



# RAIN GARDENS

Building One In Your Yard



# Why A Rain Garden?

Common construction practices are to move all the water off the roof and other impermeable surfaces on a property and into the storm water system for processing or directly into local waterways.

With an increase in developed land, the systems get overwhelmed. The rain water picks up pollutants on its way into the wastewater treatment and into our rivers and the Bay.

A rain garden will collect water and allow it to percolate on site, refilling the ground water and reducing the impact on current treatment systems and waterways as well as allowing nature to clean and filter the water as it percolates through the ground



# Rain Garden collecting from a downspout, at installation





# Rain Garden collecting from a downspout and lawn



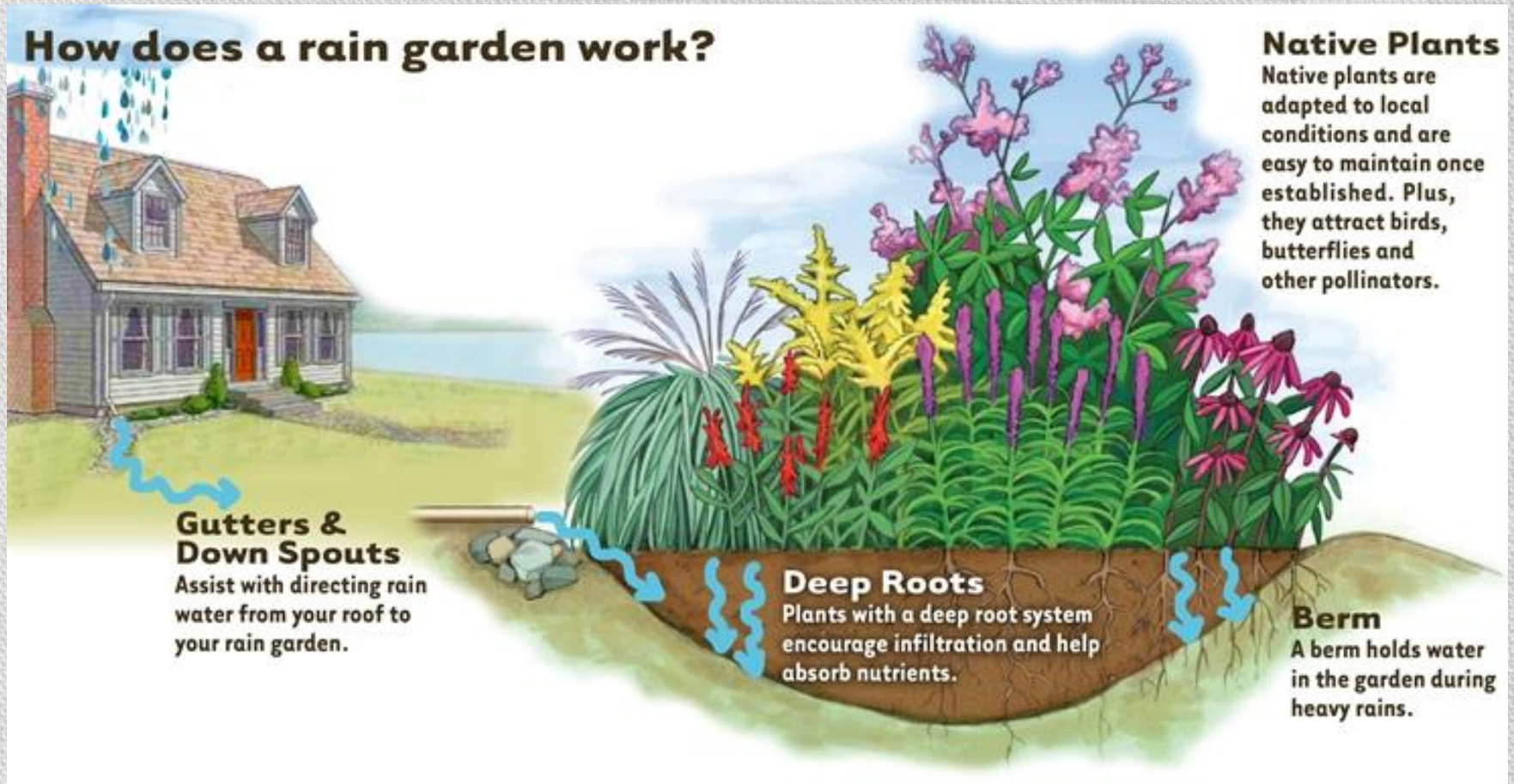


# Rain garden 2 months after installation



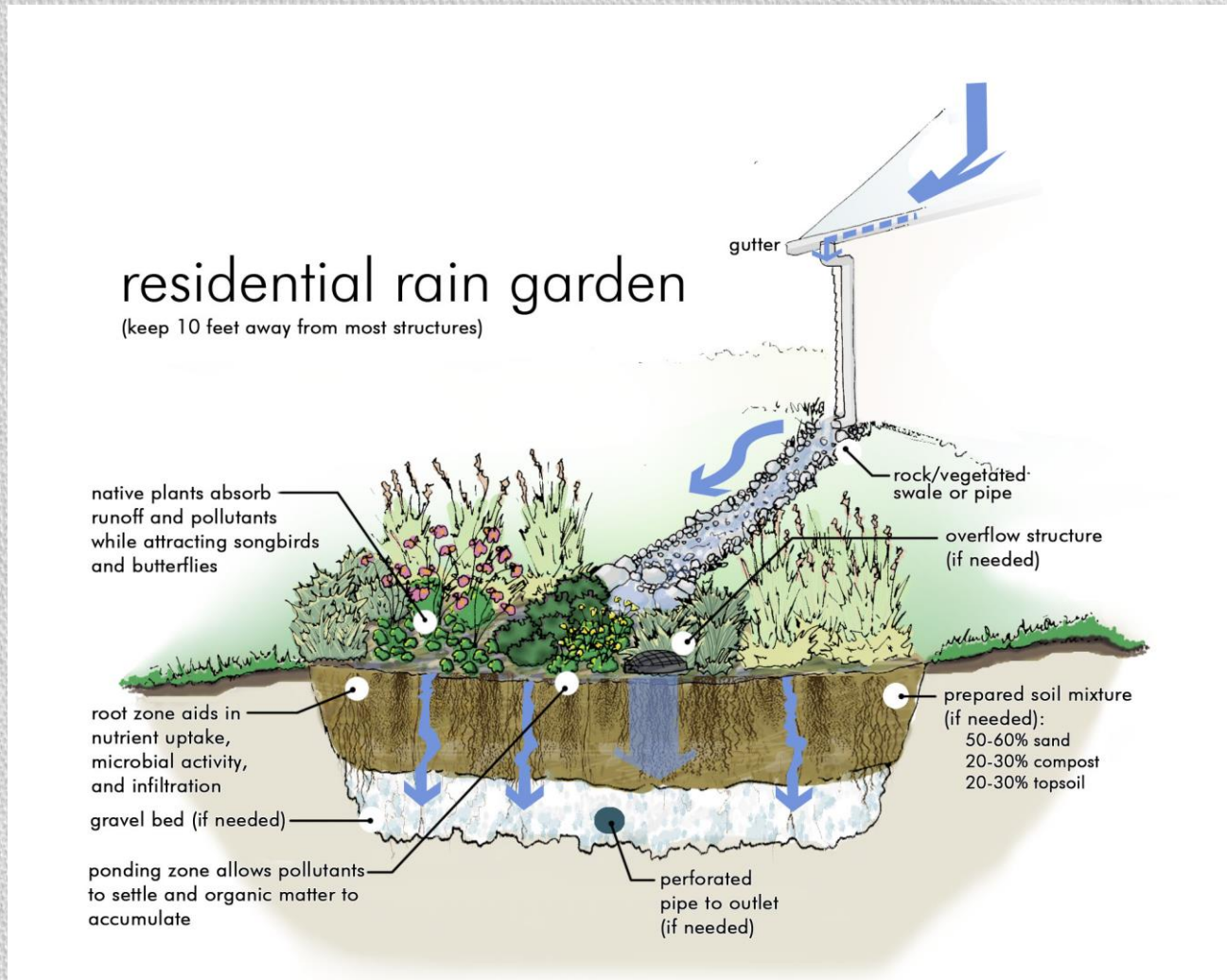


# What is a Rain Garden?





# How Does a Rain Garden Work?

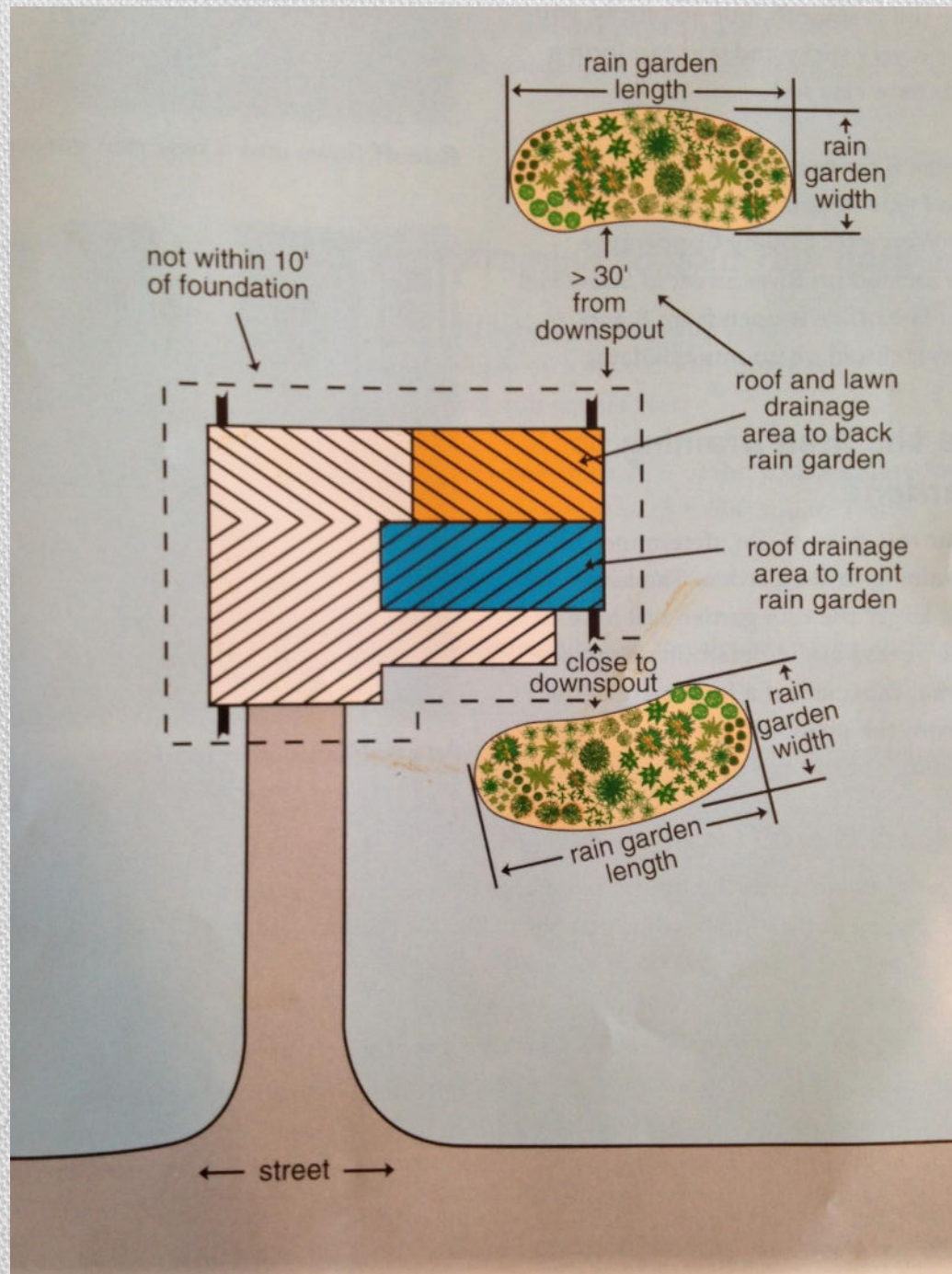




# Where should I locate my Rain Garden?

- Locate in an area close to a downspout to redirect water from the downspout directly into the Rain Garden
- Locate in an area where you have significant water drainage on a regular basis- below a hill, near a sloped hardscape surface, such as a driveway
- Perhaps there is somewhere on your property that you have seen water running off the sidewalk or into storm drains? You may choose to locate a Rain Garden above that area to slow the flow





