

# MSU SUSTAINABLE STORMWATER MANAGEMENT WALKING TOUR



## PLANT & SOIL SCIENCES BUILDING RAIN GARDENS

Michigan State University (MSU) has implemented **green infrastructure** to capture stormwater from surrounding roads, parking lots, and buildings. Previously, water from these surfaces entered the storm sewer system, which led directly into the Red Cedar River. Now through a variety of green infrastructure practices, stormwater is captured and either reused or infiltrated on site. Capturing stormwater reduces pollutant runoff into the river, improving water quality.

### WHAT IS A RAIN GARDEN?

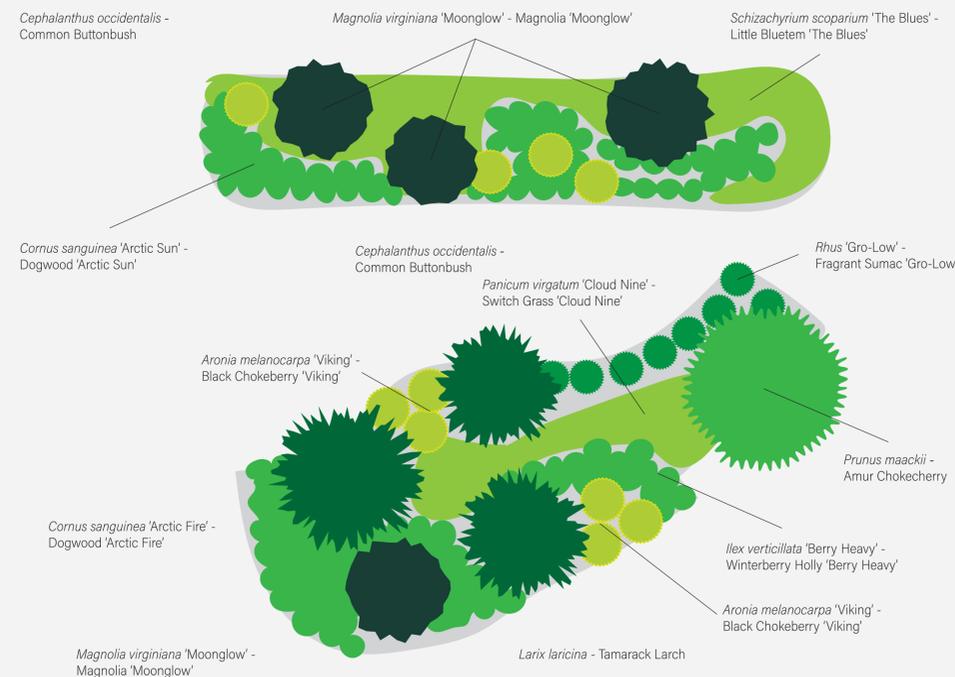
A rain garden is a form of bioretention that allows stormwater runoff to collect in a depression area in a landscape. The water is taken up by plants and released into the atmosphere through transpiration or is infiltrated into the soil profile. The roots of the plants help this process by creating channels for the water to infiltrate.

Because of this, stormwater runoff isn't directly put into a pipe that goes straight to the Red Cedar River, and pollution as well as high water levels during major rainfall events are reduced.

### HOW DOES A RAIN GARDEN WORK?

- 1 Stormwater that runs over the surrounding pavement and lawn is directed into two rain gardens set into the landscape.
- 2 Rain garden plants use the nitrogen and phosphorus from stormwater for growth, while filtering metals and other pollutants. The roots of the plants help the infiltration process by creating porous channels for the water to infiltrate. Plants also release oxygen and moisture into the air through transpiration.
- 3 Soil media filters stormwater. The soil is important for breaking down pollutants and reducing the volume of water reaching the Red Cedar River. By slowing and reducing stormwater volume, rain gardens help prevent bank erosion and flooding, promoting healthier river environments for plants and animals alike.

### RAIN GARDEN PLANTING PLAN



### DID YOU KNOW?

**You can create a rain garden on your property!**

Rain gardens keep stormwater on site and help recharge groundwater. They also help reduce flooding.

You are an essential part of the Red Cedar Watershed, and your actions can help to protect our shared water resources. To learn how you can help, visit:

[msu-water.msu.edu](http://msu-water.msu.edu)