



**Michigan Department of Transportation**  
**Illicit Discharge Elimination Program**  
**Fieldwork Plan**  
**For Permit Year 1**

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## INTRODUCTION

The Michigan Department of Transportation (MDOT) acquired a statewide Phase II Storm Water Permit (Permit# MI0057364) from the Michigan Department of Environmental Quality (MDEQ) to authorize the discharge of storm water under the National Pollutant Discharge Elimination System (NPDES) program. As a requirement of the statewide Phase II permit, MDOT is required to develop and implement an Illicit Discharge Elimination Program (IDEP).

**The purpose of this report is to document how the fieldwork portion of the IDEP requirements will be performed in order to allow the fieldwork to begin as soon as possible. A complete IDEP plan will be prepared for submittal as a part of the Storm Water Management Plan as required by the permit.**

## IDENTIFYING AND MAPPING OUTFALLS

MDOT has mapped the location of state roads crossing the 2002 305(b) water bodies within the urbanized areas of the State of Michigan (as per the 2000 census maps shown in Appendix A). These locations, with the exception of crossings impaired by PCBs or mercury, are the priority locations for Point Source Discharge (PSD) investigations. As IDEP investigations occur, the location of specific PSDs will be identified at each of these crossings. Additionally, other MDOT storm water PSDs located at road crossings but not discharging to impaired water bodies will be located. A list of the MDOT road crossings identified in the urbanized areas along with an investigation schedule is located in **Table 1**.

Maps will be produced using GIS to spatially identify the location of the PSDs at these road crossings within the urbanized areas. The maps will provide the PSD identification number and the latitude and longitude coordinates. The production of these maps will be spaced out over the duration of the investigations. New maps will be provided to the MDEQ each year with the annual report beginning in 2005. Outfalls at the road crossings identified above will be reported by the termination of this permit cycle.

**Table 1**  
**305(b) Listed Water Impairments and**  
**MDOT Road Intersections within Urbanized Areas**

<u>MDOT Region</u>	<u>Urbanized Area</u>	<u>MDOT Roads and Impaired Waterbodies</u>	<u>MDOT Roads and Waterbodies with no Impairments</u>	<u>MDOT Roads and Waterbodies with only PCB or Mercury Impairments</u>	<u>Investigation Schedule</u>
<b>Bay</b>	<u>Flint</u>	<u>0</u>	<u>56</u>	<u>2</u>	<u>Year 1</u>
	<u>Bay City</u>	<u>3</u>	<u>20</u>	<u>2</u>	<u>Year 1-2</u>
	<u>Saginaw</u>	<u>4</u>	<u>31</u>	<u>0</u>	<u>Year 2-3</u>
	<u>Port Huron</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>Year 2-3</u>
	<b><u>Subtotal</u></b>	<b><u>7</u></b>	<b><u>107</u></b>	<b><u>4</u></b>	<b><u>Years 1-3</u></b>
<b>Grand</b>	<u>Grand Rapids</u>	<u>10</u>	<u>62</u>	<u>6</u>	<u>Year 2-3</u>
	<u>Holland</u>	<u>11</u>	<u>0</u>	<u>0</u>	<u>Year 3-4</u>
	<u>Muskegon</u>	<u>6</u>	<u>18</u>	<u>3</u>	<u>Year 4-5</u>
	<b><u>Subtotal</u></b>	<b><u>27</u></b>	<b><u>80</u></b>	<b><u>9</u></b>	<b><u>Years 2-5</u></b>
<b>Metro</b>	<u>Ann Arbor</u>	<u>0</u>	<u>7</u>	<u>1</u>	<u>Year 2-3</u>
	<u>Port Huron</u>	<u>1</u>	<u>36</u>	<u>1</u>	<u>Year 2-3</u>
	<u>Detroit</u>	<u>54</u>	<u>241</u>	<u>0</u>	<u>Year 1-5</u>
	<b><u>Subtotal</u></b>	<b><u>55</u></b>	<b><u>309</u></b>	<b><u>2</u></b>	<b><u>Years 1-5</u></b>
<b>Southwest</b>	<u>Benton Harbor</u>	<u>6</u>	<u>19</u>	<u>0</u>	<u>Year 3-4</u>
	<u>Holland</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>Year 3-4</u>
	<u>Kalamazoo</u>	<u>3</u>	<u>16</u>	<u>4</u>	<u>Year 2-3</u>
	<u>Battle Creek</u>	<u>1</u>	<u>16</u>	<u>3</u>	<u>Year 2</u>
	<u>Michigan City</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>--</u>
	<u>Elkhart</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>--</u>
	<u>South Bend</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>Year 4-5</u>
	<b><u>Subtotal</u></b>	<b><u>14</u></b>	<b><u>55</u></b>	<b><u>8</u></b>	<b><u>Years 2-5</u></b>
<b>University</b>	<u>Lansing</u>	<u>11</u>	<u>19</u>	<u>2</u>	<u>Year 1-3</u>
	<u>Ann Arbor</u>	<u>7</u>	<u>28</u>	<u>0</u>	<u>Year 2-3</u>
	<u>Jackson</u>	<u>1</u>	<u>17</u>	<u>3</u>	<u>Year 1-2</u>
	<u>Monroe</u>	<u>4</u>	<u>37</u>	<u>3</u>	<u>Year 2-3</u>
	<u>Toledo</u>	<u>0</u>	<u>9</u>	<u>0</u>	<u>--</u>
	<u>Detroit</u>	<u>0</u>	<u>8</u>	<u>0</u>	<u>--</u>
	<u>South Lyon-Howell-</u> <u>Brighton</u>	<u>2</u>	<u>18</u>	<u>0</u>	<u>Year 2-3</u>
	<b><u>Subtotal</u></b>	<b><u>25</u></b>	<b><u>136</u></b>	<b><u>8</u></b>	<b><u>Years 1-3</u></b>
<b><u>Grand Total</u></b>		<b><u>128</u></b>	<b><u>687</u></b>	<b><u>31</u></b>	

