Thank you for helping keep our local water bodies clean by installing a raingarden !
Contact your WCD representative if you have any questions. 651-330-8220

Landowner Raingarden Projects

Operations & Maintenance

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Raingarden Operations & Maintenance

The following Operations & Maintenance Guide provides project sequence and care tips to keep your raingarden functioning and looking great for years to come.

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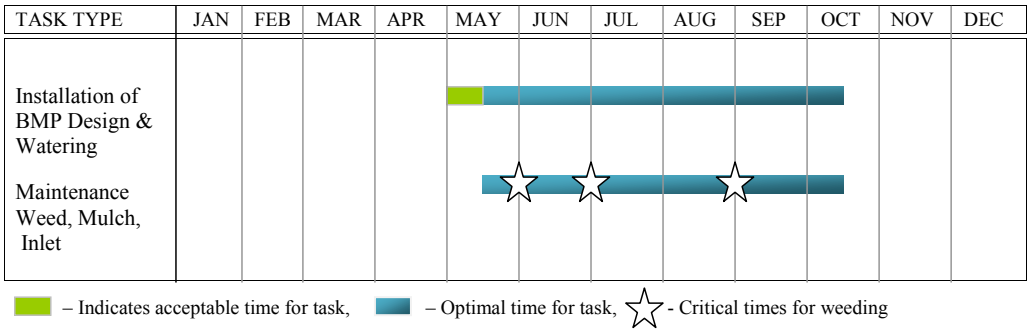
I. PROJECT GOAL

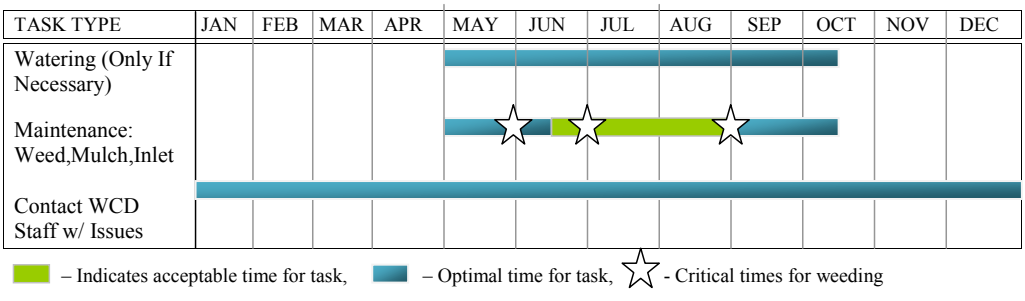
The main goal of this project is to create a vegetated, temporary ponding area for intercepting and treating stormwater runoff before it gets to our nearby lakes and streams,making this water either useable by plants or cleaned and returned to the groundwater system. Although the use of native plants is emphasized in these vegetated basins, the main goal is to create a sustainable plant community that aids in treating this polluted runoff before it enters our sensitive groundwater systems. This planting should provide a model that demonstrates to the public the ability of vegetation in raingardens to aid in overall stormwater management.

II. MAINTENANCE CALENDAR

A. YEAR 1 – INSTALLATION YEAR



B. YEARS 2 - 10 – CONTRACT BMP MAINTENANCE PERIOD



(Summer is the busy season for WCD staff and responsiveness will be greater outside of summer)

III. STAFF RESPONSIBILITIES

Once the final design is complete and presented to the landowner this Operations & Maintenance checklist will be given to the landowner as a reference guide for completing the designed project. If at any point you have questions and do not see an answer in this guide please call your WCD staff contact.

A. CONSTRUCTION OVERSIGHT

Stopping points on the Raingarden Checklist coincide with WCD staff construction oversight responsibilities. If landowner needs assistance the WCD staff can assist on all questions.

1. Project Layout. Contact WCD after depth of raingarden is reached and soil is tilled. Once the landowner or contractor correctly prepares the raingarden by tilling soil and digging correct depth. Potential problems may be avoided by having WCD check grades prior to planting the the WCD staff will determine if the project can move forward for completion.

2. Plant Layout. Follow the specifications for final planting design or ask for layout assistance.

3. Final Inspection. Once project is complete WCD staff will assess project functionality and completion. From this point final receipts are collected and turned in for reimbursement and photos are taken.

