Phase II Stormwater Management Program 2019 Annual Report

Permit No. MI0057364

May 2020

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Acronyms and Abbreviations

BMP	Best Management Practice
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EOC	Engineering Operations Committee
IDEP	Illicit Discharge Elimination Program
LTAP	Local Technical Assistance Program
MDEQ	Michigan Department of Environmental Quality
MDOT	Michigan Department of Transportation
MEP	Maximum Extent Practicable
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
PIPP	Pollution Incident Prevention Plans
QAQC	Quality Assurance Quality Control
SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sedimentation Control
SWMP	Stormwater Management Plan
TMDL	Total Maximum Daily Load
TSC	Transportation Service Center
YTD	Year to Date

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Appendices

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1. Introduction

This Annual Report presents stormwater pollution control activities implemented by Michigan Department of Transportation (MDOT) during the 2019 monitoring period, in compliance with the National Pollutant Discharge Elimination System (NPDES) Permit No. MI0057364, hereinafter referred to as the Permit. The Permit was issued by the Michigan Department of Environmental Quality (MDEQ), now Michigan Environment, Great Lakes & Energy (EGLE), and expired on April 1, 2009. The Permit has been administratively extended and MDOT is continuing to comply with the existing permit. A permit renewal application was submitted for review and the new permit is expected to be issued.

As part of the renewal application, MDOT has created a comprehensive Stormwater Management Plan (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 stormwater as a potential source of pollutants, and satisfy the applicable state and federal water quality requirements.

1.1. Report Objectives

The objectives for this annual 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.

1.2. Report Organization

The annual report highlights actions MDOT has completed in 2019 to fulfill Permit requirements. The reported information closely follows the requirements of the six minimum measures of the Permit which include:

- Public Education Program
- Public Involvement and Participation
- Illicit Discharge Elimination Plan (IDEP)
- Post Construction Stormwater Management for New Development and Redevelopment Projects
- Construction Stormwater Runoff Control
- Pollution Prevention/Good Housekeeping for MDOT Operations.

Details on these activities can be found in the appendices at the end of the report.

1.3. 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 stormwater related procedures, training, and programs.

1.4. Summary

During 2019, MDOT worked toward completing the activities laid out in the SWMP. Several of these activities are ongoing and completed each year. Due to time and budget management purposes, activities that are not required to be completed each year are divided between the five years of the permit cycle.

With the updated SWMP, care will be taken to ensure that MDOT's commitments, as written in the SWMP, are fulfilled; however, as the program evolves, modifications may need to be made to the original activity, the measurable goal, or both. Details regarding current activities, measurable goals, and their assessment method are contained in the Appendices.

MDOT will continue to integrate stormwater management awareness across all business areas. Informing and educating MDOT Regions, TSCs, Maintenance Regions, and Garages about the new stormwater permit requirements will be a priority in 2020. Significant changes have been implemented that will impact many design and operational functions of MDOT. MDOT remains committed to allocating the necessary resources to meet the requirements of the Permit meeting environmental regulations for stormwater discharges.

2. Public Education Program

To educate MDOT employees as well as the general and job-related public on stormwater management, MDOT has developed several mediums for which to convey information. MDOT employees have access to information focused on stormwater by utilizing the reference library, various training modules, a pesticide/fertilizer certification course, and stormwater operator staff training. The job-related public is provided with specific information when applying for a permit, such as a tap-in discharge permit.

MDOT has developed several displays and handout materials targeting the general public's various audiences including school-age children and transportation construction. The materials are available, in electronic format, for viewing and downloading from the MDOT Stormwater public webpage. In addition, MDOT distributes these materials at various events, as applicable.

The following section presents the seven Public Education Program activities as outlined in the SWMP. Appendix A presents each activity's table, including a description of objectives completed in 2019.

2.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix A. Detailed descriptions of each activity can be referenced in the SWMP.

- Education 1: Stormwater and Watershed Stewardship Reference Library
- Education 2: Stormwater Management Website
- Education 3: Stormwater Management Education Brochures
- Education 4: Educational Materials for Tap-In Discharge Permits
- Education 5: Training Modules
- Education 6: Certify MDOT's Staff for Pesticide/Fertilizer Applications
- Education 7: Staff Training for Part 91 and Stormwater Operators

2.2. Upcoming Monitoring Year Goals

Future monitoring years will include various efforts within the Public Education Program, as presented below:

For Activity Education 1, the transfer of the existing physical library to an online database on the MDOT stormwater website will continue in 2020.

