MS4 Annual Report
(Due by March 31, 2016)

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: **2015**
Name of Permit Group (if applicable): Menomonee River Watershed-Based MS4 Permit	WPDES Permit No. WI-S065404-1		Facility ID No. (FIN):
Contact Information:			
Name: Tim Detzer	Title: Senior Environmental Engineer		
Mailing Address: 633 W. Wisconsin Ave, suite 1000	City: Milwaukee	State: WI	Postal Code 53203
E-mail Address: timothy.detzer@milwaukeecountywi.gov	Telephone No: 414-278-2988		

Section I. 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. *Add rows or attach additional sheets as needed*

A.1. PUBLIC INVOLVEMENT, EDUCATION, AND OUTREACH ***(report any individual efforts completed under Part II. A and B of the permit)***

BMP Description:

Presentations

6/2/2015 Tracking Sustainability Data and Goal Setting

Presenter, Sean Hayes, Milwaukee County Managing Engineer, General Mitchell International Airport

Mr. Hayes co-presented this webinar, which included green infrastructure planning, to the Federation of Environmental Technologists

11/4/2015 Nature Ignores Design That Ignores Nature

Presenter, Sean Hayes, Milwaukee County managing Engineer, General Mitchell International Airport

Mr. Hayes co-presented this green infrastructure design seminar to the Wisconsin Parks and Recreation Association.

Articles

Hybrid GI: Pervious Pavement and Wetland, APWA - Wisconsin Chapter Newsletter, Sean Hayes, Milwaukee County managing Engineer, General Mitchell International Airport

Activities/Projects

Codes and Ordinance Review Project
Milwaukee County has partnered with 1000 Friends of Wisconsin and Birchline Planning for the Municipal Codes & Ordinances Review Project. The project involves a review of municipal codes and ordinances and makes recommended revisions to the municipal codes that would remove barriers to the creation of or promote green infrastructure. In 2014, ten municipalities within the Menomonee River Watershed participated in the code review. In 2015-16, the remainder of the municipalities within Milwaukee Metropolitan Sewerage District's coverage area will participate. The project is funded by the Fund for Lake Michigan, the Milwaukee Metropolitan Sewerage District, and Wisconsin Coastal Management Program)

Menomonee River Public Education Committee
In 2015 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, the Respect our Waters campaign.

WLWCA Great Lakes Committee
The Wisconsin Land and Water Conservation Association recently created the Great Lakes Committee. This new committee will focus on non-point source pollution issues in counties whose surface waters drain to Lake Superior and Lake Michigan. Milwaukee County is a participating member in the association and Stevan Keith, Milwaukee County's Sustainability and Environmental Engineer is a member of the newly formed Great Lakes Committee.

Stormwater Facility Maintenance Project
In 2015 Milwaukee County conducted the Stormwater Facility Maintenance Project. Stormwater Solutions Engineering and Applied Ecological Services, under contract with Milwaukee County, performed one year of maintenance activities on County-owned stormwater BMPs. Maintenance activities were performed on 15 BMPs at 5 sites included pervious pavement, rain gardens, bioinfiltration swales/basins, stormwater ponds, subsurface infiltration, and sedimentation chambers. The intent was to determine maintenance costs for various BMPs and make design parameter recommendations based on the maintenance experiences. The project included a final report that analyzed the costs, efforts, and activities associated with performing maintenance on green infrastructure in Milwaukee County.

Responsible Dept./Person:
Department of Administrative Services, Facilities Management Division, Architecture, Engineering & Environmental Services Section.

Measurable Goal(s):
Please see above BMP Description.

Progress Made Towards Achieving Goal(s):
Please see above BMP Description.

Planned Activities for Next Reporting Year:
Milwaukee County intends to continue to support the Respect our Waters Campaign, which may be extended through an Urban Nonpoint Source Grant.

Program Modifications or Changes to Measurable Goal(s):
NA

B. ILLICIT DISCHARGE DETECTION AND ELIMINATION

Screening Strategy (priority areas identified in plan?):
In 2014, Milwaukee County utilized the Menomonee River Group's new IDDE screening tool to identify priority outfalls for screening. Twenty outfalls, including all of Milwaukee County's major outfalls, were identified for screening in 2015. The methodology is described in the attached memo (J. Sudar, 3/2/15). Milwaukee County also developed a standard procedure for investigating illicit connections following sample analyses of outfalls identified with the above-mentioned IDDE screening tool (See attachments).

Number of Outfalls Screened, Parameters Used, Detection Limits:

Twenty outfalls were inspected. If flow was present it was sampled for the following parameters:

Parameter	LOD (mg/L)	LOQ (mg/L)
Chlorine (total residual)	0.011	0.035
Copper	0.01	0.03
Phenols	0.065	0.21
Potassium	0.2	0.6
Ammonia as N	0.2	0.64

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

Six of the twenty outfalls tested positive for various parameters. The zoo outfall tested positive for chlorine and ammonia. The zoo utilizes city water for some animal pools, animal drinking water and general cleaning of exhibits. For this reason we expect to see residual chlorine in the storm water effluent. We believe the ammonia is indicative of animal waste. Four other outfalls tested positive for chlorine, though three of these were below the LOQ. Milwaukee County traced the source of the dry weather flow for the result that was above both the LOD and LOQ for chlorine to Mount Mary College and is currently helping Mount Mary investigate a potential source of the flow and chlorine. All outfalls with chlorine will be sampled again in 2016. One outfall tested positive for potassium. We believe this may be due to an excess in waterfowl, a large amount of which were present in the stormwater pond where the outfall was taken. This outfall will be retested in 2016. No illicit discharge have been found. Lab reports and tables can be found in the attachments. No illicit discharges or illegal connections were detected in 2015.

Number of Complaints Received and Summarize Result(s) of Follow-Up (include description of sewershed investigation):
Milwaukee County received no known complaints of illict discharges in 2015

Screening Strategy for Next Reporting Year (identify priority areas / basins and outfall ID's):
In 2016 Milwaukee County intends to re-inspect all outfalls which tested positive in 2015. Milwaukee County will also screen outfalls which receive complaints or "become suspect" in 2016.

Storm Sewer Map Updated? (summarize changes identifying basins and outfall ID's):
An updated Milwaukee County storm sewer map was sent to Bryan Hartsook on March 15, 2016. Updates consist largely of changes to the County storm sewer system due to the addition of Best Management Practices, changes to the system from construction and development-related projects, and corrections to the map due to drawing errors and field-verified changes to the system.

C. CONSTRUCTION SITE POLLUTANT CONTROL

Target 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

Number of Permit Applications Received / Number of Permits Issued:
NA

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

Number of Inspections Completed:
NA

Number of Enforcement Actions and Description:
NA

Changes in Inspection and /or Enforcement Strategy and Protocol:
NA

Name and adoption date of updated ordinance (attach copy):
NA

D. POST-CONSTRUCTION STORM WATER MANAGEMENT

Number of Storm Water Management Plans Reviewed:
Milwaukee County reviews stormwater management plans for developments with connections to County stormwater structures within County Trunk Highways. These plans are also reviewed by the local municipality. There were four plans reviewed in 2015.

Name and adoption date of updated ordinance (attach copy):
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:
There were four redevelopment sites reviewed for storm water in 2015.

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 private 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:
See attachments.

Summarize Findings of Municipal Yard Inspection(s), SWPPP Implemented and Up to Date?:
A new SWPPP will be written for the Fleet Management Facility in 2016. New or updated SWPPPs will also be written for the Milwaukee County Zoo and the North Highway Shop in 2016. Timmerman Airport's SWPPP will be reviewed and updated as necessary. Mckinley Marina's SWPPP is current. SWPPP site inspections forms are attached.

Updates to Yard Waste Collection:
Milwaukee County does not collect residential yard waste. Some plant material from parks and County facilities are collected and reused. Woody materials are chipped for mulch and grass clippings and leaves are left in place except on golf courses where they are moved to a different location. Some leaves may be collected for composting.

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

Material	State Hwy	County Hwy	Zoo	Facilities*	MCTS	Unit
Salt	23158	4112	182	426.97	339.95	tons
Liquid Calcium	15178	1750			55	gallons
Dry Calcium	21.875	4.125				tons
Salt Brine	32450					gallons

*Includes County facilities at County Grounds and Courthouse Complex

Planned Activities for Next Reporting Year:

In 2016 new SWPPPs will be written for the Fleet Management Facility, the Milwaukee County Zoo and the North Highway Shop. Timmerman Airport's SWPPP will be reviewed and updated as necessary.

In 2016 the construction of a dewatering facility for dewatering materials from catch basin cleaning and street sweeping will be completed.

Program Modifications or Changes:

NA

F. STORM WATER QUALITY MANAGEMENT

Have there been any changes in implementation, maintenance, mapping or modeling of storm water management practices in the past year? If yes, please complete the remainder of Section F.

Yes

Pollutant Loading Analysis:

Date of last model run: 2010

"No Controls" Load (tons/yr): 1,218,826.20

"With Controls" Load (tons/yr):

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 acheive compliance?

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

NA

BMPs Implemented in Reporting Year:

- Wetland at Menomonee River Parkway
- Menomonee River Parkway: 24 bioinfiltration swales and biofiltration basins (still under construction)
- Milwaukee River Parkway: three biofiltration basins (still under construction)
- Pervious pavement at CATC parking lot
- Reduced impervious surface (reduce asphalt walks) and replaced with turf at Smith and ML King Parks
- Reduced impervious surface (reduce asphalt) and replace with turf at Dineen Tennis Courts.
- Rain gardens at Moody Park

BMP Maintenance Activities in Reporting Year:

- Reconstruction of emergency spillways for infiltration cells at Bradford Beach
- Vacuuming of sedimentation chambers at Bradford and McKinley Beaches
- Removal of invasive plant species for all BMPS at Bradford and McKinley Beaches
- Sweeping and replenishment of joint material for the Milwaukee County Sports Complex permeable pavement
- Removal of woody plants, phragmites, and purple loosestrife at County Basin 2
- Measurement of sediment depths at the County Basin 2 ponds
- Reconstruction/planting of stormwater pond at College Ave and Loomis Rd
- Catch basin cleaning/and street sweeping
- Semiannual inspections were conducted for 78 stormwater BMPs at 33 individual sites. It is anticipated that some of these inspections resulted in maintenance activities.

F. WATERSHED-BASED PROJECT STATUS

Selection of joint or individual project?

Milwaukee County has selected to complete a joint project with the cities of Greenfield, Milwaukee, Wauwatosa and West Allis to construct five rain gardens along the Menomonee River Parkway.

Name of project

Menomonee River Parkway Rain Gardens

Project description and timeframe for completion

The Menomonee River Parkway Rain Gardens project will install five rain gardens that will receive runoff from the parkway road. The TSS reduction created by the five rain gardens, over 1000 lbs of TSS per year, is above and beyond that required for the roadway reconstruction effort by Milwaukee County. The project is under construction and is scheduled for substantial completion by June 2016.

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 projects carried out in within the permit period will have positive water quality impacts. See BMPs implemented in the program year above. There were no known instances of water quality degredation in 2015.

Section III. Fiscal Analysis

Program Element	*Annual Expenditure*	*2016 Budget*	*Source of Funds*
Public Involvement, Education and Outreach			
IDDE			
Construction Site Pollutant Control			
Post-Construction Storm Water Management			
Pollution Prevention			
Storm Water Quality Management			
Total	$ 480,902.19	$ 221,047.00	

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 adminsitration 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 are not in this analyses unless those projects have oversight by the Environmental Services Unit.

The Annual Expenditure column reflects actual costs for the Environmental Services Unit in 2015 including capital costs. Milwaukee County does not track the various components of the analyses (e.g. Education, Public Involvement, IDDE, etc.) in Milwaukee County's accounting system. The total sum of all categories is contained in the "Storm Water Quality Management" 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 anual 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: Senior Environmental Engineer

Authorized Representative Signature: Timothy Detzer

Date Signed: 3/31/2016

List of Attachments

1. Illicit Discharge Detection and Elimination Program
    a. IDDE Screening Tool Methodology and Results (J. Sudar Memo 3/2/2015
    b. IDDE 2015 Sampling Results (table)
    c. IDDE 2015 Sampling Results (lab reports)
    d. IDDE Indicator Parameters Action Levels
    e. IDDE Sampling Exceedance Follow-up Procedure
2. Storm Sewer Map Update
3. SWPPP Inspection Reports
4. Street Sweeping / Catch Basin Cleaning (table)
5. Stormwater Management Facility Inspections (table)
    a. Stormwater Management Facility Inspections (table)
    b. Stormwater Management Maintenance Items (table)
6. Watershed-Based Project Status (Project Submittal)

Attachment 1

Illicit Discharge Detection and Elimination Program

DEPARTMENT OF ADMINISTRATIVE SERVICES

Milwaukee County

DATE: 3/2/2015

TO: Steve Keith, Environmental Services

FROM: Jack Sudar, Environmental Services

SUBJECT: Illicit Discharge Potential of Milwaukee County Outfalls in Menomonee River Watershed

All Milwaukee County owned outfalls in the Menomonee River watershed were analyzed for the illicit discharge potential (IDP) of human waste using the criteria that was developed by the Menomonee River Watershed Permitees. Using the suggested criteria there were 5 factors considered for each of the 302 Milwaukee County-owned outfalls in the Menomonee River watershed. These 5 factors were:

- Proximity of Sanitary and Stormwater Pipes
- Age of Development
- Parcels per Square Mile
- Material / Condition of Pipe (NAASCO ratings)
- Past Discharge Complaints / Flowing Outfalls During Dry Weather

The Proximity of Sanitary and Stormwater Pipes for each SEWRPC subbasin varied significantly between the 56 different subbasins that have Milwaukee County-owned outfalls in the Menomonee River watershed. Sanitary sewer maps from the cities of Greenfield, Milwaukee, Wauwatosa, and West Allis were obtained in order to account for all of the sanitary sewer crossings. Subbasins in the top 25th percentile received a rating of 3, subbasins in the 25th to 75th percentile received a rating of 2, and subbasins in the lowest 25th percentile received a rating of 1. Many of the subbasins with the highest rankings were heavily influenced by the trenching of sanitary and storm sewer pipes, primarily around Milwaukee County-owned highways.

The construction dates of the storm sewers for the Age of Development factor was able to be pinpointed within a range of a few years for each Milwaukee County property. Due to this, the criteria for storm sewer age was based on construction dates of the storm sewers. Areas known to be older

than 50 years were given a rating of a 3, areas that were primarily aged between 40 to 50 years were given a rating of a 2, and areas that were primarily newer than 40 years old were given a priority rating of a 1. This criteria slightly deviated from the suggested criteria for the age of storm sewers. The suggested criteria was based on a percentage of the sewers in an area that fell either above or below 50 years in age, rather than the known construction ages of the sewers.

The Parcels per Square Mile factor was rather straight forward, as the top 25th percentile received a rating of 3, the 25th to 75th percentile received a rating of 2, and the lowest 25th percentile received a rating of 1.The primary trend seemed to be that the subbasins with the most densely populated residential areas received the highest ranking of 3.

The Material and NASSCO ratings for Milwaukee County outfalls was unknown, so each outfall was given a rating of 2.

For the Past Discharge Complaints factor, there were 10 outfalls identified as having complaints of dry weather flow. These 10 outfalls received a ranking of a 3, while the remaining outfalls received a ranking of 2.

Attached is the spreadsheet that was used for the IDP review. Out of the 302 County owned outfalls in the Menomonee River Watershed there were 5 that received the highest score of 2.6, all of which had received past complaints. There were 77 outfalls that received the next highest score of 2.4. There were 5 additional outfalls which had received complaints, but did not receive the highest score. These five outfalls received scores of either 2.2 or 2.4. Out of the 11 "Major" outfalls that have been investigated in the past, 8 of them lie within the Menomonee River Watershed.

It is suggested that Milwaukee County further evaluate these 18 outfalls (8 Major outfalls, 5 outfalls that received complaints but did not score highly, and the 5 highest-rated outfalls using the IDP criteria) within the Menomonee River watershed using the criteria detailed in WPDES Permit No. WI-S050156-1.

IDDE 2015 Sampling Results

County ID	Prog. Year	Major or Priority?	Outfall	Date	Time	Last Rain Fall	Amount	Flow	Turbidity	Color	Odor	Scum/Sheen	pH	Chlorine	Copper	Phenols	Detergents	Ammonia	Notes
69	2015	Major	County Grounds Pond #1 Outfall	11/4/2015	12:15 PM	11/1/2015	0.12"	LIGHT	LOW	NONE	NONE	NONE		ND	ND	ND	8.8*	ND	*Sample was analyzed for potasium not detergents
8224	2015	Major	Zoo (Main Discharge)	11/4/2015	10:30 AM	11/1/2015	0.12"	MODERATE	LOW	NONE	NONE	NONE		0.149	ND	ND	3.1*	0.48	*Sample was analyzed for potasium not detergents
16214	2015	Priority	Bluemound and Honey Creek Pkwy (West)	11/4/2015	11:15 AM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
16220	2015	Priority	Menomonee River Parkway (Near 84th)	11/4/2015	1:15 PM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
16224	2015	Priority	Menomonee River Parkway (Near 90th)	11/5/2015	1:00 PM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
16252	2015	Major	Doctors Park	11/5/2015	10:15 AM	11/1/2015	0.12"	LIGHT	LOW	NONE	NONE	NONE		0.022	ND	ND	5.9*	ND	*Sample was analyzed for potasium not detergents
16258	2015	Major	Timmerman Airport	11/5/2015	11:30 AM	11/1/2015	0.12"	MODERATE	LOW	NONE	NONE	NONE		0.012	ND	ND	5.6*	ND	*Sample was analyzed for potasium not detergents
17205	2015	Major	Layton Ave at Honey Creek (Near 52nd - East)	11/4/2015	2:45 PM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
17206	2015	Major	Layton Ave at Honey Creek (Near 52nd - West)	11/4/2015	2:45 PM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
17207	2015	Major	Root River Pkwy (Near 76th)	11/4/2015	3:15 PM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
17208	2015	Major	Brown Deer - Teutonia at South Branch Creek	11/5/2015	11:00 AM	11/1/2015	0.12"	LIGHT	LOW	NONE	NONE	NONE		0.017	ND	ND	9.6*	ND	*Sample was analyzed for potasium not detergents
17224	2015	Major	County Grounds Pond #2 Outfall	11/4/2015	11:30 AM	11/1/2015	0.12"	MODERATE	LOW	NONE	NONE	NONE		ND	ND	ND	7.6*	ND	*Sample was analyzed for potasium not detergents
17227	2015	Major	County Grounds Pond #3 Outfall	11/4/2015	10:00 AM	11/1/2015	0.12"	LIGHT	LOW	NONE	NONE	NONE		ND	ND	ND	23.4*	ND	*Sample was analyzed for potasium not detergents
18168	2015	Priority	Underwook Creek Pkwy (Near 119th)	11/4/2015	9:30 AM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
18169	2015	Priority	Menomonee River Parkway (Near Burleigh)	11/4/2015	12:30 PM	11/1/2015	0.12"	LIGHT	LOW	NONE	NONE	NONE		0.113	ND	ND	3.1*	ND	*Sample was analyzed for potasium not detergents
18165	2015	Priority	Underwood Creek and Bluemound	11/5/2015	9:30 AM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
18268	2015	Priority	Honey Creek Pkwy (Near 83rd)	11/4/2015	11:00 AM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
18267	2015	Priority	Honey Creek Pkwy (Near 83rd)	11/4/2015	11:00 AM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	
18301	2015	Priority	Menomonee River Parkway (Near 81st)	11/4/2015	1:30 PM	11/1/2015	0.12"	LIGHT	LOW	NONE	NONE	NONE		ND	ND	ND	2.9*	ND	*Sample was analyzed for potasium not detergents
20038	2015	Priority	Menomonee River (Across from 16224 in Hoyt Park)	11/5/2015	1:30 PM	11/1/2015	0.12"	NONE	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	

Indicates that the sample result is an indicator of a potential illicit disharge

Indicates that a sample was taken due to flow during dry weather conditions

ZOO- These results can be explained by chrloinated water from exhibits and amonnia can be explained by animal realted waste.

