



Southeast Oakland County, MI



City of Carter Lake, IA

Rain Gardens

The beautiful way to:

- use rainwater as a valuable resource,
- protect our drinking water quality,
- reduce local flooding, and
- increase your home's curb appeal.



Cuyahoga Conservation District



City of Eagan, MN

TCWA RAIN GARDEN WORKSHOP

CONSIDER A RAIN GARDEN

Rain Gardens are beautiful additions to any landscape and help our environment in many ways:

- Protect our water quality by reducing the amount of pollutants that wash into rivers and streams
- Help sustain stream flow through infiltration that supplies the water table
- Reduce flooding
- Contribute to a biodiverse natural local environment



www.nrcs.usda.gov

Additional benefits often include reductions in:

- Money
- Labor
- Supplies needed to maintain the yard

HOW A RAIN GARDEN WORKS

A rain garden is basically a depression in the earth designed to mimic the natural forest or prairie ecosystem where rainfall soaks slowly into the earth.



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Rainwater is diverted from down spouts or paved surfaces into the rain garden where it is slowed, cleaned, and allowed to soak into the ground. A properly designed rain garden should drain in about 4 to 8 hours after a heavy storm.

A rain garden uses plants adapted to wet then drier conditions with root systems that hold soil in place and filter pollutants.

To be effective, a rain garden should be located in an area where it will collect runoff. Each site is unique, but the basic idea is to divert the water to be collected into the rain garden. The most frequently utilized space is beyond roof downspouts.

BASIC RAIN GARDEN INSTALLATION

Disconnecting your downspout is the most basic thing you can do to protect water quality and reduce flooding potential in your area. The water from the downspout extension supplies water to the rain garden.

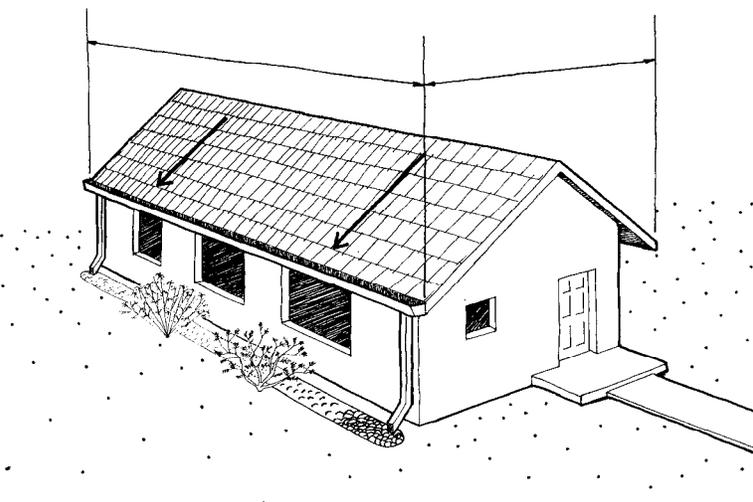
The disconnection process includes:

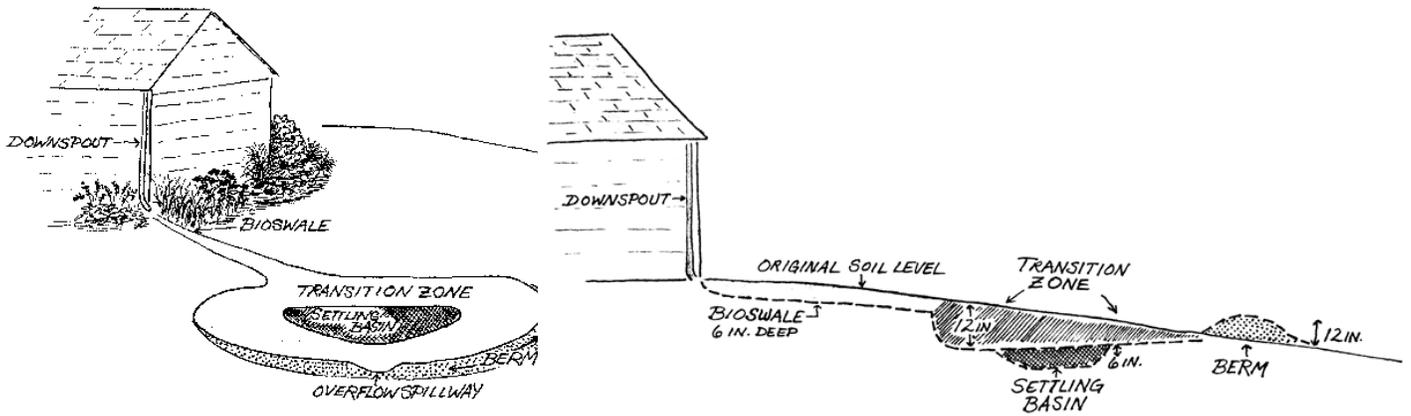
- approximately \$15 - \$20 in materials
- 30 minutes of your time
- a hacksaw
- measuring tape
- hammer
- screw driver & pliers
- sheet metal screws
- a downspout elbow and downspout extension
- a splash block
- quick dry cement or a rubber cap

