City of Chattanooga Water Quality Program

RainSmart

PERCOLATION TEST

In the area where you plan to build an infiltration practice (rain garden, infiltration trench), dig two or more holes to 18 inches deep. As you dig, place removed soil in piles next to the hole. (This soil will be examined, layer-by-layer, during the Soil Analysis step, below.) Fill all holes with water. This "first pour" is to saturate the soil. You don't need to time it. Once each hole has completely drained from the "first pour," refill each hole with one foot of water. The time it takes to drain this "second pour" is your total drain time. Mark the times the hole was filled, and what time it drained, and figure the resulting drain time. Mark times for each test pit on the table below.

Quick Percolation Test			
	Time Filled	**Time Emptied**	**Total Drain Time**
Test Pit #1	[Day, Time, AM/PM]	[Day, Time, AM/PM]	[# hours]
Test Pit #2			
Additional, as Needed			

Interpreting the Percolation Test: If the total drain time for the **Second Fill** is…

- **Less than 24 hours**: The site will accommodate a rain garden, but is considered "quick draining," & the plant palette should be chosen accordingly ("high & dry").
- **24 to 72 hours**: The site has suitable soils for a rain garden.
- **Over 72 hours:** Site may not be suitable for rain garden or may require substantial soil amendment.
- **(If it never drains,** you may have clogged the hole when you dug it and poured water in! This happens in clay soils – Try making another hole.)
- **(If water stays ponded in this site year-round**, you might want to consider a water garden or wet garden, but a rain garden is not for you.)

Example of Percolation Test Pit – Note there will be transition of topsoil to heavier clay at bottom of pit.