

Background

Flood tests are a type of infiltration test and can be used if your infiltration basin needs to be tested. They involve filling your basin with water and then measuring the water infiltration rate. A geotechnical or engineering firm is not required to perform flood tests. These tests are more accurate than double-ring infiltrometer tests as they mimic real-life conditions. They must be performed when the soil is not frozen.

How-To

Coon Creek Watershed District staff must witness the flood test. The best time is at test set-up.

IMPORTANT: Please give staff at least 48 hours' notice to witness your test!

- 1) Place a staff gage at the deepest part of your infiltration basin. This gage can either be a piece of construction lathe marked at known depths or can just be a yardstick or measuring tape (see photos below).
- 2) Fill the basin until it is completely covered with at least 6 inches of water. If your basin is very large, you can use a rainy day followed by a period of dry days to fill it; check with our staff on this.
- 3) Periodically measure the basin water level until all the water has infiltrated. The frequency at which you measure will depend on how quickly the water infiltrates; if infiltrates quickly, sample every 15 minutes, or every hour if it infiltrates slowly. The test must be completed within 48 hours.



1. Construction lathe staff gage



1. Measuring tape staff gage



2. A properly filled basin that is now infiltrating

Interpreting Your Results

Once your test is complete, make a spreadsheet with two columns; put time in one and water level measurements in the other. Send this to our staff at info@cooncreekwd.org; include the PAN if known.

If you want to do your own analysis, plot the amount of drainage (difference between water measurements) against time and average it out to get an overall average drainage/time. Your infiltration test must meet the infiltration rate for the basin design; it can be higher than the design rate but cannot exceed 8.3 inches/hour.

If your infiltration rate is too slow, you may need to excavate the fines or reduce compaction by scarifying the bottom of your basin. Do the opposite if your rate is too fast; if you have more questions about this, please contact our staff at info@cooncreekwd.org.



Good example of full flood test set-up