For Activity Education 2, a contact for questions and concerns related to MDOT's stormwater

management program was added to the website. This will make it easier for the general public to voice opinions about the program. This activity is closely related to the measurable goal Public Involvement and Participation.

MDOT will begin to review and update educational brochures related to stormwater management in 2020 as described in Activity Education 3. These brochures will continue to be passed out at relevant events, as well.

Activity Education 4 will be a focus for the year 2020 and involves reviewing and updating the educational materials that are distributed along with drainage connection permits.

MDOT will continue to review and update the training modules, train staff in pesticide and fertilizer application, and track the number of staff trained under Part 91 and Stormwater Operators as described in Activities Education 5, 6 and 7.

3. Public Involvement and Participation

In addition to providing educational materials to MDOT staff and the public, MDOT is also working to encourage public input in the SWMP and strengthen relationships with other agencies interested in the better management of stormwater. Strategies have been devised to encourage and track comments to the SWMP on the public stormwater website and to pursue relationships with other state and local agencies to further stormwater management practices on various projects. Several activities listed under other minimum measures will also help to achieve the goal of this minimum measure.

The following section presents the three Public Involvement and Participation activities as outlined in the SWMP. Appendix B presents each activity's table, including a description of objectives completed in 2019.

3.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix B. Detailed descriptions of each activity can be referenced in the SWMP.

- Public Involvement 1: Public Comment of SWMP
- Public Involvement 2: Development of Offset Program
- Public Involvement 3: Identify and Coordinate with MPOs Having SWMPs

3.2. Upcoming Monitoring Year Goals

Future monitoring years will include various efforts within Public Involvement & Participation, as presented below.

Under Activity Public Involvement 1, MDOT will finalize the draft of the SWMP using comments from EGLE. This draft will be posted on MDOT's stormwater website and distributed to all TSCs and Region offices. In addition, a comment forum will be developed so the public can easily submit comments. MDOT will report and respond to public comments on the SWMP and post the final SWMP on the MDOT stormwater website by the end of 2020, pending permit approval.

Activity Public Involvement 2 involves developing a list of organizations for other state agencies, drain commissioners and municipalities to reach out to for offset programs. This will be a focus for 2020.

MDOT will continue to consider watershed and environmental groups input during early coordination of MDOT projects, per the objective of Activity Public Involvement 3.

4. Illicit Discharge Elimination Plan

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 MDOT SWMP (MDOT, 2016). MDOT's strategies provide for continued identification of illicit discharges and the notification and removal of such connections and discharges.

The following section presents the five IDEP activities as outlined in the SWMP. Appendix C presents each activity's table, including a description of objectives completed in 2019.

4.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix C. Detailed descriptions of each activity can be referenced in the SWMP.

- IDEP 1: Maintain List of Construction Projects and Maintenance Activities
- IDEP 2: Urban Area Outfall Mapping
- IDEP 3: Dry Weather Screening
- IDEP 4: Review Procedure for Receiving and Notifying EGLE of Illicit Discharges
- IDEP 5: Determining Effectiveness of IDEP

4.2. Upcoming Monitoring Year Goals

Future monitoring years will include various efforts within the IDEP, as presented below.

Under Activity IDEP 1, MDOT will develop an annual list of construction projects and maintenance activities which include work on the drainage system at the end of the fiscal year. This activity will continue to be completed each year of the permit cycle.

MDOT will update any outfall maps as needed throughout the permit cycle, in accordance with Activity IDEP 2. In 2020, MDOT will focus on the development of an identification system for all outfall structures.

The measurable goals under Activity IDEP 3 are a combination of ongoing activities and activities that will be spread between the five-year permit cycle. For example, the first measurable goal of following the illicit discharge procedure for all illicit discharges and connections will be ongoing. The pilot dry weather screening project will be completed over a five-year period. In 2016, the desktop analysis was completed. In years 2017 through 2020, field work and data gathering will be completed. In 2020, the pilot project will be completed, and the program results can be assessed.

For Activity IDEP 4, the process used for IDEP identification/notification/investigation/resolution was reviewed by the SSC, Stormwater Program Manager, region IDEP coordinators, and the safety and securit yadministration and was adjusted to better reflect current practices. Updates to the Construction Permit Manual are expected in 2020.

Per Activity IDEP 5, illicit discharge notices and resolutions have been reported in the 2019 Annual Report. A list of the illicit discharge investigations is available in Activity IDEP 3. This is an ongoing activity and will be done for each year during the permit cycle.