DOCTORS, TEUTONIA, AND TIMMERMAN - Chlorine is extremely small for the Doctors, Teutonia, and Timmerman. This could be due to an isolated discharge of potable water to the watershed. However, the levels are above the LOD, but are so small that they are below the LOQ. Values below the LOQ are considered too small to be reliably quantifiable.

MENOMONEE RIVER PARKWAY (NEAR BURLEIGH) - Chlorine level is above the LOD and LOQ at Mount Mary, though still below the median chlorine level in Milwaukee Water Works potable water levels. During the inspection flow appeared to be coming from east of the outfall. Further investigation revealed that there was a cast iron pipe with flow due east of the outfall that was coming in the direction of the Mount Mary property. This pipe appeared to be coming from a water fountain in the Mount Mary yard. This should be further evaluated when weather is above freezing and after 72 hours of no snowmelt or precipitation. UPDATE: The site was visited on 1/21/16 when the weather was in the 20s, and there was still flow coming from the outfall. The water fountain was inspected, and the flow did not appear to be coming from it. UPDATE: A meeting has been scheduled with Mounty Mary staff for 3/29/16 to identify a source of the flow.

COUNTY GROUNDS POND #3 OUTFALL - Potassium levels above 10 mg/L at County Basin 3 is a bit unexpected. This could have be due to the considerable amount of goose poop and algae in the pond.

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Milwaukee County Dept of Administration
Attn: Jack Sudar
633 W. Wisconsin Ave, Ste 1003
Milwaukee,WI 53203

Date Received: 11/05/2015
Date Reported: 11/20/15 13:28
Client Project: Storm Water
Client Project ID: [none]
PO# 60132
Project #: [none]

Certificate of Analysis

This analytical test report shall not be reproduced, except in full, without written permission from Eurofins S-F Analytical Laboratories. All quality control samples and checks were within acceptance limits unless otherwise indicated. Test results pertain only to those items tested. All samples were in good condition when received by the laboratory unless otherwise noted. All LOD/LOQs are adjusted to reflect dilutions.

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-01			**Date Collected:**		11/04/2015				
17227 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	23.4	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/05/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	<0.011	mg/L	0.011	0.035	1	11/04/15	L8KH	SM4500Cl-G 2000	

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-02			**Date Collected:**		11/04/2015				
8224 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	3.1	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/05/2015				Prepared By: JN18		
Ammonia as N	0.48	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	0.149	mg/L	0.011	0.035	1	11/04/15	L8KH	SM4500Cl-G 2000	

Edward L. Kelley

Edward Kelley, Environmental Group Leader

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ISO-17025 Accredited AT-1769 Dept of Natural Resources State Certified Laboratory #241249360
Wisconsin Dept. of Trade and Consumer Protection Certified #168

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Milwaukee County Dept of Administration	Project: Storm Water	
633 W. Wisconsin Ave, Ste 1003	Project Number: [none]	**Reported:**
Milwaukee, WI 53203	Project Manager: Jack Sudar	11/20/15 13:28

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-03			**Date Collected:**		11/04/2015				
17224 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	7.6	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/05/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	<0.011	mg/L	0.011	0.035	1	11/04/15	L8KH	SM4500Cl-G 2000	

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-04			**Date Collected:**		11/04/2015				
69 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	8.8	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/05/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	<0.011	mg/L	0.011	0.035	1	11/04/15	L8KH	SM4500Cl-G 2000	

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-05			**Date Collected:**		11/04/2015				
18301 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	2.9	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/05/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	

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Milwaukee County Dept of Administration	Project: Storm Water	
633 W. Wisconsin Ave, Ste 1003	Project Number: [none]	**Reported:**
Milwaukee, WI 53203	Project Manager: Jack Sudar	11/20/15 13:28

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-05			**Date Collected:**		11/04/2015				
18301 Stormwater									
Chlorine - Total Residual (Lab)	<0.011	mg/L	0.011	0.035	1	11/04/15	L8KH	SM4500Cl-G 2000	

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-06			**Date Collected:**		11/05/2015				
16252 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	5.9	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/06/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	0.022	mg/L	0.011	0.035	1	11/05/15	L8KH	SM4500Cl-G 2000	

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-07			**Date Collected:**		11/05/2015				
17208 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	9.6	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/06/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	0.017	mg/L	0.011	0.035	1	11/05/15	L8KH	SM4500Cl-G 2000	

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-08			**Date Collected:**		11/05/2015				
18169 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		

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Milwaukee County Dept of Administration	Project: Storm Water	
633 W. Wisconsin Ave, Ste 1003	Project Number: [none]	**Reported:**
Milwaukee, WI 53203	Project Manager: Jack Sudar	11/20/15 13:28

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-08			**Date Collected:**		11/05/2015				
18169 Stormwater									
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	3.1	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/06/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	0.113	mg/L	0.011	0.035	1	11/05/15	L8KH	SM4500Cl-G 2000	

Analyte	Result	Units	LOD	LOQ	Dilution Factor	Analyzed	Analyst	Method	Notes
SYK0193-09			**Date Collected:**		11/05/2015				
16258 Stormwater									
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Copper	<0.01	mg/L	0.01	0.03	1	11/10/15	L8KH	EPA 200.7 1994	
Preparation: SW-846 3015A 2007			Preparation Date: 11/09/2015				Prepared By: L8KH		
Potassium	5.6	mg/L	0.2	0.6	1	11/10/15	L8KH	EPA 200.7 1994	
			Preparation Date: 11/06/2015				Prepared By: JN18		
Ammonia as N	<0.20	mg/L	0.20	0.64	1	11/08/15	P84Z	EPA 350.1 Rev2.0 Mod 1993	
Chlorine - Total Residual (Lab)	0.012	mg/L	0.011	0.035	1	11/05/15	L8KH	SM4500Cl-G 2000	

Note: Phenol results attached.

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 250830
NLS Customer: 32274

Client: Eurofins S-F Analytical Laboratories Inc
Attn: Edward Kelley
2345 S. 170th Street
New Berlin, WI 53151

Fax: 262 754 5310 Phone: 262 754 5300
PO # 1511295-1001674

Project: SYK0193

SYK0193-01 NLS ID: 892906
Matrix: WW
Collected: 11/04/15 09:55 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/11/15	5530 D-2005	721026460

SYK0193-02 NLS ID: 892907
Matrix: WW
Collected: 11/04/15 10:20 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/11/15	5530 D-2005	721026460

SYK0193-03 NLS ID: 892908
Matrix: WW
Collected: 11/04/15 11:30 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/11/15	5530 D-2005	721026460

SYK0193-04 NLS ID: 892909
Matrix: WW
Collected: 11/04/15 12:30 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/11/15	5530 D-2005	721026460

SYK0193-05 NLS ID: 892910
Matrix: WW
Collected: 11/04/15 13:40 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/11/15	5530 D-2005	721026460

SYK0193-06 NLS ID: 892911
Matrix: WW
Collected: 11/05/15 10:15 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/11/15	5530 D-2005	721026460

SYK0193-07 NLS ID: 892912
Matrix: WW
Collected: 11/05/15 10:50 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/11/15	5530 D-2005	721026460

SYK0193-08 NLS ID: 892913
Matrix: WW
Collected: 11/05/15 12:30 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/19/15	5530 D-2005	721026460

SYK0193-09 NLS ID: 892914
Matrix: WW
Collected: 11/05/15 11:25 Received: 11/06/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phenols (distillation)	ND	mg/L	1	0.065	0.21	11/19/15	5530 D-2005	721026460

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 250830
NLS Customer: 32274

Client: Eurofins S-F Analytical Laboratories Inc
Attn: Edward Kelley
2345 S. 170th Street
New Berlin, WI 53151

Fax: 262 754 5310 Phone: 262 754 5300
PO # 1511295-1001674

Project: SYK0193

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution and/or solids content.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples.Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

Milwaukee County IDDE: Indicator Parameters Action Levels

Parameter	Action Level	Illicit Sources	Non-Illicit Sources
Ammonia	0.1 mg/l	Sanitary sewage and industrial wastewater	Pets, wildlife and potentially WPDES permitted discharges
Detergents	0.5 mg/l	Industrial cleansers, cemmercial wash water and sanitary sewage	Residential car washing
pH	Less than 6 or greater than 9	Industrial wastewater and concrete truck wash-out	Groundwater and WPDES permitted discharges
Total Chlorine	Detection or positive test unless associated with a WPDES permitted discharge at background water supply levels	Industrial wastewater, swimming pools and sanitary sewage	WPDES permitted discharge
Total Copper	0.1 mg/l	Copper-based product use and manufacturing	WPDES permitted discharge
Phenol	Detection of positive test	Chemical, textile, paint, resin, tire, plastic, electronics and pharmaceutical manufacturing	None
Fluoride	Detection above background groundwater or water supply levels	Commercial and industrial wastewaters with a water supply component	Groundwater and WPDES permitted discharges
Potassium	10 mg/l	Sanitary sewage and industrial wastewater	Groundwater and WPDES permitted discharges
E. Coli	10,000 MPN/100 mL	Sanitary sewage	Wildlife and pets
Human Bacteriodes	Detection or positive test	Sanitary sewage	None

Milwaukee County's MS4 permit (2012-2017) requires sampling for ammonia, copper, phenol, detergents, and either chlorine or fluoride. Milwaukee County was given permission to sample potassium instead of detergents (this was an email on lotus notes). All Major outfalls need to be sampled once every 5 years (once per permit cycle) unless there is an indication of an illicit discharge. All Priority outfalls need to be sampled once per year. If after two years a Priority outfall does not have an indication of an illicit discharge, that priorty outfall can be reduced to sampling once every 5 years.

Yellow indicates that this parameter is required to be sampled
Red indicates that one of these parameters is required to be sampled
Blue indicates that this parameter was allowed to replace another required parameter
Green indicates that this is a required parameter, though another parameter was allowed to replace it

MILWAUKEE COUNTY
Architecture, Engineering, and Environmental Services Procedures

Illicit Discharge Detection and Elimination Sampling Exceedance Follow-up Procedure

Procedure Number:	ENV_200	**Creation Date:**	January 12, 2016
Prepared by:	Jack Sudar	**Revision Date:**	January 12, 2016
Procedure Description:	This procedure outlines the follow-up actions to take if there is an indicator from sampling data of a potential illicit discharge in the stormsewer system.		
Procedure Responsibility:	Environmental Engineer or Equivalent		
Procedure Purpose:	It is necessary to follow-up with a sampling exceedance per Milwaukee County's MS4 permit that requires all Major and Priority outfalls be sampled as part of the IDDE program goals of identifying and eliminating illicit discharges. The purpose of following up with a sampling exceedance is to determine the source of an illicit discharge and remove the illicit connection.		

Attachments	
Attachment A	Menomonee River Watershed-Based MS4 Permit: Part III Section A
Attachment B	Milwaukee County Staff to Contact in the Event of a Potential Illicit Discharge
Attachment C	Indicator Parameter Action Levels
Attachment D	Illicit Discharge Detection and Elimination DNR Guidance Document

Definitions

- **Illicit Discharge** – An illicit discharge is defined as any discharge to the municipal separate storm sewer system that is not composed entirely of storm water, except for discharges allowed under an NPDES permit or waters used for firefighting operations.

- **IDDE Program**– An Illicit Discharge Detection and Elimination Program. The purpose of an IDDE program is to detect and remove illicit connections and discharges to the municipal separate storm sewer system.

Background

Milwaukee County's MS4 permit (WI-S050156-1, from 2012-2017) requires that all Major and Priority outfalls be sampled for ammonia, copper, phenol, detergents and either chlorine or fluoride (*Attachment A*). Milwaukee County has been given permission to sample potassium in lieu of detergents, and has historically elected to sample chloride instead of fluoride.

This sampling is required as part of the IDDE program that is outlined in the MS4 permit. Milwaukee County has over 29,000 stormwater structures that were limited down to 302 eligible stormwater outfalls within the Menomonee River watershed as part of the IDDE analysis outlined by the permit holders. These 302 stormsewer outfalls were further limited down to 20 Major and Priority outfalls through the systematic analysis of the stormsewer system by factoring in the proximity of sanitary and stormwater pipes, age of development, parcels per square mile, condition of pipes, and past discharge complaints.

These 20 Major and Priority outfalls are to be sampled per the requirements of the MS4 permit. All Major outfalls need to be sampled once every 5 years (once per permit cycle) unless there is an indication of an illicit discharge. All Priority outfalls need to be sampled once per year. If after two years a Priority outfall

does not have an indication of an illicit discharge, that Priority outfall can then be reduced to sampling once every 5 years (once per permit cycle).

Procedures

Initial Follow-up Actions

If there is an indicator from the sampling data of a potential illicit discharge, some of the initial step include:

- Look upstream of the outfall. Open manholes upstream in an attempt to identify a source of flow. If a source of flow is discovered, follow it upstream as far as practical to identify the origin.
- Contact the Milwaukee County owner department that is responsible for the outfall and Milwaukee County Environmental Services staff in order to gather more information (*Attachment B*).
- View areal maps to see if there is a potential source (e.g. manufacturing facilities, residential neighborhoods, industrial cleaners, water fountains, etc.).
- Gather storm sewer and sanitary sewer maps of the surrounding area.
- Which of the initially sampled parameters has an exceedance? Figure out what the initial parameter exceedance could be an indicator of, and then factor that into the investigation (*Attachment C*). For example:
    - A copper exceedance could be an example of manufacturing or industrial waste, so check to see if there are any of these types of facilities within the area.

Additional Follow-up Actions

After performing the initial investigation some additional actions to take include:

- If a suspected source is discovered, contact the property owner. Ask if they may know of a potential cause. Ask for their sewer maps and to meet with someone familiar with their sanitary and stormsewer utilities.
- If a suspected source is discovered, and it is flowing from another municipality's pipe or storm structure, inform the municipality of your findings. The responsible municipality should be liable for further investigation of the potential illicit discharge.
- If a suspected source is discovered, smoke or dye testing may be performed to verify the source.
- If there are multiple sources of flow upstream, sampling each of these sources for the elevated parameter can help to determine the origin of the illicit discharge.
- If a source cannot be identified, some additional sampling parameters to follow up with could include detergents, fluoride, pH, human bacteriodes, and E. coli. *(Attachments D).*

Final Follow-up Actions

If a source is identified through the initial and additional investigations then the final actions should include:

- Upon confirmation of a source of an illicit discharge the DNR should be notified within 24 hours.
- Upon discovery of a potential illicit discharge, Milwaukee County should notify the DNR within 6 months if no source is able to be found.
- The responsible party of the illicit discharge should remove their connection into the stormsewer system. If the owner is not corporative with rectifying the illicit connection, the DNR should be notified and asked to help correct the situation.
- Upon removal of an illicit connection, sampling of the outfall can be performed to verify that the removal of the illicit connection has been achieved.
- The DNR will be notified of the findings of the IDDE program in our annual stormwater report.

Attachment A – Menomonee River Watershed-Based MS4 Permit: Part III Section A

Part III. INDIVIDUAL CONDITIONS

The following permit conditions apply to each municipality in the Menomonee River Watershed Permittees:

A. ILLICIT DISCHARGE DETECTION AND ELIMINATION: Each municipality shall continue to implement a program to detect and remove illicit connections and discharges to the municipal separate storm sewer system. Each municipality's implementation of its program to detect and remove illicit connections and discharges may incorporate cooperative efforts with other MS4 regulated permittees or efforts by other groups or organizations if the shared responsibility is approved by the Department. The program shall include measurable goals and include all of the following:

1. An ordinance or other regulatory mechanism to prevent and eliminate illicit discharges and connections to the municipal separate storm sewer system. At a minimum, the ordinance or other regulatory mechanism shall:

   a. Prohibit the discharge, spilling or dumping of non-storm water substances or material into waters of the state or the storm sewer system.

   b. Identify non-storm water discharges or flows that are not considered illicit discharges. Non-storm water discharges that are not considered illicit discharges including water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, firefighting and discharges authorized under a WPDES permit unless identified by the permittee as significant source of pollutants to waters of the state.

   c. Establish inspection and enforcement authority.

      Note: Chapter NR 815, Wis. Adm. Code, regulates injection wells including storm water injection wells. Construction or use of a well to dispose of storm water directly into groundwater is prohibited under s. NR 815.11(5), Wis. Adm. Code.

