



# **Phase II Storm Water Management Program Annual Report**

**For January 1, 2009 – December 31, 2009**

**Permit No. MI0057364**

Prepared by:



Detroit, Grand Rapids, Southfield and Traverse City  
Michigan

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## Acronyms and Abbreviations

BMP	Best Management Practice
BOH	Bureau of Highway
ECP	Engineer Certification Program
EPA	United States Environmental Protection Agency
FY	Fiscal Year
IDEP	Illicit Discharge Elimination Program
IM	Instructional Manual
LAPS	Local Agency Payment System
MARS	Maintenance Activity Reporting System
MDA	Michigan Department of Agricultural
MDEQ	Michigan Department of Environmental Quality
MDOT	Michigan Department of Transportation
MEP	Maximum Extent Practicable
MSP	Michigan State Police
NPDES	National Pollution Discharge Elimination System
NREPA	Natural Resources and Environmental Protection Act
PCA	Project Cost Accounting
PIPP	Pollution Incident Prevention Plans
PPGH	Pollution Prevention Good Housekeeping
ROW	Right of Way
SESC	Soil Erosion and Sedimentation Control
SWMP	Storm Water Management Program
WWTP	Waste Water Treatment Plant

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# OVERVIEW

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## 1.0 Overview

This Annual Report describes storm water pollution control activities implemented by Michigan Department of Transportation (MDOT) over the past reporting period of January 1, 2009 through December 31, 2009 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 expired on April 1, 2009, is expected to be reissued in five year cycles; however, at this time MDEQ has not reissued the permit and MDOT is continuing to comply with the existing and expired permit.

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 2008. The reported information closely follows the requirements of the six minimum measures of the Permit. These 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 (PPGH)
- Construction Site Runoff Management

### ***Program Assessment***

Program assessment is primarily determined by MDOT'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 continues to evolve, care is taken to ensure that MDOT's commitments, as written in the SWMP, are fulfilled; however, as the program

## OVERVIEW

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flourishes, it sometimes becomes evident that modifications need to be made to the original activity, the measurable goal, or both. Detail regarding current activities, measurable goals, and their assessment method are contained in each of the following sections.

MDOT has fulfilled their specific commitments for the initial 5-year permit cycle that ended on April 1, 2009 and has incorporated the activities laid out in the SWMP into the daily activities of technical and management staff.

### ***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 program expenditures and estimated expenditures for fiscal year 2010. The fiscal year (FY) is from October 1st through September 30th of each year. Finalized budget information is also provided for FY 2009.

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

<b>Fiscal Year</b>	<b>Annual Expenditure</b>
1999	\$142,111
2000	\$1,017,346
2001	\$764,142
2002	\$638,881
2003	\$508,123
2004	\$395,837
2005	\$372,372
2006	\$477,000
2007	\$429,000
2008	\$333,000
2009	\$105,081
2010 (Budgeted Value)	\$350,000

### ***Focus for 2010***

The figures shown in this table for recent years reflect only the costs associated with program administration including preparation of the annual report. Not included in these figures are the countless staff hours, incremental construction and maintenance costs and research expenditures as the activities involved in storm water management across the department are integrated into the business practices of MDOT.

Entering into a new NPDES Phase II permit cycle in 2010, MDOT will continue to integrate storm water awareness management across all business areas. The Storm water Steering Committee will re-evaluate the usefulness of this annual budget reporting process. MDOT remains committed to allocating the necessary resources to meet the requirements of the Statewide Storm Water Discharge Permit and the minimization of environmental impacts associated with storm water discharges.

# EDUCATION AND OUTREACH AND PUBLIC INVOLVEMENT AND PARTICIPATION

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## 2.0 MDOT Sponsored Education and Outreach and Public Involvement and Participation

### **Objective:**

***Education and Outreach** - To spread awareness of MDOT's Storm Water Management Program to MDOT staff, contractors and the travelling public and to train MDOT staff and contractor on job related expectation.*

***Public Involvement and Participation** - To spread awareness of MDOT's Storm Water Management Program to MDOT staff, contractors and the travelling public and to train MDOT staff and contractor on job related expectation.*

### **Storm Water Exhibits and Handouts**

MDOT has developed several displays and handout materials targeting various audiences, including school age children, transportation construction contractors and the general public. The materials are available, in electronic format, for viewing and downloading from the web page. In addition, MDOT distributes the materials for use by others as supply and program budget allow. The following are some of the agencies with whom the materials were shared in 2009:

- MDOT education and outreach materials were shared with the city of Redding, CA. These materials were incorporated into the city's storm water education program, and the MDOT brochure was adapted for that purpose.
- The IDEP interactive program from the MDOT website was shared with the city of Concord, MA (Public Works office) for use in staff training sessions.
- The IDEP interactive program was also shared with the city of Lakeland, FL for use in staff training and education.
- MDOT shared its storm water management displays (general and kid's), as well as its Kid's maze flyer, with the Huron Pines Group in Roscommon, MI. The display and handout material was used at the group's 2009 Riverfest event.
  
- The MDOT Southwest Region Construction Conference featured the MDOT storm water management display, as well as trinkets and handouts for distribution to MDOT staff and various community groups in attendance.
  
- Storm water awareness is promoted through the Operation Care program during major summer season holidays. Storm Water trash bags and general brochures were distributed to motorists at Rest Area and Welcome Center locations around the state in 2009.

# EDUCATION AND OUTREACH AND PUBLIC INVOLVEMENT AND PARTICIPATION

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- Storm water brochures and trinkets were handed out as part of a grade school environmental program in the Lansing area.

## MDOT Storm Water Public Web Page

The MDOT Storm Water Public Web Page is a component of MDOT's Public Web Site. The page focuses on Phase II storm water information, and provides interested parties (e.g., MDOT staff, contractors, traveling public) with access to the agency's storm water materials, (e.g., reports, educational materials). The site is also extensively linked to other storm water-related web sites.

## Storm Water-Related Committees

The MDOT Storm Water Program Manager is actively involved with several committees at the state and national level. The objective is to ensure that the agency is well informed of issues of interest to the agency (e.g., research, policy recommendations, regulations) and available to provide input and share perspectives on those issues. Activities for the MDOT Storm Water Manager in 2009 included the following:

- Served on two National Cooperative Highway Research Program (NCHRP) panels overseeing research pertaining to storm water management in highly urbanized areas. Involvement on the first of these panels (a continuation of work from 2008), focused on research into "Evaluating and Selecting Modifications to Existing Roadway Drainage Infrastructure to Improve Water Quality in Ultra-urban Areas". The second panel, convened in 2009, is titled "Measuring and Removing Dissolved Metals from Storm Water in Highly Urbanized Areas." Both of the panels are multi-year initiatives funded by the Transportation research Board (TRB).
- Continued to serve on the Advisory Panel for the Storm Water Management Community of Practice report series. The Center for Environmental Excellence has published a "Construction Storm Water Management State-of-the-Practice Report" and is in the process of compiling a "TMDL State-of-the-Practice Report."
- Continued to serve as an MDOT representative on the AASHTO Standing Committee on the Environment (SCOE), which addresses road-related environmental issues including storm water.
- Continued to serve on the American Association of State and Highway Transportation Officials (AASHTO) Storm Water Managers subgroup, participating in conference calls to discuss transportation-specific issues associated with the overall Phase II Program. Topics in 2009 included the just-released effluent guidelines for discharges from the construction and development industry. AASHTO submitted comments on behalf of all state DOTs as the guidelines were being finalized. (Note: the subgroup did not meet in-person in 2009 due to state budgetary constraints and ARRA work loads.)