5. Post Construction Stormwater Management for New Development and Redevelopment Projects

MDOT's Post Construction Stormwater Management for New Development and Redevelopment Projects is a measure designed to address post construction stormwater runoff from MDOT projects and procedures for addressing post construction runoff from projects outside of the MDOT right-of-way. These goals will be achieved through structural best management practices (BMPs) designed to remove pollutants and possibly limit runoff rates from MDOT rights-of-way and other facilities.

The following section presents the six activities for Post Construction Stormwater Management for New Development and Redevelopment Projects, as outlined in the SWMP. Appendix D presents each activity's table, including a description of objectives completed in 2019.

5.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix D. Detailed descriptions of each activity can be referenced in the SWMP.

- Post Construction 1: Structural BMP Mapping
- Post Construction 2: BMP Maintenance Requirements
- Post Construction 3: Selection and Application of BMPs
- Post Construction 4: Water Quality and Channel Protection Compliance
- Post Construction 5: TMDL Compliance
- Post Construction 6: Drainage Manual Update
- Post Construction 7: Site Plan Reviews for Projects

5.2. Upcoming Monitoring Year Goals

Future monitoring years will include several efforts within Post Construction Stormwater Management, as presented below.

Under Activity Post Construction 1, MDOT will update the map of all known BMPs in the state at the end of 2020. Furthermore, MDOT plans to develop a means of communicating newly constructed BMPs to the Stormwater Program Manager during 2020.

Per Activity Post Construction 2, MDOT review of the Maintenance Activity Guides for stormwater PC-BMPs began in 2019. Staff are reviewing detention, retention, and infiltration basin guides and will move to other guides as needed. It will be a focus for each year to develop maintenance procedures

for new structural BMPs and notify appropriate staff of these procedures.

Under Activity Post Construction 3, MDOT has developed a BMP screening tool which has been distributed to MDOT designers. For 2019, wording was added to the Scoping Manual that the screening tool is to be used on all projects that fall under the NPDES permit and that the results of the tool are to be included in the project documentation. Additional information on the BMP screening tool will be included in the Stormwater Manual that is currently under development.

Activity Post Construction 4 involves complying with performance standards for water quality and water quantity. Throughout 2019, the tool was be tested for future projects, with the goal of this tool being used in the preliminary analyses of all projects. The tool was tested on several projects with reasonable results. It is a goal for 2020 to continue to test this tool for future projects. Furthermore, for existing structural BMPs, MDOT will continue to document their modification, replacement, or enhancement.

Activity Post Construction 5 includes the review of projects which discharge to water bodies with TMDLs. To comply with this activity, MDOT has developed a BMP screening tool which uses an interactive mapping system showing where MDOT trunklines cross 303(d) listed water bodies. This will make designers aware if their project discharges to a water body with a TMDL that they must meet these requirements. MDOT will continue to review all future projects using this tool.

Activity Post Construction 6 discusses periodically updating the drainage manual. Instead of updating the drainage manual, MDOT has decided to create a supplementary document which discusses post-construction BMP design in further detail. In the upcoming year, 2020, continuing to work on this document will be a focus.

Activity Post Construction 7 outlines the goals of having initial site plans of post-construction stormwater BMPs being reviewed by MDOT stormwater staff. In 2019, 226 projects were reviewed by the MDOT Aquatic Resource Analyst for the inclusion of stormwater pc-bmps. During the environmental clearance process, all projects are reviewed for appropriate PC-BMPs. The Stormwater Steering Committee is developing a process for staff to follow when a project doesn't fully meet the post construction treatment goals but has met them to the maximum extent possible. This measurable goal will be a focus for the year 2020.

6. Construction Stormwater Runoff Control

Per the Permit, MDOT is required to establish and maintain a Soil Erosion and Sedimentation Control program. Appropriate MDOT staff are trained and certified under this program. MDOT continually educates contractors about its Soil Erosion and Sedimentation Control program (SESC), as well, on a project by project basis using the information discussed at preconstruction meetings.

The following section presents the Construction Stormwater Runoff Control activity as outlined in the SWMP. Appendix E presents the activity table, including a description of objectives completed in 2019.

6.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix E. Detailed descriptions of each activity can be referenced in the SWMP.

- Construction 1: Review of Stormwater Runoff QAQC Protocol

6.2. Upcoming Monitoring Year Goals

The efforts related to Activity Construction 1 will be a focus for 2020. These efforts include reviewing and updating the QAQC protocol for construction stormwater control and issuing staff guidance.

7. Pollution Prevention / Good Housekeeping

The goal of the Pollution Prevention and Good Housekeeping program is to prevent or reduce pollutant runoff from MDOT operations and properties to the MEP. Facilities covered under this measure include: MDOT offices, bridge facilities, maintenance garages, central repair, welcome centers, rest areas, roadside parks and scenic turnouts.

