

1. OVERVIEW OF THE STORM WATER MANAGEMENT PLAN

1.1. PURPOSE

The mission of the Michigan Department of Transportation (MDOT) is to "Provide the highest quality integrated transportation services for economic benefit and improved quality of life." This mission involves planning, designing, constructing, and maintaining large-scale transportation facilities (e.g. freeways, highways, interchanges, bridges, and tunnels). MDOT has the responsibility to accomplish this mission in compliance with public policy and applicable regulations.

A National Pollutant Discharge Elimination System (NPDES) Permit (No. MI0057364, hereinafter referred to as the Permit) issued by Michigan Department of Environmental Quality (MDEQ) to the Department for MDOT operated separate storm water drainage systems throughout the State of Michigan took effect on April 1, 2004. The statewide permit supersedes individual storm water permits in the City of Ann Arbor (Permit No. MI0053911), the City of Grand Rapids (Permit No. MI0053937), the City of Flint (Permit No. MI0053929), the City of Warren (Permit No. MI0053945) and the general permit for the City of Livonia (Certificate of Coverage No. MIG610043). The Permit will expire on April 1, 2009 and is expected to be reissued in five year cycles thereafter. A copy of the current Permit is included in Appendix A.

The Permit directs MDOT to develop and implement a comprehensive storm water management program 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. This Storm Water Management Plan (SWMP) establishes the foundation on which MDOT will continue to build as best management practices are identified and implemented. The Department will assess and report annually on the effectiveness of the program activities, recommend enhancements to the program and implement changes as necessary to ensure continued permit compliance.

All Permit-related correspondence from the MDEQ is to be directed to the MDOT Storm Water Program Manager. The Region Storm Water Coordinator for the region in which the correspondence applies must be copied. The MDOT Storm Water Program Manager will ensure that other interested parties within MDOT are copied with pertinent information. In the same fashion, correspondence related to the Permit from the Region Storm Water Coordinators will be directed to the MDEQ District contact person as noted in the Permit with a copy sent to the MDOT Storm Water Program Manager. Under no circumstance should correspondence pertaining to the Permit be sent directly to a contractor, contract agency or consultant working for MDOT in any capacity related to the Permit.

1.2. SCOPE

This SWMP describes the procedures and practices MDOT currently uses throughout the planning, design, construction, operation and maintenance of the transportation infrastructure to limit the discharge of pollutants from its storm drainage systems. It also documents the commitment by MDOT to develop and implement additional storm water management

procedures and practices. Newly developed procedures to comply with each of the six minimum measures stated in the Permit (hereinafter referred to as measures) will be reviewed with MDEQ as part of the annual reporting process.

- Education and outreach on storm water impacts- public education program (PEP)
- Public involvement/participation
- Illicit discharge elimination program (IDEP)
- Post construction storm water management program for new development and redevelopment projects
- Construction storm water runoff control
- Pollution prevention/good housekeeping for MDOT operations

This plan presents a discussion of each of these measures supported by multiple activities currently taking place or to be implemented during the initial five - year permit cycle. Due to the similarities in application of the first two measures, they are combined under a single Public Education, Outreach and Participation discussion. As part of MDOT's permit application, a Task Matrix (Appendix B) was submitted to MDEQ summarizing activities/tasks conducted under Phase I of the Storm Water Management Program. These activities/tasks will continue and are therefore incorporated into the activities discussed in this SWMP. Each SWMP activity is defined by the overall objective, specific actions, timeframe for implementation and the expected measurable goals. Some activities are tailored to meet the requirements of a single plan element while others play a role in multiple plan elements.

Implicit in the discussion of each element of this plan is an administrative activity to assess the plan and submit annual progress reports to MDOT management and to MDEQ on the status of SWMP implementation. In years one (2004) and two (2005) of this permit cycle, this activity will focus on identifying and streamlining the data collection mechanisms required to fully implement the SWMP. As part of the assessment, MDOT will review the status of the SWMP and assure that Permit requirements are met. Success in achieving interim milestones and measurable goals for the various plan elements and/or specific Best Management Practices (BMP) will be reviewed and updated.

1.2.1. Public Education, Outreach, and Participation (refer to Section 3.1)

Education/Outreach activities focus on educating the job-related and traveling public on storm water-related issues such as watershed stewardship, pollution prevention measures, and illicit discharge reporting. The information is dispersed through educational materials including newsletter articles, the MDOT employee intranet, the MDOT public Web site and the MDOT library.

