

MS4 Annual Report

(Due by March 31, 2012)

Please use this template to assist in compiling information for the annual report. Use of this template is optional. Please refer to the permit language for the information minimally required to be submitted in the reporting year. If you have any questions, please contact Bryan Hartsook at (262) 574-2129 or by email at Bryan.Hartsook@wisconsin.gov. Please submit a signed copy of the annual report and any attachments to my attention at the Waukesha Service Center: 141 NW Barstow St., Rm 180, Waukesha, WI 53188

** ELECTRONIC SUBMITTALS ARE ACCEPTABLE **

Municipality: Milwaukee County		Reporting Year: 2011	
Name of Permit Group (if applicable):	WPDES Permit No. WI-S050113-1	Facility ID No. (FIN):	
Contact Information:			
Name: Tim Detzer		Title: Environmental Engineer	
Mailing Address: 2711 West Wells Street #213	City: Milwaukee	State: WI	Postal Code 53208
E-mail Address: tim.detzer@milwcnty.com	Telephone No.: 414-278-2988		
<p>Section 1. Summarize program activities implemented during the reporting year to maintain compliance with the six minimum control measures identified in the permit. Please include the management practice, individual or department responsible, measurable goals, and activities planned for next year. Amendments to the planned activities and/or changes to measurable goals should also be identified. <i>Add rows or attach additional sheets as needed</i></p>			
<p>A. PUBLIC INVOLVEMENT, EDUCATION, AND OUTREACH</p> <p><u>BMP Description:</u></p> <ul style="list-style-type: none"> · In 2011 Milwaukee County made a \$1,600.00 contribution to support a regional public education program spearheaded by the Menomonee River Group Public Education Committee. These funds were used to develop and implement a multi-media public education program. · In 2011 Milwaukee County developed a set of stormwater design guidelines for parking lots. The intent was to give County engineers and designers help in selecting BMPs and in the design process. Milwaukee County owns over 150 parking lots and service yards. · In 2011 a series of rain gardens and pervious pavers were installed at the Milwaukee County Zoo. The purpose of the gardens is to help educate the public and manage storm water runoff. Internal newsletters and the Zoological Society's website carried information on this subject. Last year 1.2 million visitors attended the zoo and were exposed to the message of storm water management. · In 2011 a Milwaukee County environmental engineer was an adjunct instructor at the University of Wisconsin-Milwaukee Center for Sustainability and group taught a course entitled Native Landscape Design for Storm Water. It was presented in the spring and fall cycle of continuing education classes. Representatives of both local governments and private sector firms were in attendance. · Milwaukee County co-hosted with MMSD and the City of Milwaukee a seminar entitled Sustainability in Local Government. The seminar included presentations and discussions on managing stormwater with green infrastructure. <p><u>Responsible Dept./Person:</u></p> <p>Department of Administration, Facilities Management Division, Architecture, Engineering & Environmental Services Section</p> <p><u>Measurable Goal(s):</u></p>			

A. PUBLIC INVOLVEMENT, EDUCATION, AND OUTREACH-CONTINUEDProgress Made Towards Achieving Goal(s):

Please see above section *BMP Description*.

Planned Activities for Next Reporting Year:

Milwaukee County will be contributing \$1,600 to Southeastern Wisconsin Watersheds Trust and has received an Urban Nonpoint Source and Storm Water Management Grant from the WDNR to help develop a regional storm water education program.

Program Modifications or Changes to Measurable Goal(s):

NA

B. ILLICIT DISCHARGE DETECTION AND ELIMINATIONScreening Strategy (priority areas identified in plan?):

Milwaukee County's strategy for detecting illicit discharges and connections is described by the following activities:

1. maintenance and upgrades at County facilities
2. development and implementation of SWPPPs at applicable facilities
3. field screening of major outfalls
4. tracking and containing spills
5. regular maintenance of storm sewers
6. continued refinement of the County's stormwater map
7. education of County employees
8. Milwaukee County's CMOM Program

Number of Outfalls Screened, Parameters Used, Detection Limits:

See Attachment 1

Number of Illicit Discharges / Illegal Connections Detected (identify outfall ID numbers):

In 2011, one illicit discharge was discovered. Soapy bubbles were found during a detention pond inspection at outfall #16969 at the County Grounds on June 29, 2011. A sample was collected and analyzed using colorimetric analysis. The sample was nondetect for chlorine, copper and phenols. Detergent concentrations were 0.2 ppm. There was no trace of the detergents the next day. It was assumed that wash water was emptied into a storm drain somewhere within the large drainage area of the outfall.

