

Policy 4200.01

PERCOLATION TESTING

Intent and Benefit

This policy is intended to provide uniform and consistent guidelines to DEH staff and site evaluators with regard to the demonstration of soil permeability utilizing the percolation test. Clear expectations facilitate the approval process that greatly benefits applicants.

Background

Various standards have been applied in different situations where the percolation test is utilized. This has led to confusion on the part of DEH staff and as well as the site evaluators regarding the standards for different situations where percolation tests are utilized.

Statement of Problem

- 1) The requirements are clear that 3 percolation tests are required for each proposed on-site sewage system area, 3 in the initial area and 3 in the expansion area. What is not explicit is if all 3 tests must meet a minimum rate to qualify or if only the average must meet the minimum rate.
- 2) Given that 3 tests must be conducted, it is not clear is over how large an area must these tests be spread? And if flows are 2000 gpd, is the requirement still only 3 percolation tests? Or should the number of tests grow with the increased peak flow?
- 3) If percolation testing is the only method of permeability determination, then must each stratum or horizon be percolation tested, as each horizon must be sampled for texture analysis according to the Basin Plan?
- 4) The Basin Plan is also silent on how deeply into a stratum must a percolation test penetrate to effectively test that stratum.

Leaving these questions unanswered has lead to inconsistency among DEH staff and confusion between DEH and the regulated community.

Implementation

- 1) It is the policy of DEH that the percolation testing of a sewage system area requires at least 3 tests with results equal-to-or-less-than 60 MPI for gravity flow distribution and equal-to-or-less-than 120 MPI for pressure distribution. In addition, the mean of all tests in the proposed sewage area must be equal-to-or-less-than than the minimum for either of the two distribution methods.
- 2) All tests in the proposed sewage area must be shown and reported.
- 3) Percolation tests shall be located to equally cover the proposed on-site sewage area. More than 3 tests may be necessary to adequately cover the proposed area. At least three tests shall be conducted for every 600 gpd of flow and an additional percolation test for every 200 gpd (or fraction thereof) of flow above 600 gpd.
- 4) If percolation testing is the only method of soil permeability determination then the site must be percolation tested at the proposed trench bottom elevation and 36 inches below trench bottom (or 24 inches below trench bottom with a waiver request) with the minimum number of test holes per paragraph #3 above. If DEH staff and the qualified professional agree, after viewing the soil profile together, that 36 inches (24 inches with a waiver) exist below trench bottom, then 3 percolation tests may be conducted at proposed trench bottom.
- 5) When percolation testing is used to demonstrate soil permeability of a stratum, the bottom of the percolation test hole must penetrate a minimum of 7 inches into the stratum to be tested. Where there is a single uniform stratum the percolation test hole must be dug to a depth of at least 36 inches below proposed trench bottom (or 24 inches below trench bottom with a waiver request).

It is hoped these clarifications will provide uniform and consistent guidelines to DEH staff and site evaluators and facilitate the approval process.

Effective Date: _____

Revised Date: _____

Note:

Director's Initials: _____