

How Can I Create a Rain Garden?



LAKE HOME & CABIN KIT • SECOND EDITION

What Is a Rain Garden?

A rain garden is a shallow depression filled with flood-tolerant shrubs, flowers and grasses. Its main functions are to collect and filter stormwater runoff, but rain gardens also add beauty to the landscape and may attract butterflies and birds.

What Are the Benefits of Rain Gardens?

Whether you live in the city or along a lake or river, managing stormwater runoff is important. Rooftops, roads, driveways, and sidewalks are hard surfaces that prevent rainwater and melting snow from reaching the soil and soaking into the ground. These hard surfaces also tend to collect nutrient-rich yard and pet debris, oil and radiator fluid from autos, and other debris and pollutants. During a rain event or snow melt, fast-moving runoff washes the nutrient-rich debris and other harmful pollutants away, often directly into lakes, rivers, and wetlands. The greater amount and increased speed of water flowing off hard surfaces can erode soil and carry it into our surface waters. In the summer, runoff is often warmed as it flows over hard surfaces. If the warm runoff enters lakes and rivers directly, it can affect aquatic life.

A rain garden is one way to address all of these problems. Rain gardens are designed to collect stormwater runoff, preventing the runoff from flowing directly into lakes, rivers, and wetlands. They allow runoff to soak into the soil, filtering out pollutants before entering the groundwater. Rain gardens also allow sediments to settle and plants to absorb nutrients.

Design and Placement of Rain Gardens

It is best to sketch a design before you start digging. Rain garden designs can be simple or elaborate, depending on your gardening interest and experience. When designing a rain garden consider garden placement, the size you need, the shape you want, the soil type, and the plants you'd like to include. You may need to design more than one rain garden into your landscape to accommodate the runoff.

First, determine areas of your property that are suitable for a rain garden. These will generally be low areas that are the recommended distance away from other features. Rain gardens should be placed 10 feet or more away from buildings to prevent foundations and basements from being damaged by water. The rain garden should also be placed 35 feet or more from septic system drain fields, 50 feet or more from drinking water wells and well away from utility lines. Call the Digger's Hotline (800) 242-8511 to locate electrical, gas or telephone lines.

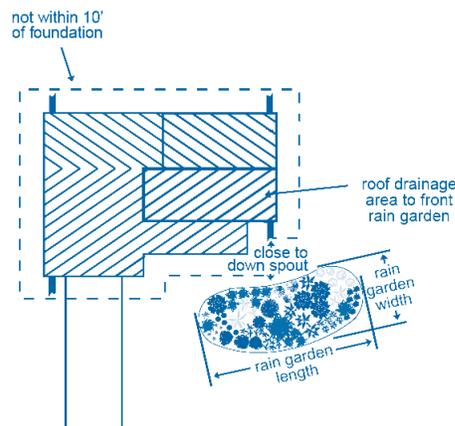


Image credit: University of Wisconsin Extension

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How Can I Create a Rain Garden? *continued*

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Next, test the soil in areas that are both suitable and near the sources of runoff. The kind of soil in which you construct the rain garden is of utmost importance. Remember, the purpose of rain gardens is to absorb and filter runoff water, so the soils need to be porous enough to soak up water within 48 hours. Forty-eight hours is the standard because it's likely to be the shortest period between two rainstorms; and will prevent garden plants from drowning and rain gardens from becoming mosquito breeding grounds. A simple test of a soil's ability to absorb water is to dig a wide hole 10 inches deep and fill it with water; if the water disappears within 48 hours, the site is suitable for a rain garden. If your first site fails the 48-hour test, test the soil at other potential rain garden sites on your property.

Rain Garden Shape and Size

Rain gardens can be designed in any shape—crescent or kidney shapes are attractive—but a long and narrow rain garden may be better suited if you are placing it between structures, such as a house and sidewalk.

The size of your rain garden will depend upon the size of the roof, driveway, or other hard surface being drained. Typical rain gardens range from 100 to 300 square feet in size and, as a rule of thumb, will handle the runoff from a hard surface that is about three times their size. For larger surfaces, more than one rain garden may be needed to handle the runoff. For example, large roof tops may need a rain garden near each down spout.

Want to know more?

INFORMATION ON THE WEB

For more guidance on rain garden design and construction visit:
<http://clean-water.uwex.edu/pubs/raingarden/rgmanual.pdf>
<http://www.pca.state.mn.us/publications/wq-strm8-14af.pdf>

Selecting Plants

Choose plants appropriate for the soil type in your rain garden and that will also tolerate standing water for up to 48 hours. Many native plant species are well suited for rain gardens. If you are constructing a rain garden near a lakeshore or riverbank, you may be required to use native plants, depending upon local ordinances—so check with your local Soil and Water Conservation District. For recommendations on rain garden plants, see the websites below.

Constructing and Planting a Rain Garden

Once the size, shape, and location of the rain garden has been decided and plants have been selected, construction can begin. Lay out a rope or garden hose in the desired shape to use as a guide for digging. The depth of the depression may vary from 4 inches to 10 inches. For best infiltration the bottom of the rain garden should be level. If your garden is placed on a slope, use the soil from digging to create a berm on the downhill side of the rain garden. Excess soil should be removed from the site.

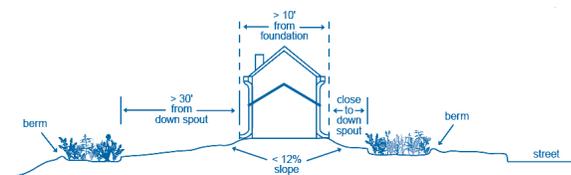


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Extension Service Faculty.