

Residential Rain Gardens



WHAT IS A RAIN GARDEN?

A rain garden is basically a flower garden that is positioned in a yard to capture water that flows from roofs, downspouts, driveways, and yards. The rain garden itself is a level depression or shallow bowl that is created in a yard, filled with soil, and planted with native grasses and plants and/or your favorite flowers. What makes a rain garden special is that it allows water to soak (or *infiltrate and percolate*) into the soil, rather than run into streets and storm drains. As rainfall runoff moves across driveways and streets it picks up pollutants, and once it reaches a storm drain, those pollutants in the runoff go directly into neighborhood watershed creeks, streams and lakes.

By installing rain gardens, homeowners can create landscapes that add beauty, wildlife habitat and interest to a yard while helping to manage storm water runoff and better protect the water quality of streams and lakes. Installation can be done in a day, depending on the size of the rain garden and the number of people helping to build it.

Before you begin, please read the following important steps for rain garden installation, and decide if this is a do-it-yourself project or if you want to hire a qualified landscaping firm to install a rain garden in your yard. Visit www.iowastormwater.org (click on *Iowa Rain Gardens*) to view the "**Iowa Rain Garden Design and Installation Manual**," which is a detailed guide to designing and installing rain gardens. A list of people that have attended a rain garden training workshop is also provided for those who may want to hire someone to install the garden. Your local Soil and Water Conservation District may also be able to provide you with guidance and assistance (<https://idals.iowa.gov/FARMS/index.php/districtMap>).

STEPS TO DESIGN AND INSTALL RAIN GARDENS

Site Location: *It needs to go where the water will flow.*

- At least 10 feet away from building foundations, utilities and septic systems.
- Call **Iowa One Call** for location of utilities before you begin digging.
- Locate the rain garden downhill from your home so that water flows in the direction of the garden.
- Do not install in areas where there is a shallow depth to the water table (when you dig a hole <4 feet deep and you find groundwater), or shallow soils over bedrock.



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Soil Testing: *If it rains, how well will the soil drain?*

- Dig several holes and conduct a percolation test of the soils in the area where you wish to place a rain garden. Dig the hole below the depth of the proposed rain garden depression (or bowl) to determine if the soil will soak up (or percolate) water at an adequate rate to support a rain garden. Water should drain away in 2-4 hours for adequate percolation rates.
- Dig several holes and conduct a ribbon test of the soils in the area where you wish to place a rain garden to estimate the amount of clay and determine if there are adequate percolation rates. Dig the hole below the depth of the proposed rain garden depression. If the soil won't ribbon and breaks off as you squeeze it, the soils should have low clay content and good percolation rates in order for the rain garden to drain properly.

Sizing the Rain Garden: *Size definitely matters when it comes to capturing and managing the "Water Quality Volume" (WQv).*

- Most rain events in Iowa (90%) generate less than 1.25 inches of runoff. This is the Water Quality Volume (WQv). Rain gardens should be designed to capture (or manage) this *first flush* from storm events.
- The "**Iowa Rain Garden Design and Installation Manual**" provides detailed information on how to size a rain garden to manage the WQv.
- Some cities, and county Soil and Water Conservation Districts (SWCD), are now offering financial incentives to install rain gardens that are designed for management of WQv.

Installation: *Grab a shovel and get started!*

- Layout the shape of the garden using flags, then remove the turf.
- Place the garden at a contour. It is best to install long and narrow rain gardens so digging, planting and maintenance are easier.
- Use the cut and fill technique to create a berm on the downslope side.
- Make sure that the bottom of the depression is level from side-to-side and end-to-end.
- Refill the depression with soil amended with compost and in some cases sand.
- An outlet is needed for large rainfall events. An inlet may also be needed if you have flow from a downspout or tile line.

Plant Selection: *If you build it, they will grow.*

- Native plant species are recommended for rain gardens. Once they are established they will tolerate the short periods of ponded water and/or extended periods of dry weather.
- Weeding and watering will be necessary the first year.

We all need to do our part to protect Iowa's stream and lake water quality.....

Contact your local community storm water program for local rain garden requirements.