Number of Complaints Received and Summarize Result(s) of Follow-Up (include description of sewershed investigation):

Milwaukee County received one complaint in 2011 of a potential illicit discharge into the Menomonee River. Upon investigation it turned out to be the City of Milwaukee dye-testing sewers.

Screening Strategy for Next Reporting Year (identify priority areas / basins and outfall ID's):

The screening strategy for 2012 will remain the same.

Storm Sewer Map Updated? (summarize changes identifying basins and outfall ID's):

There were no updates to Milwaukee County's storm sewer map in 2012.

C. CONSTRUCTION SITE POLLUTANT CONTROLTarget Number of Inspections (measurable goal, can be represented as percentage of permits issued):

Milwaukee County does not issue construction site erosion control permits, but defers to municipalities within Milwaukee County to write and enforce ordinances. Milwaukee County conforms to local municipal erosion control ordinances on all applicable construction sites.

Number of Permit Applications Received / Number of Permits Issued:

Not applicable.

Individual(s) Responsible for Plan Review, Inspection, and Enforcement Procedures:

Not applicable.

Number of Inspections Completed:

Not applicable.

Number of Enforcement Actions and Description:

Not applicable.

Changes in Inspection and /or Enforcement Strategy and Protocol:

Not applicable.

D. POST-CONSTRUCTION STORM WATER MANAGEMENTNumber of Storm Water Management Plans Reviewed:

Milwaukee County reviews stormwater management plans for development on and connections to County stormwater structures within County Trunk Highways. In 2011, six stormwater management plans were reviewed. These plans would also have been reviewed by the local municipality.

Approved or Scheduled Ordinance Updates:

None. Milwaukee County defers to local municipalities within the County to write and enforce post-construction storm water management ordinances.

Number of Redevelopment Sites Reviewed:

Six--see above.

Are you Documenting TSS Reductions Achieved on Redeveloped Sites? (for later inclusion in MS4 pollutant loading analysis):

Milwaukee County will not be taking TSS reduction credit for redevelopment along County Trunk Highways.

Inspection and/or Scheduled Maintenance of Facilities Where a Long-Term Maintenance Agreement was Recorded:

None.

E. POLLUTION PREVENTION

Estimate quantity of Street Sweepings and Catch Basin Cleanings Collected:

Milwaukee County has collected approximately 776 cubic yards of material through street sweeping and 44 cubic yards from catch basin cleaning. Please see Attachment 2.

Summarize Findings of Municipal Yard Inspection(s). SWPPP Implemented and Up to Date?:

In 2011, Milwaukee County created a SWPPP for the McKinley Marina. All Storm Water Pollution Prevention Plans are implemented and up to date. See Attachment 3.

Updates to Yard Waste Collection:

Milwaukee County does not collect yard waste.

Winter Road Maintenance Program (description and estimate quantity of anti-icing or deicing materials used):

Road Salt 10,379 tons
 Liquid CaCl 38,150 gallons
 Pellets 19 tons
 Salt Brine 15,890 gallons
 Sand/salt (mix) 173 tons

Planned Activities for Next Reporting Year:

Milwaukee County has hired Sigma Environmental to design a catch basin dewatering system to dewater material removed from catch basins prior to disposal at a licensed landfill. The intent is to lower the cost of landfilling the material to be able to clean more catch basins within existing budgets. The design has been on hold because the target site is within areas being considered for the Wisconsin Department of Transportation's Zoo Interchange reconstruction.

Milwaukee County will be continuing an investigation into sources of human fecal contamination in stormwater outfalls owned by Milwaukee County. The investigation will be conducted by Clark Dietz using storm sewer and sanitary sewer mapping and the analytical results of outfall sampling performed by the Great Lakes Water Institute.