2. Field screening during dry weather periods (typically 72 hours after any measurable rainfall) of the following municipal separate storm sewer system outfalls:

   a. **Effective immediately at the start of permit coverage** – All major outfalls which showed no indication of illicit discharges during the previous permit term. In any single year at least one fifth of such major outfalls shall be screened, on a rolling basis such that at the end of the permit term all major outfalls which showed no indication of illicit discharges during the previous permit term have been screened.

   b. **Effective immediately at the start of permit coverage** – All major outfalls which showed evidence of illicit discharges during the last two samplings under the preceding permit term shall be evaluated annually, at a minimum one time per year.

   c. **Within 6 months of receiving approval by the Department for the analysis procedure described in Part II-Section E** – Other outfalls, regardless of size, identified for illicit discharge screening under Part II-Section E, shall be evaluated on an ongoing basis, at a minimum one time per year or at an increased frequency as deemed appropriate by the municipality.

3. At a minimum, field screening shall be documented and include:

   a. Visual Observation - A narrative description of visual observations including color, odor, turbidity, oil sheen or surface scum, flow rate and any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping. (include narrative in annual report)

   b. Field Analysis - If flow is observed, field analysis shall be conducted to determine the presence of illicit non-storm water discharges or illegal dumping. The field analysis shall include sampling total copper, total phenol, detergent, ammonia, and either fluoride or total chlorine unless written concurrence is obtained from the Department allowing use of alternative indicator parameters to more effectively detect illicit discharges such as with potassium or bacteria.

      Note: The Department has written a guidance document to assist municipalities with development of field screening programs to determine the presence of illicit discharges from MS4 outfalls. The guidance can be found on the Departments website at: http://dnr.wi.gov/topic/stormwater/documents/MS4_IDDE_Guidance_3-2012.pdf

      i. Field screening points shall, where possible, be located downstream of any source of suspected illegal or illicit activity.

      ii. Field screening points shall be located where practicable at the farthest manhole or other accessible location downstream in the system. Safety of personnel and accessibility of the location shall be considered in making this determination.

      iii. Consideration shall be given to hydrological conditions, total drainage area of the site, population density of the site, traffic density, age of the structures or building in the area, history of the area and land use types.

4. For those outfalls on an annual cycle, when evidence of illicit discharges is not found in two consecutive years, the outfall can be placed on the list for sampling once every five years. At a minimum, field screening shall be documented and include the visual observations and field analyses described under Part III-Section A-3.

5. Following approval of the analysis procedure described above in Part II-Section E, each municipality shall adapt the procedure to its local conditions. Each municipality shall screen those outfalls identified by the adapted analysis procedure using the procedures described in Part III-Section A-2-a and b.

   For those outfalls for which bacterial testing indicates human fecal contamination the municipality, in consultation with the Department, shall initiate a systematic examination of the catchment area tributary to the outfall in an effort to determine and eliminate the source of the illicit discharge.

      Note: The purpose of Part II-Section E is to identify sanitary cross connections or inflow and infiltration from aging sanitary sewer systems into the MS4. While fecal contamination from nonhuman sources in storm water runoff does pose a threat to water quality and human health, it is not considered an illicit discharge. However, the municipality may want to screen for fecal coliform to address concerns with contamination from nonhuman sources.

6. Procedures for responding to known or suspected illicit discharges. At a minimum, procedures shall be established for:

   a. Immediately investigating portions of the municipal separate storm sewer system that, based on the results of field screening or other information, indicate a reasonable potential for containing illicit discharges or other sources of non-storm water discharges.

   b. Responding to spills that discharge into and/or from the municipal separate storm sewer system including tracking the source of the spill if unknown.

   c. Preventing and containing spills that may discharge into or are already within the municipal separate storm sewer system.

   d. Immediately notifying the Department in accordance with ch. NR 706, Wis. Adm. Code, in the event that the permittee identifies a spill or release of a hazardous substance, which results in the discharge of pollutants into waters of the state. The Department shall be notified via the 24-hour toll free spill hotline at 1-800-943-0003. The permittee shall cooperate with Department in efforts to investigate and prevent such discharges from polluting waters of the state.

   e. Identified illicit discharges or connections shall be eliminated to the maximum extent practicable. If neither the source nor the non-stormwater discharge has been identified or observed within 6 months of beginning the investigation, then the municipality must maintain written documentation of the actions undertaken for review by the Department. A minimum of 3 separate investigations to observe and sample flow at the identified outfall must be made within the 6 month period. Outfalls with indeterminate sources and non-stormwater discharges shall continue to be screened annually.

      Once an illicit discharge is identified, the investigating municipality must contact the Department within 24 hours.

   f. To the maximum extent practicable, eliminating or minimizing leakage from sanitary conveyance systems into the municipal separate storm sewer system.

   g. Providing the Department with advance notice of the time and location of dye testing within a MS4. (Because the dye may get reported to the Department as an illicit discharge, the Department requires prior notification of dye testing.)

   h. In the case of an illicit discharge that originates from the municipality's permitted area and that discharges directly to a storm sewer system or property under the jurisdiction of another municipality, the first municipality shall notify the affected municipality within one working day.

   i. The name, title, and phone number of the individual(s) responsible for responding to reports of illicit discharges and spills shall be included in the illicit discharge response procedure and submitted to the Department in accordance with Part V.B.3.

7. Once the source of an illicit discharge is detected and remediated, and confirmed by screening, no further field screening at the affected outfall(s) will be required during the permit term.

B. CONSTRUCTION SITE POLLUTANT CONTROL: The permittee shall continue to implement and enforce a program that establishes measurable goals and reduces the discharge of sediment and

Attachment B – Milwaukee County Staff to Contact in the Event of a Potential Illicit Discharge

Name	Phone Number	Title
Stevan Keith	414-278-4355	Environmental Services Unit Leader
Tim Detzer	414-278-2988	Senior Environmental Engineer
Jack Sudar	414-278-4870	Environmental Engineer
Mark Sifuentes	414-278-5238	Civil Engineer

Attachment C – Indicator Parameter Action Levels

Parameter	Action Level	Illicient Sources	Non-Illiciet Sources
Ammonia	0.1 mg/l	Sanitary sewage and industrial wastewater	Pets, wildlife and potentially WPDES permitted discharges
Detergents	0.5 mg/l	industrial cleansers, cemmercial wash water and sanitary sewage	Residential car washing
pH	Less than 6 or greater than 9	Industrial wastewater and concrete truck wash-out	Groundwater ans WPDES permitted discharges
Total Chlorine	Detection or positive test unless associated with a WPDES permitted discharge at background water supply levels	Industrial wastewater, swimming pools and sanitary sewage	WPDES permitted discharged
Total Copper	0.1 mg/l	Copper-based product use and manufacturing	WPDES permitted discharged
Phenol	Detection of poitive test	Chemical, textile, paint, resin, tire, plastic, electronics and pharmaceutical manufacturing	None
Fluoride	Detection above background groundwater or water supply levels	Commercial and industrial wastewaters with a water supply component	Groundwater ans WPDES permitted discharges
Potassium	10 mg/l	Sanitary sewage and industrial wastewater	Groundwater ans WPDES permitted discharges
E. Coli	10,000 MPN/100 mL	Sanitary sewage	Wildlife and pets
Human Bacteriodes	Detection or positive test	Sanitary sewage	None

Milwaukee County's MS4 permit (2012-2017) requires sampling for ammonia, copper, phenol, detergents, and either chlorine or fluoride. Milwaukee County was given permission to sample potassium instead of detergents (this was an email on lotus notes). All Major outfalls need to be sampled once every 5 years (once per permit cycle) unless there is an indication of an illicit discharge. All Priority outfalls need to be sampled once per year. If after two years a Priority outfall does not have an indication of an illicit discharge, that priorty outfall can be reduced to sampling once every 5 years.

Yellow indicates that this parameter is required to be sampled
Red indicates that one of these parameters is required to be sampled
Blue indicates that this parameter was allowed to replace another required parameter
Green indicates that this is a required parameter, though another parameter was allowed to replace it

Attachment D – Illicit Discharge Detection and Elimination DNR Guidance Document

CORRESPONDENCE/MEMORANDUM — **State of Wisconsin**

DATE: March 15, 2012

TO: SW Program Staff

FROM: Pam Biersach – Bureau Director
Bureau of Watershed Management

SUBJECT: Program Guidance #3800-2012-01

Illicit Discharge Detection and Elimination
March 2012
3800-2012-01

This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations, and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

A. Statement of Problem Being Addressed

Limited information is available to assist municipalities with the development of an effective program to determine the presence of illicit discharges from storm sewer system outfalls.

B. Background

State and federal storm water discharge regulations require permitted municipal separate storm sewer systems (MS4s) to develop, implement and enforce a program to detect and remove illicit connections and discharges to the MS4. In Wisconsin, this requirement is established in s. NR 216.07(3), Wis. Adm. Code. The program must include routine dry weather field screening at storm sewer system outfalls and procedures for locating the source of known or suspected illicit discharges. If flow is observed, a combination of sensory observations and indicator parameter sampling must be used to determine the presence of illicit discharges and assist in the tracking, location and elimination of sources.

C. Discussion

Section NR 216.07(3)(i), Wis. Adm. Code, requires that field screening is conducted at all major outfalls and any additional outfalls designated by the municipality or Department. Field screening must include the following when flow is observed:

- Narrative descriptions of color, odor, turbidity, oil sheen, surface scum, flow rate and other relevant observations.
- Sampling for pH, total chlorine, total copper, total phenol and detergents unless Department

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approval has been obtained for alternative parameters such as ammonia, potassium or bacteria.

The combination of sensory and indicator parameters is intended to provide insight regarding the presence and potential sources of illicit discharges. However, ch. NR 216, Wis. Adm. Code does not identify specific discharge limits, action levels or other criteria that should be used to determine if an illicit discharge is either present or absent. In addition, ch. NR 216, Wis. Adm. Code does not address the following:

- Selection of outfalls for on-going field screening after the initial major outfall field screening has been completed.
- Frequency and timing of outfall field screening activities.
- Outfalls with baseflow consisting of groundwater and other non-illicit discharges.
- Submerged,enclosed, or otherwise inaccessible outfalls.
- Outfalls from pumped storm water systems.
- Outfalls from swale conveyance systems and storm water treatment practices.
- Proper documentation and evaluation of outfall field screening activities.

The purpose of this guidance document is to provide supplemental information that can be used by MS4 owners and operators to maximize the efficiency and effectiveness of illicit discharge detection and elimination programs.

D. Guidance

Outfall Selection

Currently, MS4 permits include a requirement that field screening is initially conducted at all major outfalls[1]. However, a more targeted approach to illicit discharge detection and elimination (IDDE) is recommended. Outfalls should be prioritized based on illicit discharge potential in the contributing drainage area rather than solely on pipe or drainage area size. Outfalls selected for on-going field screening based on illicit discharge potential are considered "priority outfalls". Contributing drainage area characteristics or land uses that should be considered when selecting priority outfalls include:

- History of known or suspected illicit discharges reported within the last five years
- Sections of storm sewer and/or sanitary sewer infrastructure that have exceeded or are approaching their design/useful life.
- Contributing drainage areas with 80 or more percent imperviousness.

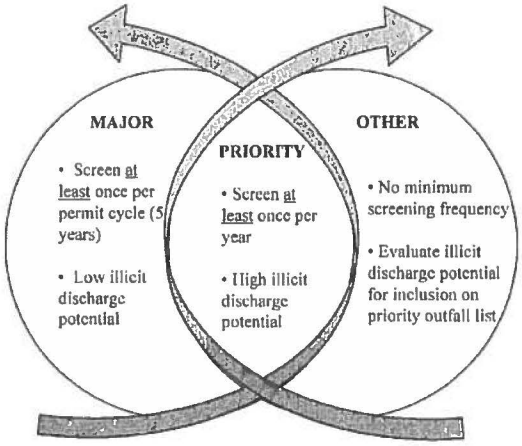
[1] "Major outfall" means a municipal separate storm sewer system outfall that meets one of the following criteria:
(a) A single pipe with an inside diameter of 36 inches or more, or from an equivalent conveyance which is associated with a drainage area of more than 50 acres.
(b) A single pipe with an inside diameter of 12 inches or more, or from an equivalent conveyance which receives storm water runoff from lands zoned for industrial activity with 2 or more acres of industrial activity.

- Business or industrial parks with frequent changes in property ownership or operations.
- Schools or other institutional facilities.
- Commercial or industrial operations that generate wastewater or wash water including food processing, metal plating or machining shops, auto and scrap recyclers, commercial car washes and chemical manufactures or users.

Frequency

The recommended approach to outfall field screening frequency is depicted in Figure 1. All priority outfalls should be screened at least once per year. In some cases, it may be appropriate to conduct more than one field screening per year at a particular priority outfall depending on initial screening results or illicit discharge potential. All other major outfalls not identified as priority outfalls should be screened at least once during each MS4 permit cycle (i.e., 5 years). The priority outfall list should be reviewed and modified if necessary during an annual program evaluation.

Figure 1 - Outfall Field Screening Frequency



Timing

Outfall field screening must be conducted during dry weather periods to minimize potential interference from non-illicit sources including runoff and groundwater. In general, field screening should not be conducted within 48 hours after a precipitation event that produces runoff. However, it may be necessary to wait longer than 48 hours after precipitation events depending on contributing drainage area characteristics, the presence of extended discharges from stormwater facilities or the size of the event. Field screening during periods of high groundwater, such as the early spring, should be avoided. However, spring or fall screening may be necessary if outfall access is significantly obstructed by vegetation.

Sensory Parameters

Obvious illicit discharges can potentially be identified by color, odor or other physical characteristics such as sheen or foam. However, proper interpretation of sensory observations can be complicated by the fact that some sources are naturally occurring (e.g., iron bacteria) or non-illicit (e.g., dye testing).

Chapter 11 of the Center for Watershed Protection's guidance manual for illicit discharge detection and elimination includes photos of common physical indicators for illicit and non-illicit sources. The entire manual can be downloaded from the USEPA website at http://www.epa.gov/npdes/pubs/idde_manualwithappendices.pdf

Indicator Parameters

Indicator parameter sampling is necessary to confirm sensory observations or distinguish illicit from non-illicit discharges. The following parameters are recommended for all observed discharges: **Ammonia, Detergents, pH and Total Chlorine**. Based on MS4 or outfall specific conditions, the following additional parameters should be considered:

- **Total Copper** in areas where industrial facilities that use or manufacture copper-based products are present.
- **Phenol** in areas where industrial facilities that utilize phenol in processes or products are present.
- **Potassium** when discharges of industrial wastewater or sanitary sewage are suspected.
- **Fluoride** when discharges with a drinking water supply component are suspected.
- **E. coli or Bacteriodes** when discharges of sanitary sewage are suspected.

The recommended parameters for all observed discharges are a deviation from the parameter lists identified in ch. NR 216, Wis. Adm Code and MS4 permits. Permitted MS4s should submit modified parameter list proposals to the Department for approval prior to implementation.

Test Methods

In order to provide relatively rapid results, indicator parameters should be analyzed using field test kits. However, field test kits should be used by staff with appropriate training and experience. Laboratory analysis is necessary for some parameters (e.g., E. coli, Bacteriodes) and recommended in cases where enforcement action may be necessary to eliminate illicit discharges or connections.

Action Levels

Recommended action levels for indicator parameters are found in Table 1. Sample results above these levels suggest the presence of an illicit discharge is likely. However, illicit discharges or connections should not be automatically ruled out in cases where parameters are detected below the recommended action levels. In some instances, illicit discharges can be masked by non-illicit sources depending on the time of the year, recent precipitation events, or other conditions, especially at outfalls with large

contributing drainage areas. With this in mind, the recommended action levels should be considered as starting points for decision making. Ultimately, identifying outliers to expected or past levels may be more important when determining if further investigation should be initiated. To determine when an outlier has been detected, each MS4 should maintain a database (or equivalent record) of indicator parameter test results for individual outfalls or groups of outfalls.

TABLE 1 – Indicator Parameters Action Levels

Parameter	Action Level	Illicit Sources	Non-Illicit Sources
Ammonia	0.1 mg/l	Sanitary sewage and industrial wastewater	Pets, wildlife and potentially WPDES permitted discharges
Detergents	0.5 mg/l	Industrial cleansers, commercial wash water and sanitary sewage	Residential car washing
pH	Less than 6 or greater than 9	Industrial wastewater and concrete truck wash-out	Groundwater and WPDES permitted discharges
Total Chlorine	Detection or positive test unless associated with a WPDES permitted discharge at background water supply levels	Industrial wastewater, swimming pools and sanitary sewage	WPDES permitted discharges
Total Copper	0.1 mg/l	Copper-based product use and manufacturing	WPDES permitted discharges
Phenol	Detection or positive test	Chemical, textile, paint, resin, tire, plastic, electronics and pharmaceutical manufacturing	None
Fluoride	Detection above background groundwater or water supply levels	Commercial and industrial wastewaters with a water supply component	Groundwater and WPDES permitted discharges
Potassium	10 mg/l	Sanitary sewage and industrial wastewater	Groundwater and WPDES permitted discharges
E. coli	10,000 MPN/100 mL	Sanitary sewage	Wildlife and pets
Human Bacteriodes	Detection or positive test	Sanitary sewage	None

Additional considerations for some of the indicator parameters are as follows:

- Field test methods for **detergents** are generally considered qualitative (i.e., positive or negative) tests. Some detergent test methods produce bubbles or a gel like substance that can be misinterpreted as a positive test for detergents. In addition, specific detergent test methods, such as the MBAS method, may not be capable of detecting all classes of detergents. Another potential

issue with detergent testing is distinguishing non-illicit discharges associated with residential car washing from illicit discharges.

- **Chlorine** residuals are typically short lived in the environment. Detection of chlorine at an outfall generally indicates a source that is relatively close to the outfall. However, chlorine detected at an outfall can be from an illicit or non-illicit source if chlorinated municipal drinking water supply is a component of the discharge (see "Non-Illicit Sources").

- Leaching of **copper** from plumbing systems can be a source of copper even in areas where copper-based product use or manufacturing does not occur.

- Municipal drinking water supply systems that add **fluoride** typically maintain levels between 1 and 1.5 mg/l.

- **E. coli** is a commonly used sanitary sewage indicator. However, dry weather flow outfall monitoring in Wisconsin and other states indicates that E. coli levels are highly variable and can be produced by naturally occurring, non-illicit sources in the environment such as raccoons in storm sewers. Elevated dry weather E. coli levels in conjunction with detection of other indicator parameters (e.g., detergents, total chlorine) may be more indicative of the presence of sanitary sewage.

- The ratio of human **Bacteriodes** to total Bacteriodes may be particularly useful in determining sanitary sewage sources. However, the availability of Bacteriodes testing may be limited.