# EDUCATION AND OUTREACH AND PUBLIC INVOLVEMENT AND PARTICIPATION

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- Worked with MDEQ's MS4 Implementation Team to craft guidance materials for use by permittees and regulators as MS4 programs are developed and evaluated under both Jurisdictional and Watershed General Permits. The Implementation Team is comprised of MDEQ representatives from central and district offices, along with jurisdictional and watershed permit holders and consultants who represent them.

## **Litter Pick-Up Programs**

MDOT continued to work with various groups in 2009 for litter pick-up along roadways. These groups included Adopt-a-Highway Program, Youth Corps, and cooperation with the Department of Corrections. In 2009, new roadway stretches were adopted and many trash bags were filled. MDOT maintenance crews also conducted litter pick-up, as did contractors (prior to mowing, as required by MDOT contracts.). In 2009, a new program in metropolitan Detroit was initiated titled "Sponsor-a-Highway."

## **Focus for 2010**

MDOT will continue with its existing Education and Outreach Program and Public Involvement and Participation activities in 2010, while evaluating past elements and seeking opportunities to enhance these Programs over the course of the year. New procedures and training will be re-evaluated as appropriate upon issuance of a new Storm Water Permit.

# ILLICIT DISCHARGE ELIMINATION PROGRAM

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## 3.0 Illicit Discharge Elimination Program

### **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.*

### **Overview**

This annual report assesses the IDEP as one of the six minimum measures stated in the Permit to be reviewed by the MDEQ. The framework for the IDEP activities is outlined in the SWMP (MDOT, 2005). Below are summaries for each activity related to the IDEP in 2009.

### **Dry Weather Screening**

Initial dry weather screening at priority road-stream crossings, as laid out in the SWMP has been completed. 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**

Although there was no 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 A, *Illicit Discharge Elimination Program*, for reported discharges and correspondence.)

- December 23, 2009 – City of St. Joseph found a city sanitary line interconnected with the MDOT storm sewer between Elm Street and Broad Street. – *Unresolved* (Southwest Region)
- May 7, 2009 – MDOT Staff discovered that Bosch Corporation had a retention pond that was being dewatered into an MDOT ditch and into a culvert. – *Resolved* (Metro Region)
- A Grand Haven Leaking Underground Storage Tank Site discharges to an MDOT storm sewer. MDPT denied the permit application; however, DNRE issued a mixing zone determination and allowed the discharge.

### **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.

### **Outfall Mapping**

#### **1) Urbanized Area Outfall Mapping**

As required by MDOT's Storm Water Phase II NPDES Permit, MDOT has identified and completed maps of outfalls at stream crossings within urbanized areas. This includes stream crossings over or within 300 feet of impaired waters of the state within urbanized areas

# ILLICIT DISCHARGE ELIMINATION PROGRAM

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based on field inspection of top priority outfalls. Furthermore, outfall screening/ investigations have been linked to the asset management team's inventory database.

## **2) Statewide Outfall Mapping**

In addition to urbanized areas, MDOT has developed a statewide outfall map showing the locations of known MDOT outfalls. The outfalls were located based on 1) design-survey data and 2) 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.

## ***Tap-in/Discharge Permit***

Entities wishing to tap in to MDOT's drainage system are required to obtain a permit. In 2009, 16 of these permits were issued. MDOT distributes storm water information with its permit application and each permit issued includes requirements for discharging only storm water to the system.

## ***Outfall Labeling***

MDOT incorporated the requirements for labeling newly constructed storm water outfalls that discharge directly to the waters of the state from the MDOT drainage system into the Design Standard Plans. This had been addressed by a Special Provision in the past. These outfalls are also added to the statewide outfall map.

## ***Culvert Inventories***

In 2009, MDOT continued its program to inventory culverts within the MDOT right of way (ROW). Regions with culverts remaining to be inventoried included the Bay, Superior and University Regions.

## ***Training***

In 2009, maintenance staff discussed the MDOT and MDEQ spill response guidance and regulations document at Maintenance Business Team meetings. In addition, the IDEP interactive program from the MDOT website was targeted for staff training and educational purposes. A collaborative effort was made by MDOT in providing the IDEP interactive program with other public agencies in Concord, Massachusetts and Lakeland, Florida.

## ***Focus for 2010***

Entering into a new NPDES Phase II permit cycle in 2010, MDOT will continue with its Existing IDEP activities and will re-evaluate procedures and training as appropriate upon issuance of a new Storm Water Permit.

# POST CONSTRUCTION FOR NEW DEVELOPMENT AND REDEVELOPMENT

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## 4.0 Post Construction BMPs 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.*

### **Post Construction BMP Implementation**

During 2009 several BMPs were installed to improve post construction water quality. These included a storm water treatment structure installed along M-89 in Otsego, Allegan County, Michigan and a detention pond was installed along US-12 in Quincy, Branch County, Michigan. A swirl separator is a modified oil-grit separator that creates a swirling motion that allows sediments to settle out. These devices have been found to provide moderate pollutant removal (Greb et al., 1998; Labatiuk et al., 1997). Detention ponds protect against flooding and reduce pollutant loads through sedimentation (EPA, 1999).

Native plantings were installed at the I-94 west bound Marshall Rest Area in Calhoun County. The Marshall Rest Area native landscape consists of approximately 4.5 acres of drilled seed. The native plantings were installed in the spring of 2009. The majority of the planting is located on the eastern end of the site which receives the majority of the site drainage. Runoff from the rest area eventually flows into Rice Creek.

The purpose of the native plantings is to achieve the following objectives:

- Determine if there is a reduction in future maintenance costs for the lowland portion of the rest area site when compared to standard turf establishment methods.
- Determine if native plantings provide increased absorption of potential contaminants such as salt and oil from the parking lot areas and filter contaminants out before the runoff enters the water body.
- Help to diffuse the spread of invasive species.

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 FOR NEW DEVELOPMENT AND REDEVELOPMENT

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## ***Post Construction BMP Maintenance***

BMPs function more effectively when regular maintenance occurs. Two notable BMP maintenance activities that occurred during 2009 were:

- The counter weight pits of the Bicentennial Bascule Bridge in Benton Harbor were cleaned. Removing accumulated debris from the pits insures that they do not overflow and discharge sediment and other pollutants directly into the water.
- The drying bed at the Newberry Waste Water Treatment Plant (WWTP) was rehabilitated with MDOT financial assistance. In return MDOT is allowed to utilize the facility for drying catch basin sediment. This provides MDOT with a suitable disposal method for sediments collected during BMP maintenance.
- The detention basin at Beltline / M-37 at Fulton was inspected, cleaned out and material was analyzed to assess reuse options.
- The detention basin at the Beltline/ M-44 Connector was cleaned out and expanded to reduce localized flooding and drainage issues.

## ***Focus for 2010***

MDOT will continue to evaluate new construction and reconstruction projects to determine where post construction BMPs are required. The field review and condition survey of existing post construction BMPs will continue with information gathered used to assess the resource needs for continued maintenance of these features.