After the downspout is disconnected and the storm sewer drain capped, the downspout extension should run about 10 feet away from the structure's foundation and into the rain garden depression. (See the downspout in the picture on page one.)

The shape, size, and style of the rain garden are completely up to the individual. The size of the rain garden can be calculated to accept all of the roof runoff or made smaller and the excess will flow into the lawn.

Calculate the size of your rain garden. First, measure the length and width of your building. As an example, a 60' x 30' roof means 1,800 square feet. Divide this figure by the number of downspouts on the house. If there are four, then the contributing roof area would be $1,800 \text{ ft} \times 0.25 = 450$ square feet. To determine the garden space needed, this figure is then divided by 6, so that the square footage of the rain garden would be $450 \text{ ft}^2 / 6 = 75 \text{ ft}^2$. A nicely shaped rain garden for this example might be 10 ft X 7.5 ft. (University of Connecticut)





Remove the grass. Strip sod down about four inches with a flat edge shovel, or you can secure black plastic to the area for about 40 days to kill grass and weeds.

The depression is a key in the function of a rain garden. It should be:

- at least 8 inches deep (more with clay soils underneath)
- back-filled with a loose soil mix recommended by DCNR of:
 - ¼ sharp sand
 - ¼ existing top soil
 - ¼ leaf compost
 - ¼ finely shredded mulch

If the soil is heavy clay, a 2" - 3" layer of mulch can be added to the bottom of the depression to increase drainage. The goal is to create a garden that will hold lots of moisture and release it slowly to the plants and to the water table below.

The next step is choosing the right plants for the site. Determining whether the garden is in full sun, part sun, or shade will help with plant selection. You may also want to get a soil analysis done.

Try to select a variety of plant textures and shapes that are showy at different times of the year. Try to include evergreens or trees and shrubs with out of the ordinary shape, bark, or berries to provide winter interest when all else in the garden is dormant. Remember to place tall things in the middle or back, with shorter plants in the front or at the edges. Try to avoid planting according to the purchased size - remember, they usually look little and cute in the pot, but they will grow! Allow enough space between plants to account for their mature size.

After the plants are in place, a 3" - 4" top layer of shredded hardwood mulch will finish the garden soil and help reduce weeds.

RAIN GARDEN MAINTENANCE

Maintaining a rain garden is not much different from maintaining any other landscaped area. Plants will need to be watered until they are established. Weeding and removal of dead plant material should be done as necessary. A top coat of mulch may be needed every two to three years.

North Hills Water Gardens has several plants that will be great for a Rain Garden in our area:

Flowering perennials will add seasonal color.

<i>Lobelia cardinalis</i>	Cardinal Flower
<i>Iris pseudacorus</i>	Water Iris

If you are looking to cover an area quickly:

<i>Houttuynia cordata</i>	Chameleon Vine
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Grasses and sedges are an important addition to a rain garden; they help trap sediment and pollutants while slowing the force of flowing water. The grasses and sedges here are not only functional, but are attractive as well:

<i>Carex nigra</i>	Dwarf Gray Sedge
<i>C. aquatilis</i>	Large Gray Sedge
<i>C. muskingumensis</i>	Palm Sedge
<i>Phalaris lanceolata</i>	Strawberries and Cream

These unusual plants are just neat:

<i>Equisetum scirpoides</i>	Dwarf Horsetail
<i>Juncus effuses</i> 'Spiralis'	Corkscrew rush
<i>Rumex saguineus</i>	Water dock

If you have an area in the lawn that seems to always stay wet, you may want to convert it into a garden using these plants:

<i>Typha latifolia</i>	Common Cattail
<i>T. angustifolia</i>	Narrow Leaf Cattail
<i>T. minima</i>	Micro Leaf Cattail
<i>Pontederia cordata</i>	Purple Prickle Rush

No matter if you have a rain garden, vegetable garden, water garden, or ornamental garden, plants help the planet – and increase your home's appeal!