B. POST-CONSTRUCTION MONITORING

1. Site visit. After the installation has been completed, a WCD staff member will evaluate your installation. These routine inspections can occur at anytime over the life of the signed agreement. A WCD staff member will notify a landowner prior to any post construction inspections. The landowner is encouraged to inform the WCD staff of any new or on-going issues.

IV. LANDOWNER RESPONSIBILITIES

The following outlines the responsibilities for each landowner whose property is involved in the operations and maintenance of the installed stormwater management project during the agreement period. Should a contractor be designated to perform any of the designated landowner responsibilities as follows, the landowner is ultimately responsible for the quality of the work performed by the contractor.

A. CONSTRUCTION CONTRACTOR. If a contractor will be utilized for the installation and/or maintenance of the installed project the designated contractor must work with WCD staff to properly install the raingarden according to specifications in final design. The contractor shall perform the installation in the bid/contracted time period.

B. LANDOWNER INSTALLATION

The landowner is responsible for the coordination, purchasing, and delivery of all materials and equipment needed to properly perform the project installation. All installations shall be done to according to the provided construction plans or per WCD staff approval.

C. PERMITS

The project landowner and/or contractor are responsible for obtaining the required permits. Permits may be required from the local units of government and/or Washington County and/or Watershed District for modifications made to property (e.g., grading, filling in erosion prone areas) and/or installing structures (e.g., retaining walls, inlets). Call the WCD office if you are not sure whether or not you need permits. Permits must be obtained and copies submitted to Watershed District staff before any work can begin.

D LOCATE UTILITIES

Before Digging Contact : Gopher State One Call 1-800-252-1166, it is ultimately the responsibility of the landowner or contractor to ensure that all underground utilities have been marked prior to construction. To note, many utilities are private and will not be located by Gopher State One, and it is the responsibility of the person digging to contact the priviate utility holder directly for a locate. This must be done at least 48 hours prior to initiating any construction.

IV. LANDOWNER RESPONSIBILITIES

E. SITE PREPARATION

Site preparation is a very important part of a successful raingarden installation. Preparing the designed area in advance by setting correct raingarden depths and tilling soil can greatly reduce the need for unnecessary repairs. The landowner will coordinate with the WCD staff at least one week prior to beginning construction to allow time to schedule on-site installation supervision during this time period.
To get started follow the next steps.

1. Remove Turf.

Once the final design is marked out, remove turf in one of two ways; using a sod cutter or spade shovel.

2. Locate Inlet and Outlet. See final designs for location and elevations of all inlets and outlets.

3. Remove Soil. Measure depth of soil removal from outlet of raingarden. Shape the raingarden bed into a flat bottomed bowl at the proper depth, and loosen soil to a minimum of 1' below bed surface. Build 3:1 or 4:1 side slopes in the flat bottom bowl of the raingarden.

F. INSTALLATION

1. Inlet Pre-Treatment. Follow design instruction for correct inlet pre-treatment. Important step for landowners with curb-cut raingardens. If curb-cut is specified place a sand bag in front of inlet for first growing season to allow plants to grow. If a downspout is directed to the raingarden within the yard the inlet might be draintile, drycreek or water flowing over the ground toward the raingarden. Make sure the draintile, drycreek or yard are sloped slightly toward the raingarden. Rocks placed at inlet can disperse energy of incoming water.

2. Till Soil. Till and loosen soil at minimum 1' below raingarden bottom.

3. Add Amendments. Follow design instructions for correct quantity and amendment type (compost, mulch, rock etc.).

Recommended to contact WCD staff for approval of final grading

IV. LANDOWNER RESPONSIBILITIES

4. Order Project Materials. See final design and cost estimate for ordering necessary materials. Material examples may include edging, mulch, compost, plants and rock. To reduce care of plants purchase plants a day before installation. Keep plants watered well and shaded prior to planting. This step can be performed at anytime, but note that planned material quantities can change if changes were made during garden excavation.

5. Mulch. Double-Shredded Hardwood Mulch is recommended. Follow design instructions for correct quantity. Generally 3" depth is recommended.

