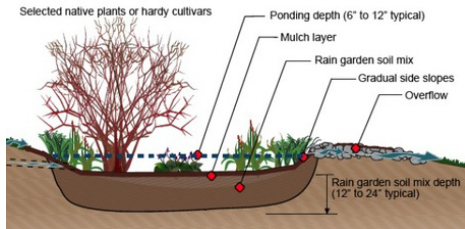# What is a Rain Garden?

A rain garden is a shallow dug-out area that is landscaped with native plants. Rain gardens are designed to collect stormwater runoff. They will absorb the water that comes from nearby impermeable surfaces, such as roofs, driveways, and sidewalks.

Selected native plants or hardy cultivars
Ponding depth (6" to 12" typical)
Mulch layer
Rain garden soil mix
Gradual side slopes
Overflow
Rain garden soil mix depth (12" to 24" typical)

Washington State Uni. Pierce County Extension

Why Are Rain Gardens Important?

Rain gardens are a good way to reduce stormwater that enters the sewers, an alternative to traditional transport and treatment methods which can be costly. Many of the places we live have impervious surfaces around them, such as roofs, sidewalks, driveways and roads.

Rain gardens filter up to 99% of water pollutants through natural processes, making the groundwater safer and cleaner.

When it rains the water can not soak into the ground so it often runs off. Rainwater becomes high-speed runoff that can erode property, cause flooding, and carry pollutants into streams, wetlands, and lakes. Rain gardens restore nature's retention and filtration abilities at the source of runoff, while making our communities more beautiful. They help eliminate the need for costly stormwater management infrastructure like pipes, drains, and treatment facilities.

New York Rain Garden Plants

Because rain gardens utilize native plants, they are easier to maintain and require less (if any) mowing or chemical treatments like fertilizer or pesticide. With the variety of plants to choose from, rain gardens can be built to suit the size and existing design of your lawn.

Flowers
- Bee Balm
- Black Snakeroot
- Blazing Star
- Blue Flag Iris
- Blue Star
- Butterly Weed
- Cardinal Flower
- Columbine
- Cranesbill
- Great Blue Lobelia
- Green-headed Coneflower
- Spotted Joe Pye Weed
- Meadowsweet
- New England Aster
- New York Ironweed
- Obedient Plant
- Rough Goldenrod
- Sundrops
- Swamp Milkweed
- Turtlehead
- Virginia Bluebells

Shrubs
- Beautyberry
- Blueberry
- Buttonbush
- Chokeberry
- Elderberry
- Inkberry
- Red Twig Dogwood
- Spicebush
- Summersweet
- Viburnum
- Virginia Sweetspire

Ferns
- Cinnamon Fern
- Royal Fern
- Sensitive Fern

Grasses
- Big Bluestem
- Feather Reed Grass
- Northern Sea Oats
- Sedge
- Switchgrass

Useful Tools: Tape Measure, Shovel, Rake, Trowel, String, Stakes, and a Carpenters Level.

Joanne M. Mahoney
County Executive

Save the Rain
www.savetherain.us

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How-To Guide

Where to Build?

Rain gardens are beautiful; make sure to choose a good location so you can enjoy the view! It is best to build your rain garden on a relatively flat, in your lawn, between a water source (roof downspout, a paved surface, or a hill in your lawn) and where the water usually runs to (a storm drain or gutter). The garden should be at least 10 feet away from the foundation of your house to avoid leaking into your basement. It should also be 25 feet from a wellhead or septic system. Rain gardens benefit from full or partial sun.

Checking Water Infiltration

It is important to know what type of soil you have where you want to build the garden. Most soils are either sandy, silty or clayey. Sandy soils tend to drain quickly, silty soils drain fairly well and clay soils do not drain well and would need to be amended with compost. To determine how fast the water drains through the soil, try this simple test: Dig a narrow hole about 6 inches deep and fill it with water. Check back in 24 hours. If the water is gone, your soil is suitable for a rain garden. If the water has not drained, this is not a good site for a rain garden.

Depth

The slope of the lawn will determine the depth of your garden.* Recommended Garden Depths:
Slope less than 4% = 3 to 5" deep
Slope between 5 and 7% = 6 to 7" deep
Slope between 8 and 12% = 8" deep

Measuring Slope

Place a stake uphill and tie a string to the base of the stake, at ground level. Place a second stake downhill. Tie the string to the second stake, making sure it runs horizontally level. Measure the length of the string and then measure the distance up the second stake to the knot. Divide the height of the knot by the length of the string and then multiply by 100. This is your slope
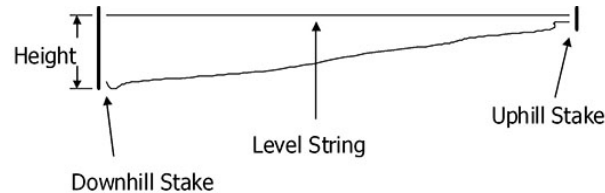
Total Drainage Area

To calculate the size of the area you want to drain (ex. the roof of your house), determine the area of the first floor of your home. You can do this by first measuring the length and width of your home, then multiply the two numbers. This is the area of your house. Next, divide this area by the number of downspouts you see. This number will be the amount of area you are draining to the garden with one downspout directed toward it.

Garden Surface Area

When you have determined what type of soil you have you can determine the size the garden needs to be based on soil type and the area you are going to drain (the size of your roof, etc.). Multiply the drainage area by the appropriate value according to the table below. The result will be the surface needed are for the garden. For example, if you had silty soil and 5-7% slope , the

table indicates you should multiply the drainage area by 0.25. Therefore, if your drainage area is 25 square feet, you would multiply 25 x .25 = 6.25 square feet. Your garden would need to be about 6.25 square feet or about 3 feet long by 2 feet wide.

	Slope		
	< 4%	5-7%	8-12%
Sandy Soil	0.19	0.15	0.08
Silty Soil	0.34	0.25	0.16
Clay Soil	0.43	0.32	0.20

Finishing Touches

If the lawn is mostly flat, use the removed soil to make a raised ridge around the downhill edge of the garden. This is called a berm and will help to trap rainwater. If the lawn has a steeper slope, you may need to build up the downhill end of the garden. Use any leftover soil to make a berm. The berm should be firmly packed and covered in mulch, grass, or a groundcover plant. Lay out your plants and then dig holes that are twice as wide as the plant root system and deep enough to cover all of the roots. Place the plants into the holes and then cover with soil and gently press down around the plant. Cover the garden with 2 to 3" of mulch.

Attracting Wildlife

Including native plants in your rain garden will attract butterflies, birds, and helpful insects that can decrease the populations of annoying and sometimes dangerous insects, such as the mosquito. Native plants will also be able to deal with variations in climate and weather.

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