TEXAS A&M AGRILIFE EXTENSION

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On-site wastewater treatment systems

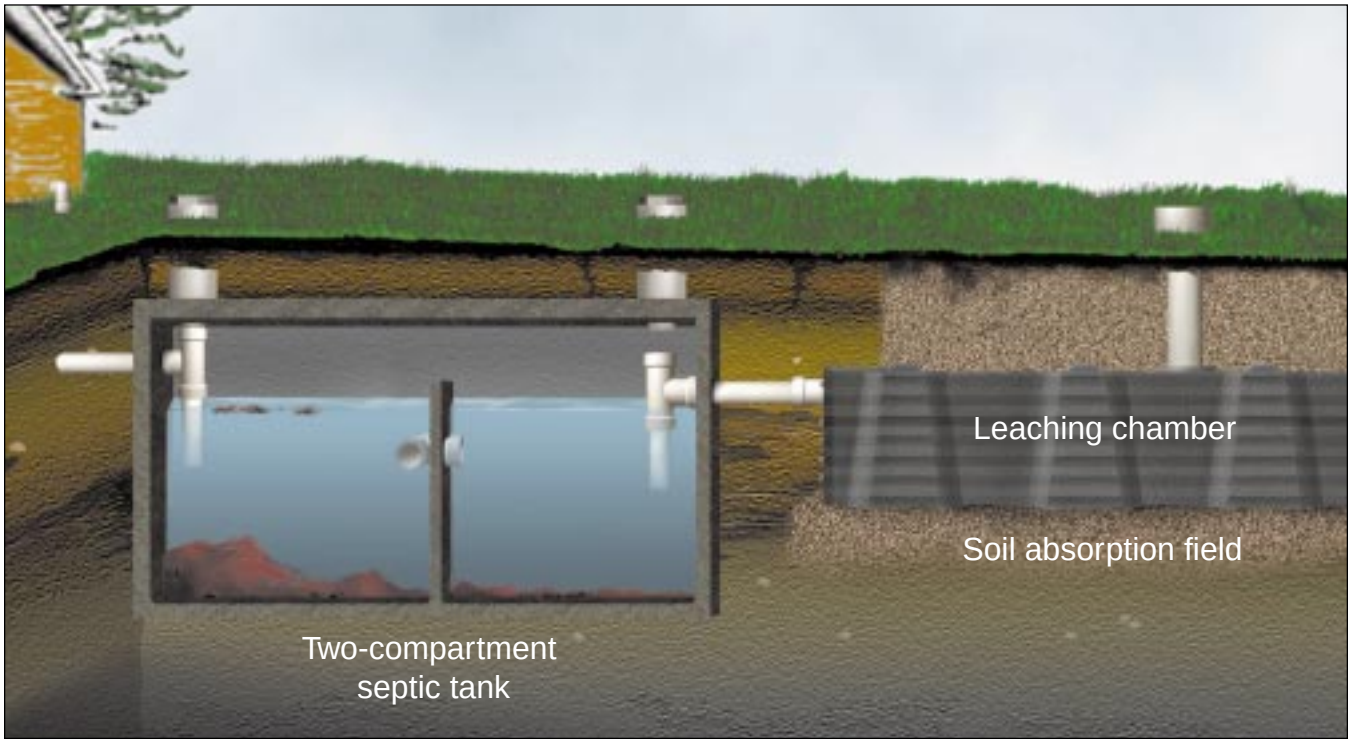

Figure 1: Leaching chamber systems can have smaller drain fields than those for conventional systems.

Leaching chambers

Bruce Lesikar and Russell Persyn
Extension Agricultural Engineering Specialist, Extension Assistant-Water Conservation
The Texas A&M University System

Leaching chamber systems handle wastewater in a similar manner as conventional gravel-filled trench systems. The main difference is in how the trench is constructed.

A leaching chamber system includes:

- ✓ A treatment device, generally a septic tank, but it can be an advanced treatment system.
- ✓ A leaching chamber, which is a commercially available plastic chamber molded into a dome shape. The chamber top is solid so that it can support the soil above it; the sides are louvered; and the bottom is open to allow the water to exit. Chamber widths vary from 15 to 36 inches.
- ✓ Leaching chamber trenches, which can be no longer than 150 feet.