6. Plant Installation. Follow final design for plant spacing, layout and quantity. To plant through mulch, move the mulch aside, then dig or drill the hole in the soil. Plant so that the surface of the root ball matches the existing soil surface and be sure not to mix mulch in with the soil when packing around the root ball. After planting replace the mulch, but take care not to bury the plant. To help you learn the names of the plants and to aid in weeding in the future, label a few of each plant species within the raingarden.

Required to contact WCD staff for approval of final installation

7. Receipts. The landowner is responsible for keeping track of any project material receipts. Check with your watershed district if an hourly labor reimbursement rate is available. An hour-log spreadsheet is available to turn in after project completion and construction evaluation in order to receive reimbursement for the labor.

G. POST-INSTALLATION MAINTENANCE

Maintenance includes watering, weeding, cleaning inlets and replanting if needed. Refer to maintenance calendar in beginning of handout for maintenance timeline.

1. Replace Missing Plants. Replant if large areas of plants do not survive. If large die-off has occurred, consult WCD staff to determine cause and make changes as necessary.

2. Watering. Keep the plants watered very well during the first 3-4 weeks. Watering needs will vary depending on the soil, weather, and temperature at the time of planting. Plants will need to be watered 1-2"/week for the first 3-4 weeks after planting and slightly less frequently later in the season depending on the amount of rain received. Do not water after first season unless drought occurs. The best time to water is early in the morning. Whenever possible avoid watering from noon to 5:00pm. Plants along the shoreline can be watered directly from the lake by using a bucket to gently pour water at the base of the plant.

IV. LANDOWNER RESPONSIBILITIES

3. Weeding. Weeding should be done at least once a month in the first year or two. Weed invasive species on an ongoing basis. Labeling and learning to identify the native plants can also be of great help. Weeds are easier to pull when they are small and they often grow faster than the native plugs, so frequency in weeding is important. Important dates to weed would be over the summer holidays : Memorial Weekend, Independence Day and Labor Day. These holidays often coincide with peaks in seasonal weed growth.

4. Mulching. Inspect the mulch each spring and maintain 2”-3” of desired mulch. Mulch will help suppress weeds and retain soil moisture.

5. Clean Inlet. This task should be conducted monthly to prevent water bypassing the inlet and clogging at the raingardens. Remove any sediment or leaves that collect at the inlet of the raingarden. For curb-cut inlets, there are different methods of pre-treatment (for example grass, rock or box inlets). If the inlet is grass, simply rake or shovel sediment at inlet and dispose of in garbage. With grass inlets it is recommended once a year to cut sod, lift and remove 2”-3” of soil under sod then lay back down. This is the same scenario with rock inlets, remove rock and shovel out 2”-3” of soil under rocks and replace rock at equal height of curb cut. There are many types of box inlets and the objective is to shovel sediment out, which allows water to continue entering the raingarden.

6. Tidying Up. Clean up your garden by removing dead flower stalks, leaves and grass to allow for new growth. This step takes place in the Spring. Leaving up dead flowers in the fall will provide visual interest and potential wildlife food during the winter.

H. MONITORING

1. Raingardens are designed and constructed to drain within 48 hours. Contact WCD if you notice water being held longer.

2. Annual Site Visit. A WCD staff member will evaluate your raingarden annually after the year of completion to ensure that the project is properly functioning. The landowner is encouraged to inform the WCD staff of any new or on-going issues. The project will be monitored for the length of the Watershed District signed contract.

3. Take Photos. Share your photos with WCD! Keep a project notebook and taking pictures from established “photopoints”. Start a Restoration Notebook / Calendar in which to document preparation, planting and maintenance activities as well as other points of interest, such as blooming dates, notes on wildlife, photographs, pressed flowers, as well as records of precipitation, water level fluctuations, etc. Be sure to photograph the site BEFORE, DURING and AFTER the restoration.

Example Inlet Photos

Anoka Rain Guardian Pre-Treatment Chamber, lift grate and scoop out debris.

Rake leaves out of raingarden in fall and clean out in the spring.

Rock inlet needs maintenance.

Rock inlet is cleaned and placed lower than curb-cut.

Pre-treatment features help reduce sediment load from clogging the bottom of the raingarden and buring plants. A clean inlet will help your raingarden to last longer.