

Environmental Health and Safety



Storm Water Management



What You'll Learn

- Stormwater Regulations.
- Sewer Systems Basics.
- Why you should care.
- How you can help.
- Best Management Practices.



Storm Water Regulations – Permit and Plan

- National Pollutant Discharge Elimination System (NPDES)
Permits
 - Aims to protect water resources by addressing point source water pollution.
 - Controls the discharge of pollutants into surface waterways by imposing limitations.
- Storm Water Pollution Prevention Plan (SWPPP)
 - A site-specific document developed to identify potential sources of storm water pollution.
 - Outlines Best Management Practices (BPMs) to reduce pollutants in storm water discharges.

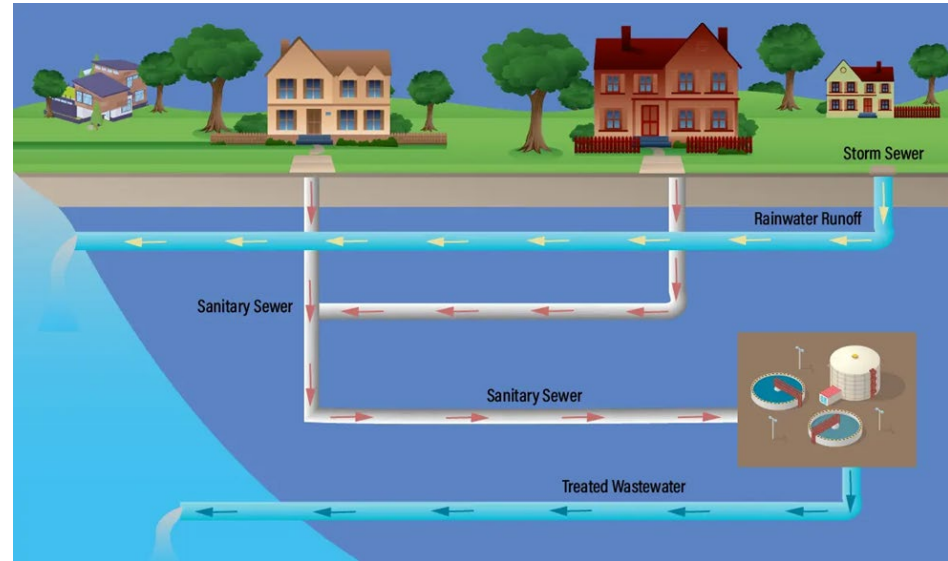
In Relation to The University of Michigan

- The University of Michigan-Dearborn (UMD), in conjunction with the University of Michigan-Ann Arbor (UMAA), has a storm water discharge permit from the State of Michigan.
- UMAA has an NPDES Permit, which incorporates UMD.
- Part of the NPDES Permit includes a SWPPP to regulate storm water discharges.



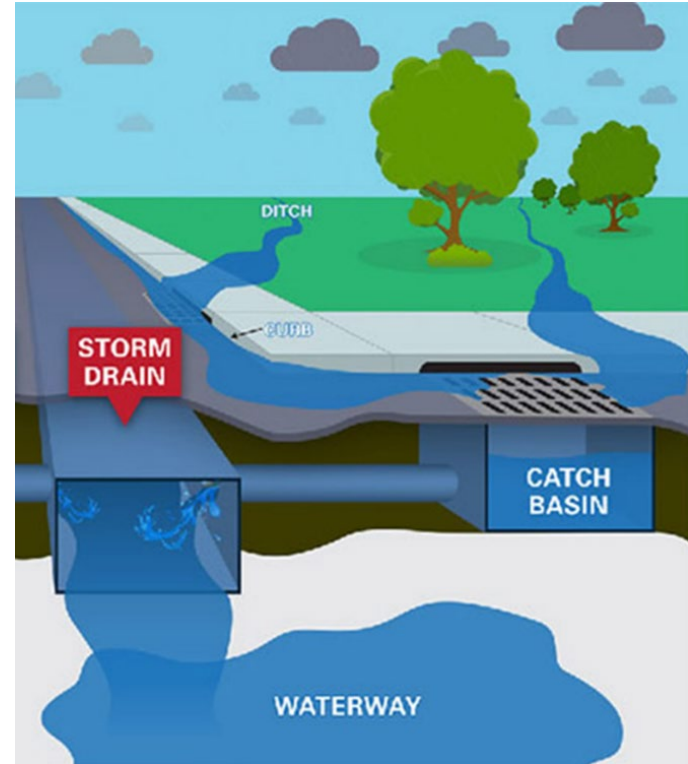
Sewer Systems – Sanitary Sewers

- Sanitary Sewers
 - Drains located inside buildings (ex. Sinks, floor drains).
 - Collects wastewater generated in homes, laboratories, offices, etc.
 - Gets treated at a Waste Water Treatment Plant (WWTP).