Program Modifications or Changes:

NA

F. STORM WATER QUALITY MANAGEMENT

Pollutant Loading Analysis:

Date of last model run:	2010	"No Controls" Load (tons/yr):	1,218,826.20	"With Controls" Load (tons/yr):	782,880.40
Model Version Used:	SLAMM 9.4.0	Average Unit Area Load (lbs/acre/yr):		TSS Reduction %	35.8

Storm Water Management Plan:

If TSS percent reduction is less than 20%, has a strategy been developed under a municipal-wide storm water management planning effort to achieve compliance?

NA

Projected Timeframe to Achieve 20% TSS Reduction (if applicable):

NA

BMPs Implemented in Reporting Year:

- Pervious pavement and rain gardens were installed at the Milwaukee County Zoo.
- Pervious pavement was installed at the Milwaukee County Domes.
- A Green roof was installed at the Milwaukee Public Museum.
- Milwaukee County began construction on the first of two new rain gardens in Lake Park to help prevent erosion in the ravines.
- Milwaukee County designed a pervious parking lot for Milwaukee County Sports Complex. Construction will be completed in 2012.
- A Stormwater Pollution Prevention Plan was created for the McKinley Marina.

BMP Maintenance Activities in Reporting Year:

- Two stormwater ponds at the Milwaukee County Grounds (Pond 1 and Pond 10) had erosion repairs completed.
- Two catch basins at the Milwaukee County DTPW Highway Storage Yard were buried and contributing sediment to Milwaukee County Pond #1. These were excavated and cleaned.
- A rain garden in Lake Park was rebuilt by a contractor who damaged it during an unrelated job.
- An infiltration basin at Bradford Beach that washed out due to heavy overland flow was repaired.
- Street sweeping and catch basin cleaning were performed. See Attachment 2.
- BMP inspections are completed twice annually. See Attachment 4.

Agreements or Discussions with Other Municipalities to Employ a Regional Watershed Approach?

Milwaukee County has been attending meetings of the Menomonee River Joint Permit Group and is exploring the group permit option.

Planned Activities for Next Reporting Year:

- Milwaukee County will be constructing a parking lot using pervious pavers and grass lined swales at the Milwaukee County Sports Complex in Franklin.
- A sedimentation basin will be installed during the reconstruction of the Doctors Park parking lot.
- Two rain gardens are being installed in Lake Park to help prevent bluff erosion and prevent solids from entering Lake Michigan.
- General Mitchell International Airport has proposed and is designing a green roof for the new baggage claim area. The green roof will be visible from the skywalks that lead from the parking garage to the terminal presenting another educational opportunity.
- GMIA has proposed and is designing a system on a new maintenance facility building to collect rainwater to be reused for vehicle washing.

Program Modifications or Changes to Measurable Goal(s):

NA

Section II: Identify any known or perceived water quality improvements or degradation in the receiving water to which the MS4 system discharges. Where degradation is identified, identify why and what actions are being taken to improve the water quality of the receiving water. Please describe the stream reach or lake effected and the basin / outfall ID contributing to the improvement or degradation.

Milwaukee County anticipates that certain projects carried out in within the permit period will have positive water quality impacts. These projects include:

- Lake Michigan Outfalls as described in the NR 216 Permit (Bradford and McKinley Beaches)
- Pond & Lagoon Demonstration Projects (various locations)
- Boerner Botanical Gardens Rainwater Harvesting System
- Rain gardens and permeable pavers at the Milwaukee County Zoo

Section III. Fiscal Analysis

Program Element	Annual Expenditure	2012 Budget	Source of Funds
Public Involvement, Education and Outreach		\$ 31,900.00	Milwaukee County
IDDE		\$ 27,364.00	Milwaukee County
Construction Site Pollutant Control			
Post-Construction Storm Water Management			
Pollution Prevention		\$ 77,633.00	Milwaukee County
Storm Water Quality Management	\$ 99,094.29	\$ 118,600.00	Milwaukee County
Other	\$ 132,214.00		
Total	\$ 231,308.29	\$ 255,497.00	

This fiscal analysis reflects the permit obligation costs associated with the Environmental Services Unit of Milwaukee County's Architecture, Engineering and Environmental Services Division, the group tasked with compliance of the MS4 permit. Additional costs of permit compliance not included in this analysis are located within other departmental and/or project budgets. For example each construction project completed by Milwaukee County would have a construction site pollution control component as part of the specific project budget. Also, stormwater related projects completed by other departments such as the installation of pervious pavement at the zoo is not in this analyses.