Non-Illicit Sources

Indicator parameters can be detected from non-illicit sources such as groundwater inflows, non-contact cooling water discharges or other WPDES permitted discharges from commercial and industrial facilities:

- Groundwater: Flow rates associated with groundwater inflows can vary seasonally due to fluctuations in groundwater elevations. Groundwater inflows are typically highest in the early spring and lowest in the late summer. In some areas, groundwater inflows will also include natural levels of fluoride. Baseline conditions for outfalls with groundwater inflows can be established by documenting seasonal flow rates and/or fluoride levels over time. If baseline conditions have been established for an outfall, sampling for other indicator parameters can be avoided if flow rates and/or fluoride levels are consistent with the established baseline values.

- Permitted Facilities: In some areas, WPDES permitted industrial facilities are allowed to discharge wastewater to MS4s as long as discharge limits are met. These discharges can produce continuous or nearly continuous flows at outfalls. WPDES permitted discharges are considered non-illicit but can include one or more of the indicator parameters at detectable levels. In many cases, municipal drinking water supply is a component of WPDES permitted discharges and it may be difficult to distinguish non-illicit from illicit sources in these areas. However, establishing baseline flow rates and parameter levels for outfalls with WPDES permitted discharges is recommended. If necessary, the Department can assist in the identification and characterization of WPDES permitted discharge, including discharge limits.

The Department maintains a listing of current WPDES permit holders online:

- **WPDES Wastewater Permittees**
  http://dnr.wi.gov/org/water/wm/ww/permlists.htm
- **WPDES Industrial Storm Water Permittees**
  http://dnr.wi.gov/runoff/stormwater/industrial/

Submerged & Enclosed Outfalls

It may be difficult or impossible to conduct outfall field screening activities at outfalls that are fully or partially submerged by receiving waters or located within enclosed waterways. For these cases, field screening activities should be conducted at appropriate upstream manholes. On-site illicit connection inspections should be considered for any high risk facilities that can potentially discharge to the MS4 between the outfall and field screening manholes. Another option to consider is televising the storm sewer segments located between field screening manholes and the outfall.

Physically Interconnected Systems

One MS4 that discharges directly to a second MS4 is considered physically interconnected. The point of interconnection is considered an outfall from the upstream or discharging MS4. Although field screening activities should be conducted by the upstream MS4 at the point of interconnection, it may be appropriate for interconnected MS4s to coordinate and potentially consolidate field screening activities.

Pump Stations

For pumped storm water systems, field screening activities should be conducted at appropriate manholes located upstream from the pump station or intake. If the first upstream manhole from the pump station is submerged, the pump should be operated if possible to remove accumulated water from the storm sewer system prior to conducting field screening activities.

Swales Conveyance Systems

For swale conveyance systems, it may be appropriate to conduct a visual or "windshield" survey within the swale area in conjunction with or as an alternative to field screening at the outfall. Locations where piped systems discharge to swales should be targeted during windshield surveys.

Storm Water Practices

Wet detention basins and other storm water treatment practices can potentially mask the presence of illicit discharges from the storm sewer system. Field screening activities should be conducted at inlets to storm water treatment practices rather than from the outlet. However, the size and location of practices can be considered when determining if field screening at inlets is necessary.

Documentation and Program Evaluation

Written or electronic documentation of all outfall screening activities should be kept. At minimum, the documentation should identify the following items for each outfall:

- Outfall location & description
- Inspector name
- Date of inspection
- Date & amount of last rainfall
- Weather conditions
- Narrative description of all sensory observations and flow rate estimates
- Test results for all indictor parameter sampling
- Narrative description of potential or confirmed illicit discharge sources and actions taken to track and eliminate sources.
- Additional comments or observations

As suggested in the "Action Level" section, it is important to develop and maintain a field screening database (or equivalent) to track changes and establish trends over time. Each permitted MS4 should conduct an annual evaluation of the field screening data and priority outfall list. Program modifications should be made as needed based on the annual evaluation.

APPROVED:

Mary Anne Lowndes 3/19/2012
Section Chief **Date**

APPROVED:

Jon R. Rombetti 3/19/2012
Staff Attorney **Date**

DISCUSSED OR APPROVED:

PMT Approved on **3/15/2012**
Date

Attachment 2

Storm Sewer Map Update

Detzer, Tim

From: Sudar, Jack
Sent: Tuesday, March 15, 2016 10:23 AM
To: Bryan.Hartsook@wisconsin.gov
Cc: Detzer, Tim
Subject: Storm Sewer Map 2016
Attachments: Municipal_Garages_And_Public_Works_Facilities.gdb.zip; StormSewer_StormStructure_StormBMP_StormDitch_StormJunction.gdb.zip

Hello Bryan,

I have been asked to provide you with map updates to Milwaukee County's storm sewer GIS layers as part of the requirements of WPDES Permit No. WI-S050156-1. Attached to this email are two geodatabase files that include updated versions of 6 different GIS layers. These 6 layers are:

- **Storm Lines** - Stormwater pipes including information on pipe ownership and pipe diameters
- **Storm Structures** - Stormwater structures including information on the type of structure (e.g. catch basin, manhole. major outfall, ect...)
- **Storm Network Junctions** - Stormwater junctions where there is not a structure
- **Storm Ditchlines** - Stormwater ditches
- **Stormwater BMPs** - Stormwater BMPs including information on BMP ownership and type of BMP (e.g. infiltration swale, pervious pavement, detention pond, ect..)
- **Municipal Garages and Public Works Facilities** - Municipal garages and public works facilities owned by Milwaukee County

Please let me know if this file format is satisfactory or if WDNR would request any other mapping information.

Thank you,
Jack

Jack Sudar, EIT | Environmental Engineer
Milwaukee County Department of Administrative Services – Facilities Management
633 W. Wisconsin Avenue, Suite 1003, Milwaukee, WI 53203
Phone: (414) 278-4870| Mobile: (414) 238-1251

Attachment 3

SWPPP Inspection Reports

2015 SWPPP Inspections

	Timmerman Airport	Main Shop	North Shop	Zoo	McKinley Marina*
Annual Facility Inspection	X	X	X	X	X
Semi-annual Dry Weather	X	X	X	X	X
Semi-annual Dry Weather	X	X	X	X	X
Quarterly (Jan-Mar)	0	0	0	0	0
Quarterly (Apr-Jun)	X	X	X	X	X
Quarterly (Jul-Sep)	X	X	X	X	X
Quarterly (Oct-Dec)	X	X	X	X	X

0 = no inspction due to no precipitation or timing of precipitation

North Shop 6270 N. Hopkins Milwaukee, WI 53209
Zoo 10001 West Bluemound RoadMilwaukee, WI 53226
Timmerman 9305 W Appleton Ave 53225
Main Shop 10340 W. Watertown Road, Wauwatosa, WI 53226
McKinley Marina 1750 North Lincoln Memorial Drive

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Annual Facility Site Compliance Inspection Report (AFSCI)

For Storm Water Discharge Associated With Industrial Activity Under Wisconsin Pollutant Discharge Elimination System (WPDES) Permit

Form 3400-176 (R 6/05)

Notice: This form is authorized by s. NR 216.29(2), Wis. Adm. Code. Submittal of a completed form to the Department is mandatory for industrial facilities covered under a tier 1 storm water general permit. Facilities covered under a tier 1 permit are not required to submit AFSCI reports after submittal of the second AFSCI report, unless so directed by the department. However, these inspections and quarterly visual inspections shall still be conducted and results shall be kept on site for department inspection. Facilities covered under a tier 2 storm water general, industry-specific general or individual permit shall keep the results of their AFSCI and quarterly visual inspections on site for department inspection. Failure to comply with these regulations may result in fines up to $25,000 per day pursuant to s. 283.91, Wis. Stats. Personally identifiable information on this form may be used for other water quality program purposes.

Facility Information

Facility Name			
Mckinley Marina			
Street Address: 1750 N. Lincoln Memorial Drive	City: Milwaukee	State: Wi	ZIP Code: 53202
County: Milwaukee	Facility Contact Person: Eric Lesch		

Signature

This form must be signed by an official representative of the permitted facility, in accordance with s. 216.29(8), Wis. Adm. Code.

IF THIS FORM IS NOT SIGNED, OR IS FOUND TO BE INCOMPLETE, IT WILL BE RETURNED

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 of Authorized Representative		Date Signed	
Type or Print Name: Eric J Lesch	Position Title: Marina Manager		
Company Name: Milwaukee County		Telephone Number: 414-273-5224	
Mailing Address: 1750 N. Lincoln Memorial Dr.	City: Milwaukee	State: Wi	ZIP Code: 53202

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section III of this Annual Report.

The second level of storm water monitoring consists of quarterly visual observations of storm water leaving the site during runoff events caused by snow-melt or rainfall. This is a practical, low cost tool for identifying obvious contamination of storm water discharges, and can also help identify which practices are ineffective. The goal of quarterly inspections is to obtain results from a set of four inspections that are distributed as evenly as possible throughout the year and which depict runoff quality during each of the four seasons. This second level of monitoring is addressed in Section IV of this Annual Report.

Annual Facility

DNR Use Only
FIN
FID

Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that, your Storm Water Pollution Prevention Plan (SWPPP) remains current, potential pollution sources at your facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection	Inspection Date
Jack Sugar	11/25/15
Employer	**Telephone Number**
Milwaukee County	414 278 4870

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	☐ Yes	☐ No	☒ N/A
Has your SWPPP been amended for any new construction that would effect the site map or drainage conditions at the facility?	☐ Yes	☒ No	☐ N/A
Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	☐ Yes	☒ No	☐ N/A
Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	☐ Yes	☒ No	☐ N/A
Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	☐ Yes	☒ No	☐ N/A
Are outside areas kept in a neat and orderly condition?	☒ Yes	☐ No	☐ N/A
Are regular housekeeping inspections made?	☒ Yes	☐ No	☐ N/A
Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	☐ Yes	☒ No	☐ N/A
Are particulates on the ground from industrial operations or processes being controlled?	☐ Yes	☐ No	☒ N/A
Do you see leaking equipment, pipes or containers?	☐ Yes	☒ No	☐ N/A
Do drips, spills, or leaks occur when materials are being transferred from one source to another?	☐ Yes	☒ No	☐ N/A
Are drips or leaks from equipment or machinery being controlled?	☒ Yes	☐ No	☐ N/A
Are cleanup procedures used for spilled solids?	☒ Yes	☐ No	☐ N/A
Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	☒ Yes	☐ No	☐ N/A
Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	☐ Yes	☐ No	☒ N/A
Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	☒ Yes	☐ No	☐ N/A
Are Best Management Practices adequately maintained?	☒ Yes	☐ No	☐ N/A
Are there significant changes that will have to made to your SWPPP to correct any inadequacies that the plan may have to effectively control a discharge of contaminated storm water from your facility?	☐ Yes	☒ No	☐ N/A

Comments:

- No notable issues

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Annual Facility Site Compliance Inspection Report (AFSCI)

For Storm Water Discharge Associated With Industrial Activity Under Wisconsin Pollutant Discharge Elimination System (WPDES) Permit

Form 3400-176 (R 6/05)

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Facility Information

Facility Name			
Timmerman Airport			
Street Address: 9305 W. Appleton Ave	City: Milwaukee	State: WI	ZIP Code: 53225
County: Milwaukee	Facility Contact Person: Greg Failey		

Signature

This form must be signed by an official representative of the permitted facility, in accordance with s. 216.29(8), Wis. Adm. Code.

IF THIS FORM IS NOT SIGNED, OR IS FOUND TO BE INCOMPLETE, IT WILL BE RETURNED

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 of Authorized Representative		Date Signed: 11/25/15	
Type or Print Name: Jack Sudar	Position Title: Environmental Engineer		
Company Name: Milwaukee County		Telephone Number: 414-278-4870	
Mailing Address: 633 W. Wisconsin Ave	City: Milwaukee	State: WI	ZIP Code: 53203

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section III of this Annual Report.

The second level of storm water monitoring consists of quarterly visual observations of storm water leaving the site during runoff events caused by snow-melt or rainfall. This is a practical, low cost tool for identifying obvious contamination of storm water discharges, and can also help identify which practices are ineffective. The goal of quarterly inspections is to obtain results from a set of four inspections that are distributed as evenly as possible throughout the year and which depict runoff quality during each of the four seasons. This second level of monitoring is addressed in Section IV of this Annual Report.

DNR Use Only
FIN
FID

Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that, your Storm Water Pollution Prevention Plan (SWPPP) remains current, potential pollution sources at your facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection	Inspection Date
Jack Sudar	11/25/15
Employer	**Telephone Number**
Milwaukee County	414-278-4870

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	☐ Yes	☐ No	☒ N/A
Has your SWPPP been amended for any new construction that would effect the site map or drainage conditions at the facility?	☐ Yes	☐ No	☒ N/A
Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	☐ Yes	☒ No	☐ N/A
Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	☐ Yes	☒ No	☐ N/A
Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	☐ Yes	☒ No	☐ N/A
Are outside areas kept in a neat and orderly condition?	☒ Yes	☐ No	☐ N/A
Are regular housekeeping inspections made?	☒ Yes	☐ No	☐ N/A
Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	☐ Yes	☒ No	☐ N/A
Are particulates on the ground from industrial operations or processes being controlled?	☒ Yes	☐ No	☐ N/A
Do you see leaking equipment, pipes or containers?	☐ Yes	☒ No	☐ N/A
Do drips, spills, or leaks occur when materials are being transferred from one source to another?	☐ Yes	☒ No	☐ N/A
Are drips or leaks from equipment or machinery being controlled?	☒ Yes	☐ No	☐ N/A
Are cleanup procedures used for spilled solids?	☒ Yes	☐ No	☐ N/A
Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	☒ Yes	☐ No	☐ N/A
Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	☐ Yes	☐ No	☒ N/A
Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	☒ Yes	☐ No	☐ N/A
Are Best Management Practices adequately maintained?	☒ Yes	☐ No	☐ N/A
Are there significant changes that will have to made to your SWPPP to correct any inadequacies that the plan may have to effectively control a discharge of contaminated storm water from your facility?	☐ Yes	☒ No	☐ N/A

Comments:

- There is a new SPCC plan being written for the site.
- Site is kept neat and orderly with BMPs maintained.

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Annual Facility Site Compliance Inspection Report (AFSCI)

For Storm Water Discharge Associated With Industrial Activity Under Wisconsin Pollutant Discharge Elimination System (WPDES) Permit

Form 3400-176 (R 6/05)

Notice: This form is authorized by s. NR 216.29(2), Wis. Adm. Code. Submittal of a completed form to the Department is mandatory for industrial facilities covered under a tier 1 storm water general permit. Facilities covered under a tier 1 permit are not required to submit AFSCI reports after submittal of the second AFSCI report, unless so directed by the department. However, these inspections and quarterly visual inspections shall still be conducted and results shall be kept on site for department inspection. Facilities covered under a tier 2 storm water general, industry-specific general or individual permit shall keep the results of their AFSCI and quarterly visual inspections on site for department inspection. Failure to comply with these regulations may result in fines up to $25,000 per day pursuant to s. 283.91, Wis. Stats. Personally identifiable information on this form may be used for other water quality program purposes.

Facility Information

Facility Name			
North Shop			
Street Address: 6270 N. Hopkins	City: Milwaukee	State: WI	ZIP Code: 53209
County: Milwaukee	Facility Contact Person: Derwin Pottinger		

Signature

This form must be signed by an official representative of the permitted facility, in accordance with s. 216.29(8), Wis. Adm. Code.

IF THIS FORM IS NOT SIGNED, OR IS FOUND TO BE INCOMPLETE, IT WILL BE RETURNED

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 of Authorized Representative		Date Signed: 11/25/15	
Type or Print Name: Jack Sudar	Position Title: Environmental Engineer		
Company Name: Milwaukee County		Telephone Number: 414-278-4870	
Mailing Address: 633 W. Wisconsin Ave	City: Milwaukee	State: WI	ZIP Code: 53203

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section III of this Annual Report.

The second level of storm water monitoring consists of quarterly visual observations of storm water leaving the site during runoff events caused by snow-melt or rainfall. This is a practical, low cost tool for identifying obvious contamination of storm water discharges, and can also help identify which practices are ineffective. The goal of quarterly inspections is to obtain results from a set of four inspections that are distributed as evenly as possible throughout the year and which depict runoff quality during each of the four seasons. This second level of monitoring is addressed in Section IV of this Annual Report.

DNR Use Only
FIN
FID

Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that, your Storm Water Pollution Prevention Plan (SWPPP) remains current, potential pollution sources at your facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection	Inspection Date
Jack Sudar	11/25/15
Employer	**Telephone Number**
Milwaukee County	414-278-4870

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	☐ Yes	☐ No	☒ N/A
Has your SWPPP been amended for any new construction that would effect the site map or drainage conditions at the facility? *SEE COMMENTS	☐ Yes	☒ No	☐ N/A
Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	☐ Yes	☐ No	☒ N/A
Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	☐ Yes	☒ No	☐ N/A
Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	☐ Yes	☒ No	☐ N/A
Are outside areas kept in a neat and orderly condition?	☐ Yes	☐ No	☐ N/A
Are regular housekeeping inspections made?	☒ Yes	☐ No	☐ N/A
Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	☐ Yes	☒ No	☐ N/A
Are particulates on the ground from industrial operations or processes being controlled?	☒ Yes	☐ No	☐ N/A
Do you see leaking equipment, pipes or containers?	☐ Yes	☒ No	☐ N/A
Do drips, spills, or leaks occur when materials are being transferred from one source to another?	☐ Yes	☒ No	☐ N/A
Are drips or leaks from equipment or machinery being controlled?	☒ Yes	☐ No	☐ N/A
Are cleanup procedures used for spilled solids?	☒ Yes	☐ No	☐ N/A
Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	☒ Yes	☐ No	☐ N/A
Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	☐ Yes	☒ No	☐ N/A
Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	☐ Yes	☒ No	☐ N/A
Are Best Management Practices adequately maintained?	☐ Yes	☒ No	☐ N/A
Are there significant changes that will have to made to your SWPPP to correct any inadequacies that the plan may have to effectively control a discharge of contaminated storm water from your facility? *SEE COMMENTS	☐ Yes	☒ No	☐ N/A

Comments:

Three new catch basins with oil/sediment traps are planned for construction in Spring 2016. These would be installed where outfall #2 currently is, and would necessitate a new SWPPP for the site. There is inlet protection on outfall #3. The construction planned for 2016 also should include new pavement and sedimentation chamber

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Annual Facility Site Compliance Inspection Report (AFSCI)

For Storm Water Discharge Associated With Industrial Activity Under Wisconsin Pollutant Discharge Elimination System (WPDES) Permit

Form 3400-176 (R 6/05)

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Facility Information

Facility Name: Fleet - Main Shop			
Street Address: 10340 W. Watertown Plank Rd	City: Wauwatosa	State: Wi	ZIP Code: 53226
County: Milwaukee	Facility Contact Person: Dan Goeden		

Signature

This form must be signed by an official representative of the permitted facility, in accordance with s. 216.29(8), Wis. Adm. Code.

