

Soil Investigations for On-site Sewage Disposal

A typical on-site sewage disposal system must adequately filter and dispose of 400 to 600 gallons of wastewater each day. If the drain field for the wastewater does not function properly it represents a significant health hazard due to bacterial and nitrate pollution of ground and surface waters. The soil investigation program is intended to provide property owners, contractors and the health department with the information needed to cost effectively design and layout septic drain fields that will meet state health codes. The soil scientist will examine the internal soil drainage, structure, texture, depth to rock and land slope for the soils report.

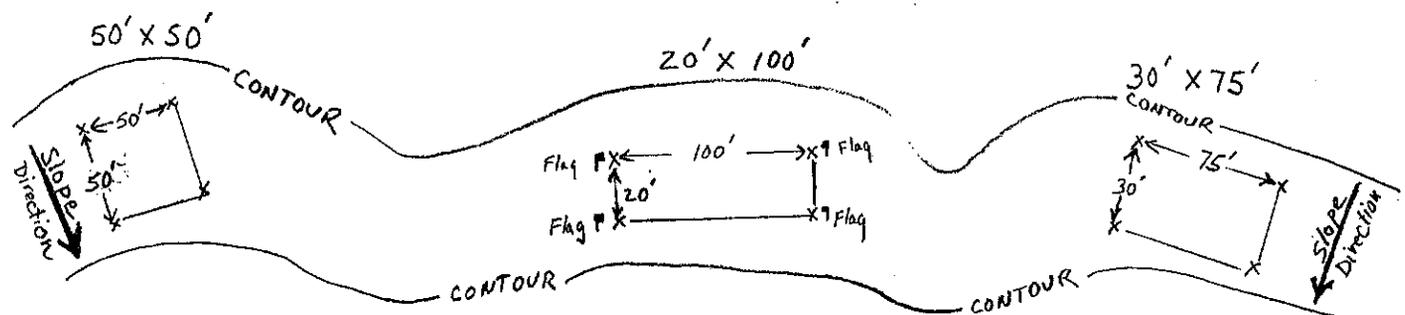
Locating the Drain Field

The property owners or their representative must draw a map of the site and flag the proposed location for the drain field on the land. This will provide the initial location for the soil borings.

The drain field is generally placed down slope from the homesite to allow gravity flow of the effluent from the septic tank. The edge of the drain field must be a minimum of 75 feet from any well and setback distances from property lines, roads, lakes and streams must be observed.

The distribution lines for the drain field are installed at zero grade and the typical depth is only 18 -24 inches. This means that the length of the drain field must be aligned nearly on the contour with a maximum length of 100 feet. The space between the trenches is normally 10 feet. For a three bedroom home on suitable soils the most space efficient drain field layout is an area 20 feet wide by 100 feet long. A larger area is required for drain fields located in slowly permeable soils or for homes larger than 3 bedrooms. Other septic field dimensions that would allow trench lengths equal to a 20' x 100' layout include 75' x 30' and 50' x 50'.

Examples of septic field layouts for a three bedroom home on suitable soils.



What if the soils in the area flagged for the drain field are unacceptable?

If the investigation reveals that the initial flagged location is in a soil group that is considered not suitable for a conventional drain field the soil scientist will make additional borings to try to locate a more suitable area. It is important that the map attached to the soil boring application include references to property boundaries so that additional soil borings can be performed in the proper area.

Are there other uses for the septic field soil investigation report?

The soil information report may include information about soil characteristics that will be useful for homeowners or building contractors for designing concrete footings, installing foundation drains, placing underground utilities and landscaping. The report will include a soil description and an indication of the extent of the typical soil that is described.