

Building a Rain Garden

Live Green in Your Yard & Garden

Preventing Stormwater Pollution

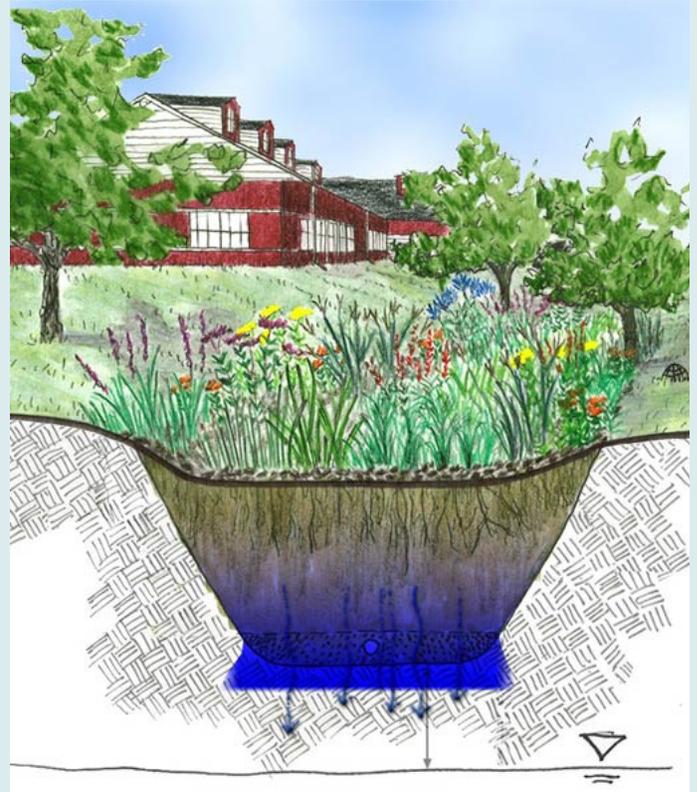
Rain gardens are landscape features that are designed to collect rainwater runoff from impervious surfaces such as roofs and driveways. They are simply depressed garden spaces that hold runoff and allow it to infiltrate into the soils.

By allowing rainwater to infiltrate through a rain garden rather than enter the stormwater system, we can reduce flooding in our neighbourhoods and reduce erosion and pollution in our creeks and streams. Historically, stormwater systems were designed to move water off the land quickly, away from streets and buildings.

Today, we know that it's important to allow rainwater to infiltrate the ground. During rainfall events, large volumes of rainwater enter the stormwater system, which head straight to creeks, streams and the ocean causing flash flooding, erosion and habitat destruction. Rain gardens absorb rainwater runoff and reduce our environmental impact.

There are many benefits of creating a rain garden. Rain gardens can help:

- reduce flooding in our neighbourhoods
- reduce erosion in creeks and streams
- filter out pollutants collected from roads, driveways & roofs
- provide habitat for beneficial insects, birds and wildlife.



Steps to Building a Rain Garden

Determine Sizing

- Determine the roof and/or driveway area that will be draining to the rain garden.
- Measure the area you have available for the rain garden.
- Determine the path that the rain water will follow to get to the rain garden — over the yard or through a rock filled ditch or pipe (ensure that you have an overflow that directs the water toward a storm drain during large storm events).
- A general rule is to size your rain garden to at least 20% of the size of the impervious area that will be providing water for the garden, depending on how well your soils drain. This area should hold 70%–100% of the water.

Choose Your Site

Contact your municipality and utility providers before you dig to ensure that you avoid any underground utilities.

- Choose an area that is at least 3 metres from any building, but not more than 10 metres from your downspouts. Consider your neighbours when choosing your site.
- Look for a level area with good drainage where water doesn't pool.
- Avoid placing the rain garden over a septic system or a water well.
- Choose an area that runoff can flow naturally.

Assess Your Soil

- Dig a small hole, about 60 cm deep. While digging, observe soil characteristics: if the soil is sticky and smooth, it may have higher clay content; smooth but not sticky, it is likely a silty soil; and if it is gritty and crumbles easily, it is a sandy soil. Soils with higher clay or silt content will have slower rates of infiltration compared to sandy soils.
- Fill the hole with 20 cm of water. If the water does not drain within 12 hours, it is not a good location for a rain garden.

Design and Build

- Determine the location of the garden, measure out the size and mark.
- Determine the locations of the inflow and overflow, lining with rocks if necessary to prevent erosion.
- Dig 45-75 cm deep, ensuring the bottom of the rain garden is flat.
- Before replacing your soils, amend with compost to improve infiltration, about 2/3 soil and 1/3 compost.
- Return amended soils to the garden, leaving an area of 15-30 cm for ponding.

Plant and Mulch

There are typically three zones to consider when planting your rain garden.

- Zone 1** – bottom – choose plants that tolerate wetter conditions.
- Zone 2** – sides – plants that can tolerate wet or dry conditions.
- Zone 3** - Top edge – plants that are drought tolerant.

It is important to consider the amount of sun the plants will receive as well as maintenance needs.

Maintain Your Rain Garden

It is important to maintain your rain garden, just like any other garden area. Regular maintenance will ensure that the rain garden performs well and looks good.

- **Watering** Water the new plants regularly for the first 1-3 years until well established. If you have chosen appropriate native plants, the garden should require little to no watering after 2-3 years.
- **Mulching** replenish mulch layers to prevent erosion, control weeds, improve infiltration and conserve water.
- **Weeding** rain gardens will still function if weeds are present, however they will compete for space with the plants selected for the rain garden. Weed as necessary by hand, and do not use fertilizers or pesticides.
- Keep your inflow and outflow areas clear of debris, and use rocks to prevent erosion.

Mosquitoes

Mosquitoes should not be a problem in a properly designed rain garden. Mosquitoes require a minimum of four days of standing water to lay and hatch eggs. A properly designed rain garden should only have surface water present for 1-2 days. Rain gardens also provide habitat for beneficial insects like dragonflies, which are natural predators of mosquitoes.



Disclaimer

This sheet contains general principles only and they may not be appropriate for every property or project. Use common sense when building your rain garden. You assume the risk and are responsible for any modifications to your property or drainage flow, for legal compliance, and for necessary permits and authorizations. Check with your municipality if you are unsure of regulations or requirements.

To learn more about living green and protecting the environment at home, visit www.crd.ca/cleanwater

Capital Regional District
Environmental Protection
625 Fisgard Street
Victoria, BC V8W 1R7