Entering into a new NPDES Phase II permit cycle in 2010, MDOT will continue with its Existing Post Construction BMP activities and will re-evaluate procedures and training as appropriate upon issuance of a new Storm Water Permit.

# POLLUTION PREVENTION AND GOOD HOUSEKEEPING

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## 5.0 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.*

### **Overview**

This annual report assesses PPGH for MDOT operations as one of the six minimum measures stated in the Permit to be reviewed by the MDEQ. The PPGH activities include both facility operations and road/bridge operations. Below are summaries for each activity related to MDOT facilities and roads/bridges in 2009.

### **Existing Pollution Prevention Practices**

MDOT continues on-going pollution prevention and good housekeeping practices that have been in place at MDOT for many years. Specifications 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 2009, inspections were conducted across Michigan by the MSP and local law enforcement agencies certified by the MSP to perform the inspections.

### **PIPP Audits**

PIPP Audits are conducted by MDOT on a three-year rotation. MDOT performed follow up inspections in 2009 based on the previous year audits in 2008. A total of 38 maintenance facility audits completed in 2008 were revisited in 2009 to see if progress was made through the year. MDOT facilities showed progress and the finalized documentation was sent to Region Resource Staff in December 2009.

### **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.

## POLLUTION PREVENTION AND GOOD HOUSEKEEPING

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Seminar training for the Pesticide Applicator Program is sponsored by the Michigan Department of Agriculture (MDA) throughout the year.

### ***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 trunk lines from October 2008 through April 2009 is shown in Table 9 and Table 10, 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.

**Table 2. Salt Usage 2009**

<b>Region</b>	<b>Lane Miles</b>	<b>Salt Tonnage Total</b>
<b>Superior</b>	4,179.3	89,963.8
<b>North</b>	4,809.9	109,428.3
<b>Grand</b>	3,383.4	66,763.7
<b>Bay</b>	4,666.5	66,048.4
<b>Southwest</b>	3,752.9	62,770.4
<b>University</b>	4,349.4	84,524.7
<b>Metro</b>	5,558.7	110,653.4
<b>Total</b>	30,700.1	590,152.7

**Table 3. Sand Usage 2009**

<b>Region</b>	<b>Lane Miles</b>	<b>Sand Tonnage Total</b>
<b>Superior</b>	4,179.3	58,774.6
<b>North</b>	4,809.9	29,490.6
<b>Grand</b>	3,383.4	47,157.2
<b>Bay</b>	4,666.5	1,123.0
<b>Southwest</b>	3,752.9	7,056.8
<b>University</b>	4,349.4	16,724.6
<b>Metro</b>	5,558.7	0.0
<b>Total</b>	30,700.1	160,326.7

### ***Roadside Maintenance Activities***

MDOT's Maintenance Environmental Team is involved with maintenance activities that help reduce storm water pollution, such as street sweeping, catch basin maintenance, ditch clean out, culvert and underdrain maintenance, mowing, brush control, and bank stabilization. The team is charged with taking the lead in developing guidance directives for a variety of maintenance activities and reporting the status of implementation of this guidance to the Storm Water Steering Committee and the MDOT Environmental Committee.

# POLLUTION PREVENTION AND GOOD HOUSEKEEPING

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Depending on the location, MDOT's direct forces or local public agencies working under contract for MDOT will conduct maintenance activities. 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 B. 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 B. The culvert/underdrain maintenance activities include repair, removal, or replacement of catch basins, pipe culverts, pipe boxes, pipe headwalls, and underdrain tiles. Roadside and general maintenance activities conducted by MDOT included cleaning catch basins and sweeping approaches and curbs.

## Facility Maintenance Activities

The following actions took place at MDOT facilities in 2009:

1. Secondary containment and new spray systems were installed to prevent possible spills and reduce runoff from spraying at Mt. Pleasant Garage and Saginaw West Side Garage.
2. Outdoor Steel Combustible Storage buildings were purchased and installed at Grand Rapids Special Crews, Mio Maintenance Facility, and Central Maintenance.
3. A 10,000-gallon holding tank for the wash bay was purchased and installed at the Mio Maintenance Garage to reduce the possibility of an over flow and to minimize any spills associated with the emptying of the tank.
4. Provided financial assistance to rehabilitate a Drying Bed at the Newberry WWTP. In return MDOT is allowed to utilize the facility for the drying of catch basin sediment.
5. A 4,000-gallon septic holding tank was purchased and installed at the Zilwaukee Bridge Maintenance Garage to replace the existing 250-gallon tank. This eliminates the need for weekly purging and reduces any spills associated with emptying.
6. Flammable storage cabinets were purchased for Saginaw Special Crews, Lansing Secondary Complex, Saginaw West Side, Saginaw East Side and Mt. Pleasant.
7. Hazardous waste disposal was conducted at Lansing Secondary Complex, Grand Rapids Special Crews, Jackson Special Crews, Central Maintenance and Adrian Garage.
8. Counterweight pit cleanings were conducted to remove sediment and debris from the Bicentennial Bascule Bridge in Benton Harbor, Veterans Memorial Bridge in Bay City, Military Street Bascule Bridge in Port Huron and St. Clair Bascule Bridge in St. Clair.

## ***Fertilizer Application***

The application of fertilizer on MDOT ROW is typically done only on construction projects. These fertilizer applications are completed in accordance with MDOT's Standard Specifications for Construction. There are very limited fertilizer applications made by MDOT Maintenance staff. No changes were made to the fertilizer specifications in 2009.

# POLLUTION PREVENTION AND GOOD HOUSEKEEPING

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## ***Maintenance Education and Training***

Regarding education and training, an environmental presentation took place at the 2009 Southwest Region Winter Operations Meeting, which included 10 garages. The presentation included discussions on MDOT and MDEQ spill response guidance and regulations. MDOT and MDEQ soil erosion and sedimentation control (SESC) certification requirements and training options for MDOT staff was also reviewed. Grand Region staff attended Construction Conferences as a continuing education component of their training.

In addition, the Southwest Region conducted a HAZMAT Awareness training class for the entire region at the 12 maintenance facilities. A 1.5 to 2-hour training session covering pollution prevention activities and regulatory requirements as specified in the MDOT Environmental Manual for Maintenance Facilities.

MDOT also prepared a culvert inspection form in spring 2009 to monitor culvert conditions in response to heavy precipitation events and subsequent drainage issues. The use of this inspection form was reviewed along with MDOT and MDEQ SESC Certification requirements and training options for MDOT staff at the Southwest Region Maintenance Operation Meetings.

## ***Maintenance Advisory***

The following maintenance advisories were issued in 2009:

### MA 2009-02 Calibration of Salt Trucks

Maintenance Advisory (MA 2009-02) entitled Calibration of Salt Trucks was issued on January 7, 2009. This advisory alerts personnel of MDOT's policy that requires yearly calibration of each salting unit (MDOT and its contract agencies). The reason for the policy and maintenance advisory is to help achieve the MDOT's goal of using only the appropriate amount of salt. See Appendix B for a copy of the advisory.

### MA 2009-04 Illicit Discharges

Maintenance Advisory (MA 2009-04) entitled Illicit Discharges was issued on January 12, 2009. This advisory summarizes MDOT's process to receive and respond to reports of illicit discharges/connections (ID/C) to their storm water drainage system as required by MDOT's Statewide Storm Water Discharge Permit requirements. See Appendix B for a copy of the advisory.

