

WHAT TO EXPECT IN DESIGNING YOUR WASTEWATER TREATMENT SYSTEM

SITE EVALUATION

A site evaluation will be conducted by a *licensed engineer* for: 1) Amount of suitable area to install an *individual wastewater system (IWS)*, and 2) a *soil profile* to determine depth of *permeable soil* over a limiting layer, such as groundwater, bedrock, or other site condition.

A minimum of 10,000 square feet is required for an IWS. In addition to depth of permeable soil, the following factors will determine your wastewater treatment options:

- ✓ Type of development - dwellings and number of bedrooms; or buildings, such as parks, churches, or schools, which may affect the number of IWSs on your site
- ✓ Planned installation of your IWS under a driveway or parking lot, which may require specialized concrete work to protect your IWS
- ✓ Soil percolation rate, or how quickly water moves through soil, which may affect the IWS selection for your site
- ✓ Slope of grade of the land, which will affect the disposal system of your IWS

In addition, minimum horizontal distances are required between your IWS and the following site features:

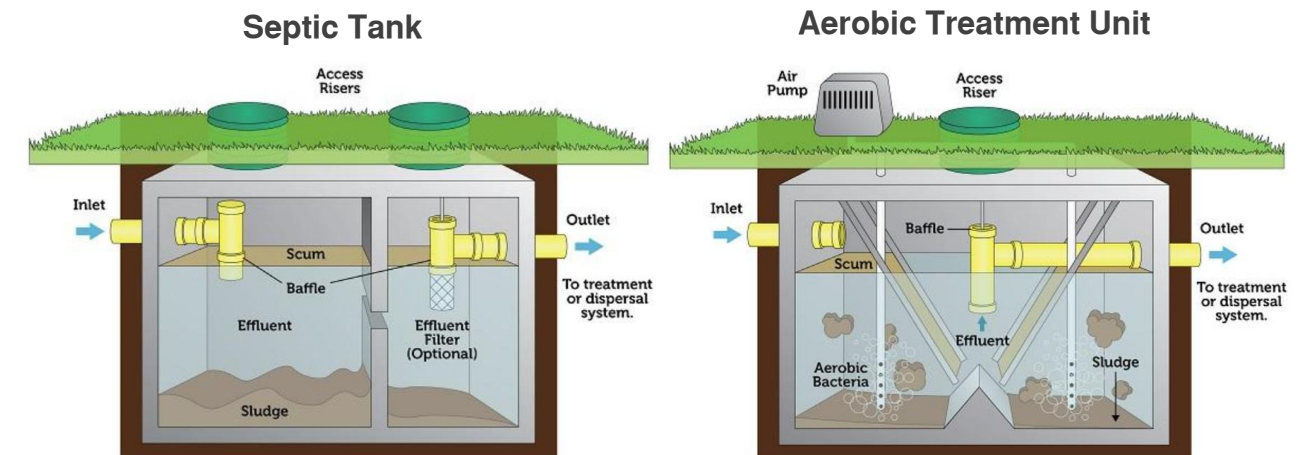
- ✓ Stream, shoreline, or other water body
- ✓ Large trees
- ✓ Potable water sources such as drinking water wells

WASTEWATER TREATMENT UNIT AND DISPOSAL OPTIONS

Based on the site evaluation, a licensed engineer will design a wastewater treatment and disposal system to meet the State requirements.

Wastewater Treatment Unit Selection

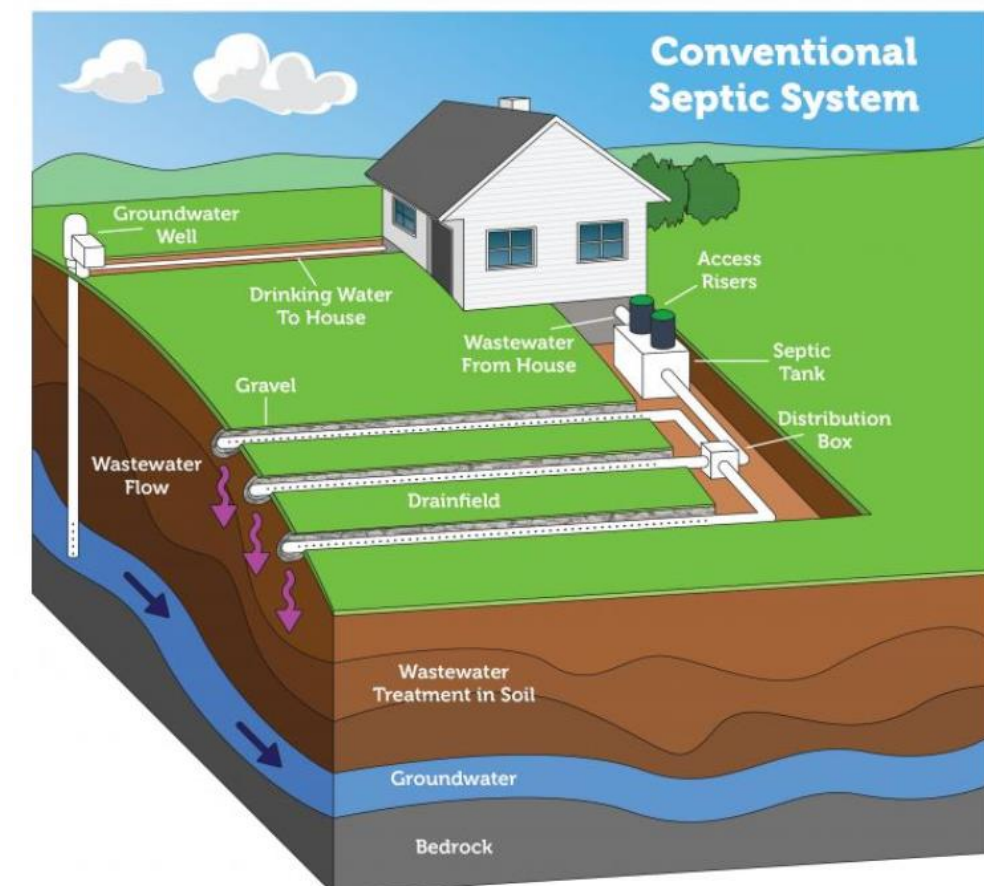
The most common type of IWS uses a *septic tank* which is constructed to receive and partially treat raw wastewater. Solids are captured in the tank and flow is then directed to a disposal system. If conditions require a higher level of treatment, your engineer may recommend an *aerobic treatment unit (ATU)* which utilizes oxygen to further breakdown contaminants in wastewater or a nature-based solution such as a constructed wetland or biofilter.



<https://www.epa.gov/septic/types-septic-systems>

Disposal System Selection

Following the treatment unit, solids remain in the tank, and the partially treated wastewater is discharged to a disposal system for dispersal and further treatment through permeable soil. Your engineer will design a disposal system based on anticipated wastewater flow, soil percolation rate, depth of permeable soil, and the slope of your property. The most common disposal system utilizes *absorption beds* constructed of chambers, where effluent from the treatment unit is distributed to a drainfield via buried pipes. If conditions are not suitable for absorption beds, your engineer may recommend other systems such as an *elevated mound system*, *soil replacement system*, or an *evapotranspiration system*.



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