



Rain Garden Program

Steps to Installing a Successful Rain Garden

Resource:

Iowa Rain Garden Design Manual, (www.rainscapingiowa.org)

1. **Locate Utilities.** Locate utilities in the proposed rain garden area. Call “Iowa One Call” 800-292-8939. Call 48 hours in advance of any digging.
2. **Determine possible locations.** Rain gardens must be located downslope from runoff. You want your rain garden to drain quickly so locate in an area where water does NOT pond.
 - Never locate upslope from a house
 - Stay a minimum of 10 feet away from your house foundation, 30-40 feet is recommended
 - Avoid locating under trees
 - Area of rain garden should be flat and level or consider using several terrace rain gardens or a retaining wall design
 - Don’t install in areas with high water tables—Does your sump run continuously?
 - Don’t locate on a steep slope that can become unstable when saturated
 - The area draining to the rain garden must be stabilized with vegetation or other protection before installing a rain garden to not plug the rain garden soils with sediment.
3. **Investigate the soils.** Determine if the soils in the proposed rain garden area adequately drain. Use the ribbon test and percolation test, pages 4-5 in the rain garden design manual. Find an alternative site if the soils fail both tests and have poor drainage. The soils must have a minimum percolation rate of .5”/hour.
4. **Rebate Application Process.**
 - Once you have completed the steps above and found an area with soils that will adequately drain then complete an application form and return it to the Public Works Department at 515 Clark Avenue.
 - The department will review the application and notify you when it has been approved.
 - Rain Garden Rebate Program will cover the following costs up to \$400: Plants (at least 50% of the plants need to be native to Iowa); amended soil (50% sand, 30% compost, 20% yard topsoil-low clay content or purchase topsoil). This can be mixed by yourself onsite or delivered to your site by a local supplier. It is required to use a minimum of 6 inches of amended soil in the rain garden if choosing to amend the

soil.; edging (such as pavers, plastic, metal, or rocks); rental of a rototiller and/or sod cutter; non-perforated (no slots or holes in pipe) drainage pipe.

- The rebate will be provided to the resident after the rain garden is completed. Provide a picture of the completed rain garden and receipts for the approved items to the Public Works Department. A check will then be mailed to you.

5. Calculations. Calculate the size and depth needed for the rain garden to manage the water quality volume of 1.25 inches of rain (page 6 in the rain garden design manual).

- Measure the area that will contribute runoff to the rain garden in square feet; keep separate the amount of roof & pavement from lawn areas.
- Do size and depth calculations (page 6 rain garden design manual).
- Remembering that the location must be level and not sloping, consider various dimensions that equal the square feet of surface area needed. It is best to install long and narrow rain gardens so planting, weeding, and mulching can be done from the side.

6. Get supplies.

- Decide how you will arrange the plants in your rain garden (page 13, rain garden design manual). Remember that fifty percent of the plants must be native in Iowa for the City of Ames rebate program; refer to the plant list we provide as well as other sources you may have. You can calculate the number of plants needed by dividing the sq ft of surface areas by 1 – 1.5 ft, which is the recommended spacing for most native plants (page 15 rain garden design manual).
- Amended soil for rain gardens should be 50% washed sand, 30% compost, 20% topsoil. You can purchase bags of washed sand and compost from local garden centers or purchase it premixed from a local supplier.
- Rain gardens need at least a 2" shredded hardwood mulch layer. Consider buying mulch in bulk or by the bag. One bag usually covers 10 sq ft per bag (page 14, rain garden design manual).

7. Tools.

- Post hole digger
- Shovels
- Rakes
- Rope
- Wooden stakes
- Flags
- String
- Line level and other levels
- Measuring tape
- Materials for killing existing vegetation (Roundup, plastic, cardboard, etc).
- Work gloves
- Wheel barrow
- Rototiller (helpful but not required)

8. Installation (pages 9,10,11,12 rain garden design manual).

- Contact Iowa One Call to confirm location of utilities prior to digging.

- Lay out shape of rain garden with rope, spray paint, or flags. This should be the size you calculated when you did the size and depth calculations.
- Kill or remove existing turf. You do not want it to become competing, undesirable vegetation in the future. You can remove it or spray with a herbicide such as Roundup. If you spray you will need to wait a couple weeks for the grass to die out. Sod can also be cut with a spade and transplanted to another location in the yard. Sod cutters are usually available at rental shops if preferred.
- Stockpile topsoil to be mixed with compost and sand. It is recommend that a tarp be placed under the soil to protect the grass.
- Excavate subsoil and use it to create a compacted berm on the lower edge of the rain garden. The lower berm needs to be level.
- Work from the side of the rain garden to minimize compaction of soil in the rain garden.
- Thoroughly mix and add 50% washed sand, 30% compost, 20% topsoil. When amending the soil, amend to a 6 inch depth below the bottom of the rain garden, so over excavation of the soil is first needed.
- Make sure the rain garden is level and the proper depth.
- Put down a 2-3 inch layer of shredded hardwood mulch.
- Begin planting. It is easier to place the mulch before planting when using small plug plants. Then spread the mulch before installing the plugs and pull it back around the plant after it is in place.
- Protect against erosion where water enters the rain garden by adding flagstone, rocks, or other protective products.
- Have a designate and armored outlet for flows from heavy rains that exceed the design capacity. Rocks work well.

9. Maintenance (page 14 rain garden design manual and Enjoyment.

- Do not fertilize. Compost and topsoil in the amended soil mix includes sufficient nutrients for rain garden plants.
- Water plants during the first summer if timely rainfall does not occur.
- Keep plants pruned as needed for aesthetic reasons. Keep the rain garden weeded.
- Keep eroded sediment out of the rain garden.
- Replace dead vegetation.
- Watch for eroding areas and add erosion controls if needed. After plants are dormant in the fall, remove all stems and leaves. Alternatively, this can occur in the spring before plants begin growing.
- Sit back and enjoy the beauty of your rain garden!