

# Sample MCM 6 Related Information

- Operations & Maintenance (O&M) Plan/Inspection Forms
- Stormwater Pollution Prevention Plan (SWPPP)
- Training Forms
- MS4 Management Technology Solutions
- Helpful Links/Resources
- Funding Sources

# Operations & Maintenance Plan

## MCM #6: Good Housekeeping for Municipal Operations

MCM #6 requires MS4s to prepare an inventory of municipal facilities and activities, and to develop a stormwater "Operations & Maintenance Plan" for each facility/activity on the inventory. The content of both will vary depending on the specific requirements. DEP prepared a model "BMP #1" (the inventory) and "BMP #2" (the O&M Plan).

MS4s that choose to use the model should provide information on what is on the model. The details on the facilities/activities on the inventory, which are conceptual, and therefore in need of what

### BMP #1: Inventory of Facilities/Activities

Facility/Activity	Storm Sewer System impact	Discharge To	O&M Responsibilities (all include "signage")	Attachment
Public works yard	inlets, piping, basin	Spring Creek	oil management, inlets, fueling, vehicle wash water	1
Streets	inlets, swales	Spring and Trout Creek	sweeping, inlets	2
SW conveyances	pipes, swales, ditches	Spring and Trout Creek	cleaning	3
Buildings	inlets, rain gardens	Spring Creek	inlets, rain gardens	4
Parking lots	inlets	Spring and Trout Creek	inlets	5
Parks	inlets	Spring and Trout Creek	inlets	6
Wastewater plant	swale	Spring Creek	chemicals, vehicles, maintenance area, sludge	7
Transfer station	***N/A outside the Borough: Provide information to Clearview Township***			

# Operations & Maintenance Plan

## BMP#2: O&M Actions (Detail)

### Attachment #1: Public Works Yard

(Contact: John Smith, Yard Manager)

Responsibility	When and How Often?	Actions	Additional Considerations
Clean Catch Basin	Each fall	<ul style="list-style-type: none"> <li>o Haul to landfill.</li> </ul>	Check after each major storm (> 3")
Fuel	Daily	<ul style="list-style-type: none"> <li>o Ensure tanks are sound, have overflow protection, are protected from vehicle and forklift damage.</li> <li>o Label valves.</li> <li>o Nozzles have auto shutoff. Auto shutoff for severed hoses.</li> <li>o Secondary containment.</li> <li>o Concrete fueling pad.</li> <li>o Overhang roof structure.</li> <li>o Spot-clean leaks and clean up used absorbent.</li> <li>o Label drains to indicate where they flow.</li> <li>o Report leaking vehicles.</li> </ul>	
Wash Water	Daily	<ul style="list-style-type: none"> <li>o Wash on grassy area or take to commercial car wash most of the time. Collect and dispose of vehicle wash water when chemical additives, solvents or degreasers are used. Allow no wash water to enter storm sewer or stream.</li> </ul>	
Road Salt and Grit	Daily	<ul style="list-style-type: none"> <li>o Use grit mix suited to ambient temperature to minimize salt use</li> <li>o Keep rain off stored salt</li> <li>o Calibrate spreaders</li> <li>o Haul and store salt in dry weather</li> <li>o Sweep up spills around storage/loading area</li> </ul>	

# Operations & Maintenance Plan

## Attachment #2: Streets

Contact: Dusty Rhodes, Streets Superintendent

Signage (for each activity below)	Daily		
Street Sweeping	Do twice in spring, mid-summer and fall.  Check signs in spring.	<ul style="list-style-type: none"> <li>o Post no-parking signs for street sweeping</li> </ul>	
Storm Inlets	Inspect after each heavy rain. Clean inlets in fall, additionally if clogged	<ul style="list-style-type: none"> <li>o Haul clean-out materials to landfill</li> <li>o Maintain stencils on inlets.</li> </ul>	Use Boy Scouts for stencils

\*Provide similar details for Attachments #3-8.

