

# Prevent a stink by checking

# SEPTIC SYSTEM

## considerations before buying



Selecting a septic system is a consideration people didn't have to worry about when they lived in town. But if you're one of the 25 percent of rural homeowners who have a septic system, then selecting a proper system may prevent the occasional – but very exasperating – problem with a septic system.

A septic system's tank separates solids and liquids. The liquid effluent is then dispersed to a drain field of pipes and gravel or gravel-less chambers. The most commonly used drain field is gravity fed (see pictures of conventional systems). There are other, more complex, pressure dosing applications and more advanced pretreatment packages that can be used when soil conditions are less than optimal or when other site limitations, such as a high groundwater table, are a problem.

A pressure dosing system uses a pump or siphon to transport effluent to the drain field. These are used when a system is larger than 2,000 square feet and when the groundwater is so high the drain field has to be higher than the tank. The effluent is pumped up to the drain field in cycles.

Some kind of wastewater treatment system should be in place for developed properties. Before purchasing any property, check the septic system information. Most county and state health departments or environmental quality agencies require that homeowners apply for a septic permit prior to construction.

Residents of Carbon, Crook, Niobrara, Platte, and Weston counties must obtain a small wastewater permit from the Wyoming Department of Environmental Quality before constructing a septic system. Residents in the other 18 counties should check with their counties. These permits contain valuable information such as the age of the system, size of the tank and drain field, and location. It can also be a part of the lending process at the bank.

If planning to develop the property after the purchase, ensure that a septic system can be installed before the purchase. Nothing is worse than being stuck with a piece of heaven not suitable for a septic system.

Ask the local planning and zoning department about wastewater disposal issues. At a minimum,



*Gravity fed system in a trench configuration. A plastic (poly) tank and distribution box are used with this system.*



*Conventional gravity fed septic system with concrete tank and distribution box. The drain field is a bed configuration with chambers that do not contain gravel.*

the permitting agency should perform a site evaluation, which includes a trench inspection and soil test, and determines if there is high ground water and impermeable layers.

A percolation test determines the soil's water absorption capability. A geologist, professional engineer, sanitarian, or the property owner most often performs this. Improper percolation tests could result in an inadequately sized drain field or a costly oversized field. Owners must also make sure the property is large enough to have a replacement area if the system fails. The property owner is responsible for providing the necessary equipment, such as a backhoe. The overseeing agency will not provide the equipment.

Most systems last about 20 years; however, premature failure can occur. Inadequate sizing and inaccurate percolation tests are the most common reasons of premature failures. For optimal life span, keep in mind the following:

- Do not install water softeners or garbage disposals, or drive, park, or build on the drain field.
- Consider washing laundry intermittently instead of all in one day (never connect a hot tub to the

system) because large quantities of water can overload the system

- Consider installing low-volume plumbing fixtures
- It is also not necessary to pour septic additives into your system. Chemical additives may do more harm than good. Bleach and other household cleaners should be used in moderation.

A warning sign of an imminent system failure will often be that the system will start to back-up inside the house. A toilet won't flush, or water will come up floor drains or the bathtub. Have the tank pumped, which should be done every three to five years, and check if the outlet on the tank has an effluent filter, which keeps solids from entering the drain field. If it does, clean the effluent filter. The filter should be cleaned every six months.

If pumping the tank and cleaning the effluent filter do not solve the problem, chances are the system has failed. The most frequent sign of failure is effluent surfacing in the drain field area. You may also see effluent coming over the top of the



*This is a picture of the outlet baffle in a concrete tank. The green object inside the baffle is an effluent filter that must be removed and cleaned at least every six months. The effluent filter keeps solid material from entering the drainfield.*

risers on the distribution box (located at the front of the drain field) or on the tank. Surfacing effluent is black in color and has a distinct sewer odor (see pictures). Keep in mind septic systems are never guaranteed to last a lifetime.

Before buying your small piece of heaven, make sure the wastewater is treated in a sanitary and responsible way.

*Pipeline*, a small-community wastewater publication, can be seen at [http://www.nesc.wvu.edu/nsfc/nsfc\\_pipeline.htm](http://www.nesc.wvu.edu/nsfc/nsfc_pipeline.htm). For additional septic system and permitting information, access <http://deq.state.wy.us/wqd/www/Permitting/Pages/smwww/smallwastewater.asp>.



*Effluent can be commonly seen surfacing in the area when a drain field fails.*

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