Like Education/Outreach activities, training activities strive to educate through active participation. They consist of formal and informal training sessions presented to the job-related public. These training sessions are currently being conducted with the support of individual storm water management training modules. The training modules and overall education, outreach, and participation plan element will be updated or expanded, as appropriate.

1.2.2. Illicit Discharge Elimination (refer to Section 3.2)

IDEP element activities address actions including mapping, screening and investigating MDOT's priority outfalls or point source discharges within urbanized areas of Michigan. The term 'outfall' is synonymous with the term 'point source discharge' (PSD) and will be used throughout the remainder of this SWMP. Activities in support of this plan element include priority screening and investigations at those locations where MDOT roadways cross impaired water bodies as required by the Permit.

1.2.3. Post Construction Storm Water Management for New Development and Redevelopment Projects (refer to Section 3.3)

Activities in support of this plan element begin far in advance of actual projects with the careful consideration of new sources of storm water entering the MDOT drainage system; coordination with Municipal Planning Organizations (MPO) that have Storm Water Quality Control Programs; and cooperation with MDEQ to address storm water issues.

1.2.4. Construction Storm Water Runoff Control (refer to Section 3.4)

This plan element is fully implemented for MDOT's transportation related construction and reconstruction projects and earth disturbing maintenance activities as documented by the Drainage Design and Storm Water Management Manual and the Soil Erosion and Sedimentation Control Manual. Activities in support of this plan element will include maximizing opportunities to enhance the current BMPs.

While the primary focus of this plan element currently is preventing or reducing soil erosion, MDOT is actively working on other construction and maintenance related sources of storm water pollutants. Efforts include proper collection and disposal of construction byproducts such as concrete and hot mix asphalt grinding residue; contaminated soils and groundwater encountered during construction; and equipment maintenance wastes. As these efforts evolve, they are addressed by project special provisions and revisions to the appropriate related MDOT documents.

1.2.5. Pollution Prevention/Good Housekeeping for MDOT (refer to Section 3.5)

Activities in support of this plan element focus primarily on enhancing current activities with the ultimate goal of preventing or reducing pollutant runoff from MDOT operations and properties. Many of these management practices have been in place at MDOT for many years and are described in facility Pollution Incident Prevention Plans (PIPP), procedures manuals, and guides maintained by the Maintenance Support Area and the Construction & Technology Support Area.

1.3. MDOT FACILITIES AND SEPARATE STORM WATER SYSTEMS

MDOT is the sole operator of its storm water drainage system. MDOT contracts out many routine road and right-of-way maintenance operations to County Road Commissions and local municipalities.

Information is currently available for all work done by MDOT forces and work performed by a contractor or vendor. MDOT will explore available options for collecting specific information related to storm water management from the counties, and municipalities with which MDOT contracts for construction or maintenance services.

MDOT's facilities are located in diverse settings, ranging from highly urbanized to very rural, including Great Lakes coastal areas, forests and farmland. Across the state of Michigan, MDOT operates and maintains approximately 9,700 miles of state trunkline; 7 region offices; 83 rest areas; 90 roadside parks; 26 transportation service centers; and 28 maintenance facilities, some of which house special crews and repair facilities in support of maintenance operations. Drainage systems that serve MDOT properties and facilities ultimately discharge storm water and permitted or exempt non-storm water to waters of the state. The seven MDOT Regions and the urbanized areas within each Region are shown in Figure 1-1. MDOT-owned or operated facilities addressed by this SWMP are identified in the region-specific chapters.

To protect public safety and prevent property damage, MDOT designs and operates its storm water drainage systems to prevent standing water on traveled areas. Highways in urban settings typically have curbs and gutters that direct storm water runoff to enclosed drainage systems, whereas storm water from rural freeways and highways typically flow to drainage ditches and swales.

Where storm water runoff drains from off-site areas onto MDOT's right-of-way or MDOT facility sites, the MDOT-operated drainage systems are designed to convey this additional storm water. In urban areas, some drainage systems outlet directly to receiving waters, while others discharge to municipal storm drainage systems. In many locations, waters of the state pass through or under MDOT property or facilities. These waters may contain pollutants at the point at which they enter MDOT property or facilities. In these circumstances, MDOT is not responsible for pollutants that enter onto MDOT's properties.