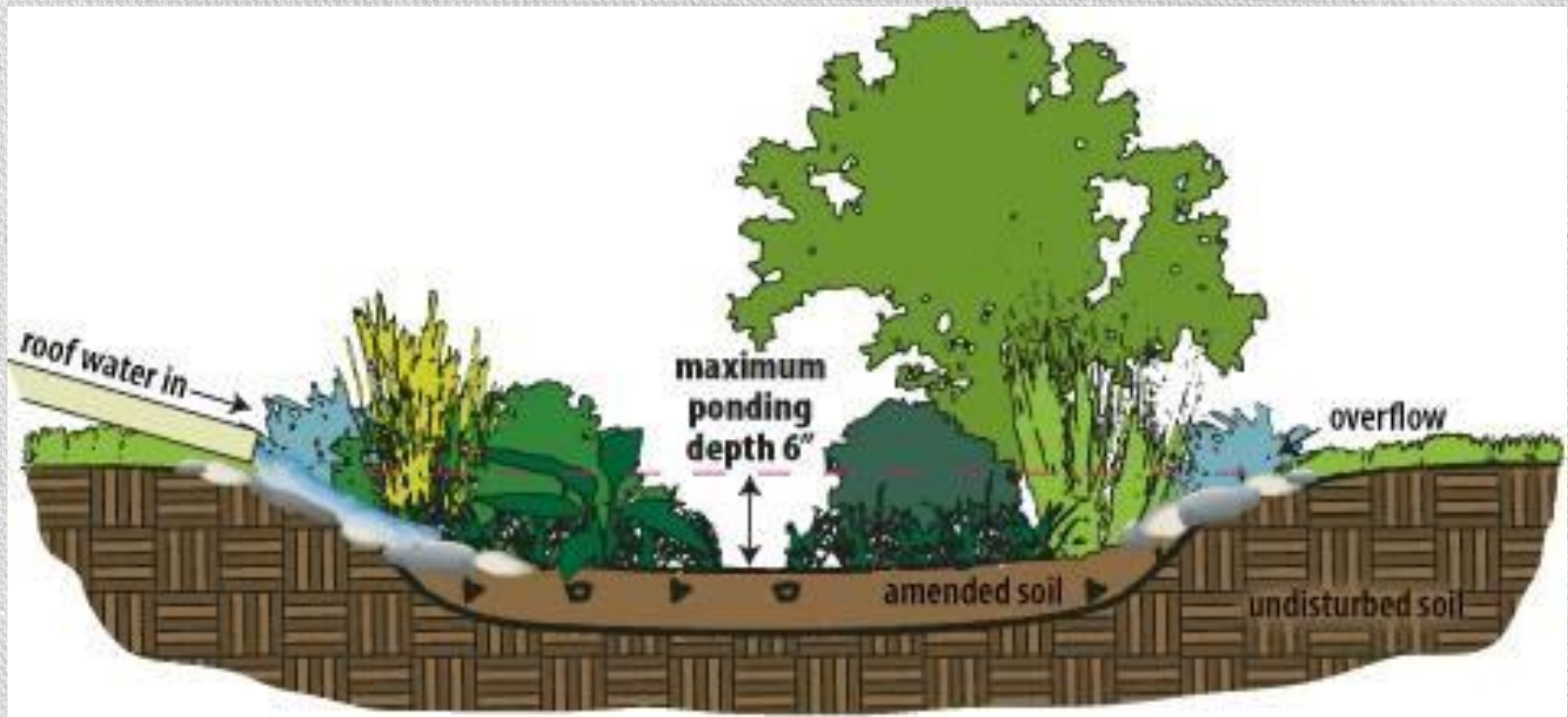


# Determine Soil Type and Percolation Rate



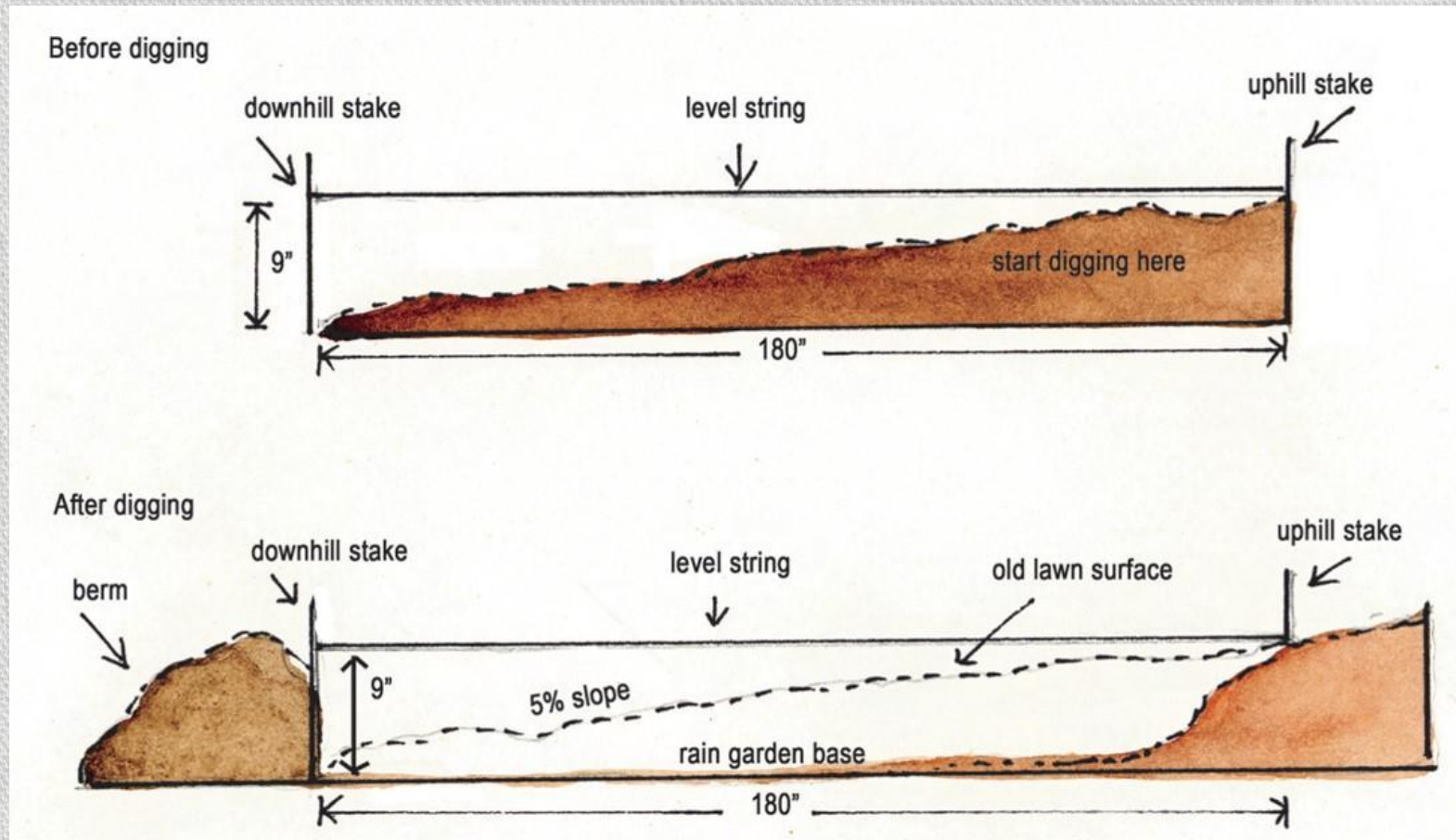


# Determine the Size of Your Rain Garden





# Determine your slope and ponding depth





# Determine the Size of Your Rain Garden

## Determine Surface Area of your Rain Garden

You multiply your drainage area (in square feet) by the correct size factor for your soil type:

Size Factor for < 30ft from Downspout			
	5 inches	6-7 inches	8 inches
Sandy Soil	0.19	0.15	0.08
Silty Soil	0.34	0.25	0.16
Clay Soil	0.43	0.32	0.2

Size Factor for >30ft from Downspout	
Sandy Soil	0.03
Silty Soil	0.06
Clay Soil	0.1

For example:

1000sq ft of drainage area in a clay soil greater than 30ft from the downspout with a 5% slope would need to be  $1000\text{sq ft} \times 0.10 = \mathbf{A\ 100\text{sq ft}}$   
**Rain Garden at 6-7 inches deep**



