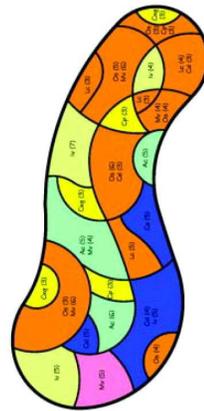
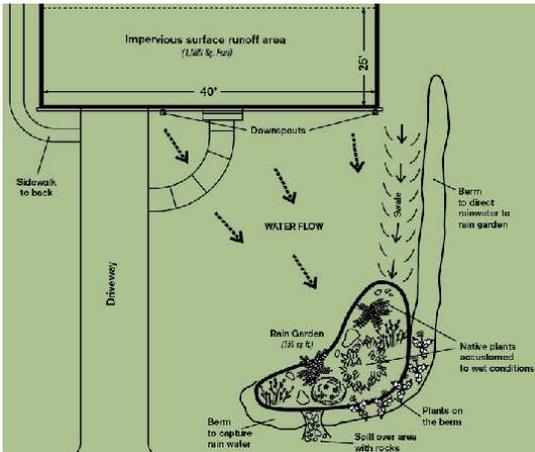


## 4. Planting the Garden

Planting the garden is the fun part. First sketch a rough plan for which plants will be planted where. Lay out the plants, one foot apart, while they are still in containers. Dig the hole twice as wide as the plant and deep enough so the crown is level with the grade. Select an array of plants that are native, thrive in wet and dry conditions and can be planted in their preferred conditions (assess the sun, moisture, hardiness and heat zones in your garden and plant accordingly). Get to know your plants before you plant. Choose a mixture of herbaceous, woody and flowering plants. Let plant groupings overlap for visual appeal.

After planting apply a 2-3 inch layer of mulch to hold moisture, reduce erosion and reduce weeds.



You can use a simple sketch of your rain garden to organize your plantings prior to purchase and planting.

# Building a Rain Garden



### So what is a Rain Garden?

A Rain Garden is simply a garden designed to redirect rainwater to low depressions where it can be filtered and absorbed back into the earth.

Redirecting stormwater runoff into these wet gardens protects streams from scouring flows and pollutants while accentuating the beauty and cleansing power of native plants.

## 5. Teaching others about Rain Gardens

The final crucial step in building a rain garden is showing it off to other community members and explaining the benefits that they produce. Rain gardens are an effective way for virtually any building to improve its ecological footprint for very little expense. An average cost of a rain garden is approximately \$3 to \$5 per square foot. For more information on technical details of building a rain garden or a list of locally available resources call the Soque River Watershed Association at (706) 754-9382 or e-mail [soque@windstream.net](mailto:soque@windstream.net)

The Publication of *Building a Rain Garden* is a cooperative project of:



This publication was produced utilizing photos and text from numerous publications including: *RAIN GARDENS—a how to manual for homeowners* produced by University of Wisconsin Extension & *RAIN GARDENING in the SOUTH* by Helen Kraus and Anne Spafford.

Building a Rain Garden is a great way to improve and beautify the environment! This brochure will help explain why rain gardens are a valuable resource in any community, and then provide basic information on how to build one yourself.

Whenever rain falls onto impervious surfaces such as roads and buildings and then is routed towards streams and rivers it becomes stormwater. Stormwater is one of the leading causes of damage to natural watercourses via three processes.

- **Altered Hydrology** - Impervious surfaces prevent rainwater from percolating into the ground. Heavy rains rush off and into streams causing scouring *stormflows*, one of the leading causes of streambank erosion.
- **Collected Pollutants** - As rainwater flows across roads and driveways it carries with it many hydrocarbon pollutants such as oils and antifreeze.
- **Heat** - Runoff also absorbs the heat from roads and roofs which elevates stream temperatures.

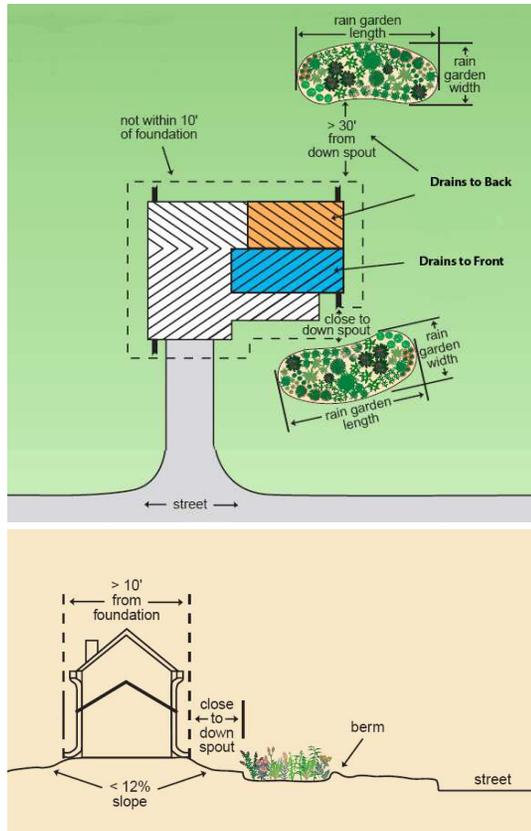
Rain Gardens are an ideal way for converting rainwater into groundwater and avoiding the negative impacts of stormwater.