1.4. MDOT STAFF RESPONSIBILITIES FOR STORM WATER MANAGEMENT

This SWMP describes specific actions MDOT will take to ensure compliance with storm water NPDES permit requirements. The overall goal of the storm water management program at MDOT is to ensure that pollutants in discharges from municipal separate storm sewer systems owned or operated by the Department are reduced to the MEP. Responsibility for meeting this overall goal rests with the MDOT Environmental Committee.

The Environmental Committee is MDOT's principal body approving statewide guidance on environmental issues, actions and related matters. The Environmental Committee's mission is to ensure that MDOT complies with environmental laws in a focused, effective fashion and to foster an environmental ethic throughout the Department. As necessary, the Environmental Committee will take policy and technical issues impacting transportation engineering to the MDOT Engineering Operations Committee for discussion and action. Environmental technical teams have been established, by focus area, to provide environmental analysis and to recommend a course of action for Environmental Committee consideration. The Municipal Separate Storm Sewer System Team (MS4 Team), chaired by the Operations Environmental Stewardship Engineer, is one such technical team. The Operations Environmental Stewardship Engineer functions as the Department's environmental advocate for all highway operations, is a member of the Environmental Committee, and is the liaison between all environmental technical teams and Environmental Committee. Additionally, the Operations Environmental Stewardship Engineer is the project manager for the storm water management program.

The MS4 Team will provide continuing oversight for the storm water program and will participate in the annual analysis of program effectiveness and continued enhancement to the program. The MS4 Team consists of members from MDOT regions and central office representing all major operational and planning groups within the Department. This team provides technical input for MDOT storm water management issues, while the Region Storm Water Coordinators serve as educators and resources to their region. MS4 Team makeup is shown in Table 1-1 and the current membership is posted on the MDOT Storm Water Management Web site.

Table 1-1: MDOT MS4 Team Representation

Title or Position	Section or Unit	Organization
Storm Water Program Manager	Highways-Delivery	Bureau of Operations
Environmental Policy Coordinator	Policy	Bureau of Planning
Environmental Clearance (Aquatics)	Environmental Section	Bureau of Planning
Drainage Design Specialist	Design	Operations, Development
Grading and Drainage Engineer	Construction & Technology	Operations, Delivery
Maintenance	Maintenance	Operations, Delivery
Real Estate Permit Coordinator	Real Estate	Operations, Development
Storm Water Coordinator	- - -	Representing Each Region

1.5. LEGAL AUTHORITY

MDOT derives its legal authority to regulate and/or prohibit direct discharges from Michigan statute MCL 247.651; MSA 9.1097(1). Penalties MDOT may invoke are stated in Section 2, Section 4, and Section 9 of Michigan statute MCL 247.172.

MDOT's legal authority extends only to the limits of the right-of-way (ROW) owned or controlled by MDOT. Section 9.13 of the Construction Permit Manual, *Illicit Discharges into MDOT Storm Water Drainage Systems*, relies on PA 368 of 1925, Highway Obstructions and Encroachments, for the legal authority to remove illicit connections and discharges within the MDOT ROW. MDOT will refer to local and state agencies, which have legal enforcement authority to eliminate illicit discharges outside of the MDOT ROW if necessary. Refer to Section 3.3 of this document for a description of MDOT's illicit discharge reporting and notification procedure.

Section 14.01 of the Construction Permit Manual, *Drainage Design For Accessing State Trunklines*, provides the basis for controlling connections to the MDOT storm sewer system. In order for a landowner to receive a permit to tap into the MDOT storm sewer system, they must certify that:

- The proposed outlet control from the proposed drainage system is discharged at a flow rate equal to or less than the existing flow rate conditions into the MDOT storm water conveyance system;
- The velocity of the discharge is properly dissipated;
- There exists sufficient storage on the permit applicant's property for all the range of flows required to be analyzed, so that no harmful interference to MDOT ROW or

adjacent properties will be caused as a result of utilizing the proposed storm water conveyance system; and

- The design includes any control measures necessary to prevent discharge to MDOT's storm water system of any substances that are not allowed in the system under MDOT's NPDES permit.

