



Adding a Rain Garden

A rain garden is a sunken bed that collects and treats stormwater runoff from rooftops, driveways, sidewalks, and streets. Rain gardens mimic natural forest or meadow conditions and keep our watersheds healthy. Rain gardens:

- Reduce flooding by absorbing rainwater.
 - Filter oil, grease, and toxic materials to reduce stream and river pollution.
 - Help recharge groundwater aquifers.
 - Provide beneficial habitat.
 - Restore the natural water cycle in the landscape.
1. **Begin with a map.** Make a map of your property. Indicate the flow of water after a rainfall. Mark structures, slopes, low spots, and where water might drain into a neighbor's yard or onto public property.
 2. **Decide which impervious surfaces you wish to treat.** Measure these surfaces to determine the square footage of the area to be treated. The size of a rain garden needs to be at least 10 percent of the area of the impervious surface draining into it.
 3. **Site your rain garden.** It is easiest to place a rain garden close to its source of water (for example, a gutter or downspout). Locate it so that water flows in at a higher spot than where it will exit. Note areas where overflow can be absorbed or safely directed into an approved stormwater collection point, like a storm drain.

A rain garden should not be sited in an area that:

- Stays wet throughout the season, indicating poorly draining soil.
- Is three feet from a sidewalk.
- Is two feet from a retaining wall or building.
- Is on a slope steeper than 10 percent.
- Is on top of a septic system drain field and less than 50 feet away from a drain field.
- Is in soil contaminated by chemicals

Some cities and counties have specific regulations regarding disconnecting downspouts and routing or piping water. Verify requirements with local authorities.

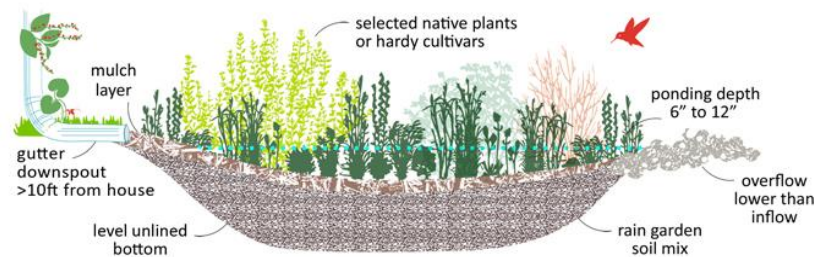
Assess your soil. The soil should absorb water in a 24- to 48-hour period. Test infiltration rate by digging a hole to a depth that is planned for the rain garden and fill it with water. Record the time it takes to drain completely. Repeat three times. Soil that drains ½ inch or more per hour is suitable. Otherwise, it needs modification. You can have your soil tested by a company and get recommendations on how to improve porosity. Analytical Laboratories Serving Oregon are listed in this OSU publication

<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em8677.pdf>

4. **Design the rain garden.** Rain gardens should be a minimum of five feet wide and 8 to 28 inches deep. Side slopes need to be 18 inches of horizontal length to 6 inches of vertical height. If the

rain garden is 12 inches deep, you will need 36 inches of slope. The bottom of the rain garden should be level. Berms should be at least 2 inches above the elevation of the outlet. The rain garden should drain within 24 to 30 hours. The overflow point in the rain garden should be 2 inches below the top of the berm on the downhill side. Plan for overflow events. Insert a pipe in the berm at least two inches below the rim to direct water to a flat area of landscape, another rain garden, a French drain, a drainage ditch or return the stormwater to a storm drain. Large rocks and gravel are used at inflow and outflow areas to slow down the water and prevent erosion. They simplify maintenance and add interest. Plant selection will depend on where in the rain garden they are located. The inflow area is going to retain the most moisture and suits plants that like “wet feet” while the sides or berms will be drier.

Especially tough plants (sedges or bunch grasses) can be grouped around the inflow and outflow points to slow down water as it enters and exits the garden. You can use ground covers to prevent erosion on the sides of the berms.



5. **Construct the rain garden.** It is the law in Oregon to call the Utility Notification Center before excavating. Call (1-800-332-2344) or (811) two days before you plan to dig. It is best to excavate and build when the soil is dry enough to work with easily. Ideally, you can plant vegetation in the fall. Mark the boundaries with a garden hose, string, stakes or marking paint. Place excavated soil (spoils) to the outside edge and away from the inflow point. Use spoils to form the berms that border the rain garden.
6. **Care for and maintain the rain garden.** Make sure the new plants get sufficient water during the dry summer season. Water deeply and slowly as needed during the first year. Soaker hoses are useful for this purpose. Mulch the slopes and edges with an even, 2- to 3-inch layer of bark dust to keep down weeds and encourage the retention of moisture. You may use compost. It does not suppress weeds as well but will add fertility to the soil and help with filtering pollutants. Weed and prune plants appropriately and replenish the mulch layer when needed. If other erosion has occurred and brought undesirable soil to the inflow or outflow, remove it to maintain exposed rocks and prevent erosion.

Resources

Rain Gardens Low Impact Development Fact Sheet

<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em9207.pdf>

The Rain Garden Guide

<https://seagrant.oregonstate.edu/sgpubs/oregon-rain-garden-guide>

Clean Water Services Washington County, Low Impact Development Approaches Handbook

<https://cleanwaterservices.org/development/dnc/lida/>

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