Typically, (in Chattanooga,) both our topsoil and underlying soils are both clay-based soils. Clay makes it difficult for water to percolate into the ground. Ideally, a rain garden will be filled with what is called "sandy loam" which is a mixture of sand, clay, and topsoil. To determine the infiltration rate of the soil in your yard, please complete our percolation test.

RainSmart

PERCOLATION TEST DIRECTIONS:

- In the area where you plan to build an infiltration practice (rain garden, infiltration trench), dig a hole 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 the hole with water. This "first pour" is to saturate the soil. You don't need to time it. Once the hole has completely drained from the "first pour," refill the hole with one foot of water. The time it takes to drain this "second pour" is your total drain time.

* If the ground is already saturated, (because it has rained recently) you only need to do one pour and that pour will count as your final drain time.

Final Drain Time (Hours)

_____

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.

RainSmart Qualified Landscapers

The following individuals have been qualified through the RainSmart Training Program to provide rebate-eligible labor for RainSmart projects

Larry Goodine

Good Design Landscaping

(423) 443-6957

gooddesignlawncare@gmail.com

Beckett Honicker

Higher Ground

(423) 939-9555

711 Signal Mountain Hwy PMB #126

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Daniel Talley

Botanica Chattanooga, LLC

(423) 598-9211

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Soil Analysis

To procure soil for a soil texture test, you can dig a hole, use a soil probe, or use soil from the percolation test pit described above.

- Soil Texture Analysis is to determine the ratio of clay, silt, and sand (three particle sizes) in soil.
- This is important to determine for rain garden sites because soil texture impacts percolation.
- Clay soils do not percolate well, while sandy or silty soils percolate better.
- Rain gardens must be back-filled with predominantly sandy soils in order to maintain quick percolation. "Loam" is a term for a mixture of all three particles.
- Rain gardens need some of the smaller particles to provide surfaces for adhesion. Thus, a "sandy loam" is the desired texture for rain garden backfill.

A "Ribbon Test" is done by gathering a handful of soil, wetting the soil a little bit, and then rolling it into a ball in your fist. If it will not roll into a ball, but instead keeps falling apart, the soil is sandy (see photo below). If it rolls into a ball, squeeze the ball between your thumb and inside of your index finger, attempting to make a "ribbon." The length of the ribbon you can make indicates the predominant soil type.