# Determining the Length and Width of Your Rain Garden

Generally, a Rain Garden that is longer than it is wide works well

250sq ft total rain garden area / 12 ft wide = 20 ft long

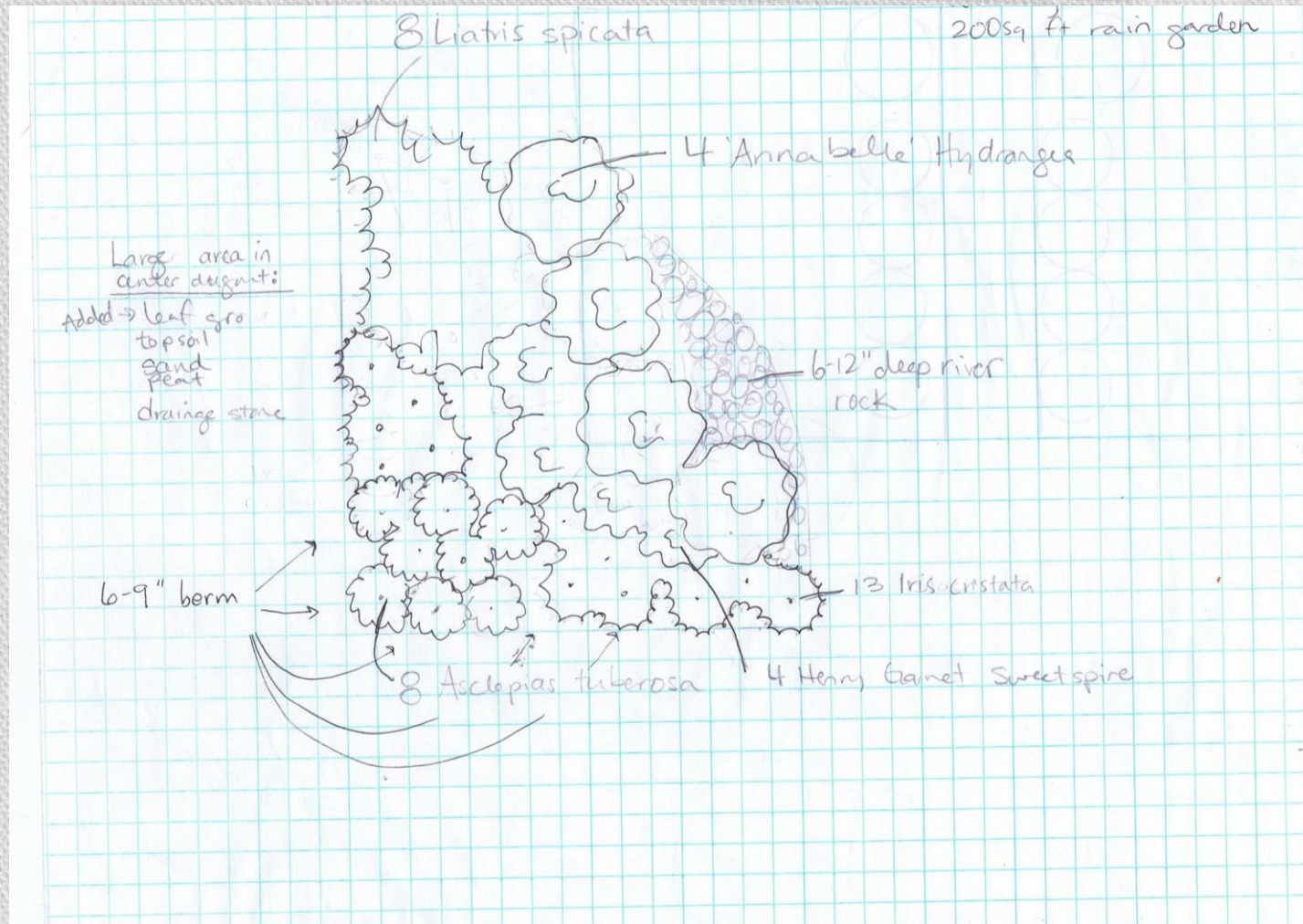


# Selecting Plants for Your Rain Garden

- How many hours of direct sunlight will the plants in your Rain Garden receive?
- What sort of animals have been seen in your yard- who might eat your Rain Garden?
- What type of soil is your Rain Garden site made up of? Which plants thrive in this sort of soil?
- Select plants that are appropriate for your sun exposure and soil type- this is the step that really needs a lot of thinking, research and careful selection if you want your plants to thrive!
- Use our plant selection guide to help you out.



# Sketching Your Rain Garden





# Sketching Your Rain Garden

Some things to keep in mind while designing:

- Use a variety of plants to incorporate a variety of textures and different bloom times
- Clump a minimum of 3 of the same species of plants together so the garden looks more ‘organized’
- Keep lower growing plants around the borders and taller plants in the middle



# Sketching Your Rain Garden

- If there is a specific viewing location you will be looking at your rain garden from the most put the taller plants in the back of that location and smaller plants in the front
