

On-site wastewater treatment systems

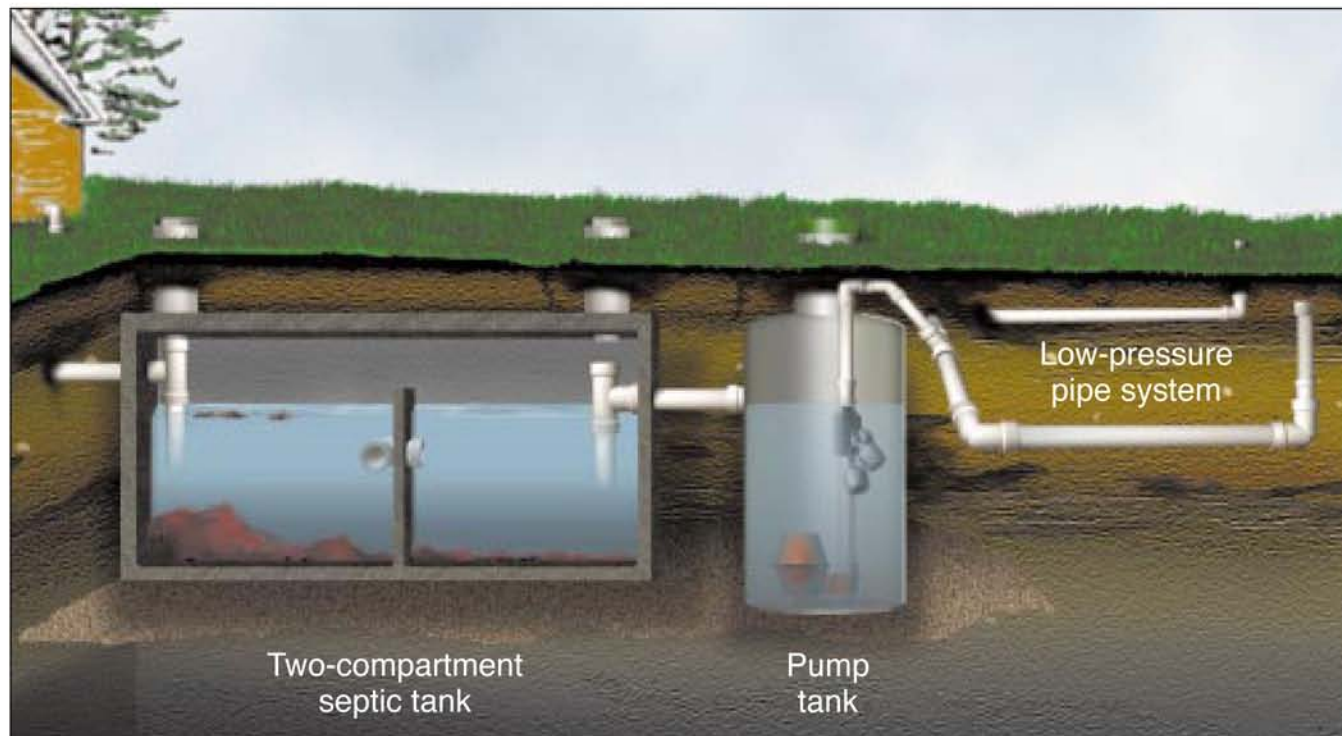


Figure 1: A low-pressure dosing system.

Low-pressure dosing

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A low-pressure dosing system treats wastewater and then pumps it into the soil several times daily. Of the nonstandard drain fields, it is the least expensive to install and operate. The system generally has three components: a series of tanks or compartmented tanks used to settle out and partially treat the wastewater; a pump tank for dosing

wastewater to the distribution system; and a system for distributing the wastewater to the soil.

The pump tank houses a pump that discharges wastewater to the distribution system three or four times a day. The distribution system consists of a small pipe with holes

drilled in it, laid in narrow 6- to 12-inch-wide trenches.

The pump discharges wastewater to the trenches. Once in the trench, the wastewater seeps into the soil.

The soil provides most of the wastewater treatment. Soil particles filter solids and organic matter from

the wastewater. Microbes in the soil break down the solids and kill the bacteria and pathogens in the wastewater.

The sizes of the septic tanks, pump tank and distribution system are based on the number of bedrooms in the house and the type of soil where the distribution system will be placed.

Advantages

For installation and operation, the low-pressure dosing system is the least expensive of the nonstandard distribution systems.

A low-pressure dosing system can be used in clay soils and relatively shallow soils. One foot of soil must be maintained between the bottom of the trench and the restrictive layer or fractured soil. The system can be designed and installed to work on sloping sites.

Disadvantages

Low-pressure dosing systems cannot be installed in soils that become saturated during wet periods of the year or in shallow soils.

Two feet of separation is required between the bottom of the trench and the saturated soil layer or groundwater.

Electrical and mechanical components require electricity for operation and replacement when the components break.

How to keep it working

- ✓ Pump the septic tanks a minimum of every 2 to 3 years.
- ✓ Inspect the pump and alarm system once a year.

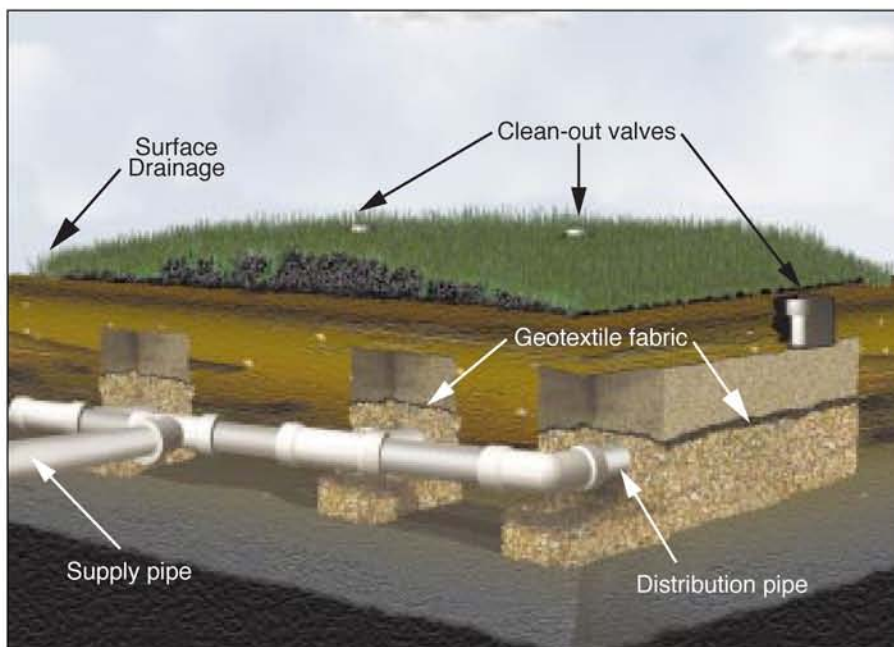


Figure 2: The low-pressure dosing system distributes wastewater into the soil several times a day.

- ✓ Flush the distribution lines every 5 years to remove sediment from the lines.

Estimated costs

Maintenance costs are about \$125 per year based on a 3-year tank pump-

out schedule, a 5-year pump replacement schedule, and small electrical usage.

Installation costs range between \$3,000 to \$10,000, depending on the soil type, house size and other factors.

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