

Ways to Reduce Stormwater Runoff From Your Property

Brought to you by the Lakeside Stormwater Reduction Project

Excess water runoff from snowmelt and rain can have negative impacts on your property, neighborhood, and the environment. The Lakeside Stormwater Reduction Project is designed to demonstrate the effectiveness of different technologies to reduce stormwater runoff.

Rain Barrels

This old-time favorite is regaining popularity. Rain barrels come in a variety of sizes and capture water from roofs, offering a free source of water for gardens, lawns, and trees. A rain barrel is a container used to collect water flowing from a downspout. By capturing this water, rain barrels reduce the amount of stormwater runoff. During a one-inch rain event, hundreds of gallons of water run off even small roofs. The rainwater collected is naturally "soft" and devoid of minerals, chlorine, and other chemicals found in city water and could improve the health of your plants.

Maintenance: During rainy months, routinely inspect your rain barrel for any debris accumulated on the lid that might block the screen mesh (the mesh keeps mosquitoes from breeding in the barrel). Clean the inside once a year. During winter months, take your barrel out of operation. Turn it upside down or store it inside.

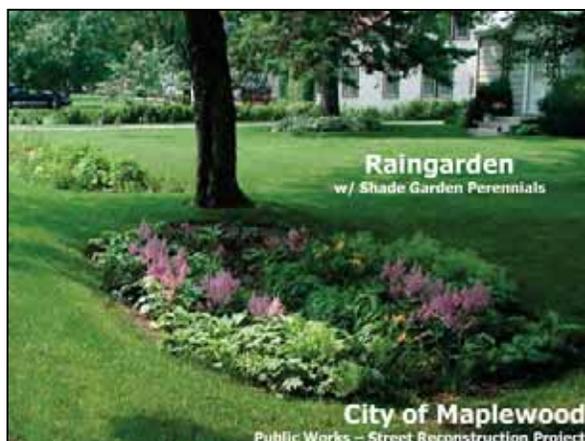
Things to Consider: The water collected is not recommended for human or pet consumption. The water flow (and pressure) will be less than from your outdoor spigot. Plan to use soaker hoses or watering cans, or purchase a small in-line pump (\$50 or less) to increase the flow pressure. Elevating the barrel on a sturdy platform will increase the flow. The estimated life expectancy is ten years or more, with proper care.



A 40-gallon rain barrel

Rain Gardens

These plantings are a visually pleasing addition to your yard. Rain gardens are small landscaped low areas vegetated with water-loving plants that help runoff from driveways, roofs, sidewalks, and lawns filter into the ground and keep fertilizer, loose soil, and grass clippings in your yard and out of storm sewers and local streams. The gardens fill with a few inches of water and allow for slow filtering of the water into the ground. Compared to a lawn, a rain garden allows about 30 percent more water to soak into the ground. Rain gardens attract birds and butterflies.



A new rain garden

Maintenance: As with any perennial flower garden, watering and weeding will be required until the garden plants become mature. Afterwards, the population of some

plants will need to be thinned to allow others to grow. Leave dead or dormant plants standing over winter. They will provide seeds and shelter for birds. Cut back or mow stalks in spring to allow new shoots to emerge. Excess sediment that accumulates may need to be removed each spring.

Things to Consider: Some people are concerned that the standing water in rain gardens will become a breeding ground for mosquitoes. That's unlikely because mosquitoes need at least eight days of standing water for their eggs to hatch. Rain garden water should only last for a few hours to at most several days after storms. Mosquitoes are more likely to successfully reproduce in birdbaths. Rain gardens planted in heavy clay soils may need underground drainage to prevent long-term standing water.

Cisterns

These containers are partially or fully buried tanks for storing rainwater. Cisterns are usually larger than rain barrels and offer pressurized water distribution using a pump system. They collect water from one or more downspouts, reducing stormwater runoff from roofs. The water can be used for watering flower gardens, lawns, and trees.

Maintenance: Cisterns may need to be periodically disinfected. If above ground, the cistern cover should be tightly sealed to avoid becoming a mosquito breeding ground or a drowning hazard. In winter, the cistern should be drained and disconnected from downspouts.



A cistern

Things to Consider: Like the rain barrel, the water is for nonpotable uses only. If buried, cisterns require a lot of earth moving to be done on your property, but once they are installed, sod can be replanted. Use tanks with small openings (<4 inches) to reduce the drowning hazard.

Downspout Plantings

This vegetation slows and filters roof runoff from a downspout. Ground covers, grasses, or trees are arranged in a gently sloping area at the end of the downspout. Some of these vegetated filters have wood or rock dams to slow the water.



Maintenance: Care is similar to that of a rain garden, but on a smaller scale. Weeding and watering will be required until the plants become mature. Minor erosion may occur until the plants mature. Some thinning may be required. Leave the plants standing over winter. In spring, cut back or mow the stalks to allow new shoots to emerge.

Things to Consider: Similar to rain gardens, the water drains too quickly for mosquitoes to breed. The estimated life expectancy is 50 years with proper maintenance.

Rock Trenches

These are trenches that receive roof runoff from a downspout and allow the water to gradually seep into the soil. Also called French drains or

soakage trenches, rock trenches are wrapped with a filter fabric to keep out sediment and filled with coarse stone. The trench surface may be covered with stone or a grassy cover with a surface outlet.

Maintenance: Once a month, inspect the trench and remove any trash, debris, or sediment that may have accumulated.

Things to Consider: Rock trenches are not recommended for water coming off roads or driveways. The estimated life expectancy is 30 years with proper installation and care. Upslope erosion, grass clippings, or leaf litter may shorten the effectiveness of the trench by plugging the filter fabric.

Lawn Aeration

This process is designed to help your lawn "breathe." The soil can get compacted from home construction or, as lawns age, they can get compacted from use. Compaction reduces air spaces in the soil that plant roots need for growth and water absorption. Lawn aeration helps water percolate into the soil, reducing runoff. Small soil plugs are removed

from the lawn with an aerator device that extracts one-half- to three-quarters-inch cores and deposits them on your lawn. The holes are usually one to six inches deep and two to six inches apart.

Maintenance: Lawns can be aerated twice a year (spring and fall), especially under heavy use conditions. Soil cores are best left on the lawn surface; they typically work back into the grass in two to four weeks. Mowing will also help the plugs break down. If desired, lawns may be seeded immediately following aeration with or without further soil top dressing.

Things to Consider: It can be difficult to aerate heavy clay soils or soils with numerous stones, rocks, or tree roots in the upper few inches. Raking sand or compost into the core openings will keep the core holes from collapsing and will increase soil absorbency. Cutting the grass before aerating will make it easier to rake material into the holes. Solid tine aerators are not recommended with clay soils.



A rock trench



A lawn aerator

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