



Howard County

Environmental Health

1. At least three test holes distributed evenly over the proposed lateral field are required.
2. Percolation test holes shall be 4 to 12 inches in diameter and to the same depth as the proposed absorption trenches (not to exceed 36 inches in depth).
3. Sides and bottoms of the test holes shall be scratched or roughened to provide a natural surface. All loose material shall be removed from each hole.
4. The bottoms of the test holes shall be covered with approximately 2 inches of rock to protect the bottom from scouring action when the water is added.
5. The hole shall be filled with at least 12 inches of clean water, and this depth shall be maintained for at least 4 hours and preferably overnight if clay soils are present. It is important that the soil be allowed to soak for a sufficiently long period of time to allow the soil to swell if accurate results are to be obtained. Failure to perform the presoak when required will invalidate the percolation test results.
6. In sandy soils with little or no clay, soaking is not necessary. If, after the hole has been filled twice with 12 inches of water, the water seeps completely away in less than 10 minutes, the test can proceed immediately.
7. Except for sandy soils, percolation rate measurements should be made at least 4 hours but no more than 24 hours after the soaking period began. Any soil that sloughed into the hole during the soaking period is removed, and the water level is adjusted to 6 inches above the gravel (or 8 inches above the bottom of the hole). At no time during the test is the water level allowed to rise more than 6 inches above the gravel.
8. Immediately after adjustment, the water level is measured from a fixed reference point to the nearest $\frac{1}{8}$ inch at 30-minute intervals. The test is continued until two successive water level drops do not vary by more than $\frac{1}{8}$ inch. At least three measurements are made.
9. After each measurement, the water level is readjusted to the 6-inch level. The last water level drop is used to calculate the percolation rate.
10. In sandy soils or soils in which the first 6 inches of water added after the soaking period seep away in less than 30 minutes, water level measurements are made at 10-minute intervals for a 1-hour period. The last water level drop is used to calculate the percolation rate.
11. The percolation rate is calculated for each test hole by dividing the time interval used between measurements by the magnitude of the last water level drop. This calculation results in a percolation rate in terms of minutes per inch. To determine the percolation rate for the area, the rates obtained from each hole are averaged. (If tests in the area vary by more than 20 minutes per inch, variations in soil type are indicated. Under these circumstances, percolation rates should not be averaged.)
EXAMPLE: If the last measured drop in water level after 30 minutes is $\frac{1}{8}$ inch, the percolation rate = $(30 \text{ minutes}) / (\frac{1}{8} \text{ inch}) = 48 \text{ minutes/inch}$

PERCOLATION TEST SHEET
Howard County Environmental Health
Phone: 563.547.9212 Fax: 563.547.9285 mrogne@co.howard.ia.us

Name of Owner _____ Phone number _____
 Site Address _____
 Mailing address (if different) _____
 Site location: Section _____ Township _____
 Structure: New _____ Existing _____ Number of bedrooms _____

Method of scratching side walls: _____. Depth of pea size gravel in bottom of hole: _____
 Inches. Date and time initial water filling: _____. How long were the test holes pre-soaked?
 _____. Depth to Rock, limiting layer, or ground water at 6' Test Hole _____.

<i>Measuring the water drop every 30 min.</i>	30 Minutes	60 Minutes	90 Minutes	Average MPI
<i>Example Location: North Hole</i>	<i>Starting Depth: 22" 2 ¼ 2.25</i>	<i>Starting Depth: 24" 2 ¾ 2.75</i>	<i>Starting Depth: 22.5" 3 ¼ 3.25</i>	<i>90(min)Divided by 8.25 (measurements added together) 10.9 MPI</i>
Hole #1 Location:	Depth:	Depth:	Depth:	
Hole #2 Location:	Depth:	Depth:	Depth:	
Hole #3 Location:	Depth:	Depth:	Depth:	

**Fraction to Decimal
Conversion Chart**

Inches Fraction	Inches Decimal
1/16"	.0625"
1/8"	.125"
3/16"	.188"
1/4"	.250"
5/16"	.313"
3/8"	.375"
7/16"	.438"
1/2"	.500"
9/16"	.563"
5/8"	.625"
11/16"	.688"
3/4"	.750"
13/16"	.813"
7/8"	.875"
15/16"	.938"
1"	1.000"

I hereby certify that the percolation tests have been conducted in accordance with the requirements specified by the Howard County Sanitation officer.

Signature: _____ Date: _____