The Annual Expenditure column reflects actual costs for 2010. It is not possible to break the various components of the analyses (e.g. Education, Public Involvement, IDDE, etc.) into exact dollar amounts as many of these tasks are grouped together in Milwaukee County's accounting system. The total sum of the categories other than "Storm Water Quality Management" category is collectively in the "Other" category.

Section IV. Certification Statement

I hereby certify that I am an authorized representative of the municipality covered under the MS4 permit for which this annual report is being submitted and that the information contained in this document and all attachments were gathered and prepared under my direction or supervision. Based on my inquiry of the person or persons under my direction or supervision involved in the preparation of this document, to the best of my knowledge, the information is true, accurate, and complete. I further certify that the municipality's governing body or delegated representatives have reviewed and apprised of the contents of this annual report. I understand that Wisconsin law provides severe penalties for submitting false information.

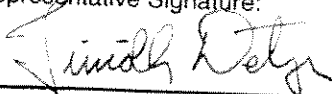
Authorized Representative Printed Name:

Timothy Detzer

Title:

Environmental Engineer

Authorized Representative Signature:



Date Signed:

3/28/2012

Milwaukee County
MS4 Annual Report
Reporting Year 2011

Attachment 1
Outfall Screening

Milwaukee County
MS4 Annual Report
Reporting Year 2011

Attachment 2
Street Sweeping and Catch Basin Cleaning

**Attachment 2
Street Sweeping and Catch Basin Cleaning**

County Highway	Sweeping Frequency*	Collected (Cubic yards)	CBs Cleaned	Collected (Cubic yards)
Silver Spring Dr	2	6	-	-
Hampton Ave	1	6	2	1
Oklahoma Ave	2	6	-	-
Beloit Road	1	6	-	-
76th Street	3	33	3	1
92nd St	1	3	-	-
Layton Ave	4	24	4	2
Mill Rd	10	50	2	**
Good Hope Rd	10	50	2	**
Teutonia Ave	7	35	2	**
43rd St	7	35	2	**
Port Washington Rd	7	36	2	**
107th St	6	20	2	**
College Ave	7	36	3	1
Layton Ave	6	30	6	2
Rawson Ave	8	42	4	1
South 13th Street	2	4	-	-
Zoo	158	354	****	36
Parks	11**	***	-	-
Total		776		44

- *One unit is equal a distinct sweeping event not necessarrily the entire roadway.
- ** Various parkway locations
- *** Amount collected not recorded.
- **** Material was collected from trench drains, settling basins, grates and basins.

Attachment 3
Storm Water Pollution Prevention Plan Inspections

For the purposes of this informational report,
Pages 12 through 84 (Storm Water Pollution Prevention Plan
Inspection Reports) have been deleted to save paper. They
will be made available upon request.