## ***Focus for 2010***

Entering into a new NPDES Phase II permit cycle in 2010, MDOT will continue with its Existing PPGH activities and will re-evaluate procedures and training as appropriate upon issuance of a new Storm Water Permit.

# CONSTRUCTION SITE RUNOFF MANAGEMENT

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## 6.0 Construction Site Runoff Management

### **Objective:**

*To enhance current activities that reduces pollution and accelerated soil erosion and the resulting sedimentation on MDOT construction and maintenance projects.*

### **Introduction**

Part I, Section B.5 of MDOT's MDEQ NPDES Permit covers Construction Storm Water Runoff Control. The permit requires, "...the control of storm water discharges from construction activity that results in land disturbance of greater than or equal to one acre." In addition, the permit requires control discharges from projects less than one acre if the construction activity is part of larger development that would disturb more than one acre.

### **Existing SESC Practices**

Many of MDOT's soil erosion and sedimentation control procedures have been in use at MDOT for many years and are described in the MDOT SESC Manual, the Construction Manual, and the Standard Specifications for Construction (Spec Book) maintained by the Construction & Technology Division. MDOT is currently in the process of updating the Construction Manual and the Spec Book. In addition to standard procedures, SESC procedures are included in construction contracts by the use of Special Provisions. MDOT will incorporate some of these special provision SESC measures into the new version of the Spec Book planned for completion in 2010. Once the new Spec Book is complete, designers will no longer have to include the certain SESC special provisions in each contract. This will streamline the design process and ensure the same SESC requirements are in place on all contracts.

### **SESC Program Review Process**

In 2006, MDOT implemented the SESC Program Review Process. The objective of the process is to provide the necessary checks and balances to document the adequacy of the department's SESC program and to identify opportunities for improvements. The review process includes plan reviews to ensure that adequate types and quantities of SESC measures are included to allow the Engineer and the contractor the flexibility to respond to rainfall events throughout the life of the project. The program continues during the construction season by way of independent field reviews and technical assistance by SESC and soils specialists from around the department.

Copies of SESC/NPDES Inspection Reports are reviewed in the central office to identify trends in SESC device failures; construction methods or materials issues that contribute to loss of sediment off-site or to the waters of the state; and administratively incomplete reports. Findings of the report reviews are used to support the adoption of new methods and technologies for reducing soil erosion and sedimentation and to identify training needs for both MDOT and contractor employees.

# CONSTRUCTION SITE RUNOFF MANAGEMENT

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## ***New Instructional Memorandum***

In 2009, MDOT published Bureau of Highway (Bureau of Highway) Instructional Memorandum (IM) 2009-05 “*Revisions to the 2006 Soil Erosion and Sedimentation Control Manual*” (IM 2009-05). The IM is contained in Appendix C. The IM issued a revision to MDOT’s 2006 SESC Manual because of recent changes to the SESC and storm water certification programs by the MDEQ. The 2005 Technical Skills Plan for the construction technician classifications was revised to reflect this change in certification requirements. This MDEQ certification change took effect on May 1, 2009. Certifications under the old MDEQ programs are valid until one or the other expires. MDEQ reviewed and approved this revision, as required to maintain MDOT’s status as an authorized public agency.

In the past, MDEQ required that an individual complete a comprehensive two-day training course and pass an examination on the subject to be certified under the Part 91 SESC program. Individuals with responsibility for inspection of construction sites for compliance with the construction storm water runoff program had to complete additional training and maintain certification as a storm water operator under Part 31 NPDES. The new certification program consists of a comprehensive SESC course and an SESC inspector course. The comprehensive SESC course retains all of the topics from the two-day training and adds some storm water concepts. The SESC inspector training combines the SESC and NPDES topics related to the inspection and documentation of soil erosion and storm water runoff conditions on a project. The result is a more focused certification approach whereby the information covered better matches an individual’s SESC/NPDES program responsibilities.

MDOT identified specific positions, based on program responsibilities, across the department that will be required to obtain either the comprehensive or the inspector level of certification. Only those positions with direct responsibility for administering the SESC/NPDES program will be required to maintain comprehensive certification. Individuals with responsibility for conducting and documenting site inspections will need only the inspector certification. On May 6, 2009, MDEQ approved revisions to Section 1.2 of the SESC Manual. These revisions reflect the new MDEQ certification requirements for individuals with responsibilities for SESC during the design, construction, and maintenance of the transportation system. Regardless of the level, the MDEQ certifications are valid for five years.

## ***United States Environmental Protection Agency (EPA) Rule to Reduce Water Pollution from Construction Sites***

The EPA issued a final rule on December 1, 2009, to help reduce water pollution from construction sites. The agency believes this rule, which takes effect in February 2010 and will be phased in over four years, will significantly improve the quality of water nationwide. The EPA titled the new rule, “Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category.”

Construction activities like clearing, excavating and grading significantly disturb soil and sediment. If that soil is not managed properly it can easily be washed off the construction site during storms and pollute nearby water bodies.

# CONSTRUCTION SITE RUNOFF MANAGEMENT

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The final rule requires construction site owners and operators that disturb one or more acres to use best management practices to ensure that soil disturbed during construction activity does not pollute nearby water bodies. In addition, owners and operators of sites that impact 10 or more acres of land at one time will be required to monitor discharges and ensure they comply with specific limits on discharges to minimize the impact on nearby water bodies. This is the first time that EPA has imposed national monitoring requirements and enforceable numeric limitations on construction site stormwater discharges.

MDOT will review this new rule change and reach out to staff at the DNRE to determine what types of changes will be required to meet compliance requirements and deadlines of the new rule.

## ***Focus for 2010***

Entering into a new NPDES Phase II permit cycle in 2010, MDOT will continue with its existing Construction Site Runoff Management activities and will re-evaluate procedures and training as appropriate upon issuance of the new permit.

## REFERENCES

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- EPA, 1999. Storm Water Technology Fact Sheet Wet Detention Ponds. United States Environmental Protection Agency. Office of Water, Washington D. C, EPA 832 F-99-048
- Greb, S., S. Corsi, and R. Waschbusch. 1998. Evaluation of Stormceptor® and multi-chamber treatment train as urban retrofit strategies. In *Proceedings: National Conference on Retrofit Opportunities for Water Resource Protection in Urban Environments, Chicago, IL, February 9-12, 1998*. U.S. Environmental Protection Agency, Washington, DC.
- Labatiuk, C., V. Natal, and V. Bhardwaj. 1997. Field evaluation of a pollution abatement device for stormwater quality improvement. In *Proceedings of the 1997 CSCE-ASCE Environmental Engineering Conference, Edmonton, Alberta*. Canadian Society for Civil Engineering, Montréal, Québec, and American Society of Civil Engineers, Reston, VA.
- MDOT, 2005. Storm Water Management Plan. Michigan Department of Transportation.

# APPENDIX A

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**From:** Kristin Schuster  
**To:** RUSZKOWSKI, JUDY A.  
**Date:** 12/23/2009 11:17AM  
**Subject:** Fwd: Broad Street Smoke Testing Results  
**Attachments:** Test # 3 Summary 12-18-09.pdf; Test # 1 Summary 12-18-09.pdf; Test # 2 Summary 12-18-09.pdf; m90573 Storm Sewer Connections.pdf

here is the email Paul initially sent.