The following section presents the four Pollution Prevention / Good Housekeeping activities as outlined in the SWMP. Appendix F presents each activity's table, including a description of objectives completed in 2019.

7.1. Activities

The following activities are presented in table format with the current monitoring year results in Appendix F. Detailed descriptions of each activity can be referenced in the SWMP.

- Pollution Prevention 1: BMP Inspections
- Pollution Prevention 2: PIPP Audits
- Pollution Prevention 3: Maintenance Facility Inspections
- Pollution Prevention 4: Documentation of Road Maintenance Activities

7.2. Upcoming Monitoring Year Goals

The 2020 monitoring year will include several efforts within Pollution Prevention / Good Housekeeping, as presented below.

Under Activity Pollution Prevention 1, 27 BMPS are scheduled for 2020. The findings of these inspections will be given to the Stormwater Program Manager and any recommendations will be addressed in the following year. At the end of the five-year permit cycle, each structural BMP will have been inspected.

Activity Pollution Prevention 2 discusses auditing the pollution incident prevention plans every three years. The MDOT Safety and Security Agency is in the process of updating the inspection process and is expected to be finalized In 2020.

In compliance with Activity Pollution Prevention 3, there will be seven MDOT maintenance facilities that will be inspected in 2020. The findings of these inspections will be given to the Stormwater Program Manager and any recommendations will be addressed. At the end of the five-year permit cycle, each maintenance facility will have been inspected.

The objective for Activity Pollution Prevention 4 is to provide for continued street sweeping and catch basin

cleanout, following maintenance activity guidelines.

REFERENCES

MDOT, 2016. Stormwater Management Plan. Michigan Department of Transportation.

Appendix A – Public Education Activities

ACTIVITY EDUCATION 1: CONVERT LANSING INFORMATION CENTER TO WEB-BASED STORMWATER LIBRARY

MONITORING YEAR: 2019

Minimum Control Measure: Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMNISTRATION1: Program Assessment and Reporting • EDUCATION 2: Update MDOT Public Website

OBJECTIVE

Convert the current physical information center to a web-based archive containing stormwater-related materials for training and educating the job-related public including video, reference manuals and publications.

DESCRIPTION

Converting the existing, physical library to an online archive will increase ease of accessibility for MDOT employees and the job-related public. The library is to be comprised of informational materials to support activities performed for the MDOT Stormwater Management Plan.

ANNUAL REPORTING

- Complete conversion from physical to web-based library
- Track the web page traffic and number of content downloads

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
The existing, physical stormwater library housed in Lansing will be converted to an online database, available on the MDOT Stormwater Website.	Materials transferred to the online, public website by year 2020.
Annual Assessment: This activity will be a focus for 2020. Currently, staff is working with the MDOT librarian to identify available materials and how to convert them into electronic format suitable for posting to the internet.	
A list of stormwater-related materials will be updated quarterly on the MDOT Stormwater Public Web Site.	List of updates provided quarterly to the region stormwater and IDEP coordinators
Annual Assessment: Added the 2018 annual report to the MDOT stormwater webpage. Stormwater contacts were unchanged from the previous year. Regional maps were updated as well as the resource links.	
Quarterly notices will be made in the Monday Memo to advertise the stormwater-related library material.	Number of “Monday Memo” articles issued relating to the stormwater program.
Annual Assessment: There no articles written for “Monday Memos” in 2019.	
MDOT Staff to participate in the Southeast Michigan Green Infrastructure (GI) team to share relevant information to the job-related public via the MDOT Stormwater Public Website.	Staff participating in the team will provide materials to be posted on the MDOT Stormwater Public Website to the Aquatic Resource Specialist quarterly
Annual Assessment: In 2019, MDOT participated in a regional flooding risk tool discussion, a roads action team for stormwater, regional precipitation discussion, and a water resources discussion with SEMCOG. All of these groups are on-going and there have not been any formal results to publish on MDOT’s website.	

ACTIVITY EDUCATION 2: UPDATE WATERSHED STEWARDSHIP INFORMATION ON MDOT PUBLIC WEBSITE

MONITORING YEAR: 2019

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • EDUCATION 1: Lansing Information Center Conversion

OBJECTIVE

Information pertaining to watershed stewardship currently available that is pertinent to the general, traveling public will be maintained and kept available for public use and access. Information to be updated quarterly will focus on job-related activities specific to MDOT employees. A comment form will also be developed to provide feedback on the website and available information.

