



CARSON CITY HEALTH & HUMAN SERVICES
900 EAST LONG STREET, CARSON CITY, NV 89706
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Percolation Test Instructions

The information in this package is to guide the owner, builder or engineer through the Percolation Test, which is required to be performed in order to submit plans when obtaining a permit to construct, alter or extend an individual sewage disposal system (ISDS). The customer should note that:

- Percolation Tests are required as per *NAC 444.986*.
- A Percolation Test is valid for 12 months after completion.
- Failure to perform a Percolation test will result in delays issuing the permit.

General Information: Percolation Tests

- Appointments may be made for the observation of a percolation tests and test pits prior to submitting the application and plot plan to the Building Department.
- Location of the percolation test holes will be performed near the proposed soil absorption (leach field) areas.

Required Inspections

- The CCHHS will perform inspections of residential percolation test
- Please call CCHHS at (775) 887-2190 to schedule appointment for inspection. **Inspections must be scheduled at least forty-eight (48) hours in advance.**

Individual Sewage Disposal System requirements are from the Nevada Administrative Code (NAC), which can be found on the web at <http://www.leg.state.nv.us/NAC/NAC-444.html>

Percolation Testing Procedures

The following procedures are general guidelines used for percolation testing. These procedures meet minimum percolation requirements for the design and installation of individual sewage disposal systems (ISDS).

Number of Tests Required

Each proposed ISDS requires a minimum of four percolation tests; two tests in the primary leach field and two in the reserve area. Trenches are to be dug at 3 levels to the depth of ten feet (10'). Tests are to be performed in test holes at levels approximately 24 inches (") and 50 (") at both the primary and reserve leach field locations.



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percolation rate measurements vary by no more than 10% or 1/16"]. Report the stabilized percolation in minutes per inch. The slowest percolation rate for all the tests will be used for the design rate of the ISDS.

How to Collect the Percolate Test Data

(1) Define your soils by type and color at the depth of each strata. (see example below)

DEPTH	SOIL DESCRIPTION
0-2"	Top soil, rocks, litter, debris
2"-10"	Gravel, Coarse Sand
10" - 2'	Fine Sand (ex: very coarse sand, medium sand, fine sand)
2'-3'	Sandy Loam, loam
3' - 4'.4"	Loam, Silty Clay Loam

(2) Begin by

START TIME	WATER DEPTH START	STOP TIME	WATER DEPTH STOP	TIME INTERVAL	DROP IN INCHES	

How to Calculate the Percolation Rate

- Of the 4 tests which were performed use the *slowest* performance rate
- Stabilized Percolation Rate = (min) ÷ (inch) = min/in. = 15 min ÷ 0.75 inch = 20 minutes/inch.

Leach Line Calculations

Example: A Three-bedroom home with a 1,00 gallon tank, a 30 mpi and an effective depth of two feet. Plug these numbers into the formula below, as shown:

$$\frac{((\text{TankSize}) \times (\sqrt{\text{perc} / 5}))}{2 \times \text{EffectiveDepth}} \rightarrow \frac{((1000) \times (\sqrt{30 / 5}))}{2 \times 2} \rightarrow 273.86^* \text{ ft of leach line}$$

* Round up this number. This system would best be served by 3 lines, which are 92' feet long.

NOTE: (1) Maximum allowed length of any one leach line is 100 feet.(2) the Maximum depth, Below the pipe is 36 inches.

Policy Regarding Rapid and Slow Percolation Rates

1. Rapid Percolation Rate:
 - a. Percolation rates below 10 mpi will be designed at 10 mpi.
2. Slow Percolation Rate:
 - a. Percolation rates greater than 60 mpi must be designed by an engineer
 - b. Percolation rates greater than 120 mpi must be granted a variance from the State Board of Health