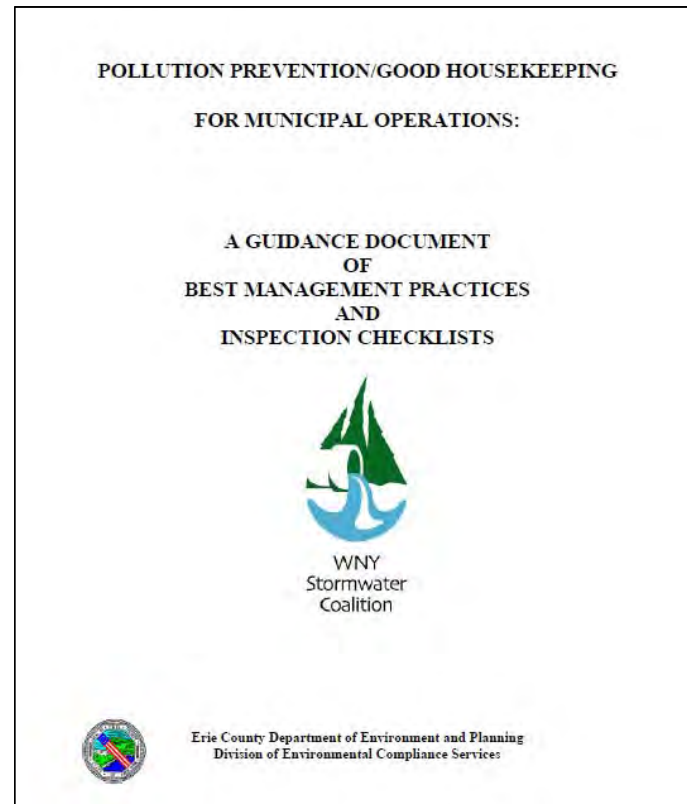
\*IDDE and Staff training are additional, separate efforts.

\*Report satisfaction of above in Annual Reports to DEP.

\*Keep record of issues (like spills that were identified, cleaned up and repeats prevented). Don't try to say you never have spills.

***Food for thought: A simple list of actions specifically tailored to the municipality, with an identified responsible party, is better than glossy generic materials that do not describe what you actually do and who is responsible for it.***

# Operations & Maintenance Plan



# Operations & Maintenance Plan/Inspection Forms

**VEHICLE/EQUIPMENT MAINTENANCE  
POLLUTION PREVENTION/GOOD HOUSEKEEPING PRACTICES**

- IDENTIFY IMPACTS TO ON STORMWATER/RECEIVING WATERS (SURFACE WATERS)**
  - Trace amounts of metals/hydrocarbons are found in materials (i.e. fuels, antifreeze, batteries, motor oils, grease, parts cleaning solvents) that are typically used in maintenance operations
- PROBLEM EVALUATION: ASSESS IMPACT ON RECEIVING WATERS. PRIORITIZE**
  - Toxicity
  - Biochemical oxygen demand
- IDENTIFY (AND CHOOSE APPROPRIATE) SOLUTIONS (BMPs)**
  - Conduct maintenance work indoors – if work must be performed outside, guard against spillage of materials that could discharge to storm receivers
  - Seal floor drains that discharge directly to the environment, if possible
  - Initiate single purpose use of vehicle bays – dedicate one (or more) bays that have no (or sealed) floor drains for repairs/maintenance
  - Clean up spilled materials immediately, using “dry” methods
  - Install pretreatment systems (oil/water separators) where necessary in sewer lines to capture contaminants (oil, grit), and maintain as needed
  - Never leave vehicles unattended while refueling
  - Identify appropriate recycling/disposal options for wastes
- INSPECTION PROCEDURES**
  - Inspect (for maintenance purposes) floor drain systems, oil/water separators
  - Monitor “parked” vehicles/equipment for leaks
- MAINTENANCE PROCEDURES**
  - Maintain a clean work area – remove contaminants from floors, drains, catch basins, using “dry” methods
  - Use non-hazardous cleaners. Use non chlorinated solvents instead of chlorinated solvents
  - Repair or replace any leaking containers
  - Use steam cleaning /pressure washing instead of solvent for parts cleaning
  - Store waste fluids in properly capped, labeled storage containers
  - Store batteries in leak-proof, compatible (i.e. non reactive) containers
  - Rinse grass from lawn care equipment on permeable (grassed) areas
  - Protect against pollution if outside maintenance is necessary (cover storm receivers, use secondary containment vessels, etc.)
- ADVISORY**
  - Report petroleum spills (as necessary) to the NYSDEC (851-7220 or 1-800-457-7362)
  - Refer to NYSDOT guidance information ([Environmental Handbook for Transportation Operations](#))

