

MSU SUSTAINABLE STORMWATER MANAGEMENT WALKING TOUR

FARMLANE BIORETENTION BASIN

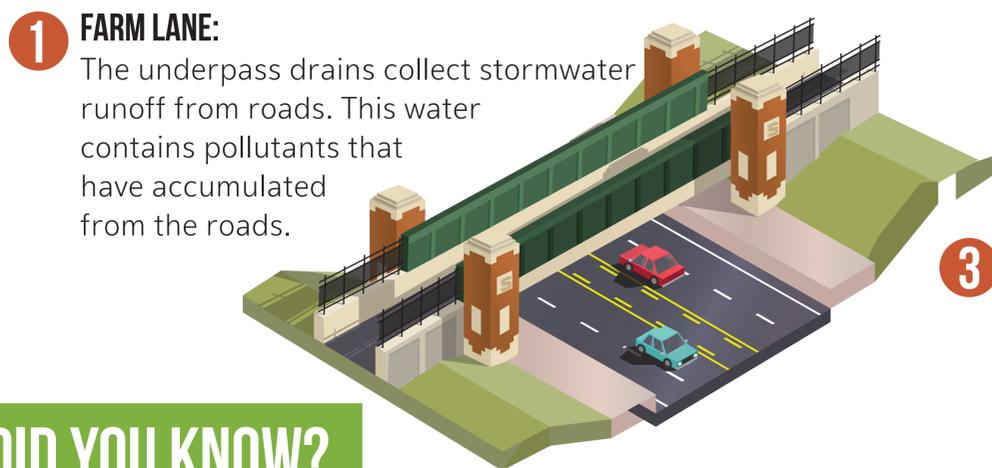
Michigan State University (MSU) has implemented **green infrastructure** to capture stormwater from surrounding roads, parking lots, and buildings. Previously, water from these surfaces entered the storm sewer system, which led directly into the Red Cedar River. Now through a variety of green infrastructure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

WHAT ARE BIORETENTION BASINS?

Bioretention basins are vegetative depressions that are designed to capture and infiltrate stormwater runoff using the biological process of plants, soil, and microorganisms. When water is directed into bioretention basins instead of a drain pipe, pollutants such as road salts and excess nutrients, commonly picked up as the water flows across impervious surfaces, can be removed. This reduces the amount of contaminated water that ends up in natural waterways.



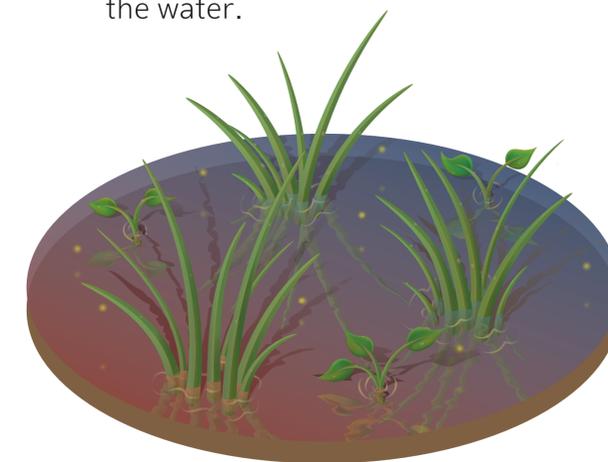
2 PUMP STATION:
The stormwater from the underpass is collected in an underground wet well before being pumped into the settling basin for initial treatment.



3 SETTLING BASIN:
Most of the large particles such as stones and sediment known as suspended solids are removed as the water moves through the basin.



4 VEGETATIVE BASIN:
Plants, soil, and microbes remove excess nutrients (such as nitrogen and phosphorus), common heavy metals, and other harmful chemicals from the water.



5 OUTFLOW BASIN:
Excess water is retained during very large storm events. By holding the water and slowly draining the basin, flooding is reduced.

DID YOU KNOW?

Bioretention basins significantly reduce storm surges by allowing only limited amounts of water to enter lakes and rivers. During a typical year approximately **23 million gallons of stormwater** are pumped into the Farm Lane bioretention basin. Pollutants are removed by the system prior to the water discharging to the Red Cedar River.

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