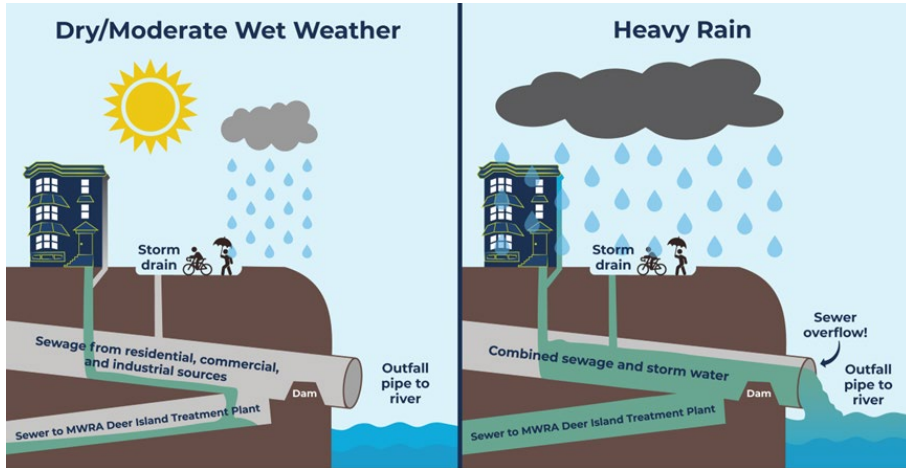


Sewer Systems – Storm Water

- Storm Water Sewers
 - Drains along the road or in parking lots.
 - Designed to prevent flooding.
 - No treatment prior to discharge.



Sewer Systems



- Combined Sewers
 - Combines both Sanitary and Stormwater flow through the same pipes.
 - In dry weather, all flows to a wastewater treatment plant.
 - In wet weather, can overflow and discharge into nearby waterbodies.

What Can go in the Storm Water Drain?

- Rainwater.



- Snowmelt.



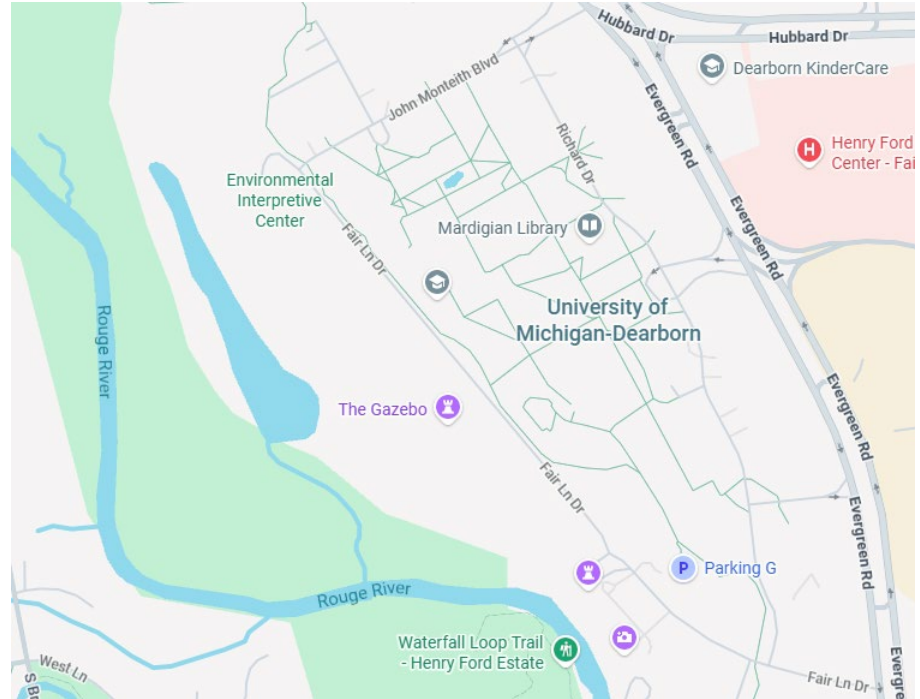
What Can't go in the Storm Water Drain



- Paint.
- Sediment.
- Motor vehicle fluids.
- Grass clippings, leaves, other yard waste.
- Animal waste.
- Fertilizers.
- Cleaning products.

Why Should We Care?

- UMD Storm Water drains discharge into the Rouge River without treatment.
- Storm water runoff affects the health of our waterways and ecosystems.
- It becomes our drinking water.



