

4/29/11

P

Municipality/Organization: Worcester State University

EPA NPDES Permit Number: MAR042022

MassDEP Transmittal Number: W-040406

Annual Report Number Year 8

& Reporting Period: April 1, 2010 – March 31, 2011

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2011)

Part I. General Information

Contact Person: Robert Daniels

Title: Environ. Health and Safety Officer

Telephone #: 508-929-8099

Email: : rdaniels@worchester.edu

Mailing Address: 486 Chandler Street, Worcester, MA 01602

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:

Kathleen M. Eichelroth

Printed Name: Kathleen M. Eichelroth

Title: V.P.-Administration and Finance

Date:

4/22/2011

Part II. Self-Assessment

Worcester State University (WSU) has completed a Self Assessment of the Storm Water Management Plan. WSO updated the SWMP in October 2010, provided updated training in October 2010 and continues to meet the requirements of the permit.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
100.1 (2005)	Distribution of Educational Materials	Robert Daniels	Design a SW Management information page on campus web-site that will be accessible by all students, faculty., administrators and general public.	Kept web-page updated.	Keep web-page updated.
Revised					
100.2 2006	Distribution of Educational Materials	Robert Daniels	Designed a pamphlet for contractors to explain the expectations WSU has for contractors working on-site	Continued to distribute pamphlet to contractors.	Continue to distribute pamphlet to contractors., will update as necessary to reflect New MS4 permit when it's finalized.

1a. Additions

100.3 2007	Distribution of Educational Materials	Robert Daniels	Download EPA's "After the Storm" pamphlet.	Pamphlet posted on the web-site.	No change
100.4 2008	Distribution of Educational Materials	Robert Daniels	"Focus the Nation" Presentation-nationally recognized teaching program-January 2008	Included SW as topic in a presentation that reviewed WSU's sustainability program. This was broadcasted over the web and was viewed by over 700 people on campus	
100.5 2009	Distribution of Educational Materials	Robert Daniels	"National Teach-In on Global Warming" Presentation-nationally recognized teaching program-February 2009	Included SW as topic in a presentation that reviewed WSU's GHG emissions, water conservation projects and SW management program. This was broadcasted over the web and was viewed by over 700 people on campus	

100.6 2011	Distribution of Educational Materials	Robert Daniels	Sustainability Fair – Planned for Fall 2011 organized by WSU Student Affairs and Career Services		Planned involvement by EH&S Department to discuss SWMP as part of conservation of natural resources.
---------------	--	----------------	--	--	--

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
200 Revised	Storm Drain Stenciling	Robert Daniels	Re-stencil drains annually as needed	Re-stenciled drains by July 2010, included new storm drains near Admin Building	Will re-stencil drains where necessary by Fall 2011
200.1 Revised	Campus Clean-up Day	Rich Korcez	Annually in April-May	Environmental Advocacy Group cleaned campus on Earth Day in 2010	Biology and Facilities Departments tentatively plan to clean campus on Earth Day 2011
Revised 200.2 2006 Revised	Lake Ellie Beautification	Peter Fenuccio/Bob Daniels	Dredge Lake Ellie by summer of 2007	WSU dredged Lake Ellie in June 2010. WSU installed an aeration pump and replaced the foot bridge for enhancement of the Lake Ellie area. WSU also installed a “trash basket” at Lake Ellie’s discharge point to minimize the amount of leaves and debris that could flow to Moore Brook. Re-inspected and cleaned in fall 2010. Repaired and relined deteriorated piping into Moore Brook.	Clean outlet pipe between Lake Ellie and Moore Brook, dispose of sediment.
200.3 2007 Revised	Clean up of Moore Brook	WSU Grounds Crew and work study students	Clean brook annually as needed		Re-inspect and clean by fall 2011.

2a. Additions

200.4 2008	“In Business for the Blackstone”	Robert Daniels	Become member of the organization	Decided not to join “In Business for the Blackstone”	

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
300.2 Revised	Dry Weather Inspections	Robert Daniels	Semiannual Inspections	Performed dry weather inspection in March and October 2010.	On-going inspections- WSU will plan on spring and fall inspections in 2011.

