

## Rain Gardens and Native Plantings A Step-by-Step Guide

**What is a rain garden?** It is a depression (minimum of 6 inches deep) that collects stormwater runoff from a roof, driveway or yard and allows it to infiltrate into the ground. Rain gardens are typically planted with long rooted native plants and can be colorful, landscaped areas in your yard that will also provide important environmental benefits.



Rain Gardens are beneficial to our community in several ways.

- Help to divert stormwater from the combined sewer and storm sewer systems.
- Help to protect yourself and neighbors from yard drainage problems.
- Reduce the amount of pollutants that wash into nearby rivers.
- Enhance the beauty of your yard and the neighborhood.



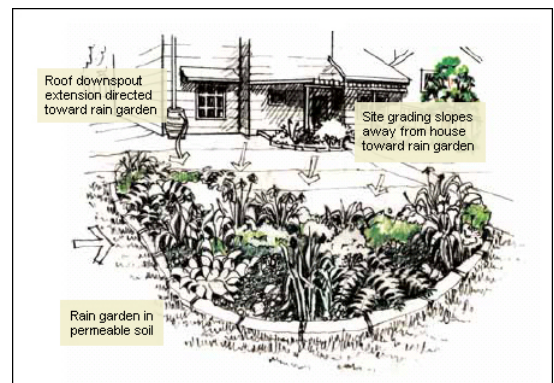
**Why build a rain garden at your home?** You can make a difference! Every time it rains, water runs off impervious surfaces such as roofs, driveways, roads and parking lots, collecting pollutants along the way. This runoff has been cited by the EPA as a major source of pollution to our nation's waterways. By building a rain garden at your home, you can reduce the amount of pollutants that leave your yard and enter the North Chicago Branch River or Des Plaines River system. Also, a significant benefit of rain gardens is that they could provide extra storage for stormwater to help reduce the amount of stormwater that may sit in your yard during and after a rain storm.



### Concerns regarding rain gardens

**Will a rain garden create unwanted ponding of water and increase potential for mosquitoes?** No. If designed properly, a rain garden will hold water for no more than two or three days after a storm. Mosquitoes need much more time than this to lay and hatch eggs.

**Will a rain garden be expensive or difficult to install or maintain at my home?** Once the rain garden depression is dug, it won't be any more expensive than planting other landscaped areas in your yard. Most of the recommended native plants can be purchased at local nurseries, and once established after one season, you maintain them just like any other plants in your yard with much less watering.



### Designing your rain garden



*A perfect location for a rain garden is near downspout at least 10 feet away from you or your neighbors foundation to prevent basement seepage*

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**Placement of the rain garden.** Here are some factors to consider when locating your rain garden:

- Avoid locating it closer than 10 feet from the foundation of a house with a basement or crawlspace.
- Placing a rain garden where water collects in the yard will require additional preparation to ensure proper drainage.
- Stay far enough away from the roots of a mature tree so you won't have to cut through them.
- The outlet of a downspout, sump pump or off a hard surface such as a patio or driveway makes a great water source.
- Try to choose an area with full or partial sun.
- Do not place a rain garden over shallow utilities.

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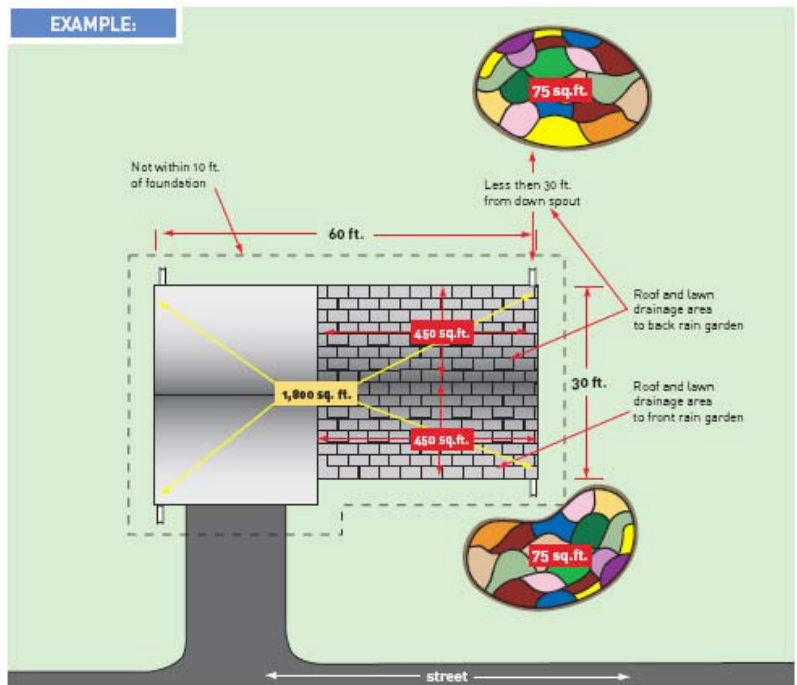
**Check the Soil.** You need to learn what type of soil you have in the area that you wish to build a rain garden. Sandy soil will obviously drain better than clay soil. As noted earlier, clay soil may require a deeper rain garden and an additional 1 to 2 feet of sand, stone, and soil to assist with drainage. One way to determine the type of soil is to perform a small percolation test. Dig a hole about 6 inches deep and fill it with water. If there is still water in the hole after 24 hours the site may require additional preparation as noted above.

