

9 COMMON PROBLEMS in RAIN GARDEN DESIGN/INSTALLATION/MAINTENANCE

1. **Overuse of rock:** Rocks don't absorb water, they displace it. They can also be hell to weed, especially river rock. Instead, maximize the "soil-sponge", then add rock for aesthetics and/or to protect soil from erosion in areas where water flows. A 5-cm layer $\frac{3}{4}$ " crush mixed with torpedo gravel (50-50) provides stability and weedability.
2. **Use of landscape fabric:** Landscape fabric interferes with opening of new porosities in soil by roots and soil organisms. Sediments deposited atop fabric tend to clog its pores and nurture weeds whose roots create an un-weedable tangle with fabric. Deep underground rock pits can benefit from geotextile, but for your home, school or community rain garden? Keep it simple, no fabric!
3. **Confusing garden depth with garden capacity:** A densely-planted shallow garden will manage water better than a deep hole-in-the-ground that's down into the water table or hardpan.
4. **Insufficient dropoff at water intake:** Rain gardens often intercept a lot of sediments, brake dust, tire dust, etc, so it's important to provide leeway for these to build up at the intake, without blocking water flow entirely until the next maintenance.
5. **Failure to make full use of the infiltration space available:** Many gardens are designed so that water makes a beeline from intake to emergency overflow drain. Instead, water should be guided to meander or pool throughout as much area as possible, to maximize infiltration.
6. **Too-sparse planting:** Goal should be that when garden matures, it will have no bare soil. This reduces soil compaction & weeds, increases infiltration.
7. **Overuse of "floppy" plants such as perennials & grasses;** underuse of structural plants such as trees (especially evergreens) and woody shrubs (ditto)
8. **High maintenance costs (constant pruning) due to selection of plants whose mature height will interfere with sightlines:** Tall & short plants (eg limbed-up trees paired with dwarf shrubs, ferns, groundcovers) make for cheaper & easier maintenance.
9. **Lack of regular mulching:** Mulch (especially arborist woodchips) improves water absorption by reducing soil compaction. It also reduces weeding, conserves moisture in ground during dry periods, provides slow-release nutrients. A well-planted mature garden needs far less mulching, since it has very little bare soil.