>>> Paul South 12/22/2009 4:38PM >>>  
Kristen,

Apparently in City of St Joe we have a couple of catch basins that are tied to the City's sanitary system. I'm OK with City fixing this over next construction season, but wanted to discuss funding and such with you.

Thanks,  
Paul

>>> "Tim Zebell" <[Zebell@sjcity.com](mailto:Zebell@sjcity.com)> 12/22/2009 3:41 PM >>>  
Hi Paul,

You probably recall that I talked to you about some catch basins on Main Street that smoked when we did some recent testing to be in compliance with our NPDES Permit.

The attached testing results indicates that there is a connection on Main between the sanitary sewer and storm sewer between Elm and Broad. Abonmarche originally thought it might be in the intersection but the test results indicate otherwise.

Since I am under the gun, so to speak, to resolve our CSO issues I intend on directing two of the three catch basins to the City system and am asking for MDOT participation in the cost for at least one of the catch basins. This will be done in conjunction with the Broad Street Resurfacing Project and actually increases the Engineer's Estimate from what I was aware of yesterday when I asked TwinCATs to consider increasing the funding by \$23,000 (that overage was driven mostly by ADA requirements).

Please let me know a convenient time to get together to discuss this, or give me a call.

Thank You,

Tim

>>> "Jason Marquardt" <[jmarquardt@abonmarche.com](mailto:jmarquardt@abonmarche.com)> 12/22/2009 3:29 PM

>>>

Tim,

Attached are the smoke testing results from Main Street.

**Jason W. Marquardt, PE**

Project Engineer

**Abonmarche**

T269.927.2295 (Ext. 171)

C 269.876.9304

F 269.927.1017

W [www.abonmarche.com](http://www.abonmarche.com) ( <http://www.abonmarche.com/> )

**From:** Kristin Schuster  
**To:** RUSZKOWSKI, JUDY A.  
**Date:** 12/23/2009 11:18AM  
**Subject:** Fwd: City of St Joseph Storm Sewer

>>> Paul South 12/23/2009 10:00AM >>>  
Kristen / Careen,

I spoke to Tim Zebell, City of St Joseph Engineer and have an update for you.

The only catch basin that the City is looking at connecting to the MDOT storm sewer is the existing CB at the SE corner of Main Street (194BL) and Broad Street. There is a second one east of that structure that the City is connecting to their system at their cost.

I have asked Tim to generate a cost estimate that covers the disconnect from the existing sanitary and connection to the existing storm on Main Street for the CB in question.

On another note, the City did find that the MDOT storm sewer is somehow interconnected with the City sanitary line running under the west side of Main Street. The City pinpointed the interconnect somewhere between Elm Street and Broad Street. The red lines on the drawing I sent you are the possible locations of said interconnect. I am assuming that at some point we (MDOT) would want to remove that interconnect. At this point, I am not sure how best to proceed.

Pending your guidance,  
Paul

### **Test #3 Summary:**

- Smoke tested westerly 18" sanitary sewer @ Elm & Main St. intersection (see attached)
- Had 18" stormline in the center of Main St. isolated between Elm and Broad St.
- "NO" smoke seen coming out of storm structures @ Broad & Main St. intersection.
- Smoke was seen coming from roof tops of three buildings (see drawing & aerial photo). Could not tell on two of the buildings if smoke was coming from roof vents or roof drains.
- Employees of Chemical Bank had flagged us down to notify us that they had smoke inside their building. Went inside to investigate and found two floor drains (one in the bathroom and one in the utility closet). Smoke was more present in the utility closet. Employees said they did not pour water into floor drain traps. Poured water into floor drain in the utility closet for the employees. Floor drain plumbing inside of Chemical Bank may have been constructed without traps installed.
- Sanitary and storm sewers are believed to be connected on Main St. somewhere between Elm St. and Broad St. from this last smoke test and from review of storm sewer video. Video detected various leads tapped into storm main on east and west sides of the pipe.



Smoke seen here (RN or RD?)

Smoke seen here (RN or RD?)

Smoke seen here (RN or RD?)

Smoke seen out of roof vents

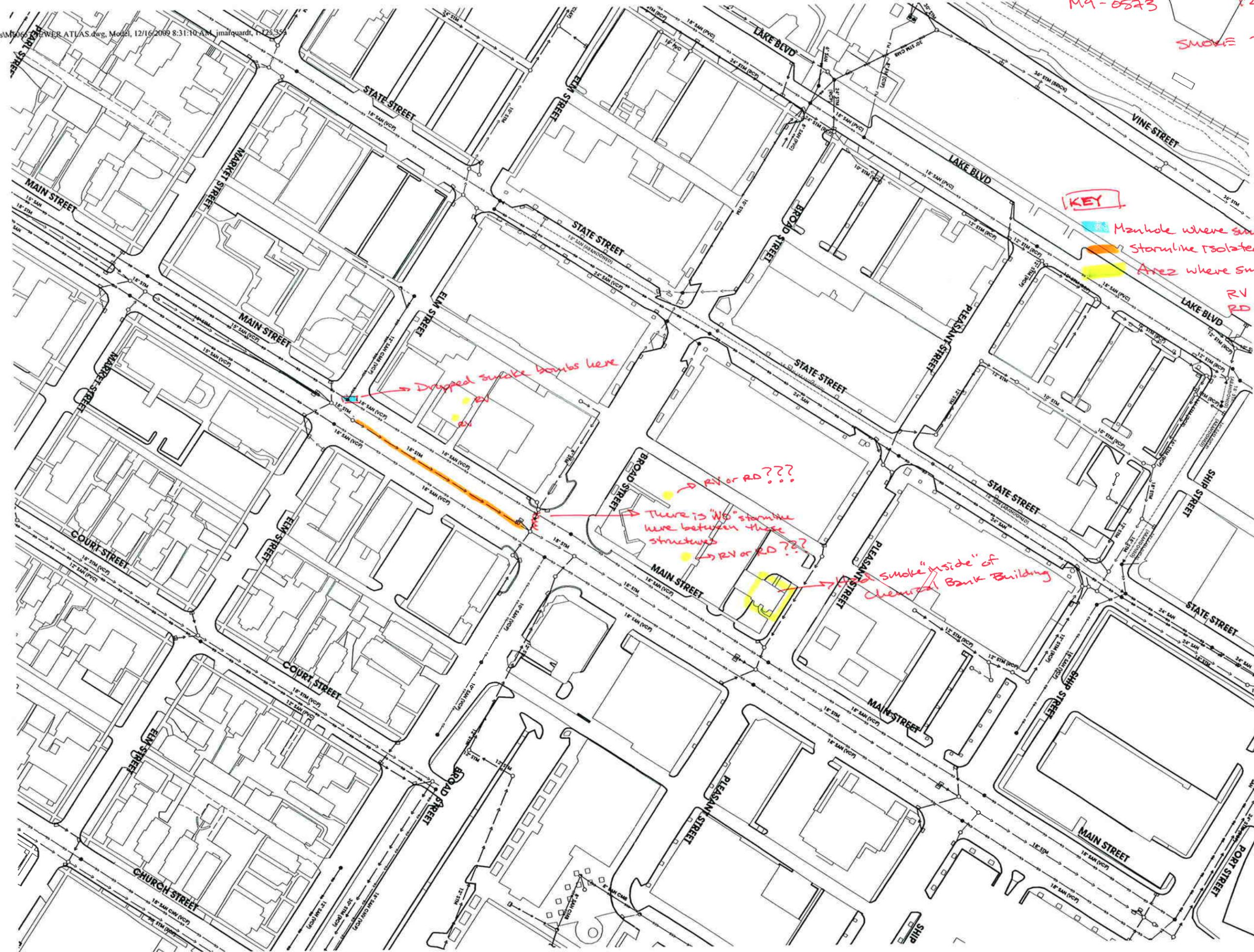


MA-0523 12-18-09

SMOKE TEST #3  
RAS/MA

KEY

-  Manhole where smoke was dropped
-  Stormline isolated with test plugs
-  Area where smoke was seen
- RV - roof vent
- RD - roof drain



Dropped smoke bombs here

RV or RD???

