



# PHASE II STORM WATER MANAGEMENT PROGRAM ANNUAL REPORT

for January 1, 2007 - December 31, 2007

Permit No. MI0057364

Prepared by:



Tetra Tech  
Lansing, Michigan

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# Acronyms

The following acronym list is provided as a resource for those reading this report.

BMP – Best Management Practice  
BOH IM – Bureau of Highway Instructional Memorandum  
CSS – Context Sensitive Solutions  
DIT – Department of Information Technology  
IDEP – Illicit Discharge Elimination Program  
MDEQ – Michigan Department of Environmental Quality  
MDOT – Michigan Department of Transportation  
MEA – Municipal Enforcing Agency  
MEP – Maximum Extent Practicable  
MPO – Metropolitan Planning Organization  
MS4 – Municipal Separate Storm Sewer System  
NPDES – National Pollutant Discharge Elimination System  
PIPP – Pollution Incident Prevention Plan  
SESC – Soil Erosion and Sedimentation Control  
SWMP – Storm Water Management Plan  
TMDL – Total Maximum Daily Load  
TSC – Transportation Service Center  
UA – Urbanized Area

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# Table of Contents

<b>Overview.....</b>	<b>1</b>
Introduction .....	1
Report Objectives .....	1
Report Organization .....	1
MS4 Committee .....	1
Program Assessment .....	1
Revised Fiscal Analysis.....	2
Annual Budget.....	2
<b>MDOT-Sponsored Education and Outreach.....</b>	<b>3</b>
Objective .....	3
Training .....	3
Public Presentations .....	3
Storm Water Educational Materials .....	3
MDOT Storm Water Public Web Page <a href="http://www.michigan.gov/stormwatermgt">http://www.michigan.gov/stormwatermgt</a> .....	4
Storm Water-Related Committees.....	4
Focus for 2008.....	4
Measurable Goals & Assessment .....	4
<b>Public Involvement and Participation .....</b>	<b>6</b>
Objective .....	6
Early Coordination Procedure .....	6
Early Coordination Database.....	6
Topics Newsletter.....	6
Projects Affecting Waterways with Total Maximum Daily Loads.....	6
Watershed Group Meetings.....	6
Alliance of Rouge Communities Meetings.....	6
Focus for 2008.....	6
Measurable Goals & Assessment .....	6
<b>Illicit Discharge Elimination Program.....</b>	<b>8</b>
Objective .....	8
Dry Weather Screening .....	8
Reported Illicit Discharges .....	8
Legal Authority for Illicit Discharge/Connection Removal .....	8
Statewide Outfall Mapping.....	8
Tap-in/Discharge Permit .....	8
Outfall Labeling .....	9
Focus for 2008.....	9
Measurable Goals & Assessment .....	9
<b>Post Construction for New Development and Redevelopment.....</b>	<b>12</b>
Objective .....	12
Drainage Manual .....	12
Post Construction BMP Baseline Inspection Pilot Study .....	12
Traverse City Partnership .....	12
Native Planting Demonstration Projects.....	12
Post Construction BMP Recommendations.....	12
Post Construction BMP Maintenance.....	14
List of Post Construction BMPs .....	14
Transportation Enhancement Fund Projects .....	14
Focus for 2008.....	14
Measurable Goals & Assessment .....	14

<b>Pollution Prevention and Good Housekeeping.....</b>	<b>17</b>
Objective .....	17
Existing Pollution Prevention Practices.....	17
State Police Truck Inspections .....	17
Maintenance Facility Pollution Prevention .....	17
Pollution Incident Prevention Plan (PIPP) Audits.....	17
Pesticide Applicator Program.....	17
Road Salt/Sand Application .....	18
Roadside Maintenance Activities .....	18
Litter Pick-Up Programs.....	18
Fertilizer Application .....	18
Pollution Prevention/Good Housekeeping Inspections .....	19
Focus for 2008.....	19
Measurable Goals & Assessment.....	19
<b>Construction Site Runoff Management.....</b>	<b>22</b>
Objective .....	22
Existing SESC Practices.....	22
SESC Program Review Process .....	22
Construction Advisories.....	22
Training .....	22
Construction Quality Partnership (CQP).....	22
Focus for 2008.....	22
Measurable Goals & Assessment.....	23

## Tables

Table 1 Annual Storm Water Management Program Expenditure and Budget.....	2
Table 2 Public Education Activities .....	5
Table 3 Public Involvement and Participation Activities .....	7
Table 4 Illicit Discharge Elimination Program Activities .....	10
Table 5 Reviewed Categorical Exclusion Projects .....	12
Table 6 Post Construction for New Development and Redevelopment Activities .....	15
Table 7 State Police Truck Inspections.....	17
Table 8 Salt Usage.....	18
Table 9 Sand Usage.....	18
Table 10 Pollution Prevention and Good Housekeeping Activities.....	20
Table 11 MDOT Staff SESC Certified.....	22
Table 12 Construction Site Runoff Management Activities.....	24

## Appendices

Appendix A Storm Water Management Plan Activity Sheets	Appendix F Pollution Prevention/Good Housekeeping
Appendix B MDOT-Sponsored Education and Outreach	Appendix G Construction Site Runoff Management
Appendix C Public Involvement and Participation	
Appendix D Illicit Discharge Elimination Program	
Appendix E Post Construction for New Development and Redevelopment	

IMPLEMENTATION TEAMS/TASKS	2007	Status	Schedule
<b>MDOT Sponsored Education and Outreach</b>			
1. Training attendance tracking		●	☀
2. Training review and updates		⊙	☀
3. Conference participation		●	☀
4. Article publication		●	☀
5. Annual progress report		●	☀
6. Storm water awareness survey		●	☀
7. General public education		●	☺
8. Public Web site administration		●	☀
<b>Public Involvement &amp; Participation</b>			
1. Project early coordination process		●	☀
2. Total Maximum Daily Load (TMDL) review		●	☀
<b>Illicit Discharge Elimination Program</b>			
1. Monitor illicit discharges and follow up		●	☀
2. Illicit discharge notification and reporting training		●	☀
3. Dry weather screening at priority outfalls		⊙	☀
4. Legal authority for illicit discharge removal		●	☀
5. Dry weather screening outfall mapping		⊙	☀
6. Statewide outfall mapping		●	☀
7. Tracking new outfalls		⊙	⊕
8. Tap-in/Discharge permits tracking		●	☀
<b>Post Construction for New Development and Redevelopment</b>			
1. Post construction BMP maintenance guidelines		⊙	⊕
2. Post construction BMP field maintenance tracking		⊙	⊕
3. Post construction BMP selection and design procedure implementation		⊙	⊕
4. Post construction BMP selection and design training		⊙	⊕
5. Drainage Manual update		●	☀
6. Existing flow control structure review		●	☀
<b>Pollution Prevention &amp; Good Housekeeping</b>			
1. PIPP audits		●	☀
2. Maintenance training		●	☀
3. Contract agency coordination (street maintenance activities)		⊙	⊕
4. Pesticide Applicator Program and fertilizer training		●	☺
5. Adopt-a-Highway Program		●	☺
<b>Construction Site Runoff Management</b>			
1. SESC Program and review process		●	☀
2. Part 91 and Part 31 training		●	☀
3. Outfall labeling		●	☀
4. Pollution prevention on construction sites		⊙	⊕

Status: Procedure/Program in Development = ⊙ Being Implemented = ●

Schedule: Ahead = ☺ On Schedule = ☀ Behind = ⊕

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# Overview

## Introduction

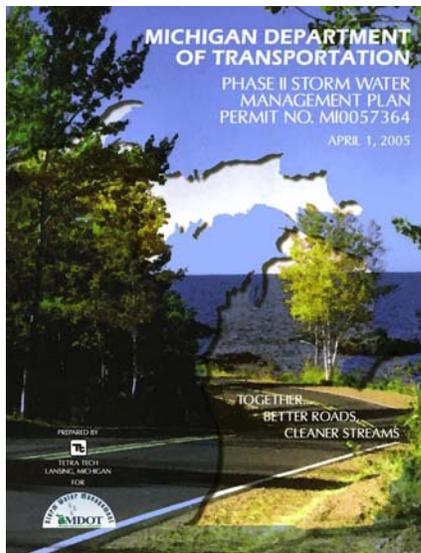
This Annual Report describes storm water pollution control activities implemented by MDOT over the past reporting period of January 1, 2007-December 31, 2007 to comply with reporting requirements described in the National Pollutant Discharge Elimination System (NPDES) Permit (No. MI0057364, hereinafter referred to as the Permit) issued by the Michigan Department of Environmental Quality (MDEQ). The Permit, which expires on April 1, 2009, is expected to be reissued in five year cycles thereafter.