**VEHICLE AND EQUIPMENT MAINTENANCE/STORAGE AREA INSPECTION CHECKLIST**

Unit ID: \_\_\_\_\_ Location: \_\_\_\_\_

COMPONENTS/ITEMS TO CHECK	PROBLEMS OBSERVED	MAINTENANCE/REPAIRS NECESSARY		ACTION
		Yes	No	
Truck/equipment	Leaks/spills	Yes	No	<input type="checkbox"/> Clean spill, repair leak, capture fluids in drip pan
Salt/sand spreader	Improper amounts of product applied	Yes	No	<input type="checkbox"/> Recalibrate
Lawn care equipment	Improper operation	Yes	No	<input type="checkbox"/> Inspect/repair

Date of Inspection \_\_\_\_\_ Name \_\_\_\_\_

Frequency \_\_\_\_\_







# Training Forms

- Provide forms to show proof of training for all employees involved in pollution prevention or good housekeeping of a specific municipality/activity (renewed annually)
- Signed by instructor & participant of training
- Reviewed & approved by administrator

**VDOT** Virginia Department of Transportation  
Virginia Department of Transportation

**Certificate of Completion**

Form 7A  
Revised June 2004

**Commonwealth of Virginia  
Department of Transportation  
Education and Training Attendance Record**

Dear Instructor: Upon completion of this class, return this roster to the District Training Office in the district hosting the event for updating the Learning Management System. Please ensure that all participant names are clearly legible.

**Course Name:** Stormwater Management - Performance Based Criteria Workshop      **Course Code (required):** CO4442

**Date[s]:** 10/6/10      **Start time:** 8:00 AM      **End Time:** 4:00 PM      **Length:** 7 hours

**Facility:** Richmond District Auditorium      **District:** Richmond

**Instructor[s]:** Paul Clement, Jeremy Koser, Xavier Silvadasan, Cris Swanson      **Cost:**

PLEASE PRINT CLEARLY!!! Name	Employee ID No.	Role Title	Supervisor's Name	Section/Location Assigned	Grade/ Score or Comments
Pat Sample	123456789	Engineer Trainee	Timmy Tentpeg	Maint/ Arlington AHQ	
Andrew B. Scott, P.E.	4553019	District Hydraulic Engineer	Emmanuel Darko, P.E.	Hampton Roads District	
Nekazi X. Ntiabati, E.I.T	4218176	Hydraulic Engineer	Andrew B. Scott, P.E.	Hampton Roads District	
Mike Poblete	2301260	Hydraulic Engineer	Andrew B. Scott, P.E.	Hampton Roads District	

1      [http://coveb/odt/learning\\_center/trainer\\_home.asp](http://coveb/odt/learning_center/trainer_home.asp)

# MS4 Management Technology Solutions

- CBI Systems – MS4web permit manager
  - <http://www.ms4web.com/MS4StormwaterSoftware/>
  - **PA MS4Web™** is currently being piloted by municipalities in southeastern Pennsylvania and will soon be introduced in other parts of the state.
- Customized geodatabase – ESRI
- Mobile applications
- Excel spreadsheets or Access database

# Helpful Links/Resources

- EPA Pollution Prevention/Good Housekeeping for Municipal Operations
  - <http://www.epa.gov/npdes/stormwater/menuofbmps/goodhousekeeping>
- PADEP MS4 Resources
  - [http://www.portal.state.pa.us/portal/server.pt/community/municipal\\_stormwater/21380/ms4\\_resources/1489647](http://www.portal.state.pa.us/portal/server.pt/community/municipal_stormwater/21380/ms4_resources/1489647)
- Novotney, Michael. *Urban Restoration Manual No. 9: Municipal Pollution Prevention/Good Housekeeping Practices*. Version 1.0. Center for Watershed Protection. Copyright 2008. Dated September 2008.
  - [http://www.cwp.org/online-watershed-library/cat\\_view/64-manuals-and-plans/80-urban-subwatershed-restoration-manual-series](http://www.cwp.org/online-watershed-library/cat_view/64-manuals-and-plans/80-urban-subwatershed-restoration-manual-series)

# Funding Sources

- SPC:
  - General reference for a wide range of water resources grants: [http://www.spcregion.org/water/regs\\_grants.shtml](http://www.spcregion.org/water/regs_grants.shtml)
- PENNVEST:
  - Clean Water State Revolving Fund (CWSRF) administered by Pennsylvania Infrastructure Investment Authority (PENNVEST) – <http://www.pennvest.pa.gov/Information/Funding-Programs/Pages/Clean-Water-State-Revolving-Fund.aspx#.VhLeB2ddGUK>
  - American's Rivers' Initiative - Green Loans for Green Reserve Funds – Subsidized Low-Interest Loans to public entities for stormwater management for design, construction and rehabilitation.
  - American Recovery and Reinvestment Act (ARRA) of 2009 - <http://www.pennvest.pa.gov/Information/Funding-Programs/Pages/ARRA-2009-Funding.aspx#.VhLd2GddGUK>
    - 50% of the Grants must maximize green infrastructure)
  - Green Initiative, ARRA Green Reserve and Growing Greener Grants - <http://www.pennvest.pa.gov/Information/Funding-Programs/Pages/Green-Initiatives.aspx#.VhLeSGddGUK>

# Funding Sources

- Department of Community & Economic Development (DCED):  
<http://community.newpa.com/programs/>
  - Flood Mitigation Program – <http://community.newpa.com/programs/flood-mitigation-program-fmp/>
    - Grants for projects \$50,000 - \$500,000 - planning & planning approvals are at owner's expense
  - H2O PA – Flood Control Projects – <http://community.newpa.com/programs/h2o-pa-flood-control-projects/>
    - Grants for construction, improvement, repair or rehabilitation of all or part of a flood control system – projects \$500,000+
  - H2O PA – Water Supply, Sanitary Sewer and Storm Water Projects:  
<http://community.newpa.com/programs/h2o-pa-water-supply-sanitary-sewer-storm-water-projects/>
    - Grants for projects \$500,000

# Funding Sources

- Department of Community & Economic Development (DCED) [cont.]:  
<http://community.newpa.com/programs/>
- Pennsylvania Infrastructure Bank (PIB) – Low-interest loans  
<http://community.newpa.com/programs/pennsylvania-infrastructure-bank-pib/>
- Municipal Assistance Program - <http://community.newpa.com/programs/municipal-assistance-program-map/>
  - Grants up to 50% of eligible cost)
- Watershed Restoration & Protection Program (WRPP) - <http://community.newpa.com/programs/watershed-restoration-protection-program-wrpp/>
  - Projects which involve the construction, improvement, expansion, repair, maintenance or rehabilitation of new or existing watershed protection BMPs – Maximum grant \$300,000 with 15% of total project cost

# Funding Sources

- Municipal/County Funds – Refer to Municipal/County Websites
  - Community Block Grant Funds (CDBG) – Public facility and planning activities including flood prevention/stormwater management/BMPs/drainage. Maintenance activities are not fundable. Benefit must be for low to moderate income persons/neighborhoods.
  - County Local Share Accounts (gaming funds) – Preference is given to those who have other local or grant match funds.
  - Municipal Local Share Account Funds (gaming funds) – Preference is given to those who have other local or grant match funds.
  - Marcellus Shale Funds
- Department of Conservation & Natural Resources (DCNR) - <https://www.grants.dcnr.state.pa.us/Dashboard/Grants#>
  - Park Rehabilitation & Development Grants – Green infrastructure solutions and BMPs can be part of the design of these facilities.
- Department of Environmental Protection (DEP)
  - Growing Greener Grants – [https://www.portal.state.pa.us/portal/server.pt/community/growing\\_greener/13958](https://www.portal.state.pa.us/portal/server.pt/community/growing_greener/13958)