

Steps To Design and Plant Raingardens

1. Determine runoff volume to be handled by garden
 - area of impervious surface & lawn area
 - rainfall event to be handled

$$\text{Volume} = (2.5'') (1'/12'') (1000 \text{ ft}^2) = \frac{2500.00 \text{ ft}^3}{12} = 210 \text{ ft}^3$$

2. Determine size of garden
 - Volume / Storage depth above ground = Area

$$210 \text{ ft}^3 / 1' = 210 \text{ ft}^2 \quad (14.5 \times 14.5)$$

$$210 \text{ ft}^3 / 1.5' = 140 \text{ ft}^2 \quad (12 \times 12)$$

$$210 \text{ ft}^3 / 0.5' = 420 \text{ ft}^2 \quad (20.5 \times 20.5)$$

3. Determine Maximum time for Runoff to infiltrate
 - Runoff / Area of garden = depth
 - Time = depth / infiltration rate / (12''/1 hour

$$(1'' / 0.2) \times 12 = 60 \text{ hours} \quad \text{Must be } < 72 \text{ hours}$$

4. Determine area of various moisture zones

5. Decide on design scheme

- natural
- uniform grass look
- shrubs
- large patch / small patch

6. Determine # of plants needed for each zone (see spacing table)

Spacing Factors

Spacing	6''	12''	18''	24''	30''	36''
Factors	4.5	1.1	.5	.29	.18	.13

Multiply the spacing factor by the number of square feet to determine number of plants needed.

7. Match county/region native plant list to commercially available. Select number and type of each plant making sure to have blooming throughout the season
 - Use cost estimate sheet to determine approximate costs
 - Draw to scale plan if desired
8. Order Plants in late January or early February to ensure selection.
9. Line-up volunteers or landscaper and purchase materials needed.
10. Mark out garden with hose, flour or flags.
11. Kill / remove grass or other existing vegetation.
12. Excavate as needed.
13. Lay erosion fabric on berm and high flow areas. Armor areas of concentrated inflow.
14. Install fiber logs if needed and spread shredded Mulch.
15. Drill holes and Plant.
 - Delivery of plants should be phased for large plantings.
16. Water plants once per week for first month (unless it rains adequately).
17. Weed as needed (generally every other week).

TIPS

- When working with volunteers, grid garden and warn helpers about compaction issues
- Consider marking at least some of the seedlings if using volunteer weeders
- In large gardens / shoreland restorations consider adopting out the weeding to different people and signing area with their name.
- Mark different moisture zones before planting and put trays of plants in the appropriate zone.
- Tulip bulb drill bits and cordless drills work well in most loamy soils. Trowels may be needed in very sandy or very heavy soils.
- Mulch should only be about 2" deep or small plants tend to get buried.
- Be sure seedlings are planted into soil, not mulch.

- Edging (with rocks, bricks, or fencing) garden can help give it a “neater” look if that is a concern.

Notes:

