

Residential Storm Water Management

- Storm Water Runoff
- Rain Barrels
- Rain Gardens

What is storm water runoff?

Storm water runoff is rain and melting snow that flows off areas such as building rooftops, driveways, lawns, streets, parking lots, construction sites, and industrial storage yards. Developed areas are covered by buildings and pavement which do not allow water to soak into the ground and instead "runs off" and is referred to as "storm water runoff".

Why is storm water runoff a problem?

Storm water runoff is NOT clean water. It carries pollutants such as:

- Sediment from construction sites;
- Bacteria and viruses from pet wastes, bird droppings, other urban wildlife, and, in some communities, sanitary sewer overflows;
- Nutrients such as phosphorus and nitrogen that fuels the growth of algae and aquatic weeds that degrade water quality and interfere with swimming, fishing, and other recreation;
- Toxic chemicals from motor oil, gasoline, grease, antifreeze, zinc, insecticides, pesticides, paint, and solvents that can kill or poison aquatic organisms which in turn can make land animals and people sick or die from eating diseased fish or ingesting polluted water.

Most storm water runoff from streets and parking lots is collected by drainage ditches and by storm sewers. Storm sewers are pipes laid underground below streets that collect storm water runoff from inlets, catch basins, or drains located along street curbs and in parking areas. Most storm water does not go to a wastewater treatment plant for treatment and usually flows overland or is discharged by storm sewers into our nearby waterways or local treatment devices. These waterways may be stream beds, rivers, or lakes. Local treatment devices include rain gardens, swales and wet ponds, or other structures that involve improved infiltration practices.

What can you do to help?

All of the hard surfaces we use every day such as parking lots, driveways, rooftops, and sidewalks dramatically increase the rate and amount of runoff. What we can do to reduce pollutants in storm water runoff might seem small, but can all add up to reducing the problems caused by storm water runoff. Below are some ways you can help:

Roof Runoff

- Divert roof runoff to the lawn instead of to a driveway, sidewalk, or directly to the street.
- Install rain barrels at your downspouts and use the water for irrigation (see Rain Barrel section below).

Lawn Runoff

- Aerate the lawn to increase the rate of infiltration.
- Maintain a healthy lawn.
- If landscaping a new house, avoid soil compaction or till the soils and add compost before planting seed or laying sod.

Patio Runoff

- Use porous pavement or paver blocks when building new or additional patio areas or when rebuilding these same areas.

All Sources of Runoff

- Consider building rain gardens (see Rain Garden section below) to capture runoff from roofs, lawns, and driveways.
- Clean up pet waste - bury it or flush it down the toilet. Don't let pet waste accumulate in your yard.

Rain Barrels



Capture rainwater from your roof and use it later when it is dry outside to give thirsty gardens, flowers, and trees a drink. Rain barrels help keep excess water out of the sewer system when it rains and help prevent rain from becoming polluted storm water runoff! See [more rain barrel information from the Milwaukee Metropolitan Sewerage District \(MMSD\)](#) such as where to buy them, how to install and care for them, and other frequently asked questions.

[Rain Barrel Care Brochure](#) (MMSD/Freshcoast740)

Rain Gardens: A beautiful way for you to reduce runoff pollution!

Rain gardens are small, shallow areas that are filled with beautiful native plants that collect rain and melting snow. Rain gardens help to naturally absorb precipitation into the ground and reduce polluted runoff entering Wisconsin's waters. Creating a rain garden is a great

way to help protect our rivers, lakes, and streams. Rain garden plants capture 30% more water than a regular lawn and filter that water into the ground. This reduces the amount of water containing household fertilizers, pesticides, oils, and other contaminants coming from our roofs, lawns, driveways, or parking lots running into storm sewers. Downspouts from rooftops can be directed into the rain gardens. Rain gardens are also a delight to view and are a nice place for birds and butterflies to live.

Benefits of a Rain Garden

- Filter runoff pollution
- Recharge local groundwater
- Conserve water
- Protect rivers and streams
- Remove standing water in your yard
- Reduce the risk of basement backups and sewer overflows
- Reduce mosquito breeding
- Improve water quality
- Increase beneficial insects that eliminate pest insects
- Increase wildlife habitat



How to Build a Rain Garden

It is important to construct your rain garden at least 10 feet away from the house to prevent water issues in your basement. Also, do not build a rain garden near or over a sewer lateral (the pipe that transports wastewater from your home out to the City sewers under the street) as this too could create water issues.

Please see the links below for information on how to build a rain garden:

[Rain Gardens - A How-To Manual for Homeowners](#)

This publication of the University of Wisconsin-Extension and the Wisconsin Department of Natural Resources provides design templates, construction information, a list of native plants to use, and how to maintain your rain garden.

[Rain Gardens Care Brochure](#)

Provided by MMSD/Freshcoast740

The above information was gathered from the following resources. Please feel free to visit their websites for additional information related to storm water runoff, rain gardens, rain barrels, and other initiatives for reducing water runoff pollution:

[Milwaukee Metropolitan Sewerage District \(MMSD\)/Freshcoast740](#)

[Fresh Coast Guardians Green Infrastructure Strategies](#)

[Root-Pike Watershed Initiative Network \(WIN\)](#)

[Wisconsin Department of Natural Resources](#)