IF THIS FORM IS NOT SIGNED, OR IS FOUND TO BE INCOMPLETE, IT WILL BE RETURNED

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 of Authorized Representative: Jack Sudar		Date Signed: 12/8/15	
Type or Print Name: Jack Sudar	Position Title: Environmental Engineer		
Company Name: Milwaukee County.		Telephone Number: 414-278-4870	
Mailing Address: 633 W Wisconsin Ave	City: Milwaukee	State: Wi	ZIP Code: 53203

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section III of this Annual Report.

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Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that, your Storm Water Pollution Prevention Plan (SWPPP) remains current, potential pollution sources at your facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection	Inspection Date
Jack Sudar	12/7/15
Employer	**Telephone Number**
Milwaukee County	414-278-4870

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	☐ Yes	☐ No	☒ N/A
Has your SWPPP been amended for any new construction that would effect the site map or drainage conditions at the facility? *SEE BELOW	☐ Yes	☒ No	☐ N/A
Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water? *SEE BELOW	☐ Yes	☒ No	☐ N/A
Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP? *SEE BELOW	☐ Yes	☒ No	☐ N/A
Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP? *SEE BELOW	☒ Yes	☐ No	☐ N/A
Are outside areas kept in a neat and orderly condition?	☒ Yes	☐ No	☐ N/A
Are regular housekeeping inspections made?	☒ Yes	☐ No	☐ N/A
Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	☐ Yes	☒ No	☐ N/A
Are particulates on the ground from industrial operations or processes being controlled?	☒ Yes	☐ No	☐ N/A
Do you see leaking equipment, pipes or containers?	☐ Yes	☒ No	☐ N/A
Do drips, spills, or leaks occur when materials are being transferred from one source to another?	☐ Yes	☒ No	☐ N/A
Are drips or leaks from equipment or machinery being controlled?	☒ Yes	☐ No	☐ N/A
Are cleanup procedures used for spilled solids?	☒ Yes	☐ No	☐ N/A
Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	☒ Yes	☐ No	☐ N/A
Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	☐ Yes	☐ No	☒ N/A
Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	☒ Yes	☐ No	☐ N/A
Are Best Management Practices adequately maintained? *SEE BELOW	☒ Yes	☐ No	☐ N/A
Are there significant changes that will have to made to your SWPPP to correct any inadequacies that the plan may have to effectively control a discharge of contaminated storm water from your facility? *SEE BELOW	☒ Yes	☐ No	☐ N/A

Comments:

A new SWPPP will need to be written when DOT construction is complete. Construction was still taking place upstream of outfall #1, though all appropriate erosion control measures upstream appeared to be in place. All three areas of concern addressed in I

last years annual inspection have been fixed.

1. The wash-pit has been cleaned out and uncapped.
2. The storage of coal patch has been moved away from catch basins.
3. The inlets upstream of outfall #1 now all have inlet protection

State of Wisconsin
Department of Natural Resources
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Annual Facility Site Compliance Inspection Report (AFSCI)

For Storm Water Discharge Associated With Industrial Activity Under Wisconsin Pollutant Discharge Elimination System (WPDES) Permit

Form 3400-176 (R 6/05)

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Facility Information

Facility Name			
Milwaukee County Zoo			
Street Address: 1001 W. Bluemound Ave	City: Milwaukee	State: WI	ZIP Code: 53226
County: Milwaukee	Facility Contact Person: Karl Hackbarth		

Signature

This form must be signed by an official representative of the permitted facility, in accordance with s. 216.29(8), Wis. Adm. Code.

IF THIS FORM IS NOT SIGNED, OR IS FOUND TO BE INCOMPLETE, IT WILL BE RETURNED

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 of Authorized Representative		Date Signed: 12/8/15	
Type or Print Name: Jack Sudar	Position Title: Environmental Engineer		
Company Name: Milwaukee County		Telephone Number: 414-278-4870	
Mailing Address: 633 W. Wisconsin Ave	City: Milwaukee	State: WI	ZIP Code: 53203

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section III of this Annual Report.

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DNR Use Only
FIN
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Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that, your Storm Water Pollution Prevention Plan (SWPPP) remains current, potential pollution sources at your facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection	Inspection Date
Jack Sudar	12-7-15
Employer	**Telephone Number**
Milwaukee County	414-278-4870

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

	Yes	No	N/A
Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	☐	☐	☒
Has your SWPPP been amended for any new construction that would effect the site map or drainage conditions at the facility? *SEE BELOW	☐	☒	☐
Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	☐	☐	☒
Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	☐	☒	☐
Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	☐	☒	☐
Are outside areas kept in a neat and orderly condition?	☒	☐	☐
Are regular housekeeping inspections made?	☒	☐	☐
Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	☐	☒	☐
Are particulates on the ground from industrial operations or processes being controlled?	☐	☐	☒
Do you see leaking equipment, pipes or containers?	☐	☒	☐
Do drips, spills, or leaks occur when materials are being transferred from one source to another?	☐	☒	☐
Are drips or leaks from equipment or machinery being controlled?	☒	☐	☐
Are cleanup procedures used for spilled solids?	☒	☐	☐
Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	☐	☒	☐
Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	☐	☐	☒
Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	☒	☐	☐
Are Best Management Practices adequately maintained? *SEE BELOW	☒	☐	☐
Are there significant changes that will have to made to your SWPPP to correct any inadequacies that the plan may have to effectively control a discharge of contaminated storm water from your facility?	☐	☐	☐

Comments:

This site might need a new SWPPP once the DOT construction is finished. There won't be new outfalls, though some site drainage will be different. Some pervious pavement installations are clogged and/or settling due to poor design, placement, and installation

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: ZOO
Inspection Date: 6/29/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1	X		ZOO major outfall had crystall clear flow that smelled musky.
Outfall 2		X	No flow and there is inlet protection
Outfall 3			
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: Timmerman
Inspection Date: 6/29/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1		X	No flow near AST
Outfall 2	X		flow from field underdrains, clear with no oder.
Outfall 3	X		flow near Hampton Ave Outlet as usual
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: North Shop
Inspection Date: 6/29/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1		X	No flow
Outfall 2		X	No flow, though area near outfall was wet from hose.
Outfall 3	X		A slight drip was coming into manhole. The flow did not smell or have unusual color
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: Fleet - Main Shop
Inspection Date: 6/29/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1		X	East - looks good.
Outfall 2	X		Very small flow with no color or odor. less than 1 liter/min.
Outfall 3		X	West - looks good
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: McKinley
Inspection Date: 6/29/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1		X	North
Outfall 2		X	Central
Outfall 3		X	South
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: Timmerman Airport
Inspection Date: 11/25/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1		X	Northeast entrane/exit has no flow
Outfall 2	X		Clear flow from underdrains.
Outfall 3		X	No flow near AST
Outfall 4	X		Timmerman Outfall has clear flow

Report any issues to Manager or County Environmental Engineer.
Sub mentation to Manager and County Environmental Engineer.

2nd Half
Dry

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: McKinley
Inspection Date: 11/25/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1		X	North
Outfall 2		X	Central
Outfall 3		X	South
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: North Shop
Inspection Date: 11/25/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1		X	#1 - No flow
Outfall 2	X		#2 - flow from hose
Outfall 3	X		#3 - flow from outfall #2
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: Main Shop
Inspection Date: 12/7/15
Inspection Personnel: Jack Suder

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1	X		Small amount of clear oderless flow
Outfall 2	X		small amount of clear oderless flow
Outfall 3	X		moderate flow and slightly cloudy.
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Flow most likely from snowmelt for outfalls #1 and #2. Flow for outfall #3 was due to vehicle washing. Outfall #3 should be vacuumed out.

Milwaukee County
Semi-annual Non-Storm Water Discharge Evaluation

Site: Zoo
Inspection Date: 12/7/15
Inspection Personnel: Jack Sudar

Visual inspections of the storm inlets and outfalls for non-stormwater discharges must be made during dry weather. For each outfall, the procedure is as follows:

- Check outfalls for flow.
- If there is flow, describe the flow (color, odor, sheen, rate, etc.)
- If there is flow, go upstream and check storm inlets.
- Document observations below.

	Flow observed		Description of flow and/or comments
	Yes	No	
Outfall 1	X		moderate clear flow with a musty smell
Outfall 2	X		Very small amont of clear flow.
Outfall 3			
Outfall 4			

Report any issues to Manager or County Environmental Engineer.
Submit completed inspection documentation to Manager and County Environmental Engineer.

Outfall #2 flow was likely less than 1 gpm and due to snowmelt. Outfall #1 flow was as it usually is.
There was no flow in the parking lot storage area

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, ou could be subject to penalties up to $10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Milwaukee County Zoo			
Street Address: 1001 W Bluemound	City: Milwaukee	State: WI	ZIP Code: 53226
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 4-9-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): See below	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.)		
Time of Rainfall Event	Time of Visual Inspection: 11:20	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:	See Below
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:	
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:	
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:	
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:	

Comments:

Parking lot - Sediment from storage and DOT construction flowing to sewers on south end. Ponding on SE corner of parking lot

#1 - large amounts of sediment coming from CF. Cloudy/opaque.

#2 - looked good! clear flow.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

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Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Timmerman Airport			
Street Address: 9305 W. Appleton Ave	City: Milwaukee	State: WI	ZIP Code: 53225
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 4-9-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): 1, 2, OF (see below)	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): see below		
Time of Rainfall Event	Time of Visual Inspection: 10:20	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☒ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☒ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☒ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☒ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☒ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

Comments:

#1 - looks good!

#2 - looks good!

OF - slightly brown/cloudy. Dry pond is full.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

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Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: North Shop			
Street Address: 6270 N Hopkins	City: Milwaukee	State: WI	ZIP Code: 53209
Name of Person Conducting Inspection: Jack Sndar		Inspection Date: 4-9-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): See Below	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.):		
Time of Rainfall Event	Time of Visual Inspection: 9:50 AM	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:	See Below
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:	
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:	
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:	
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:	

Comments:

#1 - clear, overland Flow

#2 - Ditch downstream had been filled w/ new pipe and gravel. Inlet appeared to have rip-rap installed. Runoff was cloudy. Not a good permanent fix.

#3 - Runoff was cloudy. The nearest storage areas were empty, with most storage far from this CB.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

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Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Fleet - Main Shop			
Street Address: 10340 w/ Watertown Plank Rd.	City: Milwaukee	State: Wi	ZIP Code: 53226
Name of Person Conducting Inspection: J. Sudar		Inspection Date: 6/22/15	
Employer: M.C.		Telephone Number: 414-278-2988	
Outfall Number (make reference to site map): 1, 2, 3	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): pipe / catch Basin		
Time of Rainfall Event: 11:00	Time of Visual Inspection: 12:45-1:00	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☒ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☒ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☐ Clear	☒ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☒ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☒ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

Comments:

Rain had stopped, though there was still flow into catch basins and pipes. Flow was mostly clear and there did not appear to be substantial clarity problems.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

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Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: McKinley Marina			
Street Address: 1750 N. Lincoln Memorial Drive	City: Milwaukee	State: Wi	ZIP Code: 53202
Name of Person Conducting Inspection: J. Sudar		Inspection Date: 6/22/15	
Employer: M.C.		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map):	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): 1-ramp, 2-13 in sheet pile.		
Time of Rainfall Event: 11:00	Time of Visual Inspection: 11:15-11:45	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	[X] Clear	[ ] Red	[ ] Yellow	[ ] Brown	[ ] Other:
Odor:	[X] None	[ ] Musty	[ ] Sewage	[ ] Rotten Egg	[ ] Other:
Clarity:	[X] Clear	[ ] Cloudy	[ ] Opaque	[ ] Suspended Solids	[ ] Other:
Floatables:	[ ] None	[ ] Foam	[X] Garbage	[ ] Oily Film	[ ] Other:
Deposits / Stains:	[X] None	[ ] Oily	[ ] Sludge	[ ] Sediments	[ ] Other:

Comments:

NORTH: Runoff was clear. The lake had large amounts of debris floating around near the boat launch, but did not appear in runoff.

CENTRAL: looked good.

SOUTH: looked good

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

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Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Fleet - Main Shop

Street Address: 10340 W Watertown Plank Rd. | City: Milwaukee | State: Wi | ZIP Code: 53226

Name of Person Conducting Inspection: Jack Sudar | Inspection Date: 9/8/15

Employer: Milwaukee County | Telephone Number: 414-278-2988

Outfall Number (make reference to site map): SEE BELOW | Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.):

Time of Rainfall Event: | Time of Visual Inspection: 12:45 | **Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch):

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:	SEE BELOW
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:	
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:	
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:	
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:	

Comments:

#1 - clear flow, though it appears DOT will add more upstream inlets in near future

#2 - clear flow; looks good

#3 - flow appeared clear, though smelled musty and the structure had significant sediment. There was inlet protection

~~This outfall could not be evaluated during this quarter due to the following reason:~~

Storage - Storage just north of the Fleet building has nearbye gravel, and sand within 15 feet, of an inlet. There appeared to be no gravel migration though some sand migration

there should be inlet protection at this inlet, and material should be moved further away if it is possible.

DOT - DOT is still under construction in the area, which is altering stormwater utilities on site. A new SWPPP will need to be implemented upon completion. An inlet on the access road north of the fleet building was ponding and had inlet protection. This inlet was adjacent to large peices of broken concrete from the DOT construction.

Park and Ride - New Park and Ride looks good. Many inlets still have inlet protection, and flow is clear.

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

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Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Highway - North Shop			
Street Address: 6270 N Hopkins	City: Milwaukee	State: WI	ZIP Code: 53209
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 9-8-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): See Below	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): —		
Time of Rainfall Event: —	Time of Visual Inspection: 10:50	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch): —	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:	See Below
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:	
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:	
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:	
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:	

Comments:

#1 - overland flow was clear

#2 - A few floatables were caught by the "rip rap". Flow was mostly clear and had no strange smells

#3 - runoff was clear to cloudy. There did not appear to be floatables or sediment runoff from yard storage. The nearest storage area to the CB was empty.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

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Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Timmerman Airport			
Street Address: 9305 W. Appleton Ave	City: Milwaukee	State: Wi	ZIP Code: 53225
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 9-8-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): SEE BELOW	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): —		
Time of Rainfall Event: —	Time of Visual Inspection: 11:25	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch):	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☒ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☒ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☒ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☒ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☒ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

Comments:

#1 - looks good; clear flow

#2 - looks good; clear flow

OF - clear flow free of trash / debris.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

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Use one form per outfall.

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Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: McKinley Marina			
Street Address: 1750 W. Lincoln Memorial Dr.	City: Milwaukee	State: WI	ZIP Code: 53202
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 9-8-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): SEE BELOW	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): —		
Time of Rainfall Event: —	Time of Visual Inspection: 9:30	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch): —	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

Comments:

1-4 NORTH: trash/debris in lake near boat launch, though runoff was clear and free of debris

5-9 CENTRAL: looked good; clear flow

10-13 SOUTH: looked good; clear flow

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

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Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Milwaukee County Zoo			
Street Address: 1001 W. Bluemound	City: Milwaukee	State: WI	ZIP Code: 53226
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 9-29-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): See Below	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): See Below		
Time of Rainfall Event: /	Time of Visual Inspection: 9:30 AM	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:	See Below
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:	
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:	
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:	
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:	

Comments.

#1 - Flow coming from box culvert was cloudy/opaque and had a musty smell.

#2 - looked good! Clear flow with erosion control fabric.

Parking lot - Sediment from storage and DOT construction access road flowing to catch basin in SE corner of parking lot. There was no ponding, and 2 of the 3 previous catch basins had clear flow.

This outfall could not be evaluated during this quarter due to the following reason:

Bliffert Parking lot - new stormwater pond looked good!

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

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Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Timmerman Airport			
Street Address: 9305 W. Appleton Ave	City: Milwaukee	State: WI	ZIP Code: 53225
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 11/30/15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): SEE BELOW	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.):		
Time of Rainfall Event: 2:15	Time of Visual Inspection: 3:30	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch):	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☒ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☒ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☒ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☒ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☒ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

Comments:

#1 - looks good, clear flow
#2 - looks good, clear flow
OF - looks good, clear flow
CB near AST - talked to a service worker named Jim who closed the hatch/valve to the catch basin. I explained to him what its purpose was, and that it should always be closed unless it is confirmed that Stormwater flow has no oil.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, ou could be subject to penalties up to $10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: McKinley Marina			
Street Address: 1750 W. Lincoln Memorial Dr	City: Milwaukee	State: WI	ZIP Code: 53202
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 11/30/15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): SEE BELOW	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.): —		
Time of Rainfall Event: 2:15 PM	Time of Visual Inspection: 2:15 PM	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch): —	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☒ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☒ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☒ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☐ None	☐ Foam	☒ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☒ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

Comments

1-4 North: clear flow. Garbage in water near boat launch, though not in runoff.

5-9 Central: clear flow, no issues

10-13 SOUTH: clear flow, no issues

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, ou could be subject to penalties up to $10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: North Shop			
Street Address: 6270 N Hopkins	City: Milwaukee	State: WI	ZIP Code: 53209
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 11/30/15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): SEE BELOW	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.):		
Time of Rainfall Event: 2.15	Time of Visual Inspection: 3:00	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch):	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☒ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:	SEE BELOW
Odor:	☒ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:	
Clarity:	☐ Clear	☒ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:	
Floatables:	☒ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:	
Deposits / Stains:	☒ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:	

Comments:

#1- looks good, clear flow

#2- slightly cloudy. No strange smells or floatables

#3 - Area ponding due to erosion control fabric. Slightly cloudy flow.

