CATCHING RAIN:
Construction Sequencing for Rain Gardens

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Identifying the best order for building a rain garden—and where it fits into the schedule of a larger construction project—will save time, money, and construction headaches. It will also ensure that other impacts to the site are minimized, rain garden plants have the best start, and future maintenance problems are avoided. (See the Rain Garden Handbook for Western Washington, our video, and other resources at: http://raingarden.wsu.edu/. For complex sites, see the *LID Technical Guidance Manual for Puget Sound*, 2012.) Here are important tips from experienced rain garden builders.

Before You Build

- Meet with all concerned parties to be sure you and your team understand the entire construction project.
- Develop erosion-control and sediment-control strategies, such as tarps, silt fences, compost socks, or compost berms.
- Find out what other onsite stormwater management practices are planned, such as pervious pavements or pavers.
- If pervious pavements are in place near your work site, you must ensure that your activities will not add sediment or place excessive pressure on the pavements during construction. Identify appropriate strategies with the contractor or site manager.
- Keep other contractors' equipment off the future site of the rain garden by using temporary fencing and signs.
- Avoid impacting other parts of the site—keep equipment off existing soils and root zones of mature vegetation.
- Identify and clearly mark staging areas for materials and equipment, and locations for storing or reusing excess soils.
- Keep control measures in place until construction is complete.
- Review checklists and plans with your whole project team.

Timing is Everything

- The best time for excavation and mixing rain garden soils is during the dry months. To prevent soil compaction, avoid working when it's wet.
- If the rain garden will be constructed adjacent to a paved area, final soils work and planting must be done after paving to prevent damage to the plants and soils from paving contractors.
- Major excavation and most soils work can be done prior to paving, if necessary, with fine-tuning by hand to follow paving.
- Combining rain garden excavation with other excavation activities such as utilities often makes sense on a large project and reduces impacts from equipment. In these cases, sequence the soils work to occur in one section at a time. Fine-tuning the soils by hand can be completed later.
- Install plants in late summer or early fall to reduce irrigation needs later.
- If planting is planned considerably later than excavation and soils work, cover the soils with mulch or plastic sheeting to prevent erosion and retain the integrity of the rain garden soil mix.
- If the area has been covered by mulch, it must be carefully moved aside or removed prior to planting to avoid mixing it with the rain garden soils mix.
- If additional construction activities are planned following the construction of the rain garden, prevent sediment from construction runoff from entering the new rain garden. Temporary diversions can be used and then removed when construction is complete.

Continued >

Look for the other helpful fact sheets in this series:

1. Low Impact Development
2. LID Stormwater Regulations
3. LID Development Process
4. Pavement Maintenance
5. Rain Garden Maintenance
6. Rain Garden Construction Checklist
7. ✔ Rain Garden Construction Sequencing

Newly installed pervious pavement must be protected prior to constructing an adjacent rain garden to prevent soils from clogging the pavement. *Photo: Erica Guttman*

Schedule work when soils are dry to prevent compaction. *Photo: Erica Guttman*

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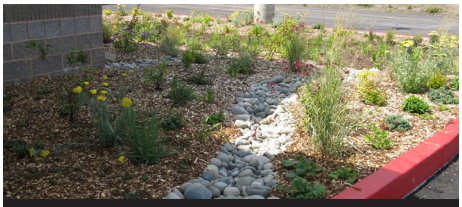
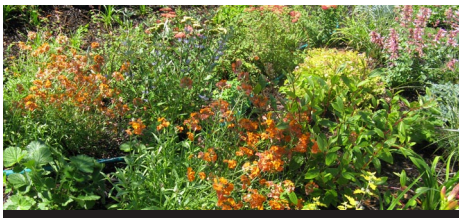
Irrigate new plants right away to give them the best start. *Photo: Patricia Pyle*

After bioretention soils are in place, follow the planting plan. *Photo: Kim Gridley*

Mulches go on after planting and are best applied by hand to prevent damaging new plants. *Photo: Patricia Pyle.*



Apply clean drain rock at the very end to prevent soils from contaminating it. *Photo: Erica Guttman*



Proper construction sequencing prevents maintenance problems later and allows the rain garden plants to flourish. *Photo: Erica Guttman*

Order of Construction Activities

When it comes to constructing the rain garden, refer to our companion fact sheet, "5. Rain Garden Construction Checklist." Here are some important reminders for the order of construction:

- Review plans to ensure the percolation test was done for every rain garden on the project.
- Review calculations to know how deep to dig and the proper elevations to place the inflow and overflow.
- Excavate according to the plan, being sure the bottom is flat and the remaining native soils are scarified at the bottom and sides.
- Establish any required pipes and/or swales for inflow and overflow.
- Refill according to the plan with the appropriate rain garden mix.
- Set the inflow and overflow locations.
- Plant and irrigate immediately.
- Apply mulch by hand, as specified.
- Apply clean rock or other materials to the inflow and overflow.
- Remove all erosion-control and sediment-control devices only when construction is complete.
- Verify that an inspection plan and operations & maintenance plan are in place.
- Document "as-built" installation and planting plan with photos to assist maintenance personnel.

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Sources: *Low Impact Development Technical Guidance Manual for Puget Sound*, 2012. *Rain Garden Handbook for Western Washington Homeowners*, 2007.