

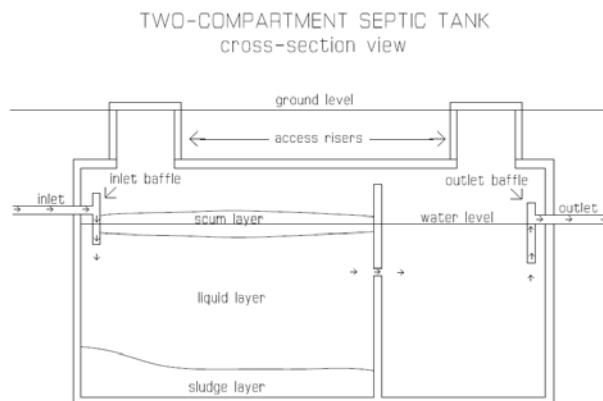


Basic Options for Household Sewage Treatment in Van Wert County

State regulations require that each home located in an area not serviced by municipal sanitary sewers must have its own sewage treatment system. The purpose of this document is to provide a brief description of the various household sewage treatment options that may be available to Van Wert County residents who may be constructing a new home or replacing a failed sewage treatment system at their existing home.

Primary Treatment

In most cases, the first stage in the treatment of sewage generated in a rural household is a septic tank. The purpose of the septic tank is to retain the sewage long enough to allow solids to separate and stay within the tank. Fats, oils and greases float to the top of the tank forming the scum layer, while solids that are heavier than water settle to the bottom of the tank, forming the sludge layer.



Current regulations require a septic tank to have two compartments, or for two smaller tanks to be installed in series to act as a dual compartment septic tank. This aids in the retention of solids. The volume of the tank depends on the number of bedrooms in the home, with a typical three-bedroom home requiring a 1500 gallon septic tank.

Secondary Treatment

A pretreatment unit may be used to provide additional treatment to the wastewater before it is dispersed to the soil. The use of a pretreatment unit can result in reduction of the size of the soil absorption field, and can also sometimes allow the soil absorption field to be installed deeper in the ground. Most, but not all, pretreatment units are highly mechanical. A pretreatment unit may be installed after a septic tank, or it may have a smaller septic tank commonly called a “trash trap” incorporated into its design. A list of approved pretreatment components can be found [here](#).

Soil Absorption

All household sewage treatment systems installed for new home construction must now utilize soil absorption for the final treatment and dispersal of the wastewater generated in the home. Soil absorption must also be used in replacement systems for existing homes whenever site conditions

allow. The basic types of soil absorption components currently used in Van Wert County are described below. Soil absorption components are always installed after an approved septic tank or pretreatment unit. The type, size and configuration of each individual soil absorption component are determined by soil conditions on a particular site.

Leaching Trenches

Leaching trenches are a series of one to two foot wide by 8-inch deep trenches containing stone and pipe or a gravelless product that allows for distribution of septic tank effluent to the bottom of each trench for dispersal into the soil after it leaves the septic tank. Soil conditions in Van Wert County typically require trenches to be installed less than 6 inches below the original ground surface, so it is often necessary to place sand fill material between the trenches to meet the minimum required trench depth of 8 inches. Where there is enough difference in elevation between the house outlet and the leaching trenches, leaching trench system can be gravity fed, with no mechanical components.

Sand Mound with Pressure Distribution

A sand mound can be used when wastewater cannot be applied directly to the soil because of conditions that exist very close to the surface of the ground which limit the ability of the soil to treat or disperse the liquid discharged from a septic tank or pretreatment unit. In this case, a pre-determined depth of sand fill material is used to aid in the treatment and dispersal of wastewater to the soil below. The sand mound is installed as a single rectangular bed, rather than a series of trenches. A sand mound is designed to use pressurized distribution to apply effluent uniformly to the entire soil absorption system. As a result, a mound system must always include a pump and a high water alarm, regardless of the elevation difference between the house and the soil absorption area. Full specifications for mound systems can be found in the [Sand Mounds With Pressure Distribution Special Device Approval](#).

Discharging Sewage Treatment Systems

In situations where an existing failed household sewage treatment system must be replaced but there is not enough room available on the property to install a soil absorption system, the last resort is a system that treats the wastewater from the home to a high level before discharging it off the property, either into a drainage tile or directly to an open ditch or stream. Discharging systems must be covered under Ohio EPA's National Pollutant Discharge Elimination System General Permit for Discharging Household Sewage Treatment Systems, and this permit coverage must be renewed every five years. A discharging system typically consists of a combination of treatment components, such as an aeration pretreatment system followed by an ultraviolet disinfection unit. A list of approved discharging systems can be found [here](#).

Other Options

The descriptions given here are of the basic types of household sewage treatment systems currently used in Van Wert County. Information on other types of systems that have been approved for use in Ohio can be found [here](#). Other sewage treatment technologies not addressed in Ohio's rules or otherwise approved by the Ohio Department of Health may be considered for use on an experimental basis, with the approval of the Director of Ohio Department of Health. For more information on household sewage treatment systems in Van Wert County, call 419-238-0808, extension 105 or visit the [household sewage treatment systems page](#) of the health department website.