The Permit directs MDOT to develop and implement a comprehensive Storm Water Management Program (SWMP) designed to reduce the discharge of pollutants from the MDOT drainage systems to the maximum extent practicable (MEP), protect the designated uses of the waters of the state, increase awareness of storm water as a potential source of pollutants, and satisfy the applicable state and federal water quality requirements.

## Report Objectives

The objectives for this report are as follows:

- ◆ To inform MDOT Staff about SWMP activity accomplishments.
- ◆ To satisfy MDOT's annual reporting requirement of the Permit.
- ◆ To evaluate and assess the appropriateness and effectiveness of MDOT's SWMP.
- ◆ To present information about new programs, changes to current programs and procedures developed by MDOT.
- ◆ To document changes to MDOT's fiscal analysis and to summarize annual expenditures and budget information.



## Report Organization

The annual report highlights actions MDOT completed or is working on to fulfill the Permit requirements during 2007 and also what activities it will focus on in 2008. The reported information is organized by the six implementation teams responsible for the completion of storm water-related activities. The activities of the teams closely follow the requirements of the six minimum

measures of the Permit. The implementation teams include the following:

- ◆ MDOT-Sponsored Education and Outreach
- ◆ Public Involvement and Participation
- ◆ Illicit Discharge Elimination Program (IDEP)
- ◆ Post Construction for New Development and Redevelopment
- ◆ Pollution Prevention and Good Housekeeping
- ◆ Construction Site Runoff Management

## MS4 Committee

MDOT's Municipal Separate Storm Sewer System (MS4) Committee continues to meet on a quarterly basis to discuss progress of the program. Members of the MS4 Committee also serve as chairs of the implementation teams.

## Program Assessment

Program assessment is primarily determined by the Storm Water Management Program's adherence to the activities and measurable goals committed to in the SWMP as well as regular evaluation of storm water-related procedures, training, and programs.

As MDOT's Storm Water Management Program undergoes development and implementation, care is taken to ensure that MDOT's commitments, as written in the SWMP, are fulfilled; however, as the program flourishes, it sometimes becomes evident that modifications need to be made to the original activity, the measurable goal, or both. For more detail regarding activities and schedules committed to in the SWMP, see Appendix A, *SWMP Activity Sheets*. Appendix A contains all of the activity sheets from Chapter 3, Plan Elements and Activities, of the SWMP.

Each activity sheet denotes modifications to the activity's interim milestones and measurable goals and also indicates which interim milestones and measurable goals have been completed.

Overall, MDOT is on schedule for fulfilling their commitments and the intent of their commitments by the end of the 5-year permit cycle on April 1, 2009. MDOT's vision is to have its Storm Water Management Program be incorporated into the daily activities of the Department

with the storm water-related procedures compiled into a Storm Water Management Manual.

As most of the original procedure-related activities and measurable goals are now developed and being implemented, revised activities and measurable goals were drafted in 2007 by each implementation team and are included in their respective section below. It is anticipated that these revised activities and measurable goals will be incorporated into the revised Storm Water Management Plan during the next permit cycle. The original activities are either obsolete, as have been reported on in annual reports, or are included under the appropriate minimum measure as on-going activities.

## Revised Fiscal Analysis

No revisions were made to the fiscal analysis for this reporting period.

## Annual Budget

Table 1 provides a summary of MDOT's past annual expenditures and estimated expenditures for fiscal year 2008. The fiscal year is from October 1<sup>st</sup> through September 30<sup>th</sup> of each year. Finalized budget information is also provided for FY 2007. The FY 2008 estimated budget will be updated in the next Annual Report.

**Table 1 Annual Storm Water Management Program Expenditure and Budget**

<b>Fiscal Year</b>	<b>Annual Expenditure</b>
FY 1999	\$142,111
FY 2000	\$1,017,346
FY 2001	\$764,142
FY 2002	\$638,881
FY 2003	\$508,123
FY 2004	\$395,837
FY 2005	\$372,372
FY 2006	\$477,000
FY 2007	\$429,000
FY 2008*	\$500,000

\* *Budgeted amount for FY 2008.*



# MDOT-Sponsored Education and Outreach

## Objective

**To spread awareness of MDOT's Storm Water Management Program to MDOT staff, contractors, and the traveling public and to train MDOT staff and contractors on job-related expectations.**

## Training

The MDOT storm water training program for 2007 focused on the Early Coordination for Post Construction Best Management Practices procedure. MDOT's Aquatic Resource Specialist traveled to each Transportation Service Center statewide to introduce the new procedure to the region design staff. Staff were expected to begin implementation of the procedure in 2007.

Targeting maintenance garage staff, MDOT purchased several copies of Excal Visual's Storm Water Pollution Prevention training videos. Maintenance supervisors are expected to request the video to conduct training within their region.

In addition to the early coordination training, 2007 training also included IDEP training, soil erosion and sedimentation control training, and pesticide applicator training. The following details these trainings:

- ◆ IDEP Module Training
  - March 7, 2007, Superior Region (12 attendees)
  - Marshall TSC  
May 8, 2007, Southwest Region (17 attendees)
  - Lead Workers Meeting  
May 16, 2007, Southwest Region (32 attendees)
- ◆ MDOT Pesticide/Certification Training  
April 11-12, 2007 (76 attendees)
- ◆ Early Coordination Procedure lectures to Regions  
Winter/Spring 2007-All Regions
- ◆ SESC Procedures Training  
Hastings Maintenance Garage, SW Region  
August 9, 2007 (6 attendees)

## Public Presentations

MDOT also provided storm water educational materials and applicable display boards as handouts and exhibits, respectively, at various conferences and public events.

The following summarizes these opportunities: (For more information see Appendix B, *MDOT-Sponsored Education and Outreach*.)

### Oral Presentations

- ◆ MDOT/American Council of Engineering Companies (ACEC) Partnering Conference  
February 1, 2007

### Display Exhibits & Handouts

- ◆ Annual Asphalt Paving Conference and Equipment Show, DeVos Place Grand Rapids  
February 7-8, 2007
- ◆ Wayne County Public Libraries  
2007-2008
- ◆ 5<sup>th</sup> Annual Earth Fair  
(St. Clair Drain Commission)  
April 13-14, 2007
- ◆ SESC Pocket Guide/Posters for Purchase  
October 1, 2007

## Storm Water Educational Materials

New storm water educational materials were developed in 2007 to increase awareness of MDOT's storm water program to MDOT staff AND contractors. As the targeted audiences become more aware of the program, it is MDOT's goal to transition that awareness to knowledge of expected participation in the storm water program, and then to behavior that supports the storm water program. This transition is expected to occur over many years.

The following materials were created in 2007 and were distributed at conferences, public events, and through existing industry newsletters. (For more details see Appendix B.)

