to the toxic nature of sewer gases, always use caution if inspecting a system without professional assistance.

**Avoid overloading the system:** Conserve water and repair leaky fixtures. Space laundry throughout the week. Install low-flow toilets and aerators on sink and shower heads. Divert runoff from gutters away from the absorption field. Minimize the use of your garbage disposal, as it causes rapid accumulation of solids in your septic tank.

**Watch your drains:** Feminine hygiene products, diapers, paper towels, dental floss, and grease, will clog and potentially damage your septic system components. Paints, thinners, waste oils, pesticides, chlorine bleach, as well as other harmful chemicals and cleaners may kill bacteria in the tank and drainfield and cannot be effectively treated in the soil layers.

**Avoid damage to the drainfield:** Plant only grass on the drainfield and do not, under any circumstance, drive or park over the system.

## Where Do I Get Help?

If, after completing the self-assessment, you discover a majority of your responses are in a high-risk category, seek further assistance from WY Rural Water, the National Environmental Service Center, WY Department of Environmental Quality, and your local County Conservation District or Planning or Zoning Office.