This outfall could not be evaluated during this quarter due to the following reason:

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It does not have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, ou could be subject to penalties up to $10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Fleet - Main Shop			
Street Address: 10340 W Watertown Plank Rd	City: Milwaukee	State: Wi	ZIP Code: 53226
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 12/21/15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): SEE BELOW	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.):		
Time of Rainfall Event: –	Time of Visual Inspection: 10:50	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:	SEE BELOW
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:	
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:	
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:	
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:	

Comments:

#1 - clear flow. Erosion control fabric on upstream inlets.

#2 - clear flow.

#3 - clear flow. Structure should be vacuumed out.

Storage bins - These areas are now empty.

This outfall could not be evaluated during this quarter due to the following reason:

* DOT construction is not complete.

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, ou could be subject to penalties up to $10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name: Milwaukee County Zoo			
Street Address: 1001 W. Bluemound Ave	City: Milwaukee	State: WI	ZIP Code: 53226
Name of Person Conducting Inspection: Jack Sudar		Inspection Date: 12-21-15	
Employer: Milwaukee County		Telephone Number: 414-278-4870	
Outfall Number (make reference to site map): SEE BELOW	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.):		
Time of Rainfall Event:	Time of Visual Inspection: 9:45 AM	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch):	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

SEE BELOW

Comments:

#1 - Mostly clear flow that smelled sy. I was able to see to the bottom of the stream bed.

#2 - clear flow with erosion control fabric.

Parking lot - All flow is clear. DOT construction is stabilizing. Erosion control fabric is gone.

This outfall could not be evaluated during this quarter due to the following reason:

Bliffert Parking lot - pond looks good with clear flow. vegitation is still stabalizing.

FW: Milwaukee County Zoo Erosion near DOT construction.

Aleiow, Aziz

Thu 4/16/2015 9:15 AM

Inbox

To:Sudar, Jack <Jack.Sudar@milwaukeecountywi.gov>;

Cc:Detzer, Tim <Timothy.Detzer@milwaukeecountywi.gov>;

1 attachment (1 MB)

2015.04.15 Zoo Dr & Lot BMPs.pdf;

fyi

From: Klipstein, Mark - DOT [mailto:Mark.Klipstein@dot.wi.gov]
Sent: Wednesday, April 15, 2015 4:52 PM
To: Aleiow, Aziz
Cc: Burns, Mike - DOT
Subject: FW: Milwaukee County Zoo Erosion near DOT construction.

Aziz,

Please see below and attached for our response to the County's erosion control concerns.

Thanks,
Mark

From: Bruce, Steven J - DOT
Sent: Wednesday, April 15, 2015 3:14 PM
To: Klipstein, Mark - DOT
Cc: 'David S. Misun'; 'Tom Collins'; Race, Sean M - DOT
Subject: FW: Milwaukee County Zoo Erosion near DOT construction.

Mark,

I met w/ Dave Misun on site to review. Dave working with crews to implement. Attached map shows perimeter BMP installations along the Zoo DR & parking lot area. Minor grading, with sand/rock bags, work at middle drive (sheet 810) should keep overflow from flowing west towards sag and middle parking lot. I am hoping this change will keep the water either in the NE gutter inlet or it will route south to other protected grates. The work areas to the east and south, along the fence line, have a select crushed haul road route or areas are low. Added inlet protections in the lot will filter if larger rain events overflow out of the haul road stone.

If needed we can meet w/ Milw. County to discuss any further actions that may be required.

Thank you,

Steven J. Bruce, P.E.
Zoo IC Construction Environmental Lead
Wisconsin Department of Transportation
DTSD SE Region - Southeast Freeways Construction
-Mobile: (414) 750-1547
-Email: Steven.Bruce@dot.wi.gov

From: Bruce, Steven J - DOT
Sent: Wednesday, April 15, 2015 7:57 AM
To: 'David S. Misun'
Cc: Klipstein, Mark - DOT; 'Tom Collins'
Subject: FW: Milwaukee County Zoo Erosion near DOT construction.

Dave,

Please field review this area along the zoo we discussed and the BMP changes that were part of the last order. Please add more silt fence if necessary. Mark-up a plan of BMP changes and give it to Mark Klipstein so he can follow up with Milw. Co.

Thank you,

Steven J. Bruce, P.E.
Zoo IC Construction Environmental Lead
Wisconsin Department of Transportation
DTSD SE Region - Southeast Freeways Construction
-Mobile: (414) 750-1547
-Email: Steven.Bruce@dot.wi.gov

From: Klipstein, Mark - DOT
Sent: Tuesday, April 14, 2015 11:48 AM
To: Bruce, Steven J - DOT
Subject: FW: Milwaukee County Zoo Erosion near DOT construction.

From: Aleiow, Aziz [mailto:Abdulaziz.Aleiow@milwaukeecountywi.gov]
Sent: Tuesday, April 14, 2015 8:44 AM
To: Klipstein, Mark - DOT
Subject: FW: Milwaukee County Zoo Erosion near DOT construction.

fyi

From: Sudar, Jack
Sent: Monday, April 13, 2015 3:22 PM
To: Aleiow, Aziz
Cc: Detzer, Tim
Subject: Milwaukee County Zoo Erosion near DOT construction.

Hello Aziz,

I had a chance to go to the Milwaukee County Zoo during the rain event on 4/9/15. The three catch basins on the southern end of the main zoo parking lot (8274, 8275, 8276) had runoff caring a significant amount of sediment to the catch basins. While there is some Milwaukee County Zoo storage of materials on the parking lot, it appeared to me that the primary cause of sediment in the runoff was erosion from the DOT construction site adjacent to the parking lot.

I am unsure what erosion control measures DOT has in place on this construction site, but it appeared that erosion was coming from off site and flowing into catch basins 8274, 8275, and 8276. Attached I have pictures of the runoff and a map of the location of the catch basins.

Thanks,
Jack

Jack Sudar, EIT | Environmental Engineer
Milwaukee County Department of Administrative Services – Facilities Management
633 W. Wisconsin Avenue, Suite 1003, Milwaukee, WI 53203
Phone: (414) 278-4870| Mobile: (414) 238-1251
This message is intended for the sole use of the individual and entity to which it is addressed, and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If you are not the intended addressee, nor authorized to receive for the intended addressee, you are hereby notified that you may not use, copy, disclose or distribute to anyone the message or any information contained in the message. If you have received this message in error, please immediately advise the sender by reply email and delete the message.

8274

8275

8276

8281
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8273
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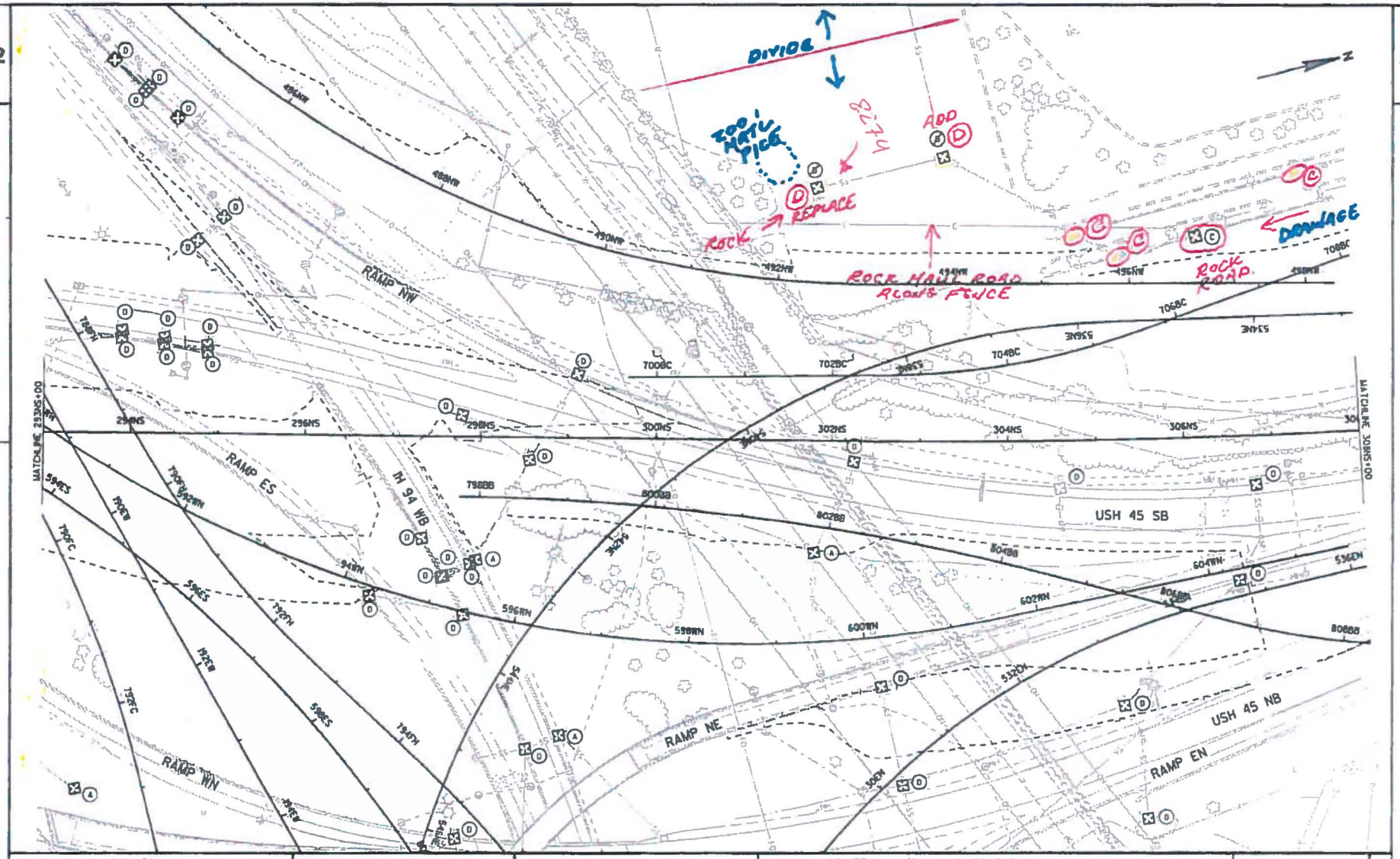
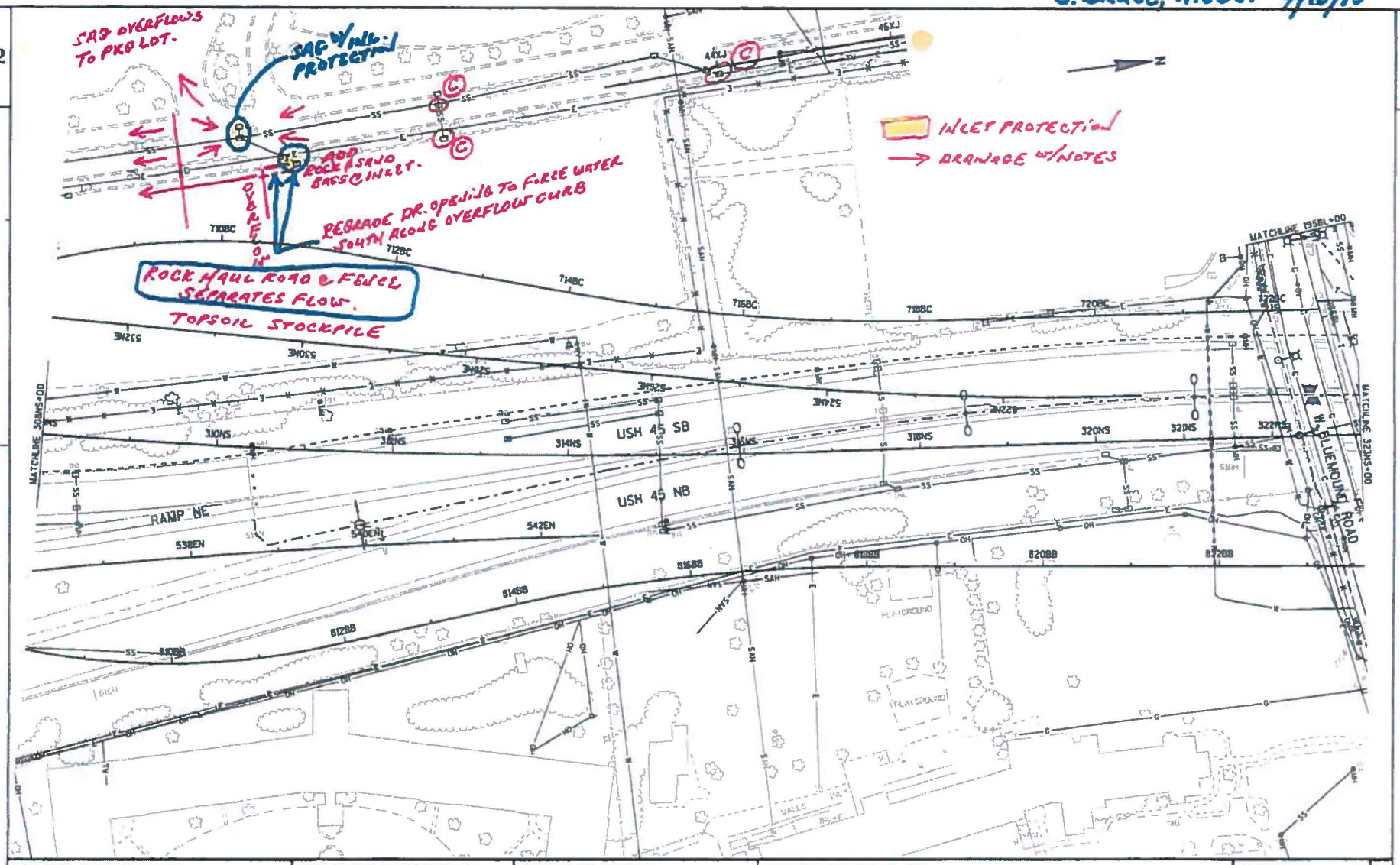
8276
8275



PROJECT NO: 1060-33-80	HWY: IH 894/IH 94/USH 45	COUNTY: MILWAUKEE	EROSION CONTROL - EXISTING CONDITION	SHEET	E

FILE NAME : W:\Cadd\Final\10603380_21\Roads\edc\022008_ec.dgn PLOT DATE : 28-APR-2014 00:01 PLOT BY : MSCPLR PLOT NAME : 022008_ec PLOT SCALE : 100:1 WISDOT/CADDS SHEET 42

ZOO DR./PARKING LOT BMPS
S. BRUCE, WISDOT 4/15/15



PROJECT NO:1060-33-80	HWY: IH 894/IH 94/USH 45	COUNTY: MILWAUKEE	EXISTING UTILITY PLANS	SHEET 810	E

FILE NAME : P:\Cadd\Final\10603380_21\Roads\sds\023009_up.dgn PLOT DATE : 28-APR-2014 01:08 PLOT BY : MSCPLR PLOT NAME : 023009_up PLOT SCALE : 100:1 WISDOT/CADLIB SHEET 42

Fleet Maintenance SWPPP

Sudar, Jack

Thu 9/10/2015 3:36 PM

To: Goeden, Daniel <Daniel.Goeden@milwaukeecountywi.gov>; Heisel, Gregory <Gregory.Heisel@milwaukeecountywi.gov>;

Cc: Detzer, Tim <Timothy.Detzer@milwaukeecountywi.gov>;

6 attachments (2 MB)

3rd quarter fleet maintenance SWPPP visual inspection.pdf; 20150908_132457.jr 30401.jpg; 20150908_125331.jpg; Fleet items.pdf;

3rd Quarter Fleet Follow-up

Dan and Greg,

Attached is the 3rd quarter visual SWPPP inspection for the Fleet Maintenance facility, pictures of a few items that could use some attention, and a map of where these pictures are. These items are:

1. The large drainage pit where vehicle washing takes place should be vacuumed out, and the pipe in the drainage pit should be reopened so that the pit can properly function.

2. The catch basin just north of the fleet facility where materials are being stored should have inlet protection placed around it. At the time of the inspection there was gravel storage within feet of the outlet and sand within 15 feet of the outlet. These materials should be moved to "storage bins" further away from the catch basin if possible.

3. Outfall 3 had significant sediment within the manhole structure which should be vacuumed out. Outfall three had inlet protection, so it appears the sediment came from upstream pipes. The inlet about 15 feet to the northeast of outfall 3 has sediment along the curbline, so this inlet should have inlet protection while there is still construction.

I know that there has been talk of having DOT redraft a SWPPP for this facility upon completion of their alterations to site storm sewer and drainage. A new SWPPP will need to happen at some point regardless, as the DOT has made considerable changes to site drainage and utilities.

Thanks,
Jack

Jack Sudar, EIT | Environmental Engineer
Milwaukee County Department of Administrative Services – Facilities Management
633 W. Wisconsin Avenue, Suite 1003, Milwaukee, WI 53203
Phone: (414) 278-4870| Mobile: (414) 238-1251

North Shop SWPPP

Sudar, Jack

Thu 9/10/2015 12:50 PM

To: Heisel, Gregory <Gregory.Heisel@milwaukeecountywi.gov>;

Cc: Detzer, Tim <Timothy.Detzer@milwaukeecountywi.gov>;

5 attachments (962 KB)

20150908_110255.jpg; 20150908_110516.jpg; 20150908_110548.jpg; 20150908_110604.jpg; 3rd quarter north shop SWPPP visual inspections.pdf;

Greg,

Attached is the 3rd quarter visual SWPPP inspection of the North Shop facility. The storage yard that drains to outfall 3 appeared a bit untidy at the time of the inspection and there was some loose trash next to a dumpster in the yard. This area should be swept. The "storage bin" nearest to outfall 3 was mostly empty at the time of the inspection and it did not appear that there was trash or sediment flowing to the outfall. Attached are some pictures from the inspection.

I recently received the survey data for outfall number 3, and should have a design for turning it into a sedimentation chamber in the near future. The design would most likely include retrofitting a "snout" to the outlet pipe and deepening the bottom of the storm structure. The "snout" would be similar to one of these products: http://www.bmpinc.com/everything-at-a-glance

As Jill is designing the repaving and fence installation of the facility, she has told be that she will add an alternate to the bid for stormwater catch basins within the yard that drains to outfall 2.