There is NO stormline here between these structures

RV or RD???

smoke inside of Chemical Bank Building

RV or RD???

# APPENDIX B

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# Maintenance Advisory

From Jon W. Reincke, Engineer of Operations

MDOT  
Division of Operations  
Maintenance  
6333 Old Lansing  
Road  
Lansing, MI 48917

For questions  
regarding  
this advisory, contact:

Tim Croze, Engineer  
Roadway Operations  
Support  
Phone: 517-322-3394  
[CrozeT@michigan.gov](mailto:CrozeT@michigan.gov)



## Calibration of Salt Trucks

It is MDOT's policy to require yearly calibration of each salting unit (MDOT and contract agencies). The reason for this policy is to help achieve the department's goal of using only the appropriate amount of salt. The exception to this policy is trucks equipped with closed-loop ground speed control systems which can go up to five years without being calibrated.

MDOT's calibration policy reads as follows:

- Before the beginning of each snow fighting season, salt trucks must be calibrated to ensure salt distribution falls within department guidelines. The calibration should be rechecked if there are any mechanical adjustments or changes throughout the remainder of the snow fighting season.
- Closed-loop ground speed control units need to be calibrated only every five years unless a major change has been made to the system. Examples of a major change to the system might include, using a different hopper box or a major component failure (examples of closed-loop systems are Dickey John ICS 2000 and Dickey John Control Point).
- Open-loop ground speed control units must be calibrated each year and rechecked if there are any mechanical adjustments or changes throughout the remainder of the snow fighting season (an example of an open-loop system is the Muncie Power Master).

Please check with the manufacturer to ensure which type of system you are using. If no determination can be made, the system must be calibrated each year. A video and workbook are available to walk personnel through the calibration procedure.

- If the truck requires a calibration chart it should be located in the truck so that it is convenient to the driver.

The tailgate of the vehicle must be marked, or the gate locked or bolted down, so that it can be returned to or kept at the calibration location during salt distribution.

This change was endorsed by the Engineering Operations Committee at its March 12, 2002 meeting.

# Maintenance Advisory

January 12, 2009

From Jon W. Reincke, Engineer of Operations

MDOT  
Division of Operations  
Maintenance  
6333 Old Lansing Road  
Lansing, MI 48917

For questions regarding  
this advisory, contact:

Corey Rogers, Engineer  
Emergency Support Unit  
Phone: 517-322-3320  
[RogersC@michigan.gov](mailto:RogersC@michigan.gov)

Judy Ruskowski,  
Operations  
Environmental Engineer  
Phone: 517-322-5698  
[RuskowskiJ@michigan.gov](mailto:RuskowskiJ@michigan.gov)



## Illicit Discharges

MDOT's Statewide Storm Water Discharge Permit requires the department to have a process in place to receive and respond to reports of illicit discharges/connections (ID/C) to our storm water drainage system.

Illicit Discharges are discharges, seepage, or overland flow into MDOT's drainage system that is not composed entirely of storm water, and which is not specifically exempt under MDOT's statewide permit.

Illicit Connections are physical connections (an open ditch or pipe) to MDOT's drainage system that conveys an illicit discharge or are not authorized or permitted by MDOT where such authorization or permit is required.

MDOT maintains a database to record and track the status of all reported ID/Cs. One individual in each region is designated as the Illicit Discharge Elimination Program (IDEP) Coordinator to ensure all reported ID/Cs are entered into the database for follow-up. In most regions, this person is also the Storm Water Coordinator.

Maintenance staff may encounter ID/Cs while performing routine activities such as ditch clean-outs, mowing, or picking up litter. If you suspect or encounter an ID/C, it is important to take action and follow BOHIM 2004-10, *Illicit Discharge Elimination Program Procedure*. The procedure is summarized below.

1. **OBSERVE & RECORD.** Maintenance crews encounter a suspected ID/C while working in the field. Examples of ID/Cs are unidentified pipes or flow entering a drainage structure or a ditch. Record basic information about the ID/C including location, characteristics (color, smell, texture), amount of flow, size of pipe, etc. If possible, take a photograph.
2. **EMERGENCY.** Determine if an emergency situation exists. If the situation appears to pose immediate danger to public health or the environment, contact the Pollution Emergency Alert System (PEAS) at 1-800-292-4706 or call 911 to notify MDEQ of the emergency. Then notify your supervisor, MDOT TSC Manager or Maintenance Coordinator (for contracted areas) and the region IDEP Coordinator.
3. **SOURCE.** If no emergency exists, attempt to determine the likely source of the discharge based on the surrounding land use and observable characteristics of the discharge and direction of the flow/pipe. Examples of nonemergency ID/Cs may include wash water from laundromats or floor drains.

# Maintenance Advisory

January 12, 2009

From Jon W. Reincke, Engineer of Operations

MDOT  
Division of Operations  
Maintenance  
6333 Old Lansing Road  
Lansing, MI 48917

For questions regarding  
this advisory, contact:

Corey Rogers, Engineer  
Emergency Support Unit  
Phone: 517-322-3320  
[RogersC@michigan.gov](mailto:RogersC@michigan.gov)

Judy Ruskowski,  
Operations  
Environmental Engineer  
Phone: 517-322-5698  
[RuskowskiJ@michigan.gov](mailto:RuskowskiJ@michigan.gov)



jwr:cr:jr

4. **REPORT.** If you are unable to identify the source in a reasonable amount of time, finish recording all observations about the discharge before continuing with maintenance in that area. Report this information to your region IDEP Coordinator, MDOT TSC Manager or Maintenance Coordinator so it can be entered into the IDEP database for tracking and follow up, if necessary.

5. **FOLLOW-UP.** The IDEP Coordinator will work with the Maintenance Area/TSC to identify the source and notify all appropriate agencies, following established procedures.

Remember, MDOT is required, as a condition of our storm water discharge permit, to document and follow up on all ID/Cs that we encounter or are made aware of on our right-of-way. Most ID/Cs to our storm water drainage system originate from outside our right-of-way. In this case, MDOT refers the situation to the local health department, MDEQ, or other regulatory agency. MDOT will then cooperate in any further investigation by these agencies where access to our right-of-way may be needed.

If you have any questions on how to report an illicit discharge or illicit connection, or if you would like to receive additional information on our permit requirements contact your region IDEP Coordinator.

