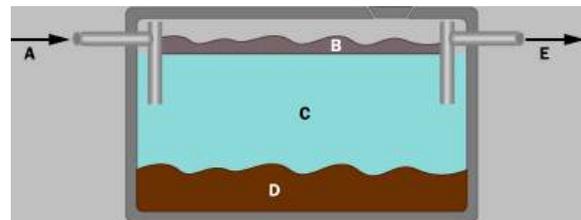


SEPTIC SYSTEMS AND INSPECTION PROCEDURES

In rural areas where houses are spaced so far apart that a sewer system would be too expensive to install, people install their own, private sewage treatment plants. These are called **septic tanks**. Wastewater comes into the septic tank from the sewer pipes in the house. As new water enters the tank, it displaces the water that's already there. This water flows out of the septic tank and into a **drain field**. A drain field is made of perforated pipes buried in trenches filled with gravel. The water is slowly absorbed and filtered by the ground in the drain field.

A septic tank is simply a big concrete or steel tank that is buried in the yard. The tank might hold 1,000 gallons of water. Wastewater flows into the tank at one end and leaves the tank at the other. The tank looks something like this in cross-section:

In this picture, you can see three layers. Anything that floats rises to the top and forms a layer known as the **scum layer**. Anything heavier than water sinks to form the **sludge layer**. In the middle is a fairly clear water layer. This body of water contains bacteria and chemicals like nitrogen and phosphorous that act as fertilizers, but it is largely free of solids.



A-Water Intake
B- Scum layer
C- Water
D - Sludge layer
E - To drain field

A Septic System Inspection Covers:

Mechanical Components – Utilizing the probe test procedure the Inspector attempts to locate the "key" elements of the system (septic tank and leach fields) and determines if they are experiencing hydraulic distress (meaning the septic tank and fields are flooded).

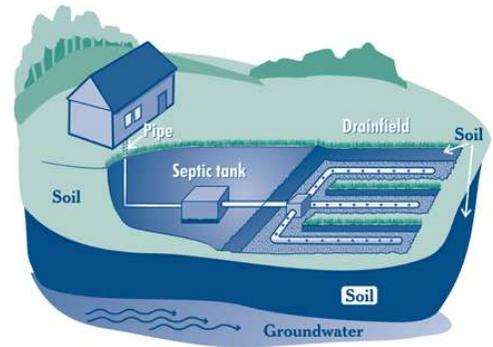
System Evaluation – Measuring scum and sludge layers to determine if pumping is needed, checking for evidence of leakage into or out of tank, verifying proper drainage and signs of current or previous system backups and noting other defects such as damaged baffles and unsafe tank covers.

Dye Testing – Involves flushing a special fluorescent dye down a toilet or other drain and running a reasonable test volume of water (minimum 150 gallons or 50-gallons per bedroom) into the system to trace the movement of septic tank effluent into the leaching system. This allows the inspector to look for signs of blockage in the building, leaking, backup in the building, or breakout of effluent anywhere on or around the property.

SEPTIC SYSTEMS AND INSPECTION PROCEDURES - PAGE 2

Stress Testing – Discharges a vast amount of water into the existing system. Depending on the number of fixtures utilized, an additional 200 to 300 gallons of water can enter the system during the course of an inspection. The inspector then examines the leaching area to observe any signs of an "overflow condition" or ability of leach area to accept waste water.

Leach Field – Visual inspection of the soil conditions, drainage, seasonal water table and flooding possibilities on the site where the septic system is located. The Inspector looks for evidence of liquid waste reaching the soil surface, draining toward nearby lakes and streams, or clogging the soil and gravel beneath the field. (This usually requires digging up a small portion of the field.). The Inspector looks for evidence that heavy equipment has been on the drain field, causing compaction and possible damage.



Plumbing System – Inspection of the condition of the plumbing fixtures and their layout to determine whether structural changes have been made to the plumbing that would increase flow to the septic system above capacity. Determine if there are components that could affect the system for example, water softeners draining to the septic tank or the presence of footing drains.

Remember: The EPA recommends having a professional inspect your septic system at least every 3 years. Systems with electrical float switches, pumps or mechanical components need to be inspected more often. Inadequately treated sewage from septic systems can be a cause of groundwater contamination. It poses a significant threat to drinking water and human health because it can contaminate drinking water wells and cause diseases and infections in people and animals, such as eye and ear infections, gastrointestinal illness and hepatitis. If a septic system is working properly, it will effectively remove most of the pollutants.