- You will want to mark on your sketch where the berm will be located and inflow and outflow areas for the water coming in to and leaving the rain garden.
- Sketch is a guideline
- Making your plant and materials list





# Your Rain Garden

Your garden is designed to catch water from a 1 inch rain storm. For larger storms there will be overflow that will cause overfill for your Rain Garden. It's ok! At least some water is being caught and infiltrating into the ground for most rain storms.

You can find a variety of Rain Garden design templates at [www.lowimpactdevelopment.org](http://www.lowimpactdevelopment.org)



# Great plants for Rain Gardens: Sun Perennials



- *Liatris spicata* 'Kobold'- Gayfeather
- *Asclepias tuberosa*- Butterfly weed, Pleurisy root
- *Asclepias incarnata*- Swamp milkweed
- *Eupatorium dubium* 'Baby Joe' or 'Little Joe' or *maculatum* 'Gateway'- Joe pye weed
- *Lobelia cardinalis*- cardinal flower
- *Solidago rugosa* 'Fireworks' or *shortii* 'Solar Cascade'- Godenrod
- *Echinacea purpurea* 'Kim's Knee High'- Purple Coneflower
- *Iris cristata*- Dwarf crested iris
- *Phlox stolonifera* 'Sherwood Purple'- Creeping phlox
- *Coreopsis rosea* 'American Dream'- Tickseed