Thank you,
Jack

Jack Sudar, EIT | Environmental Engineer
Milwaukee County Department of Administrative Services – Facilities Management
633 W. Wisconsin Avenue, Suite 1003, Milwaukee, WI 53203
Phone: (414) 278-4870| Mobile: (414) 238-1251

Re: Zoo SWPPP Inspection

Sudar, Jack

Tue 9/29/2015 4:13 PM

To:Hackbarth, Karl <Karl.Hackbarth@milwaukeecountywi.gov>;

Cc:Detzer, Tim <Timothy.Detzer@milwaukeecountywi.gov>;

1 attachment (2 MB)

Zoo South Storm Map.pdf;

Karl,

I am glad to hear that you were aware of the cloudy stormwater at the Zoo. I saw cloudy flow coming from east of the Zoo from the DOT dirt road. I'm guessing that any other stormwater runoff issues east of the Zoo were also probably due to the DOT construction.

I drove the environmental services van through the tunnel under I-94 but did not see any runoff issues at the time I was there (which was about 9:30AM). I did not leave Zoo property, so if there were runoff issues on the DOT side I would have missed it.

I inspected the catch basin that we inspect as the "outfall" for the service yard near the I-94 tunnel (19616 on the attached map). There did not appear to be cloudy flow or sediment going into it and it had erosion control fabric. I was hoping to inspect the outlet northeast downstream of this catch basin (19617 on the attached map), but I got stuck in the mud about half-way there. I believe WisDOT is now the owner of this catch basin (19617)?

I saw that the new stormwater pond west of the Zoo for the new parking lot appeared to be functioning well.

Thank you for the updates and let us know if you need any assistance.

Thanks,
Jack

Jack Sudar, EIT | Environmental Engineer
Milwaukee County Department of Administrative Services – Facilities Management
633 W. Wisconsin Avenue, Suite 1003, Milwaukee, WI 53203
Phone: (414) 278-4870| Mobile: (414) 238-1251

From: Hackbarth, Karl
Sent: Tuesday, September 29, 2015 3:31 PM
To: Sudar, Jack
Cc: Detzer, Tim
Subject: Re: Zoo SWPPP Inspection

Jack,

Yes I am aware of the cloudy condition of storm water that is leaving the Zoo. What you did not see is the run off from the area east of the Zoo and the material it carried. At 6 AM this morning we hat areas of standing water surrounding these inlet approximately 8" in depth and covering a couple of hundred of square feet.

Did you make to the tunnel area under I-94? We have a issue in this area but the water does not follow into our main discharge.

The bulk of the wood chips will be gone this week, they are dumped here and then moved to playgrounds around Milwaukee County by the Parks Department.

Most of the stone piles will find another home in the near future, we lost the area where they had been stock piled.

We also have a run off issue on the west side of the coming from the construction area for the new west entry way.

From: Sudar, Jack
Sent: Tuesday, September 29, 2015 2:55 PM
To: Hackbarth, Karl
Cc: Detzer, Tim
Subject: Zoo SWPPP Inspection

Hello Karl,

I was able to conduct the 3rd quarter wet weather SWPPP inspection of the Zoo during the rainfall this morning. I thought I should make you aware of some cloudy stormwater runoff into one of the catch bains due to DOT construction and Zoo Storage. There is erosion control fabric on the catch basin, though the color of the flow coming from the box culvert outlet structure near Lake Evinrude seems to indicate that the sediment is fine enough to pass through the erosion control fabric.

Catch Basin 8274 (see attached map) had cloudy runoff flowing into it. To the east of the catch basin flow was carrying sediment from the dirt road that DOT is currently using for construction. DOT has an erosion control sock along this road, though flow carrying sediment was still coming from the road.

To the southwest of the catch basin there were stockpiles of boulders and logs. These stockpiles also had soil/sediment mixed in with them. Flow coming from this area was carrying sediment to the catch basin.

There was also a large pile of wood-chips near the catch basin, though it did not appear that sediment or woodchips were migrating towards the catch basin from here.

Attached are photos of the catch basin, the box culvert outlet structure near Lake Evinrude, and a map showing the location of the structure.

Thank you,
Jack

Jack Sudar, EIT | Environmental Engineer
Milwaukee County Department of Administrative Services – Facilities Management
633 W. Wisconsin Avenue, Suite 1003, Milwaukee, WI 53203
Phone: (414) 278-4870| Mobile: (414) 238-1251

Attachment 4

Street Sweeping / Catch Basin Cleaning

Milwaukee County
Street Sweeping Catch Basin Record 2015

County Highway	Sweeping Frequency*	Collected (Cubic yards)	CBs Cleaned	Collected (Cubic yards)
Silver Spring Dr	3	27	-	-
Hampton Ave	1	6	-	-
Beloit Road	1	6	-	-
S. 92nd St	-	-	-	-
Oklamhoma Ave	1	3	-	-
Layton Ave	2	12	-	-
S. 76 St	5	27	-	-
Rawson Ave	1	2	-	-
Mill Road	10	50	4	21
Good Hope Rd	10	65	4	32
Teutonia Ave	5	24	4	18
43rd St	5	21	4	15
Port Washington Rd	6	18	4	15
107th St	3	1	1	3
College Ave	3	9	3	1
Layton Ave	3	6	3	1
Rawson Ave	2	6	4	2
South 13th	-	-	-	-
Lakefront**	3	8	-	-
Zoo	137	107	5	1.5
Zoo SW Outlet Structure	2	4		
Root River Parkway	2	8	-	-
Total		**410**		**109.5**

*One unit is equal a distinct sweeping event not necessarily the entire roadway.
** Includes Lincoln Memorial and Lagoon Drives and McKinley, North Point and Bradford Beach Parking Lots

Attachment 5

Stormwater Management Facility Inspections

Stormwater Facility Maintenance Items

Milwaukee County 2/19/2016

Item. (Site)	Inspection Date	SW BMP Performance*	Owner	Maintenance Needs
1. (Bradford Beach Infiltration Cell Outfalls)	9/9/2015	4	Parks	The shoreline of Outfall 7 had many willows that have nearly all been eroded away by the lake. This erosion has also exposed much of the protective rip rap along the shoreline. While the eastern edge of the infiltration basin is armored with heavy rip rap, additional erosion has the potential to erode the wall of the basin, specifically on the southern edge. This situation should be monitored and additional heavy rip rap may be warranted. Invasive species inside the basin were removed in 2015 by a contractor.
2. (Layton Ave Pervious Pavement)	10/29/2015	5	Highway	The PaveDrain pavers are settling in some spots and the nearby road is cracking. However, there does not appear to be significant clogging between the pavers.
3. (Bender Park Dry Ponds)	10/29/2015	2	Parks	A stormwater ditch that flows into dry pond #2 has an outlet structure and pipe that have failed, leaving an erosion channel that is nearly 10 ft in depth at some points. There is an orange fence around the affected area, though aerial photos seem to indicate that this has been an issue for years. This pipe and outlet structure need to be replaced. Both dry ponds #1 and #2 have invasive phragmites growing in them that should be removed.
4. (Grant Park Beach Rain Garden)	10/29/2015	5	Parks	This rain garden had a decent amount of trash in the basin and weeds around the perimeter. The orange fence around the rain garden was ripped down in most places. The fence should be removed or put back up, and the weeds and trash should be removed.
5. (South Shore Sedimentation Chamber)	10/30/2015	4	Parks	Sediments in the trench drain and the pipe connecting the trench drain to the sedimentation structure were both filled with sediment. These should be cleaned out.
6. (Pulaski Park Rain Garden)	10/30/2015	5	Parks	This rain garden had invasive weeds which should be removed.
7. (Mitchell Park Rain Garden)	10/30/2015	4	Parks	The raingarden in the northeastern parking lot is having sediment build-up along its western edge from parking lot runoff which should be removed. The outlet structure of the rain garden should be cleaned out, as it has begun to clog with debris. Weeds, trash and volunteer trees should also be removed.

Stormwater Facility Maintenance Items

Milwaukee County 2/19/2016

Item. (Site)	Inspection Date	SW BMP Performance*	Owner	Maintenance Needs
8. (Milwaukee County Grounds Basin 3)	11/3/2015	4	Facilities	Invasive plants including phragmites and thistle were growing at the site, and well established on 11/3/15. WisDOT was responsible for invasive plant removal through 10/15/15, though it was clear that these invasive plants were growing at that time. There still are a few hundred wooden stakes in the pond which should be removed if they are not in use for something apparent.
9. (Milwaukee County Zoo Pervious Pavement)	11/19/2015	3	Zoo	PP-1, PP-2, PP-3: These pervious pavement installations are in mostly good shape. PP-4, PP-5, PP-6, PP-7, and PP-8: These pervious pavement installations could use a vacuum sweeping and replacement of the joint material. PP-4 has significant clogging and plants growing out of the pavers. PP-5 is in decent shape, though there are multiple locations where the joints between the pavers are clogged with sediment. PP-6 is in decent shape, though there are spots where the joints between the pavers are clogged with sediment. Additionally, the north end has some heaving pavers and the south end has some removed pavers due to a seasonal tent. These paver issues should be addressed. PP-7 has significant clogging between the joints of the pavers, and there is some settlement of the pavers. PP-8 has significant clogging of the joints between the pavers and significant settlement of the pavers.
10. (107th Street PaveDrain)	12/1/2015	3	Highway	There is sediment and debris clogging many of the voids between the PaveDrain pavers. Concrete has been spalling on 100+ blocks, which has caused up to 1/8" to 1/2" of the block surface to break off. Many PaveDrain pavers have begun to settle up to 2" below the road elevation. A street sweeper was used on the PaveDrain pavers in summer of 2015. This improved the aesthetics of the pavers, though it did little to remediating the clogging. A vacuum sweeper or PaveDrain Vac Head should be used to remove the clogged material from the joints between the pavers. The PaveDrain pavers that are significantly spalled should be replaced if there are spare PaveDrain paver blocks. If the settlement of the PaveDrain pavers is of concern, additional stone should be placed underneath the pavers to raise them to the same elevation as the road. There was also significant trash in the[ditches that should be removed.

Stormwater Facility Maintenance Items

Milwaukee County 2/19/2016

Item. (Site)	Inspection Date	SW BMP Performance*	Owner	Maintenance Needs
11. (Doctors Park Sedimentation Chamber)	12/1/2015	4	Parks	There is roughly 17" of sediment in the structure that should be vacuumed out.
12. (Brown Deer Park Pond)	12/1/2015	5	Parks	The pavement "look-out-area" near the pavilion at the pond's edge is substantially cracked and could be replaced.
13. (Greenfield Park Pond)	12/1/2015	3	Parks	Inlet I-2 has a broken pipe. As a result, a large area of soil has eroded into the pond. This pipe should be replaced. Inlet I-7 appears to be seeping up from the ground and causing some erosion issues. Replacing this pipe should be looked into. There are two cracked pipes at inlet I-4, though neither appear to be causing immediate issues, replacing these pipes should be looked into. The pavement "look-out-area" near the pavilion has frequently had water ponding on top of it, and should perhaps be replaced. Phragmites on the north side of the pond were destroyed in 2015, though it appears that some may have survived and may need to be treated with herbicide.
14. (Moody Park Rain Garden)	12/11/2015	4	Parks	Both raingardens have large amounts of shredded hardwood bark mulch in their basin, which appear to be stifling the rain garden plants. If these plants do not grow back, the bark mulch may need to be replaced with oat or wheat straw mulch and new plants may need to be planted.
15. (McGovern Park)	12/15/2015	4	Parks	The outlet structure of the pond is cracked and flow appears to be leaving the pond from beneath it. Replcaing the outlet structure should be considered before it gets worse. The stone "lock-out-area" has multiple stone blocks that appear to have been thrown into the pond. These stone blocks should be put back into place. There is a considerable amount of trash around the pond that should be picked up. The sedimentation chamber near the Senior Center has roughly 25" of sediment and should be vacuumed out. The rain garden near the service yard had lots of trash that should be removed.

Stormwater Facility Maintenance Items

Milwaukee County 2/19/2016

Item. (Site)	Inspection Date	SW BMP Performance*	Owner	Maintenance Needs
16. (Dineen Park Pervious Pavement)	12/15/2015	3	Parks	The southern pervious pavement installation near the old golf course is beginning to clog in spots and has weeds growing between the pavers. This lot should be vacuum swept and have the joint material replaced. The northern pervious cement installation had loose gravel on the surface and sediment clogging the voids of the concrete. This pervious concrete could use a vacuum sweeping.
17. (Milwaukee County Grounds Basin 10)	1/22/2016	2	Facilities & Milwaukee Research Park	The south side of the pond is owned by Milwaukee Research Park and has issues with inlets I-5, I-7, and I-14. Inlet I-5 is having serious erosion problems that are forming a peninsula. I-5 has rip rap, though it appears to have been poorly installed and not large enough. I-5 should have larger rip rap installed with erosion control fabric. Inlet I-7 has been crushed, which may cause problems in the future, though does not appear to be causing any immediate issues. Inlet I-9 now has a new 6" inlet I-14 running adjacent to it. Flow from I-14 is discharging at the top of the hill and cutting a large erosion channel on its way to the pond. Inlet I-14 should be connected to I-9, extended down to the surface of the water, or have a rip rap channel installed. The north side of the pond is owned by Milwaukee County and has a few issues. There are many bare patches of land on the north side which should be addressed with the addition of new soil, seed, and erosion control fabric. Inlets I-10, I-11, and I-15 are having minimal erosion issues and could use some more rip rap. An abandon inlet between I-3 and the rip-rap channel appears to have some seepage leaking out, despite being sealed shut. All volunteer trees within 20' of the pond should be removed. The pond has many invasive species which should be removed including phragmites, teasel, crown vetch, and trefoil.

Stormwater Facility Maintenance Items

Milwaukee County 2/19/2016

***SW BMP Performance:** *Stormwater Best Management Practices Performance* - A priority rating system was used for each of the SW BMP sites to determine which sites need the most maintenance attention. The criteria for the SW BMP sites are listed in Table 1 below.

Table 1: Priority Rating System for Stormwater Best Management Practices Performance	
Priority Rating	**Site Condition**
1	The site's BMP has completely failed and requires immediate maintenance
2	The site's BMP is having substantial issues and requires maintenance
3	The site's BMP is having issues and requires maintenance
4	The site's BMP is mostly working properly, though there are maintenance issues
5	The site's BMP is working properly, though there are minor maintenance issues

Fall 2015 Storm Water Management Facility Inspections

Facility	Inspection Type	Location Notes	Major Outfall?	Date Inspected	Sediment Depth Taken	OWNER	Contact	Serious Problems Reported to Owner?	Comments
South Shore StormTreat	Sedimentation Chamber	South of boat launch	No	10/30/2015	X	Parks	Gene Andrzejak	N/A	Volunteer trees were chopped down. Trench drain is begininng to fill with sediment.
Bradford Beach Outfalls	Rain Garden & Infiltration	East of Lincoln Memorial Dr	No	9/9/2015	X	Parks	Gene Andrzejak	Addressed by Contractor	Invasive species were removed and will continue to bre removed. Emergeny spillway restoration scheduled for late fall of 2015.
Bradford Beach Parking lot Bioswale	Rain Garden & Infiltration	West of Lincoln Memorial Dr	No	9/9/2015	X	Parks	Gene Andrzejak	Addressed by Contractor	Invasive species were removed and will continuee to be removed throughout 2015.
Bradford Beach Parking lot sed Chamber	Rain Garden & Infiltration	East of parking lot near Outfall 0	No	9/9/2015	8"	Parks	Gene Andrzejak	Addressed by Contractor	The structure had no floatables and minimal sediment depth.
Bradford Beach Outfall 7 (Lake Park RGs)	Rain Garden & Infiltration	Three raingardens in Lake Park	No	9/9/2015	X	Parks	Gene Andrzejak	Yes	Rain gardens have had invasive species removed. OF7 has had a sawcut to avoid clogging and high Lake levels have eroded willows.
County Grounds Pond 1	Pond	Near Daycare	Yes	1/21/2016	X	Facilities	John Westrich &Tom Travia	N/A	The pond is in good shape
County Grounds Basin 2 - Pond 1-3	Pond	Wisconsin Ave ponds	Yes	11/3/2015	X	Facilities	John Westrich &Tom Travia	Addressed by Contractor	Phragmities were treated for removal at the pond and pond depths were measured. Phragmites health should be monitored.
County Grounds Pond 3	Pond	Near Underwood Parkway	Yes	11/3/2015	X	Facilities	John Westrich &Tom Travia	Yes	Erosion issues have been fixed by DOT. Natvie plant community is doing well. Phragmites and thistle should be removed.
County Grounds Pond 10	Pond	Behind Children's Court	No	1/22/2016	X	Facilities / Non-County	Tom Travia? / Guy Muscari	Yes	Two erosion issues on south side of the pond owned by MCRP.. Many bare spots on north side owned by Milwaukee County
Greenfield Park	Pond	South of golf course	No	12/7/2015	X	Parks	Gene Andrzejak	Yes	Multiple pipe inlets appear cracked or broken which is leading to some minor erosion issues. Phragmities have been treated.
Menomonee Parkway	Pond	North of Burleigh near Meno. River	No	10/14/2015	X	Parks	Gene Andrzejak	Yes	Wetland construction nearly complete. Native plants are thriving. Additional plants may be added and level spreader needs adjustment.
Brown Deer Park	Pond	North of the golf course	No	12/1/2015	X	Parks	Gene Andrzejak	Yes	The pond appears to be in good condition. There are many muskrat roles around the ponds shoreline.
McGovern Park	Pond	Middle of the park	No	12/25/2015	X	Parks	Gene Andrzejak	Yes	The "outlook area" should have the stone blocks put back, trash should be picked up, and Parks should consider replacing the cracking outlet structure.
McGovern Park	Bio Retention	Northeast of the north parking lot	No	12/15/2015	X	Parks	Gene Andrzejak	Yes	Trash should be cleaned up.
McGovern Park	Sedimentation Chamber	North of the southeast parking lot	No	12/15/2015	25"	Parks	Gene Andrzejak	Yes	Sediment and floatables in the chamber should be vacuumed out.
Washington Park	Pond	1859 N. 40th Street, Milwaukee	No	1/21/2016	X	Parks	Gene Andrzejak	N/A	In good shape.
McKinley Raingarden	Rain Garden & Infiltration	Northeast corner of the parking lot	No	9/9/2015	X	Parks	Gene Andrzejak	Addressed by Contractor	Invaise species have been removed. However, there are now many bare spots and new native plugs should be planted.
McKinley Subsurface	Sedimentation Chamber	Northeast of lot near stone beach	No	10/30/2015	0"	Parks	Gene Andrzejak	Addressed by Contractor	No sediment in the structure, minimal floatables. The structure was cleaned out a very months before this inspection
Zoo Pervious Pavement	Pervious Pavement	Various Locations	No	11/19/2015	X	Zoo	Karl Hackbarth	Yes	Pavement needs to be vacuum swept and have joint material replaced in many spots.
Sports Complex Parking Lot	Pervious Pavement	6000 W Ryan Rd, Franklin	No	9/15/2015	X	Parks	Gene Andrzejak	Addressed by Contractor	PICP lot was street swept and joint material was replenished. KEI permormed the mainteance and it was successful
College Ave	Pond (Dry Pond)	College ave south east of airport	No	10/29/2015	X	Highway	Greg Hiesel	N/A	In good shape with diverse and plentiful vegitation.
College Ave @ Loomis	Pond	College and Loomis	No	9/15/2015	X	Highway	Greg Hiesel	Addressed by Contractor	Native plugs and seed have been planted and invasive species have been removed. Currently on 2-year maintenance plan.
HOC Sheriff Training	Pond	South of the inmate housing	No	10/29/2015	X	HOC	Shawn Sullivan	N/A	Ponds in good shape. Lots of geese at the ponds, and a small amount of foam/froth in the western pond.
County Rd F (107th)	Pervious Pavement	Shoulder of the Road	No	12/1/2015	X	Highway	Greg Hiesel	Yes	Pavers are clogged and some of the concrete blocks are spalling.
Mitchell Park Domes	Bioretention	Packers Field / NE Parking Lot	No	10/30/2015	X	Parks	Gene Andrzejak	Yes	NE Parking lot rain garden has sediment build up and trash that should be removed. Outlet Stucture beginning to clog
Mitchell Park Domes	Pervious Pavement	Domes	No	10/30/2015	X	Parks	Gene Andrzejak	N/A	In good shape. Fountains were not active during the inspection.
Mitchell Park Domes	Cistern	At Green House	No	10/30/2015	X	Parks	Gene Andrzejak	N/A	The cistern outlet structure has been fixed.
76th St and Drexel SW Pond	Pond	West Allis	No	10/29/2015	X	Highway	Greg Hiesel	N/A	Pond is in goos shape with established vegitation.
Doctors Park Sed Sump	Sedimentation Chamber	Fox Point	Yes	12/1/2015	17"	Parks	Gene Andrzejak	Yes	There is sediment, trash, and scum which should be vaacuumed out.
Dineen Park Pervious Pavement	Pervious Pavement	Milwaukee	No	12/15/2015	X	Parks	Gene Andrzejak	Yes	Both the pavers and concrete are beginning to clog and should be vacuum swept.
Dineen Park Rain Garden	Rain Garden & Infiltration	Milwaukee	No	12/15/2015	X	Parks	Gene Andrzejak	N/A	Looks Good!
Grant Park Rain Garden	Rain Garden & Infiltration	South Milwaukee	No	10/29/2015	X	Parks	Gene Andrzejak	Yes	Trash and weeds in the rain garden should be remvoed.
Rawson & Highway 100	Pervious Pavement	Franklin	No	10/29/2015	X	Highway	Greg Hiesel	Yes	Pavers are in good shape. Erosion channel near outfall has been fixed with rip-rap.
Layton Bus Stops	Pervious Pavement	Greenfield	No	10/29/2015	X	Highway	Greg Hiesel	N/A	Pavers are settling and the nearbye road is cracking. There does not appear to be significant clogging.
Pulaski Park	Rain Garden & Infiltration	Cudahy	No	10/30/2015	X	Parks	Gene Andrzejak	Yes	Vegitation is now established. Some weeds will need to be removed.
Bender Dry Ponds	Pond (Dry Pond)	Oak Creek	No	10/29/2015	X	Parks	Gene Andrzejak	Yes	The ponds have phragmities and there is a collapsed inlet pipe on the hill of dry pond 2.
County Grounds Pervious	Pervious Pavement	Behavioral Health & CATC	No	12/3/2015	X	Facilities	John Westrich &Tom Travia	N/A	PaveDrain in good shape with no apparent clogging or settling
Weir & Botanical Gardens Pervious	Pervious Pavement	Weir & Botanicsl Gardens	No	X	X	Parks	X	N/A	In construction phase
Moody Park Rain Gardens	Rain Garden & Infiltration	Community Building	No	12/11/2015	X	Parks	Gene Andrzejak	Yes	Plants appear to not be thriving. This should be monitored in the growing season.
South Shore Rain Garden	Rain Garden & Infiltration		No	X		Parks	Gene Andrzejak.	X	NO LONGER INSPECTED
51st St. And Rawson Ave.	Pond		No	X		X	X	X	NON COUNTY MANAGED
Port Washington Road	Pond		No	X		X	X	X	NON COUNTY MANAGED

Spring 2015 Storm Water Management Facility Inspections

Facility	Inspection Type	Location Notes	Major Outfall?	Date Inspected	Date Sediment Depth Taken	OWNER	Contact	Serious Problems Reported to Owner?	Comments
South Shore StormTreat	Sedimentation Chamber	South of boat launch	No	7/14/2015	X	Parks	Gene Andrzejak	See Fall 2015	The sedimentation chamber looked to be in good shape, though the trench drains were partially clogged.
Bradford Beach Outfalls	Rain Garden & Infiltration	East of Lincoln Memorial Dr	No	7/15/2015	X	Parks	Gene Andrzejak	See Fall 2015	Invasives removed in many of the basins. Emergency spillways to be restored this fall.
Bradford Beach Parking lot Bio R	Rain Garden & Infiltration	West of Lincoln Memorial Dr	No	7/15/2015	X	Parks	Gene Andrzejak	See Fall 2015	Invasive specied were removed, and native areas are overgrown. Will need to plant more plugs in bare areas.
Bradford Beach Parking lot sed Chamber	Rain Garden & Infiltration	East of parking lot near Outfall 0	No	7/15/2015	7"	Parks	Gene Andrzejak	See Fall 2015	The sedimentation chamber was vacuumed out 2 months prior and had roughly 7" of sediment at the time of the inspection.
Bradford Beach Outfall 7 (Lake Park RGs)	Rain Garden & Infiltration	Three raingardens in Lake Park	No	7/15/2015	X	Parks	Gene Andrzejak	See Fall 2015	Some on the shoreline has eroded due to high lake levels. May need additional rip rap in future.
County Grounds Pond 1	Pond	Near Daycare	Yes	6/16/2015	X	Facilities	Tom Travia?	See Fall 2015	The pond is in good shape
County Grounds Basin 2 - Pond 1-3	Pond	Wisconsin Ave ponds	Yes	4/8/2015	X	Facilities	Tom Travia?	See Fall 2015	Trash, debris, clogs, and small woody plants had recently been removed. Phrags and sediment in an inlet still need to be removed
County Grounds Pond 3	Pond	Near Underwood Parkway	Yes	6/16/2015	X	Facilities	Tom Travia?	See Fall 2015	Erosion near a 6" inlet and lots of goose poop. The native plants are establishing quite well.
County Grounds Pond 10	Pond	Behind Children's Court	No	7/10/2015	X	Facilities / Non-County	Tom Travia? / Guy Muscari	See Fall 2015	Two erosion issues on south side of the pond owned by MCRP.. Many bare spots on north side owned by Milwaukee County
Greenfield Park	Pond	South of golf course	No	6/18/2015	X	Parks	Gene Andrzejak	See Fall 2015	Invasives have been removed, and the pond appeared in mostly good condition.
Menomonee Parkway	Pond	North of Burleigh near Meno. River	No	5/22/2015	X	Parks	Gene Andrzejak	See Fall 2015	Grading is complete and planting of new wetland plants is beginning
Brown Deer Park	Pond	North of the golf course	No	5/29/2015	X	Parks	Gene Andrzejak	See Fall 2015	A few inlets pipies were beginiing to have sediment cover their outlets.
McGovern Park	Pond	Middle of the park	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	A large amount of trash should be cleaned up, and the outlet structure should be looked into getting replaced
McGovern Park	Bio Retention	Northeast of the north parking lot	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	A large amount of trash should be cleaned up
McGovern Park	Sedimentation Chamber	North of the southeast parking lot	No	4/28/2015	19"	Parks	Gene Andrzejak	See Fall 2015	The chamber should be vacuumed soon to remove the sediment.
Washington Park	Pond	1859 N. 40th Street, Milwaukee	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	In good shape.
McKinley Raingarden	Rain Garden & Infiltration	Northeast corner of the parking lot	No	4/21/2015	X	Parks	Gene Andrzejak	See Fall 2015	Sediment and trash were vaccumed out of structures and natives were pruned. In good shape.
McKinley Subsurface	Sedimentation Chamber	Northeast of lot near stone beach	No	4/21/2015	X	Parks	Gene Andrzejak	See Fall 2015	Sediment and trash were vacuumed from the subsurface structures.
Zoo Pervious Pavement	Pervious Pavement	Various Locations	No	6/29/2015	X	Zoo	Karl Hackbarth	See Fall 2015	Pavement needs to be vacuum swept and have joint material replaced.
Sports Complex Parking Lot	Pervious Pavement	6000 W Ryan Rd, Franklin	No	3/12/2015	X	Parks	Gene Andrzejak	See Fall 2015	Asphalt surrounding the PICP has cracked. Snow storred on pavers may result in weeds near the south end this summer.
College Ave	Pond (Dry Pond)	College ave south east of airport	No	7/9/2015	X	Highway	Greg Hiesel	See Fall 2015	In good condition,. Wetland vegetation is doing well.
College Ave @ Loomis	Pond	College and Loomis	No	6/16/2015	X	Highway	Greg Hiesel	See Fall 2015	Currently under construction to raise the water level and establish native plantings.
HOC Sheriff Training	Pond	South of the inmate housing	No	7/9/2015	X	HOC	Shawn Sullivan	See Fall 2015	In good condition, no maintenance needed
County Rd F (107th)	Pervious Pavement	Shoulder of the Road	No	6/18/2015	X	Highway	Greg Hiesel	See Fall 2015	a few dozen pavers had been cracked/crumbled and the voids are clogging on many. Should be cleaned within the year.
Mitchell Park Domes	Bioretention	Packers field	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	In good shape
Mitchell Park Domes	Bioretention	North East Parking Lot	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	Sediment and trash should be removed. Outlet Stucture beginning to clog
Mitchell Park Domes	Cistern	At Green House	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	The outlet structure to the pond had its grate ripped off.
76th St and Drexel SW Pond	Pond	West Allis	No	6/16/2015	X	Highway	Greg Hiesel	See Fall 2015	The pond is in good shape, with vegitation and aquatic life beginning to establish.
Doctors Park Sed Sump	Sedimentation Chamber	Fox Point	Yes	5/29/2015	17"	Parks	Gene Andrzejak	See Fall 2015	Floatables and 17" of sediment in the chamber. Should be vacuumed out.
Dineen Park Pervious Pavement	Pervious Pavement	Milwaukee	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	Pavement should be vacuum swept and have joint material replaced.
Dineen Park Rain Garden	Rain Garden & Infiltration	Milwaukee	No	4/28/2015	X	Parks	Gene Andrzejak	See Fall 2015	In good shape.
Grant Park Rain Garden	Rain Garden & Infiltration	South Milwaukee	No	4/21/2015	X	Parks	Gene Andrzejak	See Fall 2015	Recently constructed and planted with seeds and plugs. In good initial shape
HWY 100 and Rawson	Pervious Pavement	Franklin	No	3/18/2015	X	Highway	Greg Hiesel	See Fall 2015	Gravel clogging eastern-most PICP. Erosion channel establishing downstream of underdrains
Layton Bus Stops	Pervious Pavement	Greenfield	No	3/18/2015	X	Highway	Greg Hiesel	See Fall 2015	Pavedrain lower than the road, Manhole beginning to settle on northern-most PICP
Pulaski Park	Rain Garden & Infiltration	Cudahy	No	3/18/2015	X	Parks	Gene Andrzejak	See Fall 2015	Vegitation beginning to establish.
Behavioral Health	Pervious Pavement	Wauwatosa	No	3/18/2015	X	Facilities	Tom Travia	See Fall 2015	PICP in good shape. Asphalt surrounding the pavers is cracking in spots.
South Shore Rain Garden	Rain Garden & Infiltration		No	X	X	Parks	Gene Andrzejak.	X	NO LONGER INSPECTED
51st St. And Rawson Ave.	Pond		No	X	X	X	X	X	NON COUNTY MANAGED
Port Washington Road	Pond		No	X	X	X	X	X	NON COUNTY MANAGED

Attachment 6

Watershed-Based Project Status

DEPARTMENT OF ADMINISTRATIVE SERVICES
Milwaukee County

July 17, 2015

Mr. Bryan Hartsook, P.E.
Water Resources Engineer – Water Division
Wisconsin Dept. of Natural Resources
141 NW Barstow St., Room 180
Waukesha, WI 53188

Subject: Menomonee River Group MS4 Permit – Group Project Submittal
WPDES Permit WI-S050156-1

The MS4 permit issued to the members of the Menomonee River Group (dated November 30, 2012) includes a requirement for co-permittees to participate in at least one project (joint or individual) designed to ...meet the needs and characteristics of the Menomonee River watershed (Part IV).

Part IV.A of the permit requires that for each project proposed, the permittee shall submit a project description, an estimate of the pollutant reduction anticipated, and signed letters of support or agreements. On behalf of the cities of Greenfield, Milwaukee, Wauwatosa and West Allis, Milwaukee County is submitting this proposal to satisfy the permit requirement for a group project.

Background

In the summer of 2013 the Menomonee River Group (MRG) formed a subcommittee tasked to develop a methodology for soliciting and evaluating proposals for a group project. In April of 2014 proposals were received and in July of 2014 the MRG listened to presentations made by the top two proposals – one associated with stream bank stabilization prioritization study and one associated with the Menomonee River Parkway (MRP) reconstruction. Following the presentations, several of the MRG opted to pursue the stream bank project, while others opted to pursue the MRP project (this submittal).

MILWAUKEE COUNTY • 633 W. WISCONSIN AVENUE, SUITE 1000 • MILWAUKEE, WI 53203

PHONE NUMBER: - Architecture & Engineering 278-4861 FAX NUMBER: - Architecture & Engineering 223-1366

Scope of Group Project

The project scope includes the construction of five (5) rain gardens to be located immediately west of the reconstructed Menomonee River Parkway. The rain gardens - numbered 17 through 21 on the attached construction drawings, will receive and treat stormwater runoff from the parkway road. Estimates of TSS removal anticipated from the five rain gardens are in the process of being developed and will be submitted under separate cover.

It is our understanding the TSS removals attained by these five rain gardens provides TSS removals above and beyond the reductions needed to satisfy the roadway project permit, which is being met via bioswales and other BMPs in the base contract.

As a condition of participating financially towards the construction of the rain gardens, Milwaukee County agrees to assign the TSS reduction credits from the group project to each of the participating municipalities in proportion to their financial contribution. The construction contract includes two years of maintenance of the rain gardens, after which Milwaukee County will be responsible for maintaining the rain gardens.

Schedule

The construction contract has been awarded and includes two of the five rain gardens. Milwaukee County anticipates incorporating the remaining three rain gardens into the contract via change order sometime in August. Construction of the rain gardens is anticipated to occur between September and November of this year. Depending on weather, installation of plantings may be delayed until spring of 2016.

Action Items

The participating cities and Milwaukee County need to complete and get approvals for memorandums of understanding (MOUs) related to the project and the financial contribution. A copy of a sample MOU is attached.

Once the MOUs have been signed we will forward you copies. Once the TSS reductions have been computed, we will forward you that information. In the interim period, we would appreciate your feedback in regard to the acceptability of the project scope.

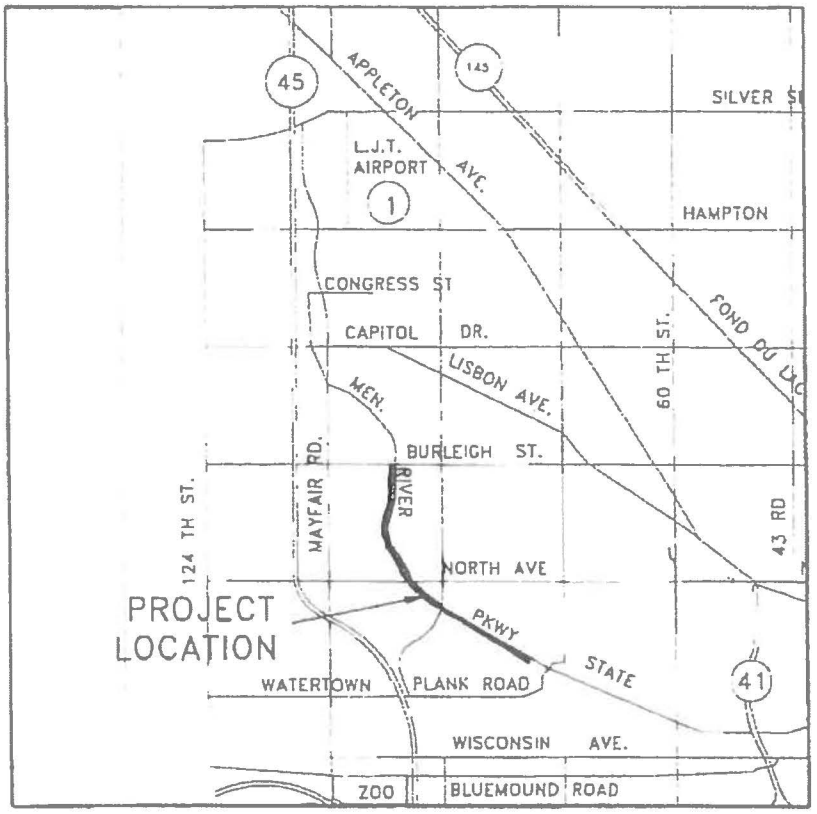
If you have any questions regarding this submittal, please contact me at 414-278-4355 or at Stevan.keith@milwaukeecountywi.gov

Sincerely,

Steve Keith, P.E.
Environmental Services Unit Head

Attachments:
Menomonee River Parkway Phase II drawings (10 sheets)
Draft Memorandum of Understanding

c: Tim Thur/Milwaukee
Nader Jaber/Milwaukee
Rick Sokol/Greenfield
Maggie Anderson/Wauwatosa
Joe Burtch/West Allis
Sarah Toomsen/DPRC
Tim Detzer/DAS-FM, AE&ES



Location Map

Menomonee River Parkway Reconstruction, Phase 2