# Steps in Building a Rain Garden

## 1. Select a Location

Before selecting a rain garden location first observe around your home during several heavy rains. Identify a location between the source of runoff (such as a downspout) and runoff destinations (such as low points, gutters or streams). Be sure to consider the following:

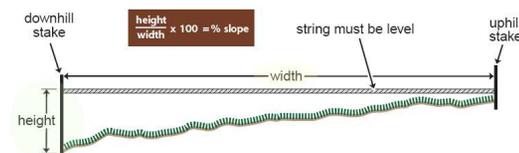
- The garden should not be within 10 feet of the house foundation.
- Gardens work best in low lying depressions where water flows naturally, but not if water pools.
- A gentle slope (less than 12%) will help direct runoff away from the house and into the garden. Steeper slopes may not be appropriate for a garden.
- Gardens should be greater than 25 feet from septic tank fields or well heads.
- Rain gardens work best in partial to full sun.



## 2. Sizing a Garden

Gardens are usually about 4 to 8 inches deep. The slope of your yard determines the depth of your garden.

By using two stakes at the uphill and downhill points of the garden and tying a string using a carpenter's level you can calculate the slope by dividing the height by width and multiplying by 100. In general a slope of <4% would need a 3-5 inch deep garden, a slope <7% would need about 6-7 inches, and a slope between 8 and 12% would need about 8 inches.



After determining the depth, the other two important factors in sizing the garden are the types of soils found in your yard and the area (in square feet) that collect runoff. You're soil type can be determined using a simple feel test from a soil core to the depth you expect to dig. For high clay soils, a larger garden will be needed to allow infiltration.

Using the soil depth and soil type the following table will give you a size factor to multiply by the square footage of the drainage area.

	3-5 in. deep	6-7 in. deep	8 in. deep
Sandy soil	0.19	0.15	0.08
Silty soil	0.34	0.25	0.16
Clayey soil	0.43	0.32	0.20

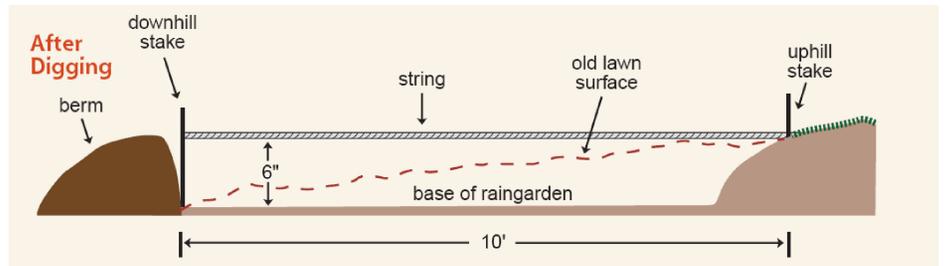
Using the chart, if you have a 5% slope requiring a 6 inch deep rain garden your size factor is 0.25. When examining your roof you find that one downspout drains approximately 600 square feet of your home (Gardens >30 feet from the home must also calculate the lawn area that collects runoff). The following simple equation recommends a 150 square foot garden.

$$600 \text{ square ft.} \times 0.25 = 150 \text{ square ft.}$$

The length of a garden should be perpendicular to the slope (and flow of water) to catch the maximum amount of water (see diagram below). A good rule of thumb is to divide the drainage area by the ideal width to determine length. Ex -150/10 ft. = 15 ft.

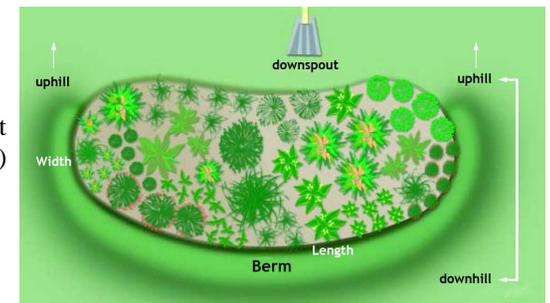
## 3. Building the Garden

Before digging first outline a perimeter. Place stakes every five feet along the length of the garden to gauge the depth of the garden. Begin digging at the upslope edge and heap this soil at the base of the garden and outside of the perimeter to form a **berm**.



The berm should be built up to a height equal to the uphill end of the garden. After shaping the berm into a smooth ridge about a foot across it should be compacted (via stomping) to reduce any chances of erosion.

Gardens often have rounded shapes such as kidney or tear drop designs.



The soil in the garden is called the **filter bed** because this is the medium through which all the water will flow. The filter bed also captures pollutants preventing them from entering groundwater. This filter bed, especially in the presence of high clays, often needs to be amended to increase infiltration. About four inches of composted animal manures will improve soil aeration and fertility. You can apply two inches of compost, two inches of base soils, then two more inches of compost, then mix thoroughly with a digging fork.