



## SOIL EVALUATION FOR ON-SITE WASTEWATER DISPOSAL

Soil evaluations are used to determine the suitability of a site, for on-site wastewater disposal and as a basis for septic system design. Proper soil conditions are essential in order to prevent sewage from discharging to the ground surface or contaminating ground or surface water resources. Situations requiring soil evaluations include proposed land divisions which will utilize septic systems, permit applications for new septic systems, some permit applications for septic system repairs and certain building addition projects where it is necessary to determine sewage disposal requirements for the property. Soil evaluation consists of percolation testing, soil profile analyses, and in some cases wet-weather testing.

A chronological summary of the evaluation process is as follows:

### **Site Visit**

In most situations a preliminary site visit is performed by Environmental Health staff, in order to determine areas on the property warranting soil evaluation. The site visit can help prevent unnecessary time and expense spent evaluating unsuitable areas.

To schedule a preliminary site visit, submit a Site and Soil Application, to scale plot plan of the property (see handout *The Septic System Process* for plot plan requirements) and pay applicable fees. A request for inspection can be faxed to our office.

### **Soil Profile**

The soil profile analysis is used to determine the suitability of soils for additional testing (i.e., percolation testing) and observe for evidence of a seasonal high water table. It consists of the excavation of a large hole in the area proposed for wastewater disposal for inspection by Environmental Health staff.

To schedule a soil profile analysis, submit a Site and Soil Application and pay applicable fees. A request for inspection can be faxed to our office. Dig at least one hole at the location(s) marked by the Division at the site or on a copy of the plot plan. The hole must be stepped or gently sloped to allow entrance and exit by the evaluator. See attached diagram. In the interest of safety, the hole should be dug as close to the inspection time as possible and backfilled as soon as the evaluation is complete. Proper support bracing of the hole may be necessary in unstable soil formations prior to inspection.

### **Percolation Testing**

Once a site is located which warrants additional testing, a percolation test can be arranged. The percolation test is used to confirm the suitability of a site for on-site wastewater disposal and if suitable to design the septic system.

To schedule a percolation test, submit a Site and Soil Application and pay applicable fees. A request for inspection can be faxed to our office.



Notify Environmental Health at least 24 hours prior to preparing the test holes. An inspection of the preparation process may be conducted.

Prepare for the test as follows:

- 1) Excavate at least 5 holes (6-12 inches in diameter) at the location(s) marked by Environmental Health at the site or on a copy of the plot plan. See attached diagrams. Dig the holes to the depth of the bottom of the proposed disposal system as determined by the Division. Place the material excavated from the holes next to each hole. Mark each test hole so that they can be located without difficulty. A clearly visible stake with a red flag is recommended by each hole.
- 2) Roughen or scratch the bottom and sides of the holes to provide a natural surface. Remove all loose materials from the hole. Place about 2 inches of coarse sand or fine gravel in the bottom of hole.
- 3) Insert a 4 inch diameter perforated pipe into the center of the hole extending from the top of the sand or gravel to 8-12 inches above the hole. Pack the hole with clean 3/4"-2 1/2" drain rock. In sandy or sloughing formations pack the hole with pea gravel. NOTE: A percolation test correction factor may be required depending on diameter of hole and presence of gravel or drain rock.
- 4) 24-36 hours before testing is scheduled, fill hole with clear water to the top. Have an adequate amount of clear water and a means of distribution at the test site. Several large buckets or barrels containing at least 190 gallons of water containing at least 100 gallons is recommended.
- 5) Back fill the holes when the percolation test is completed.

### **Wet-Weather Testing**

In some situations wet-weather testing and groundwater observation will be required. This is especially true where data obtained from the soil profile test hole is inconclusive. If additional testing is required, you will be notified by Environmental Health staff.

### **Additional Testing (if required)**

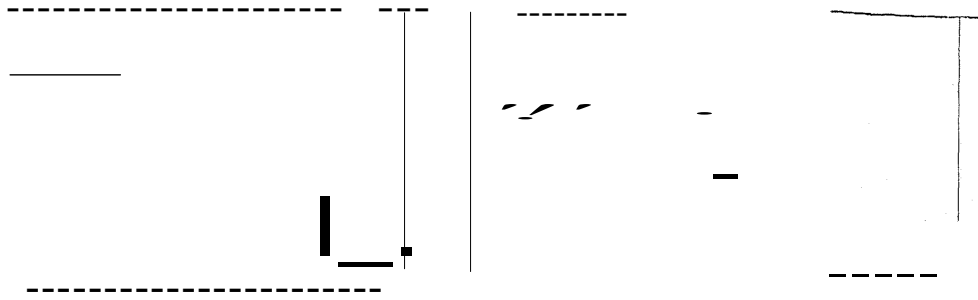
If necessary, Environmental Health will require additional testing.

### **Results of Testing**

Upon completion of testing you will be provided with a written report of the results.

Other useful handout: *How to Apply for A Building Addition Permit on Lots Served by Septic Systems.*

found Surface



R-10'

SOIL PROFILE HOLE CROSS-SECTION

