# Stormwater Management

## Policies that protect water in your community

### From city streets to lakes and streams–following the journey of urban water pollution

In urban areas, storm sewers drain rain and melting snow off of roads quickly to prevent flooding. From there, the runoff water travels away safely through underground stormwater pipes.

In most communities built before the late 1970's, stormwater pipes carried runoff directly to nearby wetlands, lakes, streams and rivers without treatment.

Storm sewer systems help to protect communities against flooding, but they also carry pesticides, fertilizers, oils, metals, bacteria, salt, sediment, litter, and other debris into our waterways.

***Stormwater is the largest source of water pollution in urban areas.***

### A regulatory program to address the problem – The Clean Water Act & the Municipal Separate Storm Sewer System (MS4) permit program

**The Clean Water Act** establishes a structure for the U.S. Environmental Protection Agency (EPA) and state agencies to regulate water pollution and set water quality standards for rivers, lakes and streams.

Within this structure, the **Municipal Separate Storm Sewer System (MS4) permit program** regulates cities and other entities that manage storm sewer systems. In Minnesota, it is administered by the Minnesota Pollution Control Agency.

MS4 permit holders include cities, watershed districts, counties, and townships, as well as large campuses such as universities, hospitals and prison complexes that operate their own private roads and drainage systems.

MS4 entities are required to develop stormwater pollution prevention programs, educate the public about stormwater pollution, and engage citizens in solving local water pollution problems. The permit also requires MS4s to identify and stop illegal dumping (called illicit discharges), take steps to reduce runoff from construction and development, and practice "good housekeeping" to avoid polluting waterways during routine road and park maintenance. In addition, there are separate permit programs to regulate industrial sites and construction sites.

We need your help to keep our waters clean!

Learn more about stormwater in Minnesota at www.pca.state.mn.us/water/municipal-stormwater-ms4

# TOOLS to MANAGE STORMWATER in YOUR COMMUNITY

## Stormwater ponds

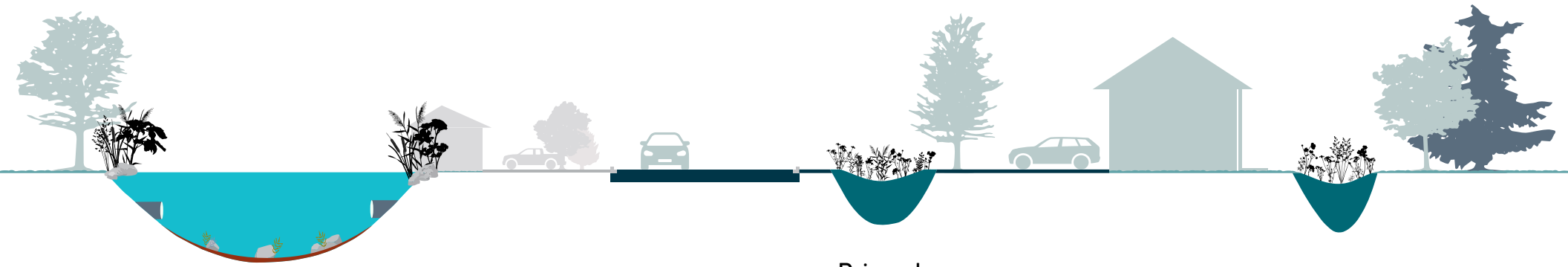
Most commercial and residential developments built since the 1980's utilize stormwater ponds to reduce flooding and partially treat stormwater runoff. Though these ponds may look natural, they are actually highly engineered systems, designed to control the rate of runoff and hold water back until sediment and other solids can settle out. Stormwater ponds have inlet and outlet pipes and need to be dredged periodically to remove the accumulated sediment.

Because stormwater ponds are designed to capture sediment and nutrients, they frequently turn green with algae in the summer. This is normal. Though you might see ducks and geese landing in these ponds, they are NOT safe for fishing or swimming.

## Low Impact Development

Minnesota communities also use low impact development to reduce stormwater pollution. Common strategies include building narrower roads and smaller parking lots; protecting trees and buffer areas during development; and using raingardens and other practices that help water soak into the ground instead of running off into storm sewer systems.

*TIP: If you are considering a building or remodeling project, talk to your city to get ideas for Low Impact Development strategies to avoid harming nearby water resources.*



## Protect stormwater ponds and buffers

Never dump leaves or grass clippings into wetlands or stormwater ponds – doing so is illegal and harms the ecosystem. In addition, most stormwater ponds are surrounded by a buffer of un-mowed native vegetation. These buffers are often identified on plat maps as drainage and utility easements and sometimes are marked with a sign. Avoid placing fences and permanent structures in these locations.

## Raingardens

Raingardens are bowl-shaped gardens designed to capture runoff from rain and melting snow before it flows into storm sewer systems or nearby lakes and streams. Water in a raingarden evaporates or soaks into the ground within two days.

Homeowners can create small raingardens to catch stormwater runoff from rooftops and driveways. On commercial sites, larger raingardens called infiltration basins are often used to treat runoff from parking lots. In addition, many Minnesota communities install raingardens along streets during construction and re-construction projects.

Thanks for doing your part to protect Minnesota water!

www.pca.state.mn.us/water/municipal-stormwater-ms4

**For more information, contact:**

**www.mnwcd.org**