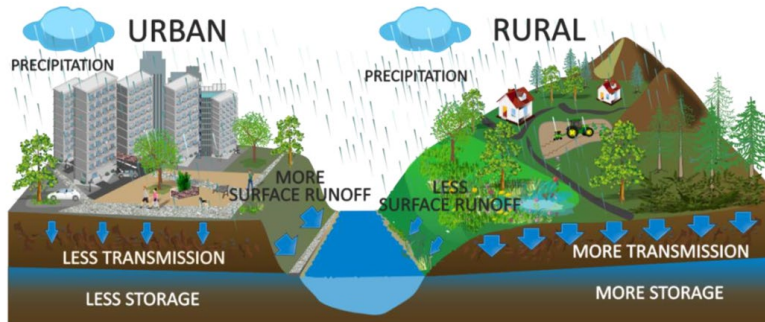
Storm Water Regulations – Natural & Developed Areas

Natural Areas

- Runoff absorbed by vegetation.
- Vegetation provides natural filtration.
- Ground water can recharge.

Developed Areas

- Less vegetation = decreased absorption.
- Increased chance of pollutants.
- Decreased volume of ground water recharge.



Benefits

- Benefits of storm water management:
 - Protects natural water bodies (i.e. Rouge River).
 - Decreases flooding.
 - Preserves land through erosion control.



How You Can Help

- NEVER dump anything into a storm drain.
 - Carpet cleaning solutions.
 - Floor strippers.
 - Floor wax.
 - Outdoor window washing operations.

- Car Washing
 - Use commercial facilities (waste water is treated).
 - At home: wash on grassy areas (waste water is filtered through the ground).



More Ways to Help



- Recycle unused paint products, automobile fluids, etc.
- Clean up after your pets.
- Don't overuse pesticides and fertilizers.

What to do if you see a Spill

- If available, protect nearby storm water drains with absorbent pads/socks.
- Immediately call UMD Public Safety at 313-593-5333.



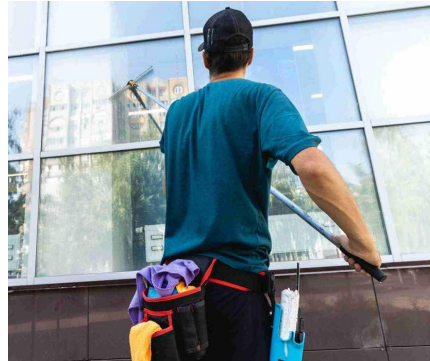
Best Management Practices (BMPs)

- Routine practices that help facilities understand and manage their storm water.
- By identifying activities that have the potential to affect storm water, we can better implement BMPs to reduce pollutant discharge.



Building Issues

- Waste handling procedures.
- Plumbing & piping.
- Pest management.
- Carpet/floor cleaning.
- Outdoor window washing.



Building Issues (BMPs)



- Keep chemicals/waste in secondary containment.
- Wastewater from cleaning supplies should be directed to sanitary sewer systems (janitorial closets).

Construction & Renovation Issues

- Earthwork.
- Concrete/cement pouring and cleanup.
- Brick or tile cutting.
- Masonry cleaning.
- Painting.



Construction & Renovation Issues (BMPs)



- Remove debris and sediment before beginning work.
- Use dry cleaning methods if possible.
- Use catch basin filters (collects debris and sediment but allows water to flow through).
- Divert to the sanitary sewer if possible.

Outdoor Work

- Excavations.
- Roofing cleanup; drains and gutters.
- Tree planting or removal.
- Pest management.
- Waste management activities.



Outdoor Work (BMPs)



- Be “pest-specific”.
- Follow directions exactly.
- Store chemicals/waste in leak-proof containers.
- Report any spills that occur.
- Protect drains from sediment with filters and silt fences.

Developing BMPs

- Raise awareness.
- Get feedback.
- Develop procedures.
- Test procedures.
- Standardize procedures.



Review

- Regulations help to protect the waterways.
- Only rainwater and snowmelt go into storm drains.
- Failing to protect storm drains can cause harm to ourselves and the ecosystem.
- Storm water management will protect and improve the quality of our waterways.
- Cooperative efforts will create more effective BMPs.



Contacts and References

- Environmental Health and Safety (EHS)
 - Phone: 313-583-6679
 - Email: umd-EHS-team@umich.edu
- <https://umdearborn.edu/environmental-health-and-safety/environmental-protection/storm-water>

Quiz Time!

To finish your training and earn your certificate, please complete the [Storm Water Management quiz](#).

You will need a score of 7/8 to pass the quiz.

If you do not pass, you can retake the quiz.