1.6. RELATED MDOT DOCUMENTS

An important function of the SWMP and MDOT's overall Storm Water Management Program is to ensure that those who direct and perform activities that may affect the quality of storm water system discharges are aware of their respective roles and responsibilities. Detailed guidance and requirements needed by personnel whose daily activities may have an impact on storm water quality are found in a variety of other MDOT documents. If information, direction or procedures related to storm water management contained in these related documents is less restrictive than the Permit, then the requirements of the Permit will prevail.

Due to the volume of information necessary for MDOT to carry out its mission and the need to stay current with changing laws, rules and engineering technology, no attempt is made to reproduce all related MDOT documents in this manual. Where reference is made to related MDOT procedures and publications, the portion of those documents that address storm water management are considered to be included as if they were repeated here in their totality. Where practical, cross references are specifically listed in this plan.

MDOT will arrange for each MDEQ District office to receive copies of each of the referenced documents that are available to the public and for the district offices to be placed on the distribution list for all revisions and updates to these documents. Copies of related internal guidance documents (not available for public purchase) are included in the appendices of this plan or will be provided upon request.

At a minimum, the following MDOT documents contain specifications, standards and/or practices related to the storm water management program and are referenced herein.

MDOT Standard Specifications for Construction - Contains the current written directions, provisions & requirements pertaining to performance of work on MDOT projects. It is the base document controlling a project. The standard specifications may be modified by supplemental specifications and special provisions contained in the contract documents. The following parts of the standard specifications for construction address issues that may be related to storm water management.

- Section 103 Scope of the Work
- Section 107 Legal Relations and Responsibilities to the Public
- Section 208 Soil Erosion and Sedimentation Control
- Section 209 Project Cleanup
- Division 4 Drainage Features
- Section 813 Slope Protection
- Section 816 Turf Establishment
- Section 916 Erosion Control Materials

- Section 917 Turf and Landscape Materials

Road Design Manual - Provides criteria for the design of roads and for the preparation of road plans.

- Subsection 202.03.F Erosion Control
- Chapter 4 Drainage
- Subsection 5.08 Types of ROW easements for Conveyance for Drainage
- Subsection 10.04 [Environmental] Design Considerations

Drainage Design and Stormwater Management Manual - Gives the design engineer a basic working knowledge of hydrology, hydraulics and storm water management. The manual addresses storm water quantity as well as quality. While this entire manual is germane to the issue of stormwater management, the following chapters have direct relationship to the department's storm water management program.

- Chapter 7 Road Storm Drainage Systems
- Chapter 8 Stormwater Storage Facilities
- Chapter 9 Stormwater Best Management Practices

Soil Erosion and Sedimentation Control Manual - Includes the procedures for establishing soil erosion and sedimentation controls for earth changing activities regulated under Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended, (NREPA) and Part 91, Soil Erosion and Sedimentation Control, of NREPA resulting from the construction and operation of the state transportation system. MDOT is committed to the careful consideration of these procedures during the planning, design and completion of all activities that involve earth change activities.

The SESC program is directly related to the MDOT Storm Water Management Program as one of the minimum measures required for compliance with the statewide permit issued to MDOT under Part 31 of NREPA, and Part 41, Sewer and Wastewater Systems, of NREPA. Section 3.5 of this Storm Water Management Plan contains a discussion of the SESC program in the context of storm water control to prevent or minimize sediment load to the waters of the state during the construction and operation of MDOT facilities.

Construction Manual - Guidance manual detailing the authority and responsibility for project administration. The manual provides instructions on project management, construction surveying, construction inspection and materials sampling.

- Section 208 Soil Erosion and Sedimentation Control
- Section 402 Storm Sewers

Construction Permit Manual - Guidance manual containing the procedures for administering the permit process for public utility or private party work on, or use of, the trunkline right-of-way within the provisions of federal and state laws. Section 9.13 addresses the procedure for identifying and removing an illicit discharge/connection from the state right-of-way. Section 14.01 addresses tap-in/discharge permit requirements and MDOT's legal obligation to address quantity and quality of storm water runoff according to Administrative Rules Regulating

Driveways, Banners and Parades on or Over Highways, Public Act 200 of 1969, and the Clean Water Act and Part 31 of NREPA, respectively.

- Section 9.13 Illicit Discharges into MDOT Storm Water Drainage Systems
- Section 14.01 Drainage Design For Accessing State Trunklines

Maintenance Performance Guides - Describes the equipment, materials and recommended work methods for various maintenance activities. Representative samples of maintenance performance guides for activities that may impact the storm water management program include:

- 12200 Catch Basin Cleanout
- 12300 Ditch Cleanout
- 12400 Litter Pickup
- 13600 Curb Sweeping
- 14100 Winter Maintenance

Pollution Incident Prevention Plan (PIPP) - Provides a plan for maintenance facility staff to follow regarding pollution incident prevention measures and emergency spill procedures. Each plan is specific to a given facility, addressing the potentially polluting materials and activities at the facility. Representative examples of PIPPs prepared for a MDOT facility and by one of the counties under contract to provide maintenance services for the department are included in Appendix C.

Bridge Design Manual - Provides criteria for the design of bridges and the preparation of bridge plans.

Bridge Design Guides - Standard drawings related to bridge design to be included in plans.

Supplemental Specifications - Detailed specifications that add to or supersede the standard specifications. Current supplemental specifications can be viewed on the MDOT public web site by selecting <Maps & Publications> <Publications> <Plans and Specifications> <Design SS/SP>.

Special Provisions - Revisions and additions to the standard and supplemental specifications applicable to an individual project. Frequently Used Special Provisions can be viewed on the MDOT public Web site (<http://www.michigan.gov/mdot/>) by selecting <Maps & Publications> <Publications> <Plans and Specifications> <Design SS/SP>.

With the exception of the Maintenance Performance Guides, Construction Permit Manual, Supplemental Specifications, Special Provisions, and Pollution Incident Prevention Plans these documents are available for purchase from the MDOT Publications Office and most can be viewed, downloaded or printed from the MDOT Web site. These documents are updated annually or as new standards and procedures are developed.

Publications Office
517-322-1676
email: MDOT-Publications@michigan.gov

Storm Water Management Web Site
<http://www.michigan.gov/stormwatermgmt>

1.7. EMERGENCY RESPONSE AND DISCHARGE NOTIFICATION

1.7.1 Storm Water Quality Issues -

Designated Uses – Waters of the state are protected for certain designated uses as set forth in Part 31 of NREPA. Specifically, R323.1100 of the Michigan Administrative Code states that all surface water bodies shall be protected for the following minimum designated uses:

- Agriculture
- Navigation
- Industrial water supply
- Public water supply at the point of intake
- Warm water fishery
- Other indigenous aquatic life and wildlife
- Partial body contact recreation
- Total body contact recreation between May 1 and October 31

Certain waterways are additionally designated and, therefore, protected for use as a cold-water fishery.

Impaired Uses - Impaired uses occur where water bodies are not meeting state water quality standards. These water bodies are considered to have non-attainment status and are listed in the state of Michigan's 303(d) list prepared under the federal Clean Water Act. Refer to the MDEQ Web site for Michigan's list of impaired water bodies. State and federal law require the development of Total Maximum Daily Load (TMDL) allocations for 303(d)-listed water bodies. Development of a TMDL by MDEQ requires that a plan be developed to mitigate the source of specific pollutants which causes the listing and non-attainment of water quality standards.

1.7.2 Notification Requirements - In accordance with Part 31 of NREPA, MDOT will notify MDEQ, verbally through the MDOT Region Storm Water Coordinator, within 24 hours of becoming aware of any discharges to the drainage system that MDOT suspects may endanger health or the environment. MDOT will make every attempt to notify a live person at the applicable MDEQ District Office including pressing '0' for the MDEQ operator.

Notification must include (if known) the name of the regulated discharger, location of the discharge into the storm water drainage system and location of the outfall from that portion of the system, nature of the discharge and pollutants, and clean-up and recovery measures taken or planned. If the notice is provided outside of regular working hours, MDOT will call the MDEQ 24-hour Pollution Emergency Alerting System (PEAS) at 1-800-292-4706. A discharge that does not pose imminent danger to health or the environment shall be reported by MDOT, either verbally or in writing, within five days of the time that MDOT becomes aware of it.

1.8. APPENDICES

Appendix A. MDEQ NPDES Permit No. MI0057364

Appendix B. Task Matrix

Summarizes the tasks and activities that were conducted under Phase I. It also summarizes the responsible party for certain tasks.

Appendix C. Sample PIPP for MDOT and Contract County Facility

Provides examples of current plans.

Appendix D. MDOT Best Management Practices

Contains a list of MDOT's approved BMPs.

