



Best
Management
Practices
for
Pollution
Prevention

The University of Michigan

Department of Occupational Safety & Environmental Health

and

The University of Michigan –Dearborn

Department of Public Safety & Environmental Health

Overview

- Water Management Systems
- Permits & Plans
- Areas for Best Management Practices (BMP) Consideration
- Keys to Developing BMPs
- Contact & Reference Information

Did you know . . . ?



All drains outside of the buildings in Dearborn flow Directly to the Rouge River without treatment.



The University of Michigan-Dearborn in conjunction with the University of Michigan has a storm water discharge permit.



Discharges to the storm water system must be properly managed.

Water Management - Sanitary

Sanitary Sewer

- Collects wastewater generated inside of homes, laboratories, offices, businesses, etc.
- Treated at the City of Detroit Waste Water Treatment Plant prior to discharge to the Detroit River.

Water Management - Storm

Storm Sewer

- Designed to prevent flooding
- Collects water from parking lots, roadways, etc.
- No treatment prior to discharge to the Rouge River
- Drains along roads or in parking lots



NPDES & SWMP

- UM has a National Pollution Discharge Elimination System (NPDES) permit for storm water discharged from the campus
- A Storm Water Management Plan (SWMP) was developed as part of the permit to regulate storm water discharges. This plan incorporates the Dearborn and Flint campuses.
- BMPs are part of the SWMP all UM campuses.

BMPs

To identify activities within the campus that have the potential to affect the quality of storm water discharges or the storm water drainage system and to assist in the development of appropriate BMPs.

What can go into the Storm Sewer?



Rainwater and snowmelt **

Discharges from these sources are also permitted if BMPs are followed:

- Surface Water Flow
- Uncontaminated ground water
- Discharge from drinking water sources (outdoor drinking fountains)
- Foundation drains
- Irrigation runoff
- De-chlorinated pool water
- Fire fighting; street washing, water line flushing activities
- Air conditioning condensate lines

Building Issues

- Waste Handling Procedures
- Plumbing & Piping
- Pest Management
- Carpet Cleaning
- Upholstery Cleaning
- Outdoor Window Washing



Ex: Disaster Cleanup

- Many cleanup efforts generate wastewater.
- Wastewater must be evaluated for proper disposal options.
- Flood water may contact materials inside buildings; requiring collection or direction to the sanitary sewer system.

Construction & Renovation Issues



- Earthwork
- Concrete or cement pouring & cleanup
- Brick or Tile cutting
- Masonry cleaning
- Painting

Ex: Exterior Building Cleaning

- Remove debris and sediment before beginning
- Use dry cleaning method if possible
- Use catch basin filters (collects debris and sediment, but water flows through)
- Divert to the sanitary sewer if possible

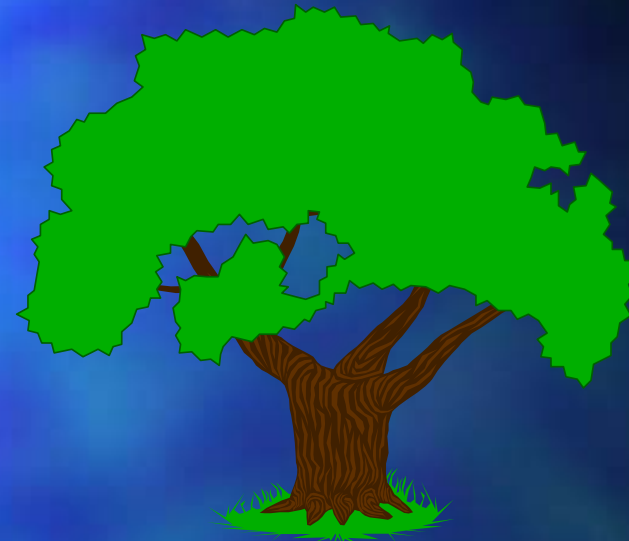
Outdoor Work

- Trenching
- Excavations
- Vacuum Truck
- Outdoor Lighting
- Roofing clean up; drains, gutters
- Sheetmetal & metal shavings



Outdoor Work

- Pest Management
- Tree Planting or Removal
- Seeding



- Mowing
- Rototilling
- Waste Management Activities

Ex: Fertilizers / Pesticides

- Integrated Pest Management
- Follow directions exactly
- Store in leak-proof container
- Be "Pest-Specific"
- Clean Spills
- Triple-rinse empty containers and collect the wash water for EHS disposal.

Grounds & Waste Mgt.



- Fertilizers & Herbicides
- Mulch
- Salt use

- Lawn care & irrigation
- Sand use



Facilities Maintenance

- Flood abatement in elevator shafts
- Hydraulic equipment maintenance
- Indoor plumbing restoration
- Asbestos abatement
- Refrigerants
- Chiller Systems

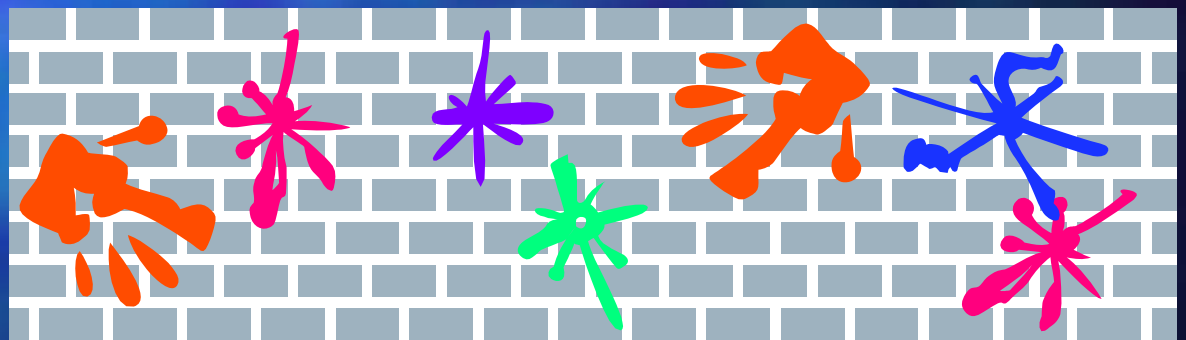


BMP Prime Targets

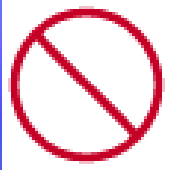
- Chemical Management
Storage
Use
Secondary Containment
Disposal

- Vehicle Maintenance

- Graffiti Removal



Storm Water – Basics

 Do not discharge
to the ground

 Do not drain
outdoors

- Spill prevention is key
- Contact Campus Safety for wastewater evaluation & options
- Collect wastes & contact Campus Safety

Developing BMPs

- Raise Awareness
- Get Feedback
- Develop Procedures
- Test Procedures
- Standardize Procedures

Contacts & References

- Public Safety & Environmental Health
313.593.5333
- www.umich.edu/~oseh