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**Sizing the Rain Garden.** Building your rain garden to hold the water running from a downspout requires a simple calculation:

Using the example to the right, the house has a footprint of 60 feet x 30 feet, or 1800 square feet. One quarter of this roof area contributes to the gutter near where the rain garden is to be built. So the contributing area would be 1800 square feet x .25 = 450 square feet. This area is then divided by 6, so that the square footage of the rain garden would be: 450 square feet / 6 = 75 square feet or a rain garden measuring 10 feet x 7.5 feet. There is flexibility to make the rain garden any shape you want, as long as you approximate the size.

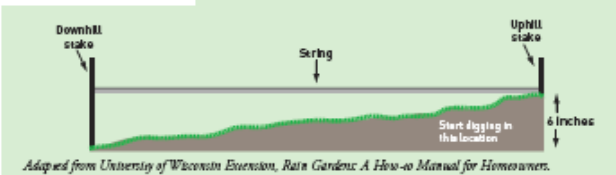
NOTE: if you are building the rain garden in a silt and clay area, increase the determined size by 45-60% or dig 1-2' deeper and add a sand and soil mix.



Before you dig - Call JULIE at 811 or send JULIE e-request

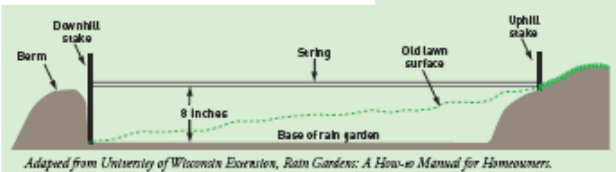
WHERE TO DIG

Diagram illustrates before digging has occurred.



WHERE TO PUT THE SOIL YOU'VE DUG

Diagram illustrates after digging has occurred.



CROSS SECTION OF RAIN GARDEN



4

**Installation & Soil Preparation.** Before you dig, you must contact JULIE at 811 to have them ensure you are not digging near utilities in your yard.

- Based on your sizing above, lay out the shape of your garden with stakes and a rope as shown to the left.
- Dig around the edges of the garden to define the shape.
- The sides of the garden should be angled like a pie tin.
- Remove the soil to a depth of at least 6 inches and place the dirt on the outside edge of the garden to make a berm if needed.
- Make the bottom of the garden flat and level.
- Gardens with well draining soil need only 2-3" of compost mixed or rototilled into the remaining soil.
- If you have a large amount of clay near the surface you will need to dig the clay out to a depth of 1-2' and add a mix of 20-30% construction sand, 50% topsoil, and 20-30% compost.
- If your soil has clay 5" or more below the surface you may only need to enlarge the size of the garden by 45-60%.



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**What is a native plant?**

- A native plant is one that grew here in the Illinois region before it was settled.
- They adapted to our region and thus need little care.
- Native plants are beautiful, provide wildlife habitat, have long water soaking roots and are part of our heritage.
- They require little or no watering (once established).
- They require no fertilizer or pesticides.



*“Unless we modify the places we live, work, and play to meet not only our own needs but the needs of other species as well, nearly all species of wildlife native to the United States will disappear forever.” Douglas W. Tallamy*

Find a comprehensive list of Native Illinois Plants at: [www.il.nrcs.usda.gov](http://www.il.nrcs.usda.gov)

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**Planting Native Flowers and Grasses.**

Now it is time to plant! The plants that do well in rain gardens are the ones that can tolerate wet conditions, but also very dry conditions. Many plants native to Illinois fit this description. (see back page for a list of plants)

There are many ways to combine plants in a rain garden. Groupings of the same species tend to produce a nice visual impact, but it’s really up to you. Be creative! A local nursery may have suggestions for design layouts.