- ◆ Soil Erosion and Sedimentation Control & Pollution Prevention Pocket Guide,  
January 2007
- ◆ Local Technical Assistance Program (LTAP),  
The Bridge publication, "Maintenance Garage Pollution Prevention article-Part 1 and Part 2"  
Winter 2007
- ◆ Early Coordination Procedure article in MDOT Topics Newsletter, April 2007
- ◆ Michigan Infrastructure and Transportation Association (MITA) Cross-Section publication,  
"Pre-Construction Activities-Soil Erosion and Sedimentation Control", Spring 2007

- ◆ Michigan Concrete Association, “Ready Mix Plant” article, Summer 2007
- ◆ LTAP, The Bridge publication, “MDOT’s support of post construction BMPs” Fall 2007

#### Other Agencies Borrowing MDOT Material

With many of the educational materials being posted on the MDOT Storm Water Public Web Page, MDOT has received several requests from other public agencies to use MDOT educational materials for their own reprinting and distribution. MDOT encourages usage of these materials and supplies the native graphic files when requested. The following is a list of agencies requesting to use MDOT materials:

- ◆ Shelby Township, Tennessee  
*Storm Water Flyer for Kids, Litterbags*
- ◆ Hudson, Ohio  
*IDEP Interactive Demo*
- ◆ Warren County, Ohio  
*Storm Water Flyer for Kids*
- ◆ Henry County Storm Water Program, Georgia  
*CD of various materials*
- ◆ Niles, Illinois  
*IDEP Brochures*
- ◆ West Virginia Local Technical Assistance Program  
*Permission to Print*

### **MDOT Storm Water Public Web Page**

<http://www.michigan.gov/stormwatermgt>

The MDOT Storm Water Public Web Page is part of MDOT’s Public Web Site and is updated on a quarterly basis. The page is dedicated to Phase II storm water information and provides a means for MDOT staff, contractors, and the traveling public to view and download MDOT’s storm water materials, including reports and educational materials, and to link to other storm water-related Web sites. New information downloaded to the Web page this year includes the following:

- ◆ MDOT-authored industry newsletter articles
- ◆ Revised IDEP Training Module
- ◆ Soil Erosion and Sedimentation Control & Pollution Prevention Pocket Guide- PDF file
- ◆ MDOT Storm Water Annual Report, 2006

Documentation of the number of Web page visits and downloads is located in Appendix B.

### **Storm Water-Related Committees**

The MDOT Storm Water Program Manager is involved with the following outside committees:

- ◆ Southeast Michigan Council of Governments (SEMCOG) LID Manual Committee
- ◆ Transportation Research Board, National Cooperative Highway Research Program (NCHRP) Committee for Evaluating and Selecting Modifications to Existing Roadway Drainage Infrastructure to Improve Water Quality in Ultra-Urban Areas

### **Focus for 2008**

The education/outreach focus for 2008 is to continue to broaden the storm water training effort through conference discussions and training, specifically targeting roadway designers on post-construction storm water best management practice design considerations.

Upcoming education and training activities:

- ◆ MDOT Design Conference
- ◆ MDOT Maintenance Conference
- ◆ Post Construction BMP Training for applicable staff at the Transportation Service Centers
- ◆ Follow-Up Storm Water Awareness Survey

### **Measurable Goals & Assessment**

See Appendix A, Activities E-2, E-3, E-4, E-6, T-1, T-2, T-3, and T-4 to view the progress in reaching the interim milestones and measurable goals as defined in the SWMP.

Following the submittal of this report, these activities will no longer be reported on in the activity sheet format. Instead, they have been revised into a table format under one of the six minimum measures. Table 2 shows the activities associated with Public Education. Henceforth, training activities will no longer be reported under Public Education but rather under the minimum measure most applicable.

**MDOT Program Element:** Public Education

**Priority Issues/Pollutants of Concern:** Litter

**Pollution Sources:** Traveling public within Michigan

**Table 2 Public Education Activities**

<b>Activity Number</b>	<b>Activity</b>	<b>Program Goal</b>	<b>Measurable Goal</b>	<b>Timeframe</b>	<b>Assessment Method</b>
PE-1	Litter Pick-Up	Minimize discharge of pollutants to waterbodies from roadways, ROW, and parking lots.	Promote the MDOT Adopt-a-Highway program through signage and flyers.	By December 2008	Document number of adopt-a-highway stretches annually.
PE-2	Public Storm Water Web Site (E-3)	Provide storm water information to MDOT staff, traveling public, and other government agencies.	Review and update the Web site semi-annually.	On-going	Track the number of Web site visitors and the number of downloads of key documents.
PE-3	Public Appearances (E-2)	Provide storm water information to the traveling public and other government agencies.	Provide MDOT storm water information such as litter bags, poster displays, etc. to agencies requesting the information.	On-going	Track the number of public appearances of MDOT information.

# Public Involvement and Participation

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## Objective

To coordinate early planning of MDOT projects with local watershed organizations (Context Sensitive Solutions) and the Michigan Department of Environmental Quality (MDEQ) on environmental aspects.

## Early Coordination Procedure

In 2007, there were no projects which triggered the early coordination procedure.

## Early Coordination Database

As was reported last year, an early coordination database was being planned with the Department of Information Technology (DIT). Over the course of many discussions in 2007, it was determined that the original vision for the database is not possible. A simplified database is still being discussed but in the meantime, the Aquatic Resource Specialist within the Bureau of Transportation Planning Environmental Section will manually record the status of applicable projects.

## Topics Newsletter

The April 2007 issue of “Topics - Transportation Planning Issues and Communications Series,” published an article on the early coordination procedure entitled, “Early coordination with MDEQ Water Bureau part of Storm Water Management Plan.” The article discussed the early coordination procedure and how it fits in with MDOT’s Storm Water Management Plan. See Appendix C for a copy of the article.

## Projects Affecting Waterways with Total Maximum Daily Loads

In 2007, three projects were reviewed for water quality concerns that may affect water bodies listed in the MDEQ 303 (d), 305(b), and 314 Integrated Report. The projects include the following:

- ◆ M-20 Bridge over the Tittabawassee River, Midland County, Bay Region
- ◆ US-23/I-96 interchange to US-23/M-14 interchange, Livingston/Washtenaw Counties, University Region, Horseshoe Drain and Whitmore Lake
- ◆ M-311 from Burlington to the Kalamazoo River, Calhoun County, Southwest Region, Kalamazoo River and Crooked Creek

## Watershed Group Meetings

To help facilitate project coordination between MDOT and local watershed and environmental groups, region staff attend local watershed/environmental group meetings when appropriate and when possible. In addition, the MDOT Storm Water Program Manager receives and reviews meetings minutes from 15 to 20 watershed groups to ensure proper MDOT coordination when possible. The following are some of the watershed group meetings attended in 2007:

- ◆ Grayling Area (North Region)
- ◆ Livingston County (University Region)
- ◆ Macatawa Area Coordinating Council and the Macatawa Watershed Project
- ◆ Muskegon River Watershed Assembly

## Alliance of Rouge Communities Meetings

The Alliance of Rouge Communities (ARC) is a voluntary public watershed entity currently comprised of 39 municipal governments and two counties (Wayne County and Washtenaw County). The ARC members represent public agencies with water management responsibilities whose jurisdictional boundaries are totally or in part located within the Rouge River watershed located in southeast Michigan. As a stakeholder in the Rouge River watershed, MDOT attends the biannual Full Alliance meetings to keep updated on watershed happenings and to ensure appropriate coordination of MDOT and ARC activities.

## Focus for 2008

- ◆ Continue implementing the early coordination procedure for the first group of projects
- ◆ Continue attending watershed meetings
- ◆ Develop map integrating early coordination locations and MDOT projects

## Measurable Goals & Assessment

See Appendix A, Activities C-2, C-4 and C-5, to view the progress in reaching the interim milestones and measurable goals as defined in the SWMP.

Following the submittal of this report, these activities will no longer be reported on in the activity sheet format. Instead, they have been revised into a table format under one of the six minimum measures. Table 3 shows the activities associated with Public Involvement and Participation.

