

# Maintenance Guidelines for Rain Gardens

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Edited by Hickory Ridge Village Watershed Advisory Committee.

## General Maintenance

**Watch Where You Walk.** To the extent possible, avoid stepping on the soil in the rain garden, especially when it is wet. Your weight through your shoe helps to compact the rain garden and, over time, reduces its infiltration capacity. If you can, walk on the rocky area, or put down temporary stepping blocks to hold your weight.

**Remove Trash and Storm Debris.** Occasionally, sheeting water and wind may direct trash and storm debris into the rain garden. Check regularly, especially after storms, and remove the trash and storm debris. Use a grabbing tool to reach items further away.

**Remove Pet Waste.** Always clean up pet waste from your lawn and rain garden – it's the law in Howard County. Pet waste is a leading source of harmful bacteria that ends up in our waterways, making the water unsafe for human recreational use.

**Check Downspout Exits.** If your rain garden captures water from downspouts, check to see if water is running freely from the downspout exits. If the downspout appears to be blocked, clean it out.

**Check Water Flow.** If the rain garden was designed to capture water running over the property, check to see if the water is flowing *into* the rain garden and not around it.

**Maintain Mulch.** Mulch helps to control weeds, prevent and reduce soil compaction, and conserve soil moisture. Mulch should not exceed two inches in depth. Ensure that mulch does not block water inflow. Avoid mulching right up to the plant – leave about an inch of space around the basal rosette or trunk(s). The use of aged mulch is recommended and should consist of the shredded type rather than the chip type, to minimize floating. If too much mulch is used, it may cake up and prevent water infiltration. Remove excess mulch and loosen up caked mulch. If plant material is very dense, mulching may not be necessary. Do NOT use fresh grass clippings, animal waste, or compost as mulch in the rain garden. Do not use dyed mulch.

**Snow and Ice Removal.** Aside from ensuring that the downspouts can drain into the rain garden, there's no need to clear snow and ice from the rain garden. If the driveway and/or sidewalks drain into the rain garden, consider the impact that de-icing products will have on the environment before using them. Standard de-icing agents can be incredibly harmful to plant and aquatic life. Environmentally-friendly ice control agents are available that have been shown to have fewer adverse effects on pavement, infrastructure, vehicles, and plants. For example, calcium magnesium acetate (CMA) can be used as an alternative to salt in environmentally sensitive areas. Although CMA is environmentally-friendly, it is effective only to 21°F and has a higher cost than conventional chemicals. Another example is Ice Ban, which is made from agricultural residues and is considered to be environmentally friendly. Abrasives such as sand and gravel are frequently used alone or in conjunction with salt to provide traction on slippery surfaces. Avoid using large amounts of sand and gravel near rain gardens, since they may reduce the infiltration capacity of your rain garden.

## Plant Care

**Watering.** Regular watering is critical during the first few weeks after planting and very important during hot, dry spells in the first two years after planting. During the first two years, plants should be watered whenever the top four inches of soil is dry. After the first two years, water only during drought conditions. Water deeply, ensuring that water reaches below the mulch layer and into the soil. To conserve water, reduce the potential for immediate evaporation, reduce disease and fungal infestation, and improve the potential for infiltration, water early in the morning, and, try to finish watering by 10am. Although plants have been selected for their ability to withstand both dry and wet conditions, care should be taken to not over-water. Signs of stress associated with over-watering include: wilting of leaves or petals, yellowing of leaves, ringed spots on leaves, and a soft or rotting plant base.

**Weeding.** Monitor the rain garden for weeds (undesired plants). During the first few years after the rain garden was installed, the new plants will not have filled in the rain garden and the bare areas may attract weeds. Limit your weeding to invasive and exotic species; these can overwhelm the desired plant community. Remove the weeds by hand-pulling or hoeing. For updated information on invasive species consult the Maryland Invasive Species Council at [www.mdinvasives.org](http://www.mdinvasives.org).