When you return from the nursery you should give your plants a little water before planting. Follow your design and place your plants (still in their containers) on the surface of the garden and arrange them. When you are ready to plant, separate the plants from the plastic containers and plant as you normally would without stepping in the garden too often and compacting the soil. Plants should be placed about a foot apart.

After planting, a 3-4” layer of hardwood mulch can be applied to reduce weeds, conserve moisture, and help prevent your new soil from washing away in a heavy storm. Avoid mulch made with pine and cypress.

**The First Season is Critical!!**

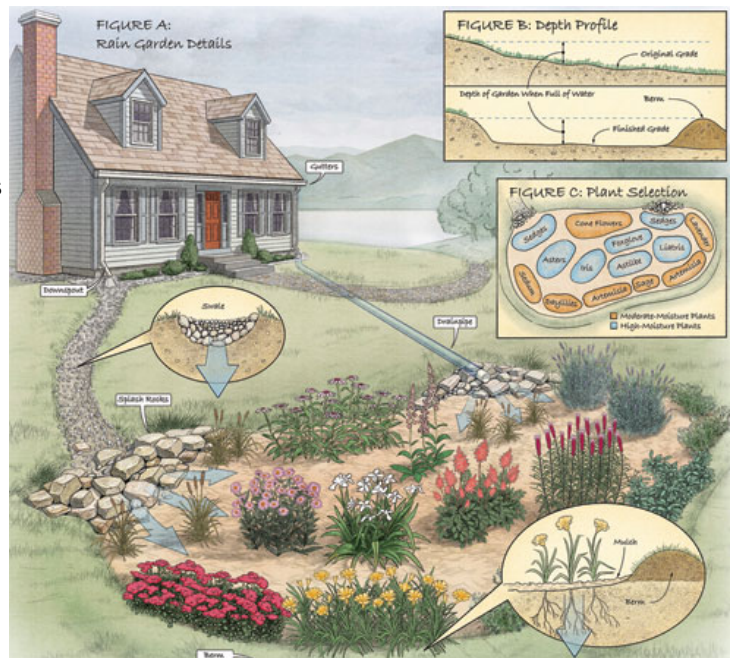
**6**

**Maintenance.** Maintaining your rain garden is not really much different from maintaining any other newly planted landscape area. Plants will need to be watered until established, and weeding should be performed as necessary. In the years following installation, removal of dead plant material, and replacement of mulch can be performed.

- Water the garden every other day for 2 weeks (if it does not rain) or until the garden looks to be growing on its own. If you want, you could use water from a rain barrel connected to another nearby downspout.
- When directing your downspouts, make sure there is a buffer (rocks or grass) to prevent a rush of water from eroding the soil and washing out the new young plants.
- Now you can sit back and enjoy the beauty of your rain garden, and also know it is performing an important function by keeping water out of the sewer system and protecting water resources.

**Brought to you by**

**The Niles Environmental Committee**





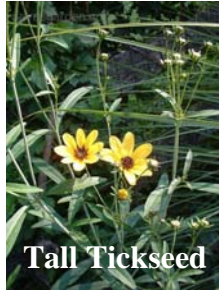
Rain Garden Suggested Plant List



Prairie Dock



Purple Cone Flower



Tall Tickseed



Compass Plant



Obedient Plant



Black Eyed Susan



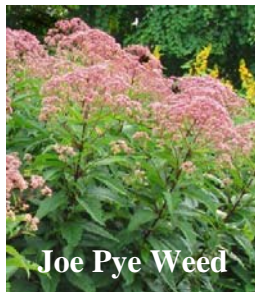
Wild Quinine



Wild Geranium



Wild Bergamot



Joe Pye Weed



Showy Golden-



Swamp Milkweed



Purple Love Grass



Prairie Blazing Star



Sky Blue Aster



Golden Alexanders



Butterfly Weed



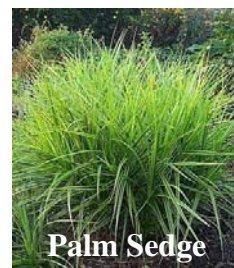
Indian Grass



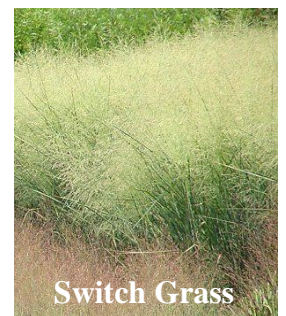
Side Oats Grama



Little Bluestem



Palm Sedge



Switch Grass