



## THE RAIN GARDEN An Informative Guide

In a unique partnership, Michigan State University Tollgate Extension Center and the City of Novi created a Demonstration Rain Garden. The purpose of the Demonstration Rain Garden is to set an example for other businesses, homeowners and communities who may be interested in creating one of their own. Novi's Demonstration Rain Garden was awarded the Michigan Plaque by Keep Michigan Beautiful as a leader in beautifying Michigan.



### What Is a Rain Garden?

At first glance, a rain garden looks like a garden bed featuring native plants, but a rain garden is constructed to direct rain runoff from hard surfaces such as roofs, driveways and lawns. The



garden has a bowl-shaped collection area with absorbent soil and its function resembles that of a natural meadow.

### Why Have a Rain Garden

A Rain Garden can...

- Control runoff
- Keep pollution from washing into local watersheds
- Conserve water
- Improve water quality
- Remove standing water in yards
- Reduce mosquito breeding
- Increase beneficial insects and animals that eliminate pest insects
- Prevent flash flooding
- Create habitat for wildlife
- Reduce maintenance costs over a lawn
- Enhance the beauty of an area

### How to Create a Rain Garden

#### Step 1: Size and Locate your Rain Garden

The surface area of your rain garden should be between 20% and 30% of the roof area that will drain into the rain garden. Locate the garden at least 10 feet away from the house (to prevent soggy basements), and maintain a minimum 1% slope from the lawn down to the rain garden (you can also create a shallow ditch to ensure the



Run-off Water Flows to the Garden

water flows from roof to the garden, or use a downspout extension to direct the flow into the garden). Lay out the boundary of the garden with a rope or flexible hose.

#### Rain garden sizing example:

30 ft. x 30 ft. house area  
 1/4 of this area drains to one downspout  
 15 ft. x 15 ft. = 225 ft.  
 20% of 225 ft. = 45 ft.  
 30% of 225 ft. = 67.5 ft.

The rain garden area should be between 45 and 67.5 square feet, depending on soil type (use 20% for sandier soils).



'Bee Balm' Monarda didyma





'Swamp Milkweed' *Asclepias incarnata* L.

### Step 2: Dig the Rain Garden

To enable the rain garden to hold several inches of water during a storm, you'll have to dig a hole 3-4 inches deep across the entire surface of the garden. If the soil lacks organic material, you can improve it by digging the hole 5-6 inches deep, and adding 2-3 inches of compost or other organic material. Create a berm on the lower side of the garden using the diggings, or use a downspout extension or shallow ditch to direct the water into the garden.

Make sure the bottom is level. Next, test how the garden will hold water during a storm by letting water flow into the rain garden from a hose placed at the downspout. Based on this test, make any necessary adjustments.



'Butterfly Milkweed' *Asclepias tuberosa* L.

Plants For a Rain Garden			
Common Name	Color	Bloom Time	Light
Anise Hyssop	Blue	July - August	S
Beardtongue, hairy	Purple,	June - July	S
Bee Balm, Bergamot	Pink, Red	May - Fall	S
Black-Eyed Susan	Gold	June - September	S
Blue Flag Iris	Blue	June - July	S/PS
Butterfly Milkweed	Orange	May - June	S
Cardinal Flower	Red	July - September	S/PS
Columbine	White, Yellow, Red	May	PS
Garden Phlox	White, Pink	July - September	S
Great Blue Lobelia	Purple	August - Sept	S
Johnson's Blue	Purple	May - Frost	S/PS
Little Bluestem Grass		May - Frost	S
Marsh Blazing Star	Pink	June - Frost	S
May Night Salvia	Deep Blue	Mid Summer -	S
Moonbeam Coreopsis	Yellow	All Summer	S
New England Aster	Purple, Blue, Rose	Late Summer - Frost	S/PS
Pink Turtlehead	Pink	August	S/PS
Purple Coneflower	Pink	June - Frost	S/PS
Queen-of-the-Prairie	Pink	July	S/PS
Rough Blazing Star	Purple	July - September	S
Swamp Milkweed	Pink, Purple	June - July	S/PS
White Coneflower	White	June - Frost	S/PS
Zagreb Coreopsis	Yellow	All Summer	S

S=Sun      PS=Part Sun / Part Shade      SH=Shade



*The Tollgate Rain Garden was developed with the cooperation and support of the City of Novi.*



'Purple Coneflower' *Echinacea purpurea*

### Step 3: Add Plants to the Rain Garden

Choose drought-tolerant plants that won't require much watering, but make sure they can withstand wet soils for up to 24 hours. Also take into account how much sun your garden receives. It's often helpful to draw out a planting plan before you start, and mark planting areas within the garden with string. After planting, weeding and watering maybe required until the plants become more established. You may also need to periodically divide some of the plants to let others grow.

Please visit MSU Extension or the following links for more information about Rain Gardens and design tips :

[wmeac.org/raingardens/](http://wmeac.org/raingardens/)

[raingardennetwork.com/](http://raingardennetwork.com/)

<http://therouge.org/>

### MSU Tollgate Farm and Education Center



28115 Meadowbrook  
Novi, MI, 48377-3128  
[tollgate.msu.edu](http://tollgate.msu.edu)  
Contact Roy Prentice:  
248-347-3860 ext. 251