How to create a **Rain Garden** in 6 easy steps

**Why?**

1. Impervious surfaces like sidewalks and driveways contribute significantly to stormwater?
2. The average quarter acre lot (for a 2,500-square-foot home) can contribute over 5,000 gallons of stormwater in a single 1" rainfall event?
3. Providing a place for rainwater to go can reduce localized flooding?
4. Native plants actually increase infiltration over time because of their strong root system?
5. Green Infrastructure such as rain gardens help to slow down stormwater and reduce erosion?

**Did you know . . . .**

1. Delineated URS GI practice team across the United States
2. www.urs.com
First and foremost, this is a garden for your yard. So pick attractive plants that you like.

Most of the plants listed like full sun to partial shade. Rain gardens can also work in shady areas, but more careful plant selection is required.

A rain garden is designed to dry out between storm events. It is not a wetland intended to permanently hold water. Plants that like average-to-moist conditions typically do well. If you choose plants that prefer wet-to-saturated conditions, you may need to water them during the summer.

Use rock walls, arbors, or other borders to help define the boundaries of the garden.

Start small, see what works, and expand your garden the next year.
2  **location**

Build rain gardens near downspouts, driveways, or other low points that collect water in your yard.

Pick a location where you can dig a shallow depression of the depth and shape you want. You may need to dig it out in the center, and build a small dam on the downhill side of the garden to help hold the water.

Consider where the water will enter the garden, and where it will drain out when it overflows. Try to make sure it does not drain in an unwanted direction, such as towards the neighbor’s favorite sitting spot.

Do not install the garden on top of septic tank leach fields or over utility lines. Call the local utility clearance service to identify buried utility lines before digging.

Try to put the rain garden 10’ or more from your house to keep water away from your foundation.
3 soil & sizing

For home gardens, the size of the garden is not terribly important. If you have plenty of room, try to size the garden to hold an inch of rain from the area that drains to it. That might be something like an 8' by 10' garden to catch the rain from a downspout at the corner of a typical house. If you don’t have that much space, design the garden to fit your landscape.

Most rain gardens are about 4" to 8" deep. Try to pick a depth that will let the water soak into the soil within 24 hours. To do this, dig a hole in the garden area (8" wide and 8" deep), fill it with water, and measure how fast the water soaks into the soil. This may take a number of hours. For example, if the water level goes down 1" in 4 hours, the soil will percolate about 6" in 24 hours, so you would make your garden 6" deep.

If the garden only holds water for a day, mosquitoes can’t breed in it.
4 preparation

Outline the shape of the garden, remove the existing sod, and dig to create a garden the size and depth you want.

If you have clay or compacted soils, over-dig the garden about 12”, break up large clods and mix generous amounts of compost into the soil to create spaces for root penetration.

Grade the garden so that water will spread out over a large, flat area.

After the garden bed is prepared, fill it with water to make sure it will infiltrate the soil within 24 hours, and that it drains in the direction you want when it overflows.

If most of the plants you choose do not like very wet or saturated conditions, cut a “notch” in the downhill side of the garden berm so that water does not fill up the garden for the first year. This helps the plants get established. Mature plants can tolerate more water than seedlings. After the first growing season, you can fill in the notch and let the garden hold more water.
Consider planting native wildflowers, grasses, and shrubs. Many have very deep roots that do a good job of breaking up clay soils and increasing infiltration each year.

If available, “plugs” are an economical plant selection. Plugs are young plants in containers about 2" in diameter by 5" deep. They establish faster than seeds, and are less expensive than large potted plants.

Pick 6 or 8 plant species to try first. Group the same plants together in clumps of at least 3 to create mounds of color. Plant grasses between the clumps of wildflowers. This helps prop up the flowers when they get tall.

Choose plant locations in the garden based on how much water they will tolerate. Place plants that like wetter conditions in the lowest part of the garden. Put plants that like drier conditions around the edges.

When picking plants, also consider how tall and wide the plants will get when they mature. Space them accordingly. Place taller plants in the center of the garden.

The plant list at right contains species that are common in many parts of the U.S. We like the native species because they thrive in our local conditions and have deep root systems, and many tolerate both spring rains and summer droughts. But you aren’t limited to this list. If you like cultivated varieties, choose plants that like average-to-moist conditions.

### plants for your area*

<table>
<thead>
<tr>
<th>Name</th>
<th>Sun</th>
<th>Water</th>
<th>Color</th>
<th>Height (in feet)</th>
<th>Bloom Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm Sedge</td>
<td>☀️</td>
<td>M-W</td>
<td>Yellow</td>
<td>2-3</td>
<td>--</td>
</tr>
<tr>
<td>Blue Flag Iris</td>
<td>☀️</td>
<td>M-W</td>
<td>Blue Violet</td>
<td>2-3</td>
<td>May-Jun</td>
</tr>
<tr>
<td>Marsh Milkweed</td>
<td>☀️</td>
<td>M-W</td>
<td>Pink White</td>
<td>4-5</td>
<td>--</td>
</tr>
<tr>
<td>Switchgrass</td>
<td>☀️</td>
<td>D-W</td>
<td>Yellow</td>
<td>4-6</td>
<td>Jul-Aug</td>
</tr>
<tr>
<td>Joe Pye Weed</td>
<td>☀️</td>
<td>M</td>
<td>Purple</td>
<td>3-4</td>
<td>Jul-Aug</td>
</tr>
<tr>
<td>Obedient Plant</td>
<td>☀️</td>
<td>M</td>
<td>Pink White</td>
<td>3-4</td>
<td>Jun-Sep</td>
</tr>
<tr>
<td>Purple Coneflower</td>
<td>☀️</td>
<td>D-M</td>
<td>Pink Purple</td>
<td>2-8</td>
<td>Jul-Aug</td>
</tr>
<tr>
<td>Little Blue Stem</td>
<td>☀️</td>
<td>D-M</td>
<td>Brown</td>
<td>2-4</td>
<td>--</td>
</tr>
<tr>
<td>Nine Bark</td>
<td>☀️</td>
<td>D-M</td>
<td>Pink White</td>
<td>5-8</td>
<td>May-Jun</td>
</tr>
<tr>
<td>River Birch</td>
<td>☀️</td>
<td>M-W</td>
<td>Brown Green</td>
<td>40-70</td>
<td>--</td>
</tr>
</tbody>
</table>

Moisture: D - Dry, M - Medium, W - Wet

* For a full listing of native plants in your area contact your local nursery.
6 care

Water your plants regularly until they are established.

Mulch the garden with shredded hardwood mulch. Weed the garden regularly.

Where water enters the garden, arrange rocks in a decorative fashion to act as a “splash block,” help break up the water flow, and prevent big storms from washing out the garden inlet.

Each spring, prune dead vegetation, prune plants that get too large, weed the garden, and touch up the mulch. Then weed and care for the garden as you would any other garden.

If wash-off from a driveway or road begins to cover the plants where the water enters the garden, clean sand and sediment from the garden.

Watch the plants, and don’t be afraid to move them within the garden if they need more or less water.