**MDOT Program Element:** Public Involvement and Participation

**Priority Issues/Pollutants of Concern:** Sediment, Hydrocarbons

**Pollution Sources:** Roads

**Table 3 Public Involvement and Participation Activities**

Activity Number	Activity	Program Goal	Measurable Goal	Timeframe	Assessment Method
PIP-1	Training (T-1, C-4)	Involve MDEQ-Water Bureau on all projects triggering the early coordination process.	Train 100% of appropriate region/TSC staff on completing the early coordination process.	By December 2008	Document those trained.
PIP-2	Watershed Group and MPO Involvement (C-2)	Invite watershed groups and MPOs to provide input on projects.	Distribute letters to MPOs and watershed groups inviting them to contact MDOT for input on projects using MDOT's 5-year plan.	Once every permit cycle	Compare watershed group involvement from year to year.
PIP-3	Meet Responsibilities Established by TMDLs (C-5)	Address projects which affect water bodies with TMDLs. Reduce pollutant loads as required.	Incorporate controls to address the pollutant of concern on 100% of projects affecting water bodies with a TMDL.	On-going	Document projects affecting TMDLs. Estimate theoretical pollutant load reductions.
PIP-4	Conduct Early Coordination on Applicable Projects (C-4)	Involve MDEQ-Water Bureau on all projects triggering the early coordination process.	<ul style="list-style-type: none"> <li>Develop method to identify early coordination trigger locations.</li> </ul>	By December 2008	Document that method has been completed. Document the status of projects that trigger early coordination.
			<ul style="list-style-type: none"> <li>Notify MDEQ of 100% of the projects which are triggered by the early coordination procedure.</li> </ul>	On-going	Document that early coordination procedure has been followed for each applicable project.

# Illicit Discharge Elimination Program

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## Objective

To effectively implement MDOT's approved Illicit Discharge Elimination Program including dry weather screening of priority outfalls and a procedure for accepting and following through with reported illicit discharges/connections.

## Dry Weather Screening

Initial dry weather screening of 128 priority road-stream crossings over impaired water bodies, as set forth in the SWMP, was completed in 2007. Three hundred and ninety-three (393) outfalls were identified at these crossings and 389 of them were ruled as having no apparent illicit connections. The four remaining outfalls are pending further investigation as follows: (See Appendix D, *Illicit Discharge Elimination Program*, for investigation maps saved on a CD-ROM.)

- ◆ 1 needs to be cleared of sediment (Bay Region)
- ◆ 1 needs to be tracked upstream (Metro Region)
- ◆ 3 need letters sent to appropriate businesses and/or local agencies to continue illicit confirmation work as illicit connections are located outside of the MDOT right-of-way (ROW) (Metro Region)

More details regarding dry weather screening investigations, such as sample analysis results and upstream tracking, are located in MDOT's dry weather screening database.

## Reported Illicit Discharges

In addition to illicit discharges found during dry weather screening, illicit discharges were found by MDOT staff or outside sources and reported to MDOT. The status of these reports is as follows: (See Appendix D for reported discharges.)

- ◆ September 5, 2006 – Pipe entering ditch with black discharge and odor. – *Resolved* (Southwest Region)
- ◆ December 22, 2006 – I-94BL Maintenance crews observed oily residue during culvert cleanout. – *Resolved* (Southwest Region)
- ◆ August 1, 2007 – On US-12 during ditch cleanout operations black water with a sewage smell. – *Unresolved* (Southwest Region)

- ◆ August 1, 2007 – An unknown pipe discharging into ditch on US-12. – *Resolved* (Southwest Region)
- ◆ August 7, 2007 – Old US 31 adjacent property owner on the west side of Old US 31 complained to garage staff that during sewage overflow events sewage flows into catch basin that leads to MDOT ditch. Also stated that laundry room discharges to catch basin. – *Resolved* (Southwest Region)
- ◆ August 10, 2007 – On I-94 Maintenance crews smelled strong diesel fuel odor when preparing to clean out ditch. – *Resolved* (Southwest Region)
- ◆ December 27, 2007 – City of Hastings at the Thornapple River and M-43 Road Crossing, MDOT staff identified dry weather flow that was grayish in color. Consultant has investigated the dry weather flow, sampled and is tracking the source upstream. – *Unresolved* (Southwest Region)

## Legal Authority for Illicit Discharge/Connection Removal

There has been no change to MDOT's legal authority requiring illicit discharges/connections be removed from its drainage system.

## Statewide Outfall Mapping

As required by MDOT's Storm Water Phase II NPDES Permit, MDOT has developed a statewide outfall map, using Geographic Information System (GIS) software, showing the locations of known MDOT outfalls. The outfalls were located based on 1) design-survey data and 2) GPS coordinates from the dry weather screening effort. The map is posted on the MDOT Storm Water Public Web Page and is organized by region and county. The map link is located on the "illicit discharge" page. The maps will be updated annually with the latest information and will continue to be posted on the Web site. It is the intent of MDOT to expand on these maps in coordination with the MDOT Asset Management group, which has an interest in the attributes of the outfalls as well. See Appendix D for copies of the maps saved on a CD-ROM.

## Tap-in/Discharge Permit

MDOT distributes storm water educational material with its tap-in/discharge permit application. Entities requesting to tap-in/discharge to MDOT's drainage system are required to obtain a permit. In 2007, 31 permit applications with educational information were distributed.

## Outfall Labeling

MDOT has a special provision for labeling newly constructed storm water outfalls that discharge directly to the waters of the state from the MDOT drainage system. For outfalls labeled in 2007, see Appendix D. Note that in the future, these outfalls will be included on the statewide outfall map once the procedure for doing so is established.

## Focus for 2008

The IDEP focus for 2008 is to continue to train field staff on their role in identifying and reporting illicit discharges/connections and to continue to accept and follow-up on reported illicit discharges/connections. Reported illicit discharge complaints will be recorded in the IDEP Reporting Database within each region.

Upcoming IDEP activities:

- ◆ Section 9.13, *Illicit Discharges into MDOT Storm Water Drainage Systems*, of the Construction Permit Manual will be revised and reissued.
- ◆ In coordination with the TSCs, a procedure will be developed to provide coordinates of each newly labeled outfall so that it can be included on the statewide outfall map.
- ◆ The Design-Survey group will finalize the procedure to properly code and report outfalls found during survey operations.

## Measurable Goals & Assessment

See Appendix A, Activities I-1, I-2, I-3, I-4, I-5, and C-10, to view the progress in reaching the interim milestones and measurable goals as defined in the SWMP.

Following the submittal of this report, these activities will no longer be reported on in the activity sheet format. Instead, they have been revised into a table format under one of the six minimum measures. Table 4 shows the activities associated with the Illicit Discharge Elimination Program.

**MDOT Program Element:** Illicit Discharge Elimination Program

**Priority Issues/Pollutants of Concern:** Hydrocarbons, *Escherichia coli*, Detergents

**Pollution Sources:** Outside MDOT Right-of-Way (ROW), Within MDOT ROW

**Table 4 Illicit Discharge Elimination Program Activities**

Activity Number	Activity	Program Goal	Measurable Goal	Timeframe	Assessment Method
IDEP-1	Outfall Labeling and Mapping (C-10)	Identify MDOT's outfalls on a map and in the field.	<ul style="list-style-type: none"> <li>● Use the Special Provision for Labeling Storm Water Outfalls on all projects with an outfall as defined in BOH IM 2005-03, <i>Labeling Storm Water Outfalls</i>, .</li> <li>● Document the coordinates of the outfall location for all projects with an outfall as defined in BOH IM 2005-03, <i>Labeling Storm Water Outfalls</i>.</li> </ul>	On-going	Document that new outfalls were checked for applicability as noted on checklist.
				By December 2008	Confirm that labeled outfalls are mapped.
IDEP-2	Dry weather screening (I-2)	Minimize discharge of pollutants to waterbodies from the MDOT drainage system.	Follow Section 9.13, <i>Illicit Discharges into MDOT Storm Water Drainage Systems</i> , of the Construction Permit Manual for outfalls at which the dry weather screening program confirms a pollutant discharge.	On-going	Track outfall correspondence and inspections in the IDEP reporting database.
IDEP-3	Reported Illicit Discharges and Follow-Up (I-3)	Minimize discharge of pollutants to waterbodies from the MDOT drainage system.	Follow Section 9.13, <i>Illicit Discharges into MDOT Storm Water Drainage Systems</i> , of the Construction Permit Manual for reported illicit discharges/connections.	On-going	Track outfall correspondence and inspections in the IDEP reporting database.

