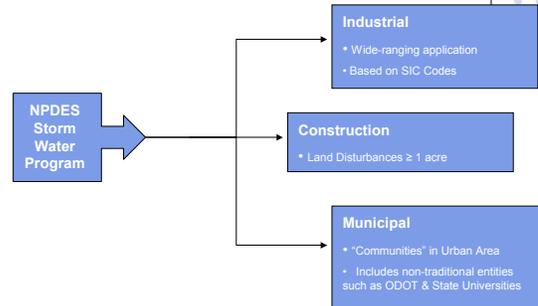


Pollution Prevention & Good Housekeeping

For MS4 Operators
September 2007



NPDES Program for Storm Water



Municipal Operations Requiring Industrial Storm Water NPDES Permits



MS4 Permit Establishes Requirements for Other Municipal Operations

- Develop an O&M Program for Municipal Operations
 - Must include a training component
 - Must include
 - Maintenance and storage yards
 - Municipal streets and parking lots
 - Fleet and building maintenance
 - Parks and recreation facilities
 - Municipal construction operations
 - Waste transfer stations
 - Sand/salt storage and snow disposal areas



MS4 Permit Requires

- Maintenance activities for the MS4
 - Include schedules, activities and long-term inspection procedures
 - Procedures for waste disposal for materials removed from the system
- Procedures to evaluate new flood management projects to incorporate water quality practices



Implementing Storm Water Pollution Prevention

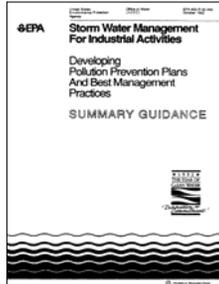
Best Management Practices for Municipal Operations



BMP #1: Storm Water Pollution Prevention Plans

- “SWP3s” for maintenance yards are similar to industrial storm water SWP3s:

- Pollution prevention team
- Identify potential pollutant sources
- Map drainage system of facility
- List BMPs to address pollutants
- Identify non-storm water discharges
- Comprehensive site evaluation



BMP #2: Inspections

- Assure facilities comply with SWP3
- Inspection schedule and frequency
 - Develop a checklist for each facility
 - Set a schedule for inspection
 - Provide training to inspectors



FIELD INSPECTION WORKSHEET

MS4 SWMP Evaluation
MS4 Maintenance Facility Field Inspection Worksheet

Permittee:	
Address of facility:	Size of facility:
Date of visit:	Time of visit:
Provide the name(s) and title(s) of permittee staff present during inspection	
Name	Title
Evaluator Observations:	
SWPPP or stormwater plan	
Has the maintenance facility developed a SWPPP or stormwater plan?	
Does the plan include a site map, list of pollutant sources, BMPs, and maintenance procedures?	
Does the permittee conduct and document periodic inspections of the facility?	
Are storm drains labeled and free of debris?	
Vehicle maintenance, fueling and washing	
Are vehicle maintenance activities conducted in a designated place not exposed to stormwater?	
Are fueling stations properly designed with spill kits nearby?	
Are vehicles washed on-site? Is wash water discharged to the MS4 or sanitary sewer?	

FIELD INSPECTION WORKSHEET

MS4 SWMP Evaluation
MS4 Maintenance Facility Field Inspection Worksheet

Material storage	
Are all materials that are potential stormwater contaminants stored under cover or in secondary containment?	
Hazardous waste management	
Are all hazardous materials properly labeled and stored to prevent exposure to stormwater runoff?	
Waste management	
Are waste bins covered with waste properly disposed in containers?	
How is landscape waste stored?	
Spill response	
Does the facility have a spill response plan, and are spill kits readily available?	
Employee training	
What type of stormwater training do maintenance staff receive?	
Notes or additional information:	

BMP #3: Train Employees

- Staff training records
 - Agenda
 - Attendance lists
 - Materials used
 - Road maintenance crews particularly important
- Enforcement of policies and procedures
 - Employee Issues
- Training will help identify issues

Sample Training Material

Tool Box Storm Water Pollution Prevention Talks



GROUNDS MAINTENANCE
TOPIC: Turt Maintenance

Turf Maintenance

INTRODUCTION

Fertilizer, pesticides, and weeds and ground turf maintenance activities are the primary contributors contributing to storm water runoff from grounds maintenance activities. Fertilizers have been repeatedly identified in storm water at local beaches, even when applied in accordance with label instructions. As fertilizer use has increased, so have concerns about potential effects on the environment and human health.



GROUND MAINTENANCE ACTIVITIES

Questions for staff:

- How can turf maintenance affect water quality?
- What alternatives to fertilizer use exist?
- If fertilizer is necessary, what techniques can be used to minimize its use?

Courtesy Lake Co Storm Water Management Dept

Common Storm Water Issues

at Maintenance Yards

Vehicle Maintenance

- Use drip pans when changing oil
- Use funnels and spigots to reduce spills
- Store wastes properly
- Perform indoors
 - Connection to sanitary
 - Approved oil/water separator



Indoor maintenance area connected to sanitary sewers

Vehicle Washing

- Do not wash vehicles or equipment outdoors
 - Indoors with plumbing to sanitary sewers
 - Take to commercial wash facility



Vehicle Washing



Car wash



Portable truck wash unit captures washwater

Leaking Equipment



Leaking equipment



Absorbent to clean up spill

Drum Storage



Don't keep outdoors



Store inside in proper containment



Fuel Islands



Fuel Islands



No containment for spills during transfer



Dike provides containment



Disposal of Waste Materials

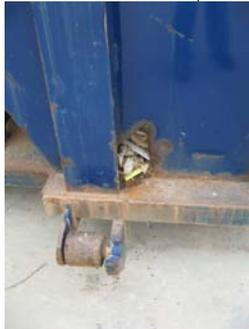


- Develop a disposal plan for materials removed from MS4
 - Treat as solid waste
 - May be hazardous waste
- Train employees on proper storage and disposal



Dumpster Management

Dumpsters should be lidded and well-maintained



Scrap Materials in Yard



Do not store on site. Dispose of properly off-site!



Leaf Collection/Composting



Bermed composting area

Salt (De-icer) Storage



Store in a dome or other covered structure

Sweep up salt that is tracked outside

Miscellaneous Sources



Leaking battery storage

Illicit cross connections to storm sewers

Miscellaneous Sources



Trash & Debris from Recycling Activities

Runoff from Stockpiles

Assistance for Municipal Operations Program

- US EPA Webcast at
 - <http://www.epa.gov/npdes/training>
 - **Financing a Municipal Storm Water Program**
 - **Killing Two Birds with One Stone: Building a Local Program to Maintain Storm Water BMPs and Pollution Prevention for Municipal Operations**
- US EPA document entitled "Developing Storm Water Pollution Prevention Plans and Best Management Practices"
 - <http://www.epa.gov/npdes/pubs/owm0236a.pdf>

For More Information

Websites

USEPA http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Ohio EPA www.epa.state.oh.us/dsw/storm/index.html

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