# Great plants for Rain Gardens: Shade

## Perennials

- *Chelone*- Turtlehead
- *Lobelia siphilitica*- Blue Lobelia
- *Phlox divaricata*- Woodland Phlox
- *Phlox stolonifera*- Creeping phlox
- *Iris cristata*- Dwarf Crested Iris
- *Geranium maculatum*- geranium
- *Asarum canadense*- wild ginger
- *Amsonia tabernaemontana*- Bluestar flower
- *Tiarella cordifolia*- Foam Flower
- *Tradescantia virginiana* 'Sweet Kate'
- *Polemonium reptans*- Jacob's Ladder
- *Heuchera americana* and *villosa*- Coral bells





# Shrubs for Rain Gardens: Shade

- *Hydrangea quercifolia*- Oakleaf hydrangea
- *Itea virginica*- 'Little Henry' sweetspire
- *Hydrangea arborescens*- Annabelle hydrangea
- *Callicarpa americana*- Beauty berry
- *Ilex verticillata*- Winterberry
- *Ilex glabra*- Inkberry holly
- *Clethera alnifolia*- Clethera or buttonbush





# Shrubs for Rain Gardens: Sun



- *Hydrangea quercifolia*- Oakleaf hydrangea
- *Itea virginica*- ‘Little Henry’ sweetspire
- *Hydrangea arborescens*- Annabelle hydrangea
- *Callicarpa americana*- Beauty berry
- *Ilex verticillata*- Winterberry
- *Ilex glabra*- Inkberry holly
- *Viburnum acerifolium*- Maple leafed viburnum
- *Vaccinium corymbosum*- Highbush blueberry
- *Clethera alnifolia*- Clethera or buttonbush
- *Calycanthus*- sweet shrub or allspice ‘Hartlage Wine’



# Trees for Rain Gardens



- *Ilex opaca*- American Holly
- *Cercis canadensis*- Redbud
- *Cornus florida*- Dogwood
- *Betula nigra*- River Birch
- *Acer rubrum*- Red Maple
- *Sweetbay Magnolia*- *Magnolia virginiana*



# Example Rain Garden Project





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# Materials Sources

## Native Plant Sales

Fundraisers organized by LGS:

To Benefit Friends of the Patapsco Female Institute- **April 27<sup>th</sup> 10am-2pm** PFI Picnic In the Park

Robinson Nature Center **April 5<sup>th</sup>, 12-4:30**

To benefit the Patapsco Heritage Greenway

363 Stonewall Rd, Catonsville **May 10<sup>th</sup> 7am-12pm**

Sun Nursery

Herring Run Nursery

Putnam Hill Nursery

Veteran Compost

Clarks Ace Hardware- stone, mulch, compost, tools

Kendall Hardware-stone, mulch, compost, tools



# Local Rain Garden Efforts

## **In Howard County- the county started offering reimbursements and credits for rain garden installations in 2013**

Residents get ½ the cost of a rain garden installation reimbursed from the County, up to \$1200. There is also a reduced rate on your yearly storm managements fees.

Visit Howard County's Green Central Station page and click on [Clean Water](#) to get info on rain gardens, reimbursements and

## **Howard County Conservancy- Belmont Location May 18<sup>th</sup>**

Come out to see a class on Rain Gardens and then a demo rain garden installation, the Conservancy will offer incentives to 3 residents in attendance to hire Lauren's Garden Service to install rain gardens at their home

**In Columbia- Slow the Flow-** John McCoy -Columbia Association installs rain gardens for resident at a discounted price.

## **Many local Counties offer information, reimbursements and credits for Rain Gardens:**

Howard County

Anne Arundel County

Prince George's County

Montgomery County

Baltimore County



# For More Information

Check out our Rain Garden page at [laurensgardenservice.com](http://laurensgardenservice.com)

Check out our blog posts or find us on [Facebook](#)

Give us your email address and we will email you our Guide to Rain Gardens in Howard County MD