



BROCHURE # 55

RESIDENTIAL RAIN GARDEN

What is a rain garden?

A rain garden is a landscaped area that collects, absorbs, and filters stormwater runoff from roof tops, driveways, patios, and other hard surfaces that don't allow water to soak in. It is listed as BMP T5.14A. The full guidance and useful information can be found in Rain Garden Handbook for Western Washington: <https://fortress.wa.gov/ecy/publications/documents/1310027.pdf>

Areas not to your rain garden:

- Within 10 feet of a building foundation—to avoid water getting into basements and crawl spaces.
- Over utilities—to prevent extra expense and hazardous conditions, make sure to have all utilities located and marked before digging. Utility companies typically locate and mark power, gas, phone, water, and other lines and facilities. Contact utility locate services by calling 811.
- Near the edge of steep slopes or bluffs—
In general, slopes should be less than 15% for a rain garden. If the rain garden is within 50 feet of a slope that is more than 15%, consult with a geotechnical engineer.
- Near a septic tank, septic drainfield, or reserve drainfield area—
If uphill of a septic system, provide at least 30 feet and if downhill provide at least 10 feet between the rain garden and the existing or planned septic system.
- In low spots that do not drain well—
Poorly draining depressions will not support rain garden plants very well.
- In areas that would require disturbing healthy native soils, trees, and other vegetation—
These areas already do a good job of filtering and storing stormwater
- Locations with high groundwater table—if groundwater rises to within one foot of the bottom (excavated soil surface) of your rain garden during the winter (highest level), you should consider another location. In areas of high groundwater, a rain garden will not drain or function properly.
- Near wells—your rain garden must be set back a minimum of 100 feet from drinking water wells.
- Other setbacks—10 feet from property line and structures

What soil is required?

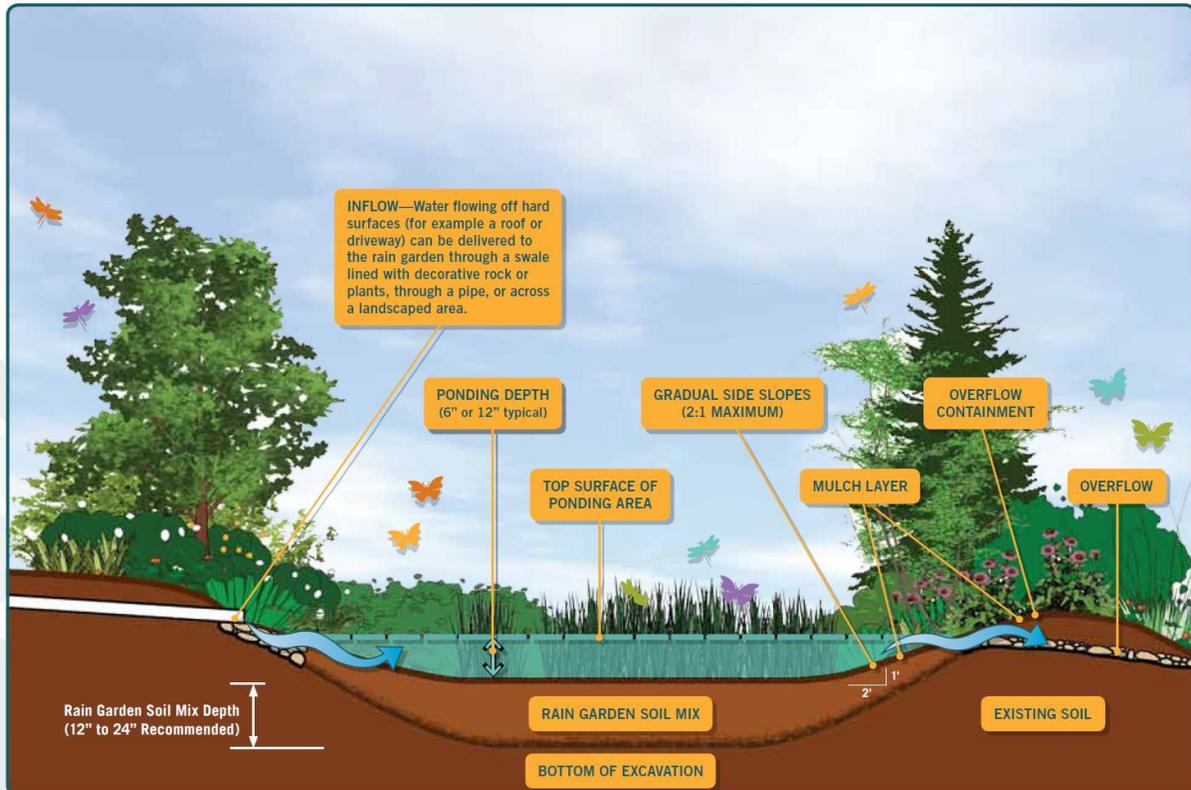
On-site analysis of the soil is needed to test the infiltration feasibility of the rain and to obtain soil infiltration rate. A minimum of 0.3 inch/hour of infiltration rate is required for rain gardens. Follow the link below to the Soil Infiltration Test worksheet linked below. This provides instructions on how to conduct the soil infiltration test. The worksheet will be a required submittal item.