Do not prohibit the following non storm-water discharges in accordance with Part I.A.6.b.3., unless the permittee identifies them as significant contributors of pollutants:

- Water line flushing and discharges of potable water sources
- Landscape irrigation runoff, lawn watering runoff, and irrigation waters
- Diverted stream flows and flows from riparian habitats and wetlands
- Rising groundwaters and springs
- Uncontaminated groundwater infiltration [as defined by 40 CFR 35.2005(20)]
- Pumped groundwaters (except for groundwater cleanups not specifically authorized by NPDES permits), foundation drains, water from crawlspace pumps; footing drains, and basement sump pumps
- Air conditioning condensates
- Waters from noncommercial car washing
- Residual street wash waters
- Discharges or flows from emergency fire fighting activities
- Dechlorinated swimming pool waters from single, two, or three family residences. Water from a swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to the surface waters of the state without specific NPDES permit authorization from the department.

# APPENDIX C

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## OFFICE MEMORANDUM

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**DATE:** May 20, 2009

**TO:** Region Engineers  
Region Delivery Engineers  
TSC Managers  
Resident/Project Engineers  
Region Construction Engineers

**FROM:** Gregory C. Johnson  
Chief Operations Officer

John C. Friend  
Engineer of Delivery

**SUBJECT:** Bureau of Highway Instructional Memorandum 2009-05  
Revisions to the 2006 Soil Erosion and Sedimentation Control Manual

The attached revision to MDOT's 2006 Soil Erosion and Sedimentation Control (SESC) Manual is a result of recent changes by the Michigan Department of Environmental Quality (MDEQ) to the soil erosion and sedimentation control (SESC) and storm water certification programs. MDEQ reviewed and approved this revision, as required to maintain MDOT's status as an authorized public agency. The 2005 Technical Skills Plan for the construction technician classifications is undergoing revision to reflect this change in certification requirements. This MDEQ certification change is effective **May 1, 2009**. Certifications under the old MDEQ programs are valid until one or the other expires.

In the past, MDEQ required that an individual complete a comprehensive two-day training course and pass an examination on the subject to be certified under the Part 91 SESC program. Individuals with responsibility for inspection of construction sites for compliance with the construction storm water runoff program had to complete additional training and maintain certification as a storm water operator under Part 31 National Pollution Discharge Elimination System (NPDES). The new certification program consists of a comprehensive SESC course and an SESC inspector course. The comprehensive SESC course retains all of the topics from the two-day training and adds some storm water concepts. The SESC inspector training combines the SESC and NPDES topics related to the inspection and documentation of soil erosion and storm water runoff conditions on a project. The result is a more focused certification approach whereby the information covered better matches an individual's SESC/NPDES program responsibilities.

MDOT identified specific positions, based on program responsibilities, across the department that will be required to obtain either the comprehensive or the inspector level of certification. Only those positions with direct responsibility for administering the SESC/NPDES program will be required to maintain comprehensive certification. Individuals with responsibility for

conducting and documenting site inspections will need only the inspector certification. On May 6, 2009, MDEQ approved revisions to Section 1.2 of the SESC Manual. These revisions reflect the new MDEQ certification requirements for individuals with responsibilities for SESC during the design, construction, and maintenance of the transportation system.

Regardless of the level, the MDEQ certifications are valid for five years. When an individual's certifications for either storm water or SESC come up for renewal, they should consult the SESC Manual and the Technical Skills Plan to determine the appropriate level of certification before arranging to complete the revised MDEQ coursework and take the required exam. At this time, MDEQ is not providing a classroom style course, offering instead a self-study course followed by a proctored exam that individuals must arrange to take at the MDEQ district offices. The Construction and Technology Division's (C&T) technical training staff will continue to coordinate the self-study and exams.

Questions regarding this SESC program change can be addressed to Judy Ruszkowski at 517-322-5698 or ruszkowskij@michigan.gov. Questions regarding the MDEQ examination schedules should be referred to Therese Beasley at beasleyt@michigan.gov or Terri LaVoy at lavoyt@michigan.gov in the C&T Region Services Unit. Refer to the attached MDEQ memo for additional details.

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Chief Operations Officer

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Engineer of Delivery

Attachments

BOHD:C/T:JR:kab

Index: Environment

cc:	C & T Division Staff	M. DeLong	B. Wieferrich
	J. Reincke	J. Culp	B. O'Brien
	P. Collins	C. Rademacher	P. Sebenick
	G. Moore	K. Reincke	D. Calabrese, FHWA
	ACEC	APAM	CRAM
	MAA	MCA	MCPA
	MITA	MML	R. Mikula, MDEQ

## Revisions Effective date May 6, 2009

**1.2.2 SESC (Part 91) Training** – Individuals responsible for administering and enforcing Part 91 through MDOT's SESC program will complete the MDEQ-sponsored Comprehensive SESC examination. These individuals may prepare to take the examination through either a self-study course using materials available from the MDEQ or by completing a training program offered by MDEQ. Refer to section 1.2.4 for additional information on recertification.

The SESC Staff Engineer will work with TSCs and Region offices and the Construction & Technology Technical Training Coordinator to ensure all appropriate MDOT staff successfully complete SESC (Part 91) training as required by MDEQ.

Administering and enforcing the MDOT program consists of quality assurance oversight; preparation of standards and specifications related to SESC; and preparing and reviewing construction and maintenance project plans involving earth change activities.

At a minimum, SESC program administrators within MDOT include the following positions:

- SESC Staff in C&T;
- Region Resource Analysts/Specialists
- Region Soils Engineers
- Development (design) Engineers;
- Delivery Engineers (construction project engineers) and their assistants;
- Senior Construction Technicians (senior inspectors)
- Maintenance Supervisors/Coordinators; and
- Aeronautics Project Managers.

The MDEQ-sponsored comprehensive SESC examination for program administrators covers of the following topics:

- Storm Water Runoff, Soil Erosion and Sedimentation: Processes and Impacts
- Controlling Runoff, Erosion, and Sedimentation on Construction Sites
- Vegetative Stabilization
- Plan Development, Information Sources, Plan Review and Inspections
- Laws, Rules and Inspections
- [SESC] Statute and Administrative Rules
- Soils and Runoff
- Revised Universal Soil Loss Equation (RUSLE)
- Sedimentation Basins
- Diversions

**Exception for Inspectors:** Individuals responsible only for conducting SESC inspections, including enforcing MDOT standards and specifications to ensure continued site compliance during earth change operations, will complete the MDEQ-sponsored SESC/CSWO Inspector exam. SESC Inspectors are responsible for ensuring that SESC measures are implemented and maintained according to the plans, procedures and specification requirements and that the prescribed measures are effective in minimizing soil erosion and preventing off-site sedimentation. SESC Inspectors may order a contractor or in-house staff to install or maintain any control measures identified in the plans or in established Performance Guides in the case of Maintenance operations. If the prescribed SESC measures included in the plans or performance

guides, are not effective, the SESC Inspector will seek the advice and assistance of an individual who has completed the comprehensive SESC exam.