In a leaching chamber system, a solid 4-inch-diameter pipe carries wastewater from the septic tank to the leaching chamber trenches. The leaching chambers store the wastewater until it enters the soil. Each leaching chamber system should have at least one observation port to allow water levels in the trench to be inspected.

Advantages

A leaching chamber is made of lightweight material that can easily be carried to the excavated trench. There is no need for additional perforated pipe or geotextile fabric as used in conventional trench systems.

The drain fields for chamber systems are permitted to be smaller than those for conventional systems. For a house without water-saving

devices, the drain field absorptive area can be 40 percent smaller than in conventional systems; for houses with water-saving devices, it can be 20 percent smaller. (The reason that houses with water-saving devices can have only a 20-percent smaller drain field is that such systems are already designed to be 20 percent smaller than houses without water-saving devices. The reduction in drain field size cannot be compounded.)

Disadvantages

The drain field size can be reduced only in class Ib, II and III soils. The drain field size may not be reduced for low-pressure dosing systems using leaching chambers in class IV soils.

The bottom of the chamber must be separated from a restrictive horizon or groundwater by at least 2 feet.

How to keep it working

Leaching chambers are a proprietary product, so please follow the manufacturer's recommendations for maintaining the system. Other guidelines include:

- ✓ Pump out the treatment tanks every 2 to 3 years to keep solids out of the drain field.
- ✓ Maintain a grass cover over the trenches to help remove water from the soil.
- ✓ Do not place any solid materials over the ground surface that could prevent air from moving into the soil in the drain field.
- ✓ Conserve water to prevent the drain field from flooding.
- ✓ Do not drive heavy equipment across the drain field. The equipment can damage the drain field.

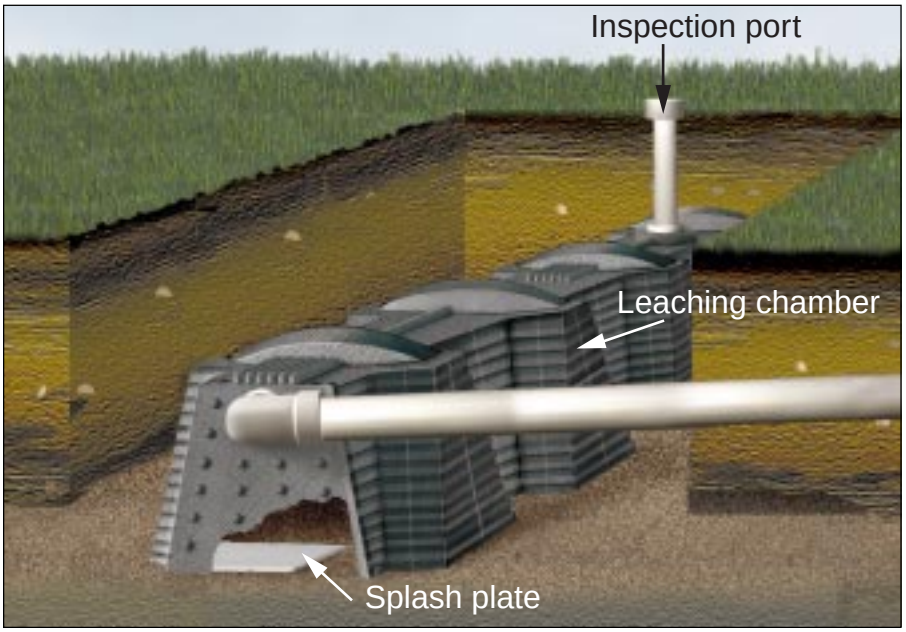

Figure 2: Leaching chamber trenches can be no longer than 150 feet.

Estimated costs

The installation cost ranges from $3,000 to $6,000 depending on the soil type, house size and other factors.

Septic tank maintenance costs are about $75 per year, if you have it pumped out every 3 years. More frequent maintenance increases cost.

The On-Site Wastewater Treatment Systems series of publications is a result of collaborative efforts of various agencies, organizations and funding sources. We would like to acknowledge the following collaborators:

Texas State Soil and Water Conservation Board
Texas On-Site Wastewater Treatment Research Council
Texas Natural Resource Conservation Commission
USDA Water Quality Demonstration Projects
Consortium of Institutes for Decentralized Wastewater Treatment
USEPA 319(h) Program
Texas Agricultural Extension Service
Texas Agricultural Experiment Station
Texas On-Site Wastewater Association
USDA Natural Resources Conservation Service

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