<https://spf.kitsapgov.com/dcd/FormsandBrochures/Soil%20Infiltration%20Test%20Checklist.pdf>.

What is the size of a typical rain garden?

Rain gardens shall have a horizontally projected surface area below the overflow which is at least 5% of the total impervious surface area draining to it. For instance, the area of rain garden for a 2000 square foot roof is 100 square feet.

For better performance of your rain garden, you could increase the size to 10% ~30% of the contributing impervious area. More details on sizing the rain garden are described on Rain Garden Handbook for Western Washington.



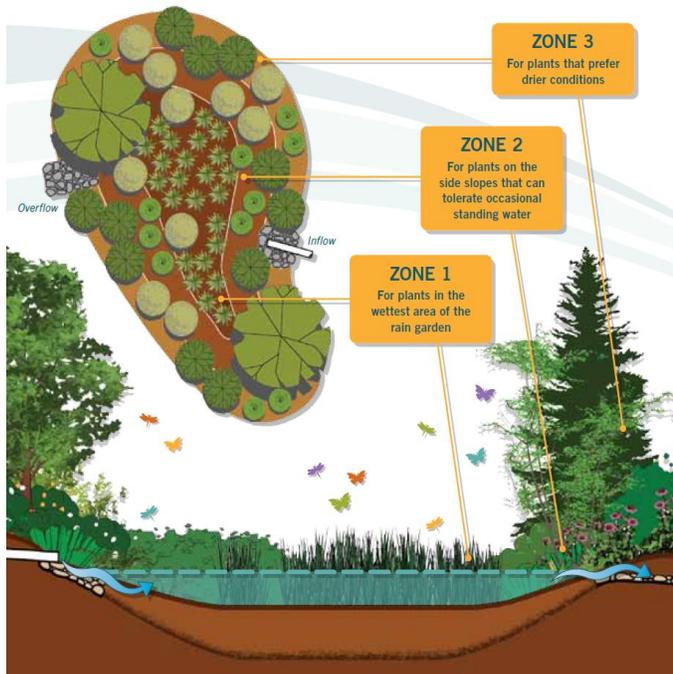
Profile view of a rain garden
Picture from Rain Garden Handbook for Western Washington



Rain gardens can be constructed in a variety of shapes and have diverse planting schemes.
Source and credits: Statewide LID training program by Department of Ecology

Planting Zones

Rain gardens have three planting zones. Zone 1 is the bottom of the rain garden—the wettest area. Zone 2 covers the side slopes, which occasionally may become wet. This zone requires plants to help stabilize the slopes. Zone 3 covers the area around the perimeter of the rain garden and/or on the berm, where plants will grow in drier soil.



SUGGESTED PLANTS

ZONE 1

- Emergents** Dagger-leaf rush (*Juncus ensifolius*), and taper-tipped rush (*Juncus acuminatus*)
- Herbaceous Perennials** Henderson's checker-mallow (*Sidalcea hendersonii*)
- Deciduous Shrubs** Dwarf red-twig dogwood (*Cornus sericea* 'Kelsey'), Pacific ninebark (*Physocarpus capitatus*), and Bloodtwig dogwood (*Cornus sanguinea* 'Midwinter Fire')

ZONE 2

- Herbaceous Perennials** Daylily (*Hemerocallis* spp.) and giant camas (*Camassia leichtlinii*)
- Deciduous Shrubs** Dwarf red-twig dogwood (*Cornus sericea* 'Kelsey'), snowberry (*Symphoricarpos albus*), and Hancock coralberry (*Symphoricarpos x chenaultii* 'Hancock')
- Evergreen Shrubs** Boxwood honeysuckle (*Lonicera pileata*) and dwarf tall Oregon grape (*Mahonia aquifolium* 'Compacta')

ZONE 3

- Ornamental Grasses** *Miscanthus sinensis* 'Morning Light' and switch grasses (*Panicum virgatum* 'Heavy Metal,' and 'Shenandoah')
- Deciduous Shrubs** Oceanspray (*Holodiscus discolor*), red-flowering currant (*Ribes sanguineum*), and snowberry (*Symphoricarpos albus*) set back from the grasses to fill in
- Evergreen Shrubs** Tall Oregon grape (*Mahonia aquifolium*)
- Deciduous and Evergreen Trees and Large Shrubs** Western serviceberry (*Amelanchier alnifolia*), Oceanspray (*Holodiscus discolor*), and dwarf strawberry tree (*Arbutus unedo* 'Compacta')

A sample planting plan adapted from Rain Garden Handbook for Western Washington.
More guidance for plant selection can be found from A-13 to A-18 in that hand book.