DESCRIPTION

MDOT will update the public information website about the Phase II stormwater program. The website provides general information about watershed stewardship practices as well as links to pertinent stormwater-related materials. This information will be maintained and monitored to report website usage. Updated information will focus on job-related activities relevant to MDOT.

ANNUAL REPORTING

- Track internal and external website traffic
- Track number of SWMP document downloads on the MDOT stormwater public website.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
The MDOT Stormwater Public Web Site will be updated quarterly with the most recent MDOT stormwater information and news relevant to the job-related and traveling public.	Updates to be tracked by the Stormwater Program Manager.
Annual Assessment: The MDOT public stormwater page contacts section did not need updates in 2019 tor eflect changes in staffing that deal with stormwater related issues. The contact information for the Stormwater Program Manager, support staff, as well as the region stormwater and IDEP coordinators is current.	
A stormwater-related contact will be developed for inclusion on the MDOT Stormwater Public Web Site.	Contact will appear on the MDOT Stormwater Website and be forwarded to the Stormwater Program Manager.
Annual Assessment: Contact information for the Stormwater Program Manager is available on the website for stormwater related questions.	
Comments received via contact link will be reviewed and addressed, as necessary. The comments will be archived to track the change in public awareness and behavior resulting from the implementation of the Public Education Program.	Comments will be addressed as necessary as determined by the Technology Manager and the Stormwater Program Manager
Annual Assessment: An email address was created in 2016 to allow for public comment and questions regarding the MDOT stormwater program on the contacts page. To date, there have been no public inquiries.	

ACTIVITY EDUCATION 3: UPDATE STORMWATER MANAGEMENT BROCHURES

MONITORING YEAR: 2019

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • EDUCATION 2: MDOT Stormwater Website

OBJECTIVE

Further the public knowledge on stormwater and how MDOT manages stormwater through informative brochures.

DESCRIPTION

Informative brochures currently exist on MDOT's Stormwater website and are also distributed at events such as job fairs and various community outreach events. These brochures will be updated to contain up to date information about stormwater management.

ANNUAL REPORTING

- Track completion of brochure updates
- Track number of downloads from website

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review and update existing brochures relating to stormwater management.	To be posted on the MDOT stormwater website.
Annual Assessment: This task has been delayed until 2020.	
Continue to distribute brochure materials at community events, job fairs, and other relevant events.	To be distributed at various event.
Annual Assessment: These materials are distributed at events, as applicable. Several events MDOT participated in are described, below: • MDOT distributed brochures at 2 science nights for local schools. MDOT also attended a transportation day at a mid-Michigan science center where educational materials were distributed.	

ACTIVITY EDUCATION 4: REVIEW EDUCATION MATERIALS DISTRIBUTED WITH TAP-IN/DISCHARGE PERMIT APPLICATIONS AND UPDATE/DEVELOP TRACKING SYSTEM FOR TAP-IN PERMITS

MONITORING YEAR: 2019

Minimum Control Measure : Education/Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment & Reporting • IDEP 4: Procedure for Receiving & Notifying MDEQ of Illicit Discharges & Actions Taken

OBJECTIVE

Education materials inform applicants of acceptable discharges into the MDOT drainage system, and also of the potential negative impacts to water quality from unacceptable or illegal discharges and ways to mitigate these impacts. A tracking system will enable MDOT to keep better track of those who have tap-in permits.

DESCRIPTION

Preparing education materials for typical development activities connecting to MDOT facilities. Established and implemented procedures for distributing these materials.

ANNUAL REPORTING

- Track quantity of permit applications/educational materials distributed.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review educational materials included in the tap-in/discharge permit application.	Items that need to be improved, as determined by the review process, will be given to the permit workgroup.
Annual Assessment: This goal was completed in 2019.	
Incorporate review comments into education materials included in the tap-in/discharge permit application.	Updated materials will be distributed to the new permit applicants.
Annual Assessment: This goal was completed in 2019.	
Distribute education materials to 100% of tap-in/discharge permit applicants.	MDOT Permitting Staff to follow up with applicants to ensure information was received.
Annual Assessment: Educational materials were distributed for all tap-in discharge permits in 2019 and will continue to be distributed throughout the permit cycle. There were 53 tap-in discharge permits 2019. The breakdown of these numbers by region are available in the figure on the following page.	
Review the adequacy of the procedure for distributing materials.	MDOT Permitting Staff to meet with MDOT Stormwater Staff to discuss necessary changes to education materials distributed to permit applicants.
Annual Assessment: This will be a focus for 2020 through the end of the permit cycle.	