At a minimum, SESC Inspectors include the following positions when an individual is designated as the inspector for earth change operations or when SESC inspection is part of work duties:

- Construction Technicians (journeyman level); and
- Transportation Maintenance Workers

The MDEQ-sponsored certification program for SESC inspectors consists of general instruction on sedimentation and erosion control issues including the following topics:

- Storm Water Runoff, Soil Erosion and Sedimentation: Processes and Impacts
- Controlling Runoff, Erosion, and Sedimentation on Construction Sites
- Vegetative Stabilization
- Plan Development, Information Sources, Plan Review and Inspections
- Laws, Rules and Inspections

**1.2.3 NPDES (Part 31 Storm Water) Training** – Effective May 1, 2009 the certified storm water operator training previously offered by the MDEQ is no longer provided as a separate training class. These individuals will instead complete the SESC/CSWO Inspector examination and will be qualified to perform both storm water and SESC inspections. Individuals responsible for conducting storm water inspections are required to inspect soil erosion and sedimentation control measures for compliance with the NPDES requirements. In addition, the storm water inspectors are responsible for ensuring that sediment and other pollutants and wastes originating from the site do not enter surface waters of the state.

In most cases, MDOT staff identified as SESC inspectors will conduct storm water inspections concurrently with SESC inspections for construction and maintenance operations. As the MDOT Storm Water Management Program expands, certain individuals may also be required to conduct inspections of structural, vegetative, and operational storm water best management practices not associated with active construction and maintenance operations.

**1.2.4 Recertification** - Certification under either the comprehensive SESC or the SESC/CSWO inspector program is valid for five years. Completing the recertification process, including passing the MDEQ exam for the level of recertification sought, is required for renewal.

**1.2.5 In-House Training** - Additional training related to environmental stewardship including erosion control and storm water management will be developed and conducted on an as-needed basis. This in-house training may be substituted as a refresher course for individuals who have previously completed the appropriate level of MDEQ-sponsored training and whose five-year certification must be renewed. Individuals taking the in-house training as a refresher course will be required to pass the MDEQ exam for the level of recertification sought.

**1.2.6 Earth Change Plan** - An earth change plan conforming to rule R323.1703 will be prepared by MDOT for projects and activities involving earth changes that are not covered by the approved procedures in this manual. The elements of this plan may be

incorporated throughout the MDOT contract documents or may be a stand-alone document for projects and activities that do not involve preparation of a full set of plans. At this time, the only exception to this requirement is ditch clean-out (Activity 12300) when this activity is conducted according to MDOT-approved work methods.

The Contractor is required to develop an earth change plan for earth change activity undertaken outside the limits of earth disturbance but within the right-of-way. The Engineer will review all earth change plans submitted by the Contractor to determine if all requirements of rule R323.1703 are addressed and that the plan is effective. This review and approval will be completed before the Contractor is allowed to begin any earth change activity in the area between the limits of earth disturbance and the right-of-way.

**NOTE:** *The Contractor is required to develop an earth change plan unless the only earth change activity undertaken outside the limits of earth disturbance is within the clearing limits as specified by subsection 201 of the standard specifications and as shown on the plans. However, adequate measures must be implemented and maintained to effectively prevent or reduce erosion and subsequent off-site sedimentation that may result from this activity.*



JENNIFER M. GRANHOLM  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

TO: Soil Erosion and Sedimentation Control Personnel

FROM: Dick Mikula, Field Operations Division, Water Bureau *Dick Mikula*

DATE: March 18, 2009

SUBJECT: Soil Erosion and Sedimentation Control (SESC) Training and Certified Storm Water Operator (CSWO) Training

Over the last several years, many of you have suggested that the Department of Environmental Quality (DEQ) should combine the SESC training and CSWO training and reduce the training requirements for those individuals that only conduct SESC inspections versus reviewing plans, issuing permits, and pursuing compliance and enforcement actions. The DEQ has responded to your suggestions and have made the following revisions to the current training requirements and existing training programs:

- 1) Individuals in SESC programs whose responsibilities are limited to only conducting site inspections no longer have to take the entire Comprehensive SESC training.
- 2) The certified storm water operator training previously offered by the DEQ is no longer provided as a separate training class.
- 3) An individual completing the new Inspector training course will be qualified to perform both storm water and SESC inspections.

When determining whether you or a member of your staff should complete the Comprehensive SESC training or only the new Inspector training course, please be aware that the duties of an SESC inspector are very limited. *An SESC inspector is limited to ensuring that SESC measures are implemented and maintained per plan, procedure, and specification requirements and that the prescribed measures are effective in minimizing soil erosion and preventing off-site sedimentation. The SESC inspector may order the contractor or owner to install or maintain any control measures that were identified on the approved SESC plan. However, if the prescribed measures are not effective, the SESC inspector cannot order or suggest other measures that are not indicated on the plan; he/she must seek assistance from the person responsible for developing or approving the plan or someone that has completed the Comprehensive SESC training.*

The DEQ is in the process of developing a new training manual that will cover the information required to complete both the Inspector training and the Comprehensive SESC training requirements. However, at this time, only Units 1-5 of the manual are complete; those are the Units necessary to complete the Inspector training. The new manual will be available on the Web site by April 1, 2009. Those individuals required to complete the Comprehensive SESC training will continue to use the *SESC Training Manual* that is currently being used for the SESC training. That manual is also on the

SESC Web site. The SESC Web site can be accessed by going to [www.michigan.gov/deqwb](http://www.michigan.gov/deqwb) and clicking on "Soil Erosion and Sedimentation Control."

Individuals who are required to take the Comprehensive SESC training are not required to take the Inspector training prior to taking the Comprehensive training. The *SESC Training Manual* includes the information covered in the Inspector training.

The Inspector training exam and Comprehensive SESC exam will be given at the same time at any exam location identified on the SESC Web site after **May 1, 2009**. The appropriate exam will be given to you when you arrive at the exam location.

**Note:** *Exams scheduled for March and April on the SESC Web site will continue to be separate for the certified storm water operator exams and the Comprehensive SESC exam.*

Effective May 1, 2009, the only "training" option available for either the Inspector training or the Comprehensive SESC training is a **self-study** course. You are required to study the appropriate manual on your own and then take the exam at one of the DEQ district offices. There is no fee to take either exam. However, individuals who must retake an exam because they failed the first exam will be charged \$50.

The Inspector training course is designed for SESC and CSWO inspectors. It includes information from the old *Construction Site Storm Water Certified Operator Training Manual* in addition to basic SESC information presented in the *SESC Training Manual*. The Inspector training exam will cover Units 1-5 of the new manual entitled *Construction Storm Water & Soil Erosion and Sedimentation Control Inspector Training Manual*; that manual will be available on the SESC Web site by April 1, 2009.

As indicated above, individuals required to complete the Comprehensive SESC training will continue to use the old *SESC Training Manual* (revised November 2007) which is also posted on the SESC Web site. The exam will cover the entire manual (Units 1-12).

Registration information and available exam locations and dates will be posted on the SESC Web site by March 25, 2009. To register to take the exam for the first time, contact the DEQ staff in the district office where you wish to take the exam. If it is necessary to retake an exam, you will be notified by the Lansing Central office. Registering for the **retake exams** will require submitting the registration form and fee to the Cashier's office at the address indicated on the form.

By the end of this year or early next year, the DEQ expects to offer an optional overview class as part of the Inspector training and an optional one-day class as part of the Comprehensive SESC training. A fee will be charged for attending the training sessions. When those classes become available, information will be posted on the Web site.