Illicit Discharge Elimination Program

Activity Number	Activity	Program Goal	Measurable Goal	Timeframe	Assessment Method
IDEP-4	Tap-In Permits (E-4)	Minimize discharge of pollutants to waterbodies from the MDOT drainage system.	<ul style="list-style-type: none"> <li>● Review educational materials for relevance and update as appropriate.</li> <li>● Provide illicit discharge educational material to all permit applicants applying to discharge to the MDOT drainage system.</li> </ul>	Annually	Document any changes to educational materials.
				On-going	Track number of permit applications distributed.
IDEP-5	Training (T-1)	Minimize discharge of pollutants to waterbodies from the MDOT drainage system.	<ul style="list-style-type: none"> <li>● Inform appropriate staff annually on how to recognize and report illicit discharges/connections.</li> <li>● Inform appropriate staff annually that outfalls need to be labeled and located with a coordinate.</li> <li>● Inform appropriate permit staff annually that educational materials need to be included with the tap-in permit application.</li> </ul>	On-going	Document those trained.
				On-going	Inspections
				On-going	Incorporate educational materials into permit application.
IDEP-6	Maintenance Garage Catch Basin Labeling	Minimize discharge of pollutants to waterbodies from MDOT Maintenance Garages.	Install catch basin labels on an impervious surface at 100% of the maintenance garages statewide.	By December 2011	Include with annual maintenance inspections.

# Post Construction for New Development and Redevelopment

## Objective

To determine and implement the procedure for choosing post construction storm water BMPs, which may be structural, vegetative, or operational, as appropriate. The procedure includes coordination between environmental, design, construction, and maintenance staff early in project planning.

## Drainage Manual

Minor revisions to the MDOT Drainage Manual were made in 2007. An updated copy is posted on the MDOT Public Web Site.

## Post Construction BMP Baseline Inspection Pilot Study

In 2007, a post construction BMP baseline inspection pilot study was initiated to develop a procedure for locating and inspecting existing post construction BMPs for maintenance needs and water quality benefits. The pilot study included the inspection of six existing BMP structures. Maintenance recommendations and drawings were generated showing the current condition of each site. A reporting format and a maintenance checklist were also developed to standardize the maintenance inspections. Each inspected BMP is also mapped with a coordinate.

As a result of this study, the baseline inspections will continue statewide with the goal of visiting all known post construction BMPs within five years.

## Traverse City Partnership

MDOT assisted the Watershed Center Grand Traverse Bay and the City of Traverse City in funding several pollution prevention and stream bank erosion control projects around Traverse City. Improvements at Hannah Park, the downtown Farmers Market, and three storm water outfalls to Grand Traverse Bay were made in 2007. Funding for the projects is a collaborative effort among several partners including funds from three grants awarded to The Watershed Center from the Michigan Department of Environmental Quality (MDEQ). In addition to MDOT and MDEQ grant funding, funding is being provided by the City of Traverse City, the Traverse City Auto Parking System, and the Downtown Development Authority.

## Native Planting Demonstration Projects

MDOT has been awarded transportation enhancement funding for two native planting/water quality demonstration projects along two Michigan roads. One project is located at the I-69/I-94 interchange and the other is located at the Alger Rest Area along SB I-75 in Bay Region.

Research suggests that one benefit of using native plants versus traditional roadside vegetation is that the native plants in combination with uncompacted soil will reduce storm water runoff to the waters of the state. The native plants reduce discharge through their extensive root system, which promotes infiltration and evapotranspiration, and through their adaptability to the Michigan environment. MDOT will also be looking at maintenance requirements associated with these projects.

## Post Construction BMP Recommendations

MDOT reviews all projects for their affect on water quality. In 2007, 323 categorical exclusion projects and five major action projects [those requiring an Environmental Assessment (EA) or a Final Environmental Impact Statement (FEIS)] were reviewed. Table 5 shows a breakdown of the number of categorical exclusion projects reviewed in each region in 2007.

**Table 5 Reviewed Categorical Exclusion Projects**

Region	No. of Projects	% of Total Projects
Grand	76	24
University	59	18
Bay	45	14
Southwest	43	13
Metro	37	11
North	34	11
Superior	29	9
<b>Total</b>	<b>323</b>	<b>100</b>

The major action projects and their status are as follows:

- ◆ US-127 - *FEIS Re-evaluation*
- ◆ US-32 BS - *EA*
- ◆ I-75 Bay Region - *EA*
- ◆ Detroit International Freight Terminal (DIFT) - *FEIS*
- ◆ Detroit River International Crossing (DRIC) - *FEIS*

Most project reviews result in general water quality recommendations such as retaining existing open drainage where possible, avoiding tree removals within 25 feet of water bodies, and reducing runoff velocities where possible. In some cases, project reviews result in specific water quality recommendations. A sample of categorical exclusion projects receiving specific recommendations is included below: (See Appendix E for more recommendation summaries.)

#### M-20, Flinton Creek, Muskegon County, Grand Region

Flinton Creek is part of the White River Natural River System and is a cold water trout stream. Due to road widening, the stream was shifted several feet to the south. The new channel was designed to contain a 100-year flood and a low flow shelf was included to insure adequate water depth during low flow. Once the channel dimensions were set, it was decided that natural fieldstone riprap, native seed mixes, and trees would be used to stabilize the bank. Post construction BMPs include sheet flow runoff from the roadway intercepted by vegetated buffers and directed to the stream through vegetated roadside ditches. Roadside slopes where runoff flows are concentrated will be protected by riprap spillways.

#### US-2 over the Escanaba River, Delta County, Superior Region

It was recommended that storm water runoff from the bridge should outlet as far back from the river's edge as possible and allow to flow through at least 200 feet of vegetation prior to discharging to the river. Discharge velocities should be reduced as much as possible and direct discharge into the river should be eliminated if possible.

#### Mid-Michigan Railroad ROW Acquisition for Path along Tributary to Grand River, Kent County, Grand Region

Stream along this path is designated by DNR as a trout stream. Culvert, bridge, and riprap placement must allow for fish passage. Design should include construction and post construction BMP placement to control erosion and prevent sedimentation. Any tree removal within 25 feet of stream should include plans to replace the trees to protect water temperature. Work will be restricted to certain dates to protect fisheries.

#### M-50 over the Pratt Drain, Eaton County, University Region

The Pratt Drain is a tributary to Sebewa Creek which is a designated trout stream. Long term negative impacts to the fisheries may result when the stream is relocated and a new culvert is installed unless BMP recommendations are followed. Removal of vegetation should be minimized and disruption of the downstream wetland and channel should be minimized. Restoration of the newly

constructed riparian area should include native plantings. If riprap is to be placed in the bottom of the new channel, it should be limited to the area adjacent to the culvert apron and covered with smaller stone.

#### US-127 from south Blanchard Rd interchange to south of Shepherd Rd, Little Salt River, Isabella County, Bay Region

##### Preliminary Scoping

Since the entire project location is within the Village of Shepherd's source water protection area, improper storm water discharge has the potential to affect the city's drinking water supply. If the project scope includes road or shoulder widening, new drainage enclosures, upsizing storm sewers, direct discharge to surface water bodies, or installation of extensive new curb and gutter, then storm water BMPs must be put into place. New drainage enclosures and direct discharge of storm water into rivers and streams must be avoided if possible.

#### I-94 from Allington south to Gratiot Interchange, storm sewer outlets into Pine River, Shoulder Widening, Culvert Replacement, Riprap, St Clair County, Metro Region, Pine River/Drains

Storm water outlets at the Pine River will be reconstructed. Proposed design includes decreasing the slope of the pipe and adding a drop structure to decrease discharge velocity. Outlets will be located the maximum distance from the waters edge to reduce discharge velocities as much as possible and allow the discharge to flow through vegetation or riprap before entering the water body.

#### I-375/M10 (Jefferson Ave), Detroit River, Wayne County, Metro region

##### Preliminary Scoping

Any impacts to water quality including increases in impervious surface area, upsizing storm sewer pipe, new drainage enclosures, and/or direct discharges must be mitigated. The use of detention or retention ponds, infiltration basins, vegetative swales, rain gardens, hydrodynamic separator devices, or in-line detention alone or incorporated into a treatment chain are to be considered. There are LUST sites adjacent to the project. If cuts for utility or storm sewer occur during the project, measures must be taken to locate and contain any contaminated groundwater that is encountered. This includes determining the depth of shallow groundwater, appropriately abandoning all groundwater monitoring wells, using appropriate backfill where shallow contaminated groundwater is encountered and proper disposal of contaminated media.

