

Raingardens for Stormwater Management

Historically, we have routed our stormwater (runoff from roofs, driveways and other hard surfaces) into pipes that connect to our sewage treatment facilities or local streams and rivers. The negative consequences of this pipe system include unnecessary costs of treating relatively clean rainwater, pollution and erosion of our local waterways and increased potential for combined sewer overflows (CSO). Raingardens offer an effective landscape solution to managing this stormwater on-site.

Raingardens are shallow depressions (usually 6 to 12 inches deep) located to collect, absorb and filter runoff from local hard surfaces. The size of the raingarden depends on the total area of the hard surface (volume of runoff), soil type (percolation rate) and site constraints. In general, the raingarden should be at least 10% of the area being drained but often should be larger to accommodate 100% of the surface runoff. Raingardens have three planting zones: basin, transition and upper bench. Success of the raingarden depends on selecting appropriate plants for each of these zones. Because they are adapted to our seasonal rainfall patterns, many of our Northwest natives (e.g. Sedges, Rushes, Douglas Spirea, Swamp Rose, Iris, Red-stemmed Dogwood) make superior raingarden plants. Raingardens can be located in sun or shade but need to be at least 10 feet from a basement foundation and 4 feet from a concrete slab foundation. Always check with local codes before building a raingarden.

To build a raingarden, first locate the raingarden and estimate the volume of runoff. Next, perform a percolation test by digging a hole two feet deep at the proposed site. Fill it with water and let it drain several times. Calculate how fast the water percolates into the soil. A rate of 1 inch per hour or greater is adequate for building a raingarden. Next, excavate the site to a depth of 6 to 12 inches (deeper if you have poor soils and need to till in compost/sandy loam to improve percolation). Plan for where water will enter the raingarden and for possible outflow. Remember to always call in a utility locate before digging! Next, plant the garden with appropriate plants for each of the planting zones. Finally, mulch the raingarden with river rock aggregate, bark mulch or compost.

Used in concert with other water management practices (e.g. greenroofs, rainwater harvesting, permeable pavers and pavement), raingardens can reduce stormwater volumes and keep our local streams and rivers healthy.

For more information on building raingardens go to:

<http://www.portlandonline.com/shared/cfm/image.cfm?id=172335>
http://www.pierce.wsu.edu/Water_Quality/LID/Raingarden_handbook.pdf

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