3a. Additions

300.4	New SW Site Plans-as part of Campus Utilities Plans	Sandra Olson	New SW Site Plan	In FY 10, the BSI –Subsurface Utility Engineering plan was updated to include any storm water system modifications as a result of Dowden Hall expansion construction..	In FY 11- the BSI –Subsurface Utility Engineering plan will be updated to include any changes to the storm water system .
-------	---	--------------	------------------	--	---

4. Construction Site Storm Water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
400.1 Revised	Develop Construction Site Run Off Plan	Robert Daniels	Update Construction Run-off Program	Construction Run-off Program reviewed in Fall 2010, no changes necessary.	Update as necessary as result of renewal of MS4 permit.
400.2 Revised	Construction Run-Off Plan Training	Robert Daniels	Implementation of periodic training	WSU provided training in October 2010.	WSU will provide retraining in Fall 2011.

400.3 2006	Develop an enforcement strategy when construction inspections and BMPs are not being implemented	Robert Daniels and Facilities Department	Document all Stop Work notices that are generated	There were no Stop Work orders issued.	If necessary, Stop Work orders will be issued.
Revised					

4a. Additions

400.4 2007	SW Review with Construction Site Personnel and MSCBA/DCAM	Robert Daniels	Meet with construction company and MSCBA before and during construction projects	As part of weekly construction meetings for the Dowden Hall WSU discussed SW management issues as necessary with construction company and DCAM. Dowden Hall construction was completed July 2010.	Will continue to interact with construction companies and DCAM/MSCB for all DCAM/MSCB future projects that affect SW.
400.5 2007	Construction Site Inspections	Robert Daniels	Periodic construction site inspections	Conducted periodic inspections of the new Dowden construction area in 2010 although < 1 acre of land disturbed. Dowden Hall construction was completed July 2010.	Construction site inspections will be conducted for any new future projects that will impact SW

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
500	Develop a Post Construction Storm Water Management Plans an appendix to Storm Water Management Plan	Robert Daniels	Update Post Construction SWM Plan	WSU corrected SWMP to delete 4/2 StormCeptor duplication in Appendix J. Added annual inspection of sand/salt pile cover.	.
Revised					
500.1	Implement training for Post Construction SWM	Robert Daniels	Implementation of periodic training	WSU provided retraining in October 2010.	WSU will provide retraining in Fall 2011.
Revised					
500.2	Research alternatives to sand/road salt for road and walkway deicing.	Robert Daniels	Get prices and do a cost benefit analysis	Expanded use of Magic salt in Winter 2010-2011- Investigated use of liquid deicer, but was cost prohibitive	Will continue and expand use of Magic Salt use in Winter 2011-2012..
Revised					

5a. Additions

500.3	Catch basin clean out	Robert Daniels	Clean catch basins	Cleaned out catch basins Vortechnic Units by summer 2010	Will clean out catch basins and Vortechnic units by summer 2011.
2007					
500.4	Soil stabilization for Parking Garage construction site	Consigli Construction	Stabilized soil in project area	Evaluated the effectiveness of stabilization vegetation near garage and it performed as designed.	Will evaluate the effectiveness annually and replace stabilization vegetation on an on-going basis, as necessary.
2007					

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
600 2007 Revised	Develop a training program for Facility Personnel	Robert Daniels	Implementation of periodic training	WSU provided retraining in October 2010. -----	WSU will provide retraining in Fall 2011. -----
600.1 2009 Revised	Snow Management	Robert Daniels	Less snow melt into Lake Ellie	WSU continues to work at improving snow removal management by relocating to less environmentally sensitive area on campus or shipped off-site.	Continue the best management practices.

6a. Additions

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) << if applicable >>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
	NA				
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2010 through March 31, 2011)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

Regulatory Mechanism Status (indicate with "X")	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					
Accompanying Regulation Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	
Site inspections completed **	(# or %)	
Tickets/Stop work orders issued **	(# or %)	
Fines collected **	(# and \$)	
Complaints/concerns received from public **	(#)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	
Qty of structures cleaned **	(#)	
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	
• Disposal cost**	(\$)	
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	
• Vacuum truck(s) owned/leased	(#)	
• Vacuum trucks specified in contracts	(y/n)	
• % Structures cleaned with clam shells **	(%)	
• % Structures cleaned with vacator **	(%)	

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:
 ("N/A" = never used; "100%" = elimination)

▪ Fertilizers	(lbs. or %)
▪ Herbicides	(lbs. or %)
▪ Pesticides	(lbs. or %)
Integrated Pest Management (IPM) Practices Implemented	(y/n)

(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used **	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	
Pre-wetting techniques utilized **	(y/n or %)
Manual control spreaders used **	(y/n or %)
Zero-velocity spreaders used **	(y/n or %)
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)
% of salt/chemical pile(s) covered in storage shed(s)	(%)
Storage shed(s) in design or under construction	(y/n or #)
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n

# or y/n	
• Treatment units induce infiltration within 500-feet of a wellhead protection area	