## Rain Garden Basics

by Sue Ellingson www.sueellingson.com/raingardens • 2008

The hardest part of a rain garden is the garden part. Above all, the garden should be a size that you can handle. And it should have plants that are easy to manage and that you like. For a home, having a manageable, appealing garden is far more important than any of the technical stuff, like how big to make it, how much water your soil infiltrates, putting in subsoil, etc.

#### Design

# • Don't put the rain garden right next to your foundation. Standard advice says 10' away, but somewhat closer can work if you're sure the garden overflows away from the house.

- Border gardens are usually more attractive than circular gardens in the middle of the yard.
- A low area is okay. Putting in native plants will break up the soil and allow infiltration.

### • 150-300 sq ft is plenty big enough.

- Again, how much garden you can manage is the most important criteria for sizing. Even a small garden will do a lot of work.
- For clay, the garden should be large and shallow. If the soil is sandy, any size or depth is okay.
- If calculating size is important to you: Make the garden 30% of the roof area for clay, 20% for sand.

#### • The bottom of the garden is flat.

- It should look like a saucer, not like a bowl. This allows infiltration everywhere and reduces the likelihood of standing water.
- If you have a helper with a surveyor's level, it'll be easier to make the bottom flat.

## • A low berm around the garden holds water.

- The garden only needs to be about 3" deep.
- Think about where it will overflow during the heaviest rainfall. It should empty away from the house, not toward it.

## • On slopes you may need a small terrace wall.

- The downslope wall should be half as high as the rise to the top of the slope. See sueellingson.com/ raingardens for an illustration.
- On steep slopes, plant natives directly on the hill. Do not dig a depression or use a retaining wall. The plants will infiltrate runoff. A big retaining wall can fail *catastrophically* if it gets too wet.

#### • Water transport.

- If your garden is in a natural low area, just direct your downspouts toward the garden.
- You can dig swales that lead from the downspout to the garden. Plant with grass or line with rocks.
- Buried pipe from the downspout to the garden is another option.

#### The Hard Part

## • Digging the garden.

- Kill the grass. If it's thick and healthy, cover it with black plastic for six weeks or rent a sod-cutter. If it isn't healthy, rototilling and raking works fine.
- Usually it isn't too expensive to hire someone to rototill or make a first pass with a Bobcat. (Don't let the Bobcat operator take off with your topsoil.)
- If you're digging deep or rototilling, **call Digger's Hotline at 800-242-8511.** They'll come to your house for free and locate underground utilities. www.DiggersHotline.com
- Mixing compost with the soil is good, but not essential. You
  can get compost from Dane County for a small fee.
  www.countyofdane.com/pwht/ recycle/compost\_sites.aspx
- The city of Madison put in rain gardens using 1/3 each soil, compost, and torpedo sand. The plants grew spectacularly! http://www.cityofmadison.com/engineering/stormwater/adamsstreetraingardens.cfm
- Plants. Choosing plants is hardest part of the hardest part.

  Native plants are the best at infiltrating water. More and more, I think that mesic (medium; neither wet nor dry) plants are the best answer. Rain gardens seldom have a steady source of water. It rains, the water gets soaked up, then it's dry again until the next rain. Wet plants need more constant wetness to succeed.

Another question is how much sun the garden has. If it's sunny, plant a short prairie with mostly grasses. If it's part shade, use sedges and more forbs. See a plant list at: http://sueellingson.com/raingardens/plantlist.html

- Plant 50% grasses for sun, or sedges for part-sun.
- One plant per square foot.
- Plant a large variety of species—15 or so.
- Avoid overly tall plants!

#### • Maintenance.

- Cover with wood chip mulch the first year. Get free wood chips in Madison at Warner, Sycamore, Elver, and Garner Parks. http://www.cityofmadison.com/ parks/aboutForest3.html
- Water the first year.
- Weed the first 2-3 years. Some weeding after that. (There are *always* tree seedlings.)
- In winter, leave the dry stems for habitat and seeds. Cut them down in April and compost them.

#### • Enjoy!

 Your garden will infiltrate and clean stormwater, and provide a wildlife oasis, too.

### Sources of plants:

www.prairienursery.com www.prairiemoonnursery.com www.agrecol.com www.appliedeco.com/tcrn