Appendix E. Statewide Watershed and Local Stream Organizations

Contains a list of environmental and watershed organizations from whom input will be sought on the SWMP.

Appendix F. Public Comments and MDOT Responses on SWMP

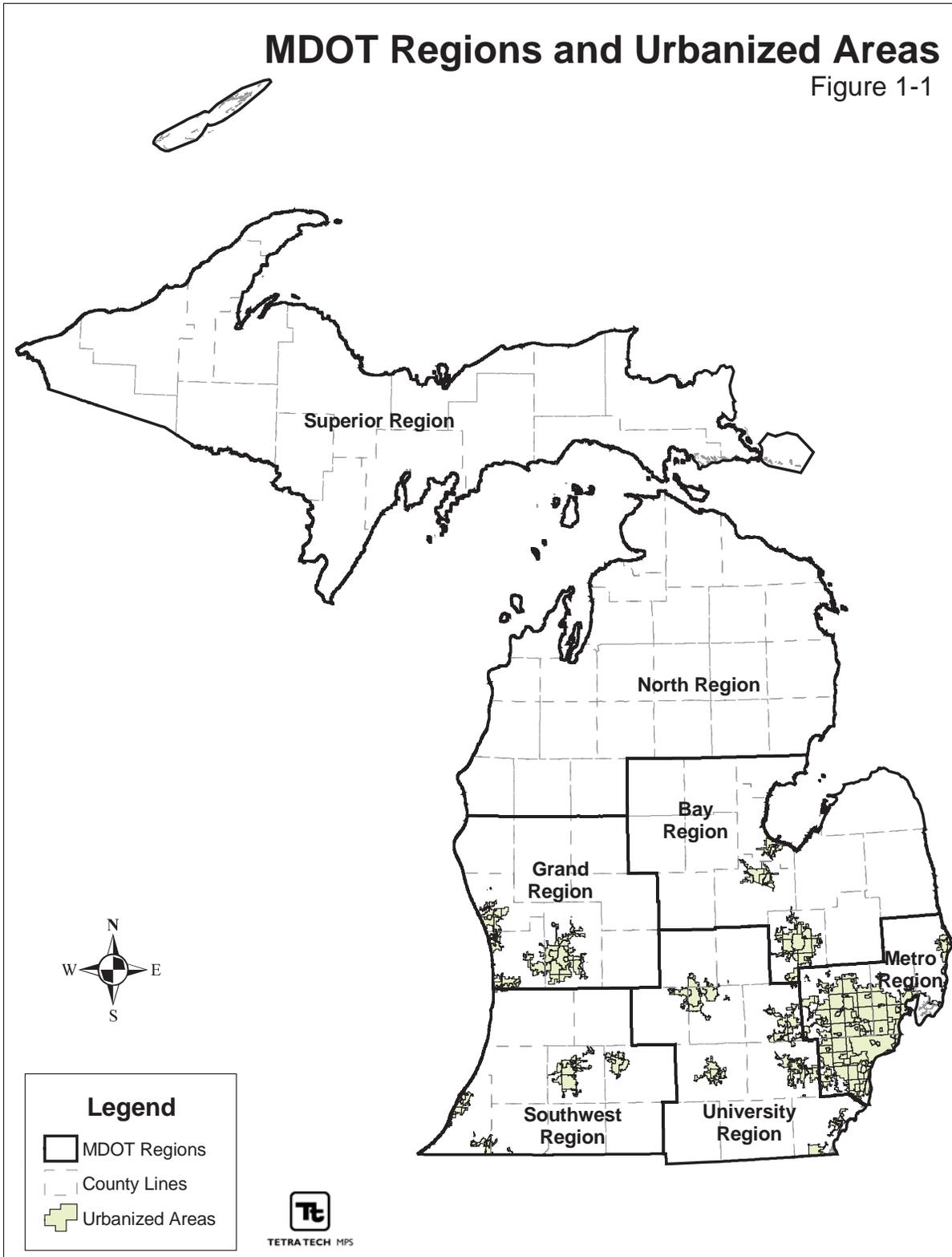
Summarizes comments received and responses to these comments.

Appendix G. Illicit Discharge Elimination Program (IDEP) Protocol Manual

Defines the procedures for conducting fieldwork, pollutant thresholds, and sampling procedures under the IDEP.

MDOT Regions and Urbanized Areas

Figure 1-1



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