Ramp Construction SW Quadrant I-94/Columbia Interchange, Calhoun County, Southwest Region, Tributaries to Harts Lake

Preliminary Scoping

If the project includes road or shoulder widening, enclosing additional drains, upsizing storm sewer, or installation of new curb and gutter, then detention/retention ponds, infiltration basins or trenches, or vegetated swales should be considered. Additional drain enclosures and direct discharge of storm water into rivers or streams should be avoided.

Reconstruct, Driveways, Drainage, Sidewalks, Ditching, etc. Oakland County, Metro Region, Gibson Drain

Preliminary Scoping

The Gibson Drain contains warm water fish communities. No work dates (March 1 through May 31) must be observed. BMPs such as detention or retention basins, infiltration basins, and vegetated swales should be considered where storm water enters the waters of the state. Additional drain enclosures and direct discharge of storm water to streams must be avoided.

## Post Construction BMP Maintenance

As new post construction storm water BMPs are evaluated and approved by MDOT for regular use, a Maintenance Performance Guide will be developed. In 2008, maintenance performance guides will be developed for the approved post construction BMPs listed in the Drainage Manual. The guidance will be based on the existing maintenance guideline written in the Drainage Manual. These maintenance performance guides are to be used by maintenance staff.

## List of Post Construction BMPs

A list of post construction BMPs is being updated to help track the location and purpose of each MDOT post construction storm water BMP. See Appendix E for a copy of the list to date. There are 87 structures currently listed many of which will be inspected over the next five years as part of the baseline inspection effort. Each MDOT region is asked to review and add to the current list of BMPs periodically as they become aware of existing BMP sites or new BMP sites are constructed.

## Transportation Enhancement Fund Projects

MDOT manages the federal Transportation Enhancement Funds for Michigan and encourages grant applicants to include a water quality benefit within their project. Constructed Transportation Enhancement Fund projects in 2007 with a noted water quality benefit include the following:

- ◆ Manistee County culvert replacement and stream stabilization.

## Focus for 2008

The Post Construction Storm Water focus for 2008 is to train roadway design staff on selecting and applying post construction storm water management BMPs into their design projects.

Upcoming Post Construction Storm Water activities:

- ◆ MDOT Design Conference – cost-effective post construction storm water BMP presentation, June 2008
- ◆ Updating the existing Post Construction Storm Water BMP Training Module
- ◆ Post construction storm water BMP inspections
- ◆ Developing Maintenance Performance Guides for maintenance of approved post construction storm water BMPs.
- ◆ Coordination with West Grand Neighborhood Organization and Roosevelt Park Neighborhood Association (Grand Rapids) Turner Gateway rain garden project

## Measurable Goals & Assessment

See Appendix A, Activities C-1, C-3, C-6, C-8, and C-11 to view the progress in reaching the interim milestones and measurable goals as defined in the SWMP.

Following the submittal of this report, these activities will no longer be reported on in the activity sheet format. Instead, they have been revised into a table format under one of the six minimum measures. Table 6 shows the activities associated with the Post Construction Storm Water Management Program.

**MDOT Program Element:** Post Construction for New Development and Redevelopment (4R Projects)

**Priority Issues/Pollutants of Concern:** Sediment, Hydrocarbons

**Pollution Sources:** Roads

**Table 6 Post Construction for New Development and Redevelopment Activities**

Activity Number	Activity	Program Goal	Measurable Goal	Timeframe	Assessment Method
PC-1	Training (T-1)	Consider storm water runoff controls on projects.	<ul style="list-style-type: none"> <li>• Inform 100% of appropriate region design staff on how to select post construction BMPs.</li> <li>• Inform 100% of appropriate region maintenance staff on how to maintain post construction BMPs based on the maintenance performance guides.</li> </ul>	By December 2009	Document those trained. Survey: Pre-training quiz results and post-training quiz results
				By December 2009	
PC-2	Post Construction BMP Baseline Inspections and Review for Water Quality Benefit (C-11)	Inspect all of MDOT's known post construction BMPs for overall maintenance needs and possible water quality benefit retrofits.	Inspect 20% of MDOT's known post construction BMPs (not swales or catch basin sumps) each year for five years.	By December 2012	Confirm inspections annually.
PC-3	Post Construction BMP Selection (C-3)	Implementation of appropriate post construction BMPs on priority projects.	<ul style="list-style-type: none"> <li>• Follow Drainage Manual criteria for including and selecting post construction BMPs on projects.</li> <li>• Include a check for "Storm Water Post Construction BMP" on scoping checklist.</li> </ul>	By December 2009	Confirm that regions are using criteria and that it is documented.
				By December 2010	Document that checklist is developed.

Post Construction for New Development and Redevelopment

Activity Number	Activity	Program Goal	Measurable Goal	Timeframe	Assessment Method
PC-4	Post Construction BMP Maintenance (C-1, C-3, C-6)	Maintain post construction BMPs to provide a water quality benefit.	<ul style="list-style-type: none"> <li>• Annually, update a prioritized list of known post construction BMPs (not swales or catch basin sumps) needing significant maintenance.</li> <li>• Review results of baseline-inspected post construction BMPs for maintenance needs within 1 year of baseline inspection.</li> <li>• Correct significant maintenance concern within 3 years of being on prioritized list.</li> </ul>	Annual	Confirm list is updated.
				On-going	Confirm review.
				On-going	Confirm maintenance.
PC-5	Post Construction BMP Tracking/Mapping	Locate MDOT's Post Construction BMPs statewide.	Map 100% of MDOT's known post construction BMPs (not swales or catch basin sumps).	By December 2012	Confirm mapping.
PC-6	Review Standard Details and Specifications for Water Quality Improvement	Incorporate storm water runoff controls on projects.	Review Standard details and specifications related to hydraulics and recommend modifications to enhance water quality. Prepare special provisions and pilot modifications. Incorporate changes where practicable.	By December 2009	Document that details and specifications have been reviewed.
PC-7	Develop Maintenance Performance Guides for Post Construction BMPs	Maintain BMPs to provide a water quality benefit.	Develop a Maintenance Performance Guide for each of the post construction BMPs listed in the Drainage Manual.	By December 2008	Document that guides have been completed.

# Pollution Prevention and Good Housekeeping

## Objective

To enhance current activities with the ultimate goal of preventing or reducing pollutant runoff from MDOT operations and properties.

## Existing Pollution Prevention Practices

Many of MDOT's pollution prevention and good housekeeping practices have been in place at MDOT for many years and are described in facility Pollution Incident Prevention Plans (PIPP), procedure manuals, and guides maintained by the Maintenance Division and the Construction & Technology Division.

## State Police Truck Inspections

Each year, the Michigan State Police (MSP) uses MDOT facilities (rest areas, weigh stations) to host their truck inspections. The truck inspections derive from federal safety requirements but also benefit water quality as some inspection protocols look for leaking fluids. There are several levels of inspections ranging from an extensive 30-point inspection to a simple driver certification check.

In 2007, 73,996 inspections were conducted across Michigan by the MSP. An additional 1,476 inspections were conducted by local law enforcement agencies certified by the MSP to perform the inspections. See Table 7 for an approximate break down of these inspections by region.

Table 7 State Police Truck Inspections

MSP Districts	Equivalent MDOT Regions <sup>1</sup>	2007 Total Inspections
1	University	11,420
2North	Metro	16,454
2South	University	11,614
3	Bay	7,263
5	Southwest	13,426
6	Grand	5,074
7	North	1,762
8	Superior	6,983
<b>TOTAL</b>		<b>75,472<sup>2</sup></b>

<sup>1</sup> The MSP District boundaries and MDOT Regions do not match up exactly in the Bay, Grand, North, and University Regions. They differ by one or two boundary counties.

<sup>2</sup> Includes 1,476 inspections by local law enforcement agencies.