## **PSD INVESTIGATIONS**

One of the primary actions under the IDEP is to identify and remove illicit discharges and connections from the state highway storm sewer system within the 2000 Census urbanized area. The MDOT road and waterbody crossings are identified on maps for planning purposes, and the PSDs will be located in the field as part of this project. The preliminary waterbody crossing maps are located in Appendix A. The PSDs at stream crossings over waters of the state within the 2000 Census urbanized area were prioritized to determine which PSDs should be investigated during this permit cycle. First priority investigations will be for those PSDs discharging to waters of the State listed on Michigan's most current Section 305(b) listing of water bodies impaired by untreated sewage, bacteria, pathogens, nutrient enrichment, nuisance plant growth, nuisance algal growth, low dissolved oxygen, sediments, oil or grease, fish kills, and fish or macroinvertebrate communities rated poor.

The initial focus of this program will be to visit each road crossing and locate the PSD. Each PSD will be given a PSD identification number and spatially referenced using a GPS. Once the PSDs are located at a crossing, each PSD will be inventoried and observed for the presence of dry weather flow.

An outfall inventory will record the outfall ID, the physical location, and the physical characteristics of the outfall. Each outfall will also be observed to document general information, flow measurements, visual and odor observations, and, if dry weather flow occurs, obtain a water sample. The basic analytical tests performed will detect the quantity and presence of surfactants, ammonia, fluoride, hardness, and E. coli. Additional analytical tests may be added if specific sources need to be targeted. The data will be recorded in a database. Additional detail is provided in MDOT's IDEP Protocol Manual located in Appendix B.

The results of the water quality tests and observations noted in the drainage system screening will be used to determine if potential problems exist at each outfall. Outfalls with potential illicit

connections and/or discharges will be selected for follow up investigations based on visual observations and chemical test results.

Follow up investigations will involve additional screening and sampling of the outfall. In addition, strategic manholes within the system connected to that outfall could be inventoried, inspected, and sampled using the same procedures. This process will allow the pollutant stream to be traced throughout the system until the source is isolated within a relatively short reach of the sewer. Televising the sewer may be used to further isolate the pollutant source. MDOT will utilize its IDEP removal process, Section 9.13 of the Construction Permit Manual, located in Appendix C for completing this work.

MDOT has hired a project contractor to conduct the field investigations for investigating and compiling data for the urbanized area road crossings. The contractor will train its staff based on MDOT's IDEP Protocol Manual. MDOT will provide project oversight and conduct enforcement actions, as appropriate, if illicit connections are found.

## **LEGAL AUTHORITY**

The MDOT process for removal of illicit connections and discharges is addressed in Section 9.13, located in Appendix C. Section 9.13 uses 1925 PA 368, Highway Obstructions and Encroachments, as the legal authority to remove illicit connections and discharges within MDOT rights-of-way (ROW). Connections or discharges outside of the MDOT ROW are referred to the local municipality, health department, or the MDEQ for enforcement, if voluntary removal cannot be obtained. This section sets a standard for MDOT to assure that employees and contractors follow the same procedure when a potential illicit discharge or connection is discovered. MDOT employees were notified of the general procedure in the Bureau of Highway Instructional Memorandum 2004-10- Illicit Discharge Elimination Program Procedure located in Appendix D.

Sections 14.01 of the Construction Permit Manual are used to control 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 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."*

A copy of Section 14.01 of the Construction Permit Manual is provided in Appendix E.

## **PROGRAM SCHEDULE**

Activities to be started in the first year include:

1. Begin initial inventory and screening of 305(b) waterbodies at road crossings to find and screen known PSDs in the Bay, Metro, and University Regions for the 2000 census urbanized area.
2. Begin initial non-305(b) PSD mapping in Bay, Metro, and University Regions for the 2000 census urbanized area.
3. Begin follow-up inspections when potential problems are found.
4. Provide schedule for providing maps showing the location of known PSDs and PSDs at roadway crossings over defined waters of the state within 2000 Census urbanized area.
5. Prepare Annual Report.

A schedule of activities beyond the first year will be provided in the Storm Water Management Plan.