**Trimming, Pruning, and Thinning.** Prune dead, dying, diseased, or hazardous branches as they occur. Trees and shrubs may also be pruned for shape or to maximize fruit production. Trees, shrubs, and flowers may be pinched, pruned, thinned or dead-headed during the growing season to encourage more flowering, a bushier plant, or a fresh set of leaves. Pruning of trees should occur over the winter, but definitely before bud-break (usually by mid-March). Pruning of flowering shrubs should be performed immediately after the plants have finished blooming. In Spring, cut down grasses and perennial plants to about 2" above the ground. In Fall, if the community allows it, leave the seed heads of flowering plants to feed the birds; however, remove seed heads from those plants that reseed too prolifically. For specific pruning instructions and disease identification for your plants, consult the Maryland Cooperative Extension's Home and Garden Information Center (HGIC) at 800-342-2507 or [extension.umd.edu/hgic](http://extension.umd.edu/hgic).

**Mowing.** Do not mow your rain garden unless it is planted in turf grass. Plants in rain gardens are meant to flourish throughout the growing season. The lush vegetation is an important component of the rain garden, as it aids in the capture of nutrients and infiltration of water. When mowing near rain gardens, direct the mower's blower away from the rain garden. Fresh grass clippings are high in nitrogen and should not be applied to rain gardens, as they will compromise the rain garden's effectiveness at reducing pollution.

**Fertilizing.** Rain gardens are designed to absorb excess nutrients. Excess fertilization compromises the rain garden's pollutant reduction effectiveness, leads to weak plant growth, promotes disease and pest outbreaks, and inhibits soil life. If soil fertility is in doubt, call the HGIC at 800-342-2507 or access their website at [extension.umd.edu/hgic](http://extension.umd.edu/hgic) for information on soil testing. Soil testing is a free service for Columbia Association residents; check the village office for soil test kits.

**Managing Pests and Diseases.** Regularly monitor trees, shrubs and herbaceous plants for pests and diseases. For identification of specific pests and diseases, and for treatment recommendations, consult the HGIC at 800-342-2507 or [extension.umd.edu/hgic](http://extension.umd.edu/hgic). Keep in mind that insects and soil microorganisms perform a vital role in maintaining soil structure. Therefore, the use of pesticides should be avoided so as not to harm beneficial organisms. An alternative to pesticide use is to adopt an Integrated Pest Management (IPM) approach. This involves reducing pests to acceptable levels using a combination of biological, physical, mechanical, cultural, and chemical controls. For more information, consult the University of Maryland's IPM website at [extension.umd.edu/ipm](http://extension.umd.edu/ipm).

**Replacing Plants.** When replacing a plant, place the new plant in the same location as the old plant, or as near as possible to the old location. The exception to this recommendation is if plant mortality is due to initial improper placement (i.e., in an area that is too wet or too dry) or if diseased/infected plant material was used and there is risk of persistence of the disease in the soil. The best time to plant is in early to mid-fall or early to mid-spring. Trees can be planted as long as the soil temperature remains above 32°F at a depth of six inches. Plants should be put in the ground as soon as possible after purchase to ensure the best chance of survival. Trim established plants as needed to make sure they don't shade out new plantings.

## **Infiltration Management**

**Ponding and Drainage Problems.** Monitor the rain garden after it rains at various levels of rain (light, medium, heavy). If it's a light rain, there may be very little ponding but there should be no water running out. If it's a medium rain (1/2" – 1"), there should be some ponding and no water running out and the pond gone after 24 hours. If it's a heavy rain (> 1"), expect some runoff; ponding should be gone after 24 hours. If the rain garden is constantly running off in rainstorms of 1" or less, or if water remains more than 24 hours after a rainstorm, then it may not have been designed properly. Contact the contractor that installed the rain garden or contact the village's Watershed Advisory Committee for a site visit and discussion.

**Erosion.** The rain garden inlet should be adequately lined with rocks to slow the flow of water. If there are bare spots that recur after mulching, either add more rocks or see if planting vegetation in that spot will stop the erosion. If erosion keeps occurring, it's possible the rain garden was not sized correctly for the amount of water flowing into it.

**Sedimentation.** Depending on what's going on above the rain garden, sediments may flow into it. Remove excess sedimentation with a flat shovel. Identify the source of the sediments and try to resolve the problem upstream.