Milwaukee County
MS4 Annual Report
Reporting Year 2011

Attachment 4
Storm Water Management Facility Inspections

Attachment 4
Spring 2010 Storm Water Management Facility Inspections

	Inspection Type	Location Notes	Major Outfall?	Date Inspected	Serious Problems Reported to Owner?	Comments
South Shore Rain Garden	Rain Garden & Infiltration		No			
South Shore Storm Treat	Sedimentation Chamber	South of boat launch	No			Does little / Remove from inspecting
Bradford Beach Outfall 0	Rain Garden & Infiltration	Farthest South	No	11/15/2011	yes	clear out inlet (already told) Non Functioning / does little / remove from inspecting
Bradford Beach Outfall 2	Rain Garden & Infiltration		No	11/14/2011	yes	Pump Out Sed Chamber
Bradford Beach Outfall 3	Rain Garden & Infiltration		No	11/14/2011	yes	trees
Bradford Beach Outfall 4	Rain Garden & Infiltration		No	11/14/2011	yes	trees
Bradford Beach Outfall 5	Rain Garden & Infiltration		No	11/14/2011	yes	trees
Bradford Beach Outfall 6	Rain Garden & Infiltration		No	11/14/2011	yes	trees
Bradford Beach Outfall 7	Rain Garden & Infiltration	Farthest North	No	11/14/2011	yes	trees
Bradford Beach Outfall 7 (Lake Park R)	Rain Garden & Infiltration	Three Raingardens in Lake Park	No	11/14/2011	yes	trees
County Grounds Pond 1	Pond	Near Daycare	yes	11/14/2011	yes	Damage to RG near lions bridge repaired. In okay shape.
County Grounds Basin 2 - Pond 1	Pond	Wisconsin Ave ponds	yes	12/8/2011	yes	erosion / outlet
County Grounds Basin 2 - Pond 2	Pond	Wisconsin Ave ponds	yes	12/8/2011		
County Grounds Basin 2 - Pond 3	Pond	Wisconsin Ave ponds	yes	12/8/2011		
County Grounds Pond 3	Pond	Near Underwood Parkway	yes	11/17/2011	yes	
County Grounds Pond 10	Pond	Behind Children's Court	No	11/17/2011	yes	Highway yard contributing to sedimentation at it. Notified Highway and Facilities
Greenfield Park	Pond		No	12/13/2011		Erosion repaired by reserch park. County has erosion to repair. Notified facilities.
Menomonee Parkway	Pond		No	12/8/2011		
Brown Deer Park	Pond		No	11/15/2011	yes	some erosen in road inlet. Already told parks.
McGovern Park	Pond		No	11/15/2011	yes	
51st St And Rawson Ave.	Pond		No			
Port Washington Road	Pond		No			inspected by others
Washington Park	Pond		No			inspected by others
McKinley Raingarden	Rain Garden & Infiltration		No	11/15/2011		
McKinley Subsurface	Rain Garden & Infiltration		No	11/14/2011		
			No	11/15/2011	yes	Clean / pump out sed chamber

Attachment 4
Fall 2011 Storm Water Management Facility Inspections

	Inspection Type	Location Notes	Major Outfall?	Date Inspected	Serious Problems Reported to Owner?	Comments
South Street Rain Garden	Rain Garden & Infiltration		No			
South Street Storm Drain	Storm Drain Inlet	South of boat launch	No			No clogs reported
Bradford Beach Outfalls	Rain Garden & Infiltration		No			
Bradford Beach Parking lot Bio R	Rain Garden & Infiltration		No	11/15/2011		pump out fall 2010
Bradford Beach Parking lot sad Cham	Rain Garden & Infiltration		No	11/14/2011		
Bradford Beach Outfall 7 (Lake Park R)	Rain Garden & Infiltration	Three Raingardens in Lake Park	No	11/14/2011		
County Grounds Pond 1	Pond	Near Daycare	Yes	11/14/2011		requested repairs complete. Pond looks great
County Grounds Basin 2 - Pond 1	Pond	Wisconsin Ave ponds	Yes	12/8/2011		okay
County Grounds Basin 2 - Pond 2	Pond	Wisconsin Ave ponds	Yes	12/8/2011		okay
County Grounds Basin 2 - Pond 3	Pond	Wisconsin Ave ponds	Yes	12/8/2011		okay
County Grounds Pond 3	Pond	Near Underwood Parkway	Yes	11/17/2011		erosion (already told)
County Grounds Pond 10	Pond	Behind Children's Court	No	11/17/2011		Many problems - work on getting a maintenance agreement
Greenfield Park	Pond		No	12/13/2011		okay
Menomonee Parkway	Pond		No	12/8/2011		
Brown Deer Park	Pond		No	11/15/2011		
McGovern Park	Pond		No	11/15/2011		some erosion in road inlet. Already told parks.
10th St. And Rawson Ave.	Pond		Yes			
Port Washington Road	Pond		Yes			inspected by owner
Washington Park	Pond		Yes			inspected by owner
McKinley Raingarden	Rain Garden & Infiltration		No	11/15/2011		
McKinley Subsurface	Rain Garden & Infiltration		No	11/14/2011		
Zoo Pervious Pavement	Pervious Pavement	Various Locations	No	11/15/2011		Pump out fall 2010
Sports Complex Parking Lot	Pervious Pavement		No			Inspections Begin Spring 2012
College Ave	Pond	College ave south east of airport	No			Inspections Begin Spring 2012