## Maintenance Facility Pollution Prevention

MDOT performed/installed a number of pollution prevention mechanisms in 2007 including the following:

- ◆ Removed 7 of 8 underground storage tanks (USTs) in the Southwest Region.
- ◆ A Storm Water BMP page was included in the consolidated spill response binder, created by the Safety and Security Administration for each MDOT facility.
- ◆ Catch basin, street sweeping and pump station Maintenance Performance Guides were updated to reflect new MDEQ guidance.
- ◆ Hazardous waste disposal has been on-going throughout the State at all Maintenance Facilities.

## Pollution Incident Prevention Plan (PIPP) Audits

As scheduled, no PIPP audits were conducted in 2007. The next round of audits will be in 2008. As a result of the 2005 PIPP audits, guidance related to environmental compliance were consolidated into a single binder at each applicable facility in 2007. This includes the PIPP as well as other environmental compliance manuals and guidance.

## Pesticide Applicator Program

Pesticides are applied on MDOT right-of-way in accordance with Applicator Certification Regulation 636 and Pesticide Use Regulation 637 of Part 83, Pesticide Control, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended, (NREPA) and all other applicable state and federal regulations. These regulations require all applicators to be registered or certified to apply pesticides in the State of Michigan. MDOT requires all applicators to be certified if making roadside, guardrail, and brush pesticide applications on MDOT right-of-way. These applicators consist of MDOT, County and/or contractor personnel.

No changes were made to the existing Pesticide Applicator Program in 2007. Training was held on April 11-12, 2007 with 76 employees attending, and followed the same format as past years. The training is approved and attended by the Michigan Department of Agriculture

(MDA). MDA will also issue recertification credits for the certified applicators.

## Road Salt/Sand Application

MDOT tracks biweekly salt and sand usage from MDOT crews and contract agencies. A salt storage program is also in affect to assist contract agencies in updating their salt sheds. Salt and sand usage on state trunklines from October 2006 through April 2007 are shown in Table 8 and Table 9, respectively. It should be noted that it is difficult to make any year to year comparisons using the data due to variation in weather conditions and road conditions. See Appendix F, *Pollution Prevention/Good Housekeeping*, for more details regarding salt and sand application.

**Table 8 Salt Usage**

Region	Winter 2005-2006 Salt Tonnage per Lane Mile	Winter 2006-2007 Salt Tonnage per Lane Mile
Superior	23.9	21.1
North	25.3	21.7
Grand	25.1	23.7
Bay	16.1	14.5
Southwest	14.3	20.4
University	14.8	16
Metro	20.6	21.1
<b>Average</b>	<b>20.0</b>	<b>19.8</b>

*Note: Lane mile totals per region are within 10% from year to year.*

**Table 9 Sand Usage**

Region	Winter 2005-2006 Sand Tonnage per Lane Mile	Winter 2006-2007 Sand Tonnage per Lane Mile
Superior	9.4	9.8
North	7.3	6.9
Grand	4.1	8.4
Bay	0.0	0
Southwest	0.0	0.8
University	2.3	2.8
Metro	0.0	0
<b>Average</b>	<b>3.3</b>	<b>4.1</b>

*Note: Lane mile totals per region are within 10% from year to year.*

As discussed in the MITA Cross-Section, Winter 2007, MDOT is conscious of its salt and sand usage and tests new de-icing and anti-icing technologies to reduce salt and sand usage. These technologies include pre-wetting, surface overlay systems, and global positioning systems.

## Roadside Maintenance Activities

MDOT's Maintenance Environmental Team is involved with maintenance activities that help prevent storm water pollution, such as street sweeping, catch basin maintenance, ditch clean out, culvert and underdrain maintenance, mowing, brush control, and bank stabilization. Depending on the location, MDOT's direct forces or local public agencies working under contract for MDOT will conduct these maintenance activities on a regular basis.

Catch basin cleaning, approach sweeping, and curb sweeping conducted by MDOT crews is tracked using the Maintenance Activity Reporting System (MARS). The Program Cost Accounting (PCA) details and costs are tabulated in Appendix F. Street sweeping and flushing, culvert/underdrain maintenance, and ditch clean-out activities for the contracted agencies are tracked using Local Agency Payment System (LAPS) and are tabulated in Appendix F.

The culvert/underdrain maintenance activities include repair, removal, or replacement of catch basins, pipe culverts, pipe boxes, pipe headwalls, and underdrain tiles to culverts in a clean and serviceable condition. \$1,649,647 was spent for roadside and general maintenance activities conducted by MDOT, including cleaning catch basins and sweeping approaches and curbs. \$6,402,048 was spent for approximately 56,427 hours of activities conducted by local agencies, including street sweeping and flushing of approximately 23,574 lane miles, maintaining approximately 19,577 lane miles of culverts and underdrains, and cleaning out approximately 17,904 lane miles of ditches.

## Litter Pick-Up Programs

MDOT continues to work with external groups for litter pick-up along their roadways. These groups include Adopt-A-Highway Program, Youth Corps, and cooperation with the Department of Corrections. MDOT also conducts litter pick-up using MDOT maintenance crews. Additionally, mowing contracts require contractors to pick up litter before mowing. It is difficult to get an accurate quantity of litter removal as landfill receipts are not necessary for these programs. However, public feedback for these programs has been very positive.

## Fertilizer Application

Fertilizer application is not currently regulated by the government. The application of fertilizer on MDOT right-of-way is typically done on construction projects. These fertilizer applications are completed in accordance with MDOT's Standard Specifications for Construction, Section 816 and Section 917. There are very limited fertilizer applications made by MDOT Maintenance staff.

No changes were made to the fertilizer specifications in 2007.

## **Pollution Prevention/Good Housekeeping Inspections**

- ◆ Maintenance Garage Audits (Bay Region)
- ◆ Maintenance Garage Inspection (University Region) May 1, 2007

## **Focus for 2008**

The primary focus in 2008 will be to work with the Post Construction Storm Water Management Implementation Team to develop maintenance guidance regarding post construction storm water BMPs. In addition, the following is planned:

- ◆ The capital outlay fund for environmental remediation continues to fund new projects at MDOT facilities such as aboveground storage tanks and chemical storage buildings.
- ◆ Piloting catch basin residual drying beds.
- ◆ Training maintenance staff on new catch basin cleanout procedures.
- ◆ Providing minor spill clean-up kits in appropriate fleet vehicles.
- ◆ Developing storm water management guidance for fleet maintenance.
- ◆ Reviewing post construction BMP baseline inspection results for maintenance concerns.

## **Measurable Goals & Assessment**

See Appendix A, Activities C-9 and C-12 to view the progress in reaching the interim milestones and measurable goals as defined in the SWMP.

Following the submittal of this report, these activities will no longer be reported on in the activity sheet format. Instead, they have been revised into a table format under one of the six minimum measures. Table 10 shows the activities associated with the Pollution Prevention and Good Housekeeping Program.

**MDOT Program Element:** Pollution Prevention and Good Housekeeping Program

**Priority Issues/Pollutants of Concern:** Sediment, Hydrocarbons, Chemicals

**Pollution Sources:** Roads, Maintenance Garages, MDOT Right-of-Way

**Table 10 Pollution Prevention and Good Housekeeping Activities**

<b>Activity Number</b>	<b>Activity</b>	<b>Program Goal</b>	<b>Measurable Goal</b>	<b>Timeframe</b>	<b>Assessment Method</b>
PPGH-1	PIPP Implementation (C-12)	Minimize exposure of materials to rainfall. Prompt and appropriate clean-up of spills.	All MDOT fleet maintenance and storage facilities will have a PIPP.	By December 2008	Audit maintenance garages for compliance with PIPP. Follow-up on results.
PPGH-2	Road Maintenance (C-9)	Minimize discharge of pollutants to waterbodies from roadways and parking lots.	<ul style="list-style-type: none"> <li>● Review maintenance contracts and maintenance performance guides for inclusion of storm water activity updates.</li> <li>● Inform contract agencies and MDOT Staff of changes to maintenance guides with the expectation that they begin new procedures within one year of notice.</li> </ul>	Every 3 years	Document that review was conducted.
				On-going	Random inspections by TSCs and regions.
PPGH-3	Minor Spill Clean-up	Minimize discharge of pollutants to waterbodies from roadways and parking lots.	Identify which vehicles should have spill kits for minor spills and provide each with a kit.	By December 2009	Audit fleet vehicles for spill kit. Follow-up on results.
PPGH-4	Pesticide Use	Minimize discharge of pollutants to waterbodies from roadways, ROW, and parking lots.	Train pesticide applicator staff as approved by the Michigan Dept. of Agriculture.	On-going	Document those trained. Inspection: MDA road checks.

Pollution Prevention and Good Housekeeping

Activity Number	Activity	Program Goal	Measurable Goal	Timeframe	Assessment Method
PPGH-5	Training (T-1)	Minimize discharge of pollutants to waterbodies from roadways, ROW, and parking lots.	<ul style="list-style-type: none"> <li>● Provide information to appropriate staff on minor spill clean-up procedures, as needed.</li> </ul>	By December 2009	Document those trained.
			<ul style="list-style-type: none"> <li>● Provide information to appropriate staff on catch basin cleanout procedures, as needed.</li> </ul>	By December 2008	Document those trained.
			<ul style="list-style-type: none"> <li>● Provide information to appropriate staff on storm water guidance for fleet maintenance.</li> </ul>	By December 2010	Document those trained.
PPGH-6	Road Salt/Sand Application	Minimize salt/sand usage for de-icing.	<ul style="list-style-type: none"> <li>● Calibrate MDOT salt trucks annually.</li> </ul>	Annual	Document that each salt truck is calibrated.
			<ul style="list-style-type: none"> <li>● Require contract agencies to calibrate their salt trucks annually.</li> </ul>	On-going	Document how this is required.
PPGH-7	Storm Water Management Guidance for Fleet Maintenance	Minimize discharge of pollutants to waterbodies from roadways and parking lots.	<ul style="list-style-type: none"> <li>● Develop storm water management guidance for MDOT fleet maintenance facilities.</li> </ul>	By December 2009	Document that guidance is developed and distributed.
			<ul style="list-style-type: none"> <li>● Incorporate storm water management guidance into the PIPP for each MDOT fleet maintenance facility.</li> </ul>	By December 2010	Document that each facility has the guidance document.

# Construction Site Runoff Management

## Objective

To enhance the current activities to effectively reduce pollution and accelerated soil erosion and resulting sedimentation on MDOT construction and maintenance projects.

## Existing SESC Practices

Many of MDOT's soil erosion and sedimentation control procedures have been in place at MDOT for many years and are described in the MDOT SESC Manual, Construction Manual, and Standard Specifications for Construction maintained by the Construction & Technology Division. The Construction Manual and Standard Specifications for Construction are currently in the process of being updated.

## SESC Program Review Process

MDOT is proceeding with the SESC Program Review Process. From now until the end of the permit cycle (April 1, 2009), each Transportation Service Center will be reviewed twice per the SESC Program Review Process. Beginning in 2009, the reviews will be triggered by the Engineer Certification Program (ECP) which will be on a three-year cycle.

In 2006, over 30 SESC program reviews were conducted at construction sites statewide following the SESC Program Review Process. See Appendix G, *Construction Site Runoff Management*, for review locations.

## Construction Advisories

In 2007, two Construction Advisories related to storm water were developed. The first one (CA 2007-12) was distributed on June 11, 2007, relating to, *Hydrodemolition and Concrete Diamond Grinding*. This construction advisory serves to clarify the permitting for discharge of process water from hydrodemolition work and to remind construction staff of the need to ensure both hydrodemolition and diamond grinding operations are completed according to the applicable contract documents.

On August 14, 2007 (CA 2007-13) *Riprap Placement for Storm Water Drainage* was distributed. CA 2007-13 emphasizes construction details for riprap placement at those locations intended to carry storm water and provide protection against soil erosion and any subsequent sedimentation. The advisory specifically addresses ditches, channels, spillways and storm water outfalls. See Appendix G for a copy of the Construction Advisories.

## Training: Part 91 and Part 31 of Act 451

Pursuant to Part 91 of Act 451, MDOT has established procedures for soil erosion and sedimentation control, as detailed in the MDOT SESC Manual. Appropriate MDOT staff are trained and certified as required under Part 91. MDOT utilizes Certified Storm Water Operators as required under Part 31 of Act 451. Table 11 lists the number of staff in each region that are SESC certified. Additionally, 442 total MDOT staff are certified as Storm Water Operators and 29 were certified in 2007.

Table 11 MDOT Staff SESC Certified

Region	Number of Staff SESC Certified in 2007	Total Number of Staff SESC Certified
Lansing Central Office	3	32
Bay	7	80
Grand	12	89
Metro	26	147
North	4	93
Southwest	4	92
Superior	6	84
University	9	86
Total	71	703

## Construction Quality Partnership (CQP)

MDOT is currently working with industry to develop a Construction Quality Partnership (CQP). MDOT implemented the partnership on five projects for the 2007 construction season. For these projects, MDOT staff provided training for key department and contractor personnel involved with the projects. Each project included four specific work items to improve construction quality. One of the work items was SESC. This training was intended to raise a level of awareness of the importance of SESC for all parties during the execution of MDOT projects. This includes both MDOT and contractor staff.

## Focus for 2008

Upcoming SESC Activities:

- ◆ Incorporating pollution prevention practices on construction sites, such as material storage and concrete truck washout.

- ◆ Reviewing the Standard Specifications for Construction for inclusion of storm water-related specifications.

## **Measurable Goals & Assessment**

See Appendix A, Activity C-7 to view the progress in reaching the interim milestones and measurable goals as defined in the SWMP.

Following the submittal of this report, this activity will no longer be reported on in the activity sheet format. Instead, it has been incorporated into Table 12. Table 12 shows the activities associated with the Construction Site Runoff Management Program.

**MDOT Program Element:** Construction Site Runoff Management

**Priority Issues/Pollutants of Concern:** Sediment, Hydrocarbons, Concrete residual

**Pollution Sources:** Construction sites

**Table 12 Construction Site Runoff Management Activities**

<b>Activity Number</b>	<b>Activity</b>	<b>Program Goal</b>	<b>Measurable Goal</b>	<b>Timeframe</b>	<b>Assessment Method</b>
CON-1	SESC Program Review Process (C-7)	Have necessary SESC controls in place to prevent movement of sediment off-site or into waters of the state.	<ul style="list-style-type: none"> <li>● Reduce the incidences of erosion and sedimentation on projects that could lead to Notice of Violation letters.</li> </ul>	On-going	Document number of letters received.
			<ul style="list-style-type: none"> <li>● Discuss SESC at the preconstruction meeting at 100% of projects where this is applicable.</li> </ul>	On-going	Review pre-con meeting minutes for SESC discussion for active projects.
CON-2	Training (T-1), (T-3)	Increased understanding of SESC and pollution control alternatives.	Have 100% of MDOT staff responsible for administering Part 91 and Part 31 trained and certified.	On-going	Document those informed.
			Provide information on pollution prevention practices to 100% of MDOT staff responsible for administering Part 31 on construction sites.	By December 2009	Document those informed.
			Develop a plan to confirm, as needed, that contract counties are trained in SESC and pollution prevention controls during earthwork activities.	By December 2008	Document that a plan is developed.

Construction Site Runoff Management

Activity Number	Activity	Program Goal	Measurable Goal	Timeframe	Assessment Method
CON-3	Construction Plan Review	Have necessary SESC controls in place to prevent movement of sediment off-site or into waters of the state.	Conduct SESC plan reviews for 100% of earthwork or bridge projects .	On-going	Plan reviews: Document reviews and comments.
CON-4	Special Provision on Non-compliance	Ensure that contractors comply with SESC requirements.	Reduce the number of times it is necessary to enforce SESC through the special provision on non-compliance.	On-going	Document number of times special provision has been used.
CON-5	Fertilizer Use	Minimize discharge of pollutants to waterbodies from ROW.	Review fertilizer use and application language in the Standard Specifications for Construction for storm water concerns.	By December 2010	Document changes to specification.
CON-6	Pollution Prevention	Minimize discharge of pollutants to waterbodies from ROW.	Conduct pollution prevention plan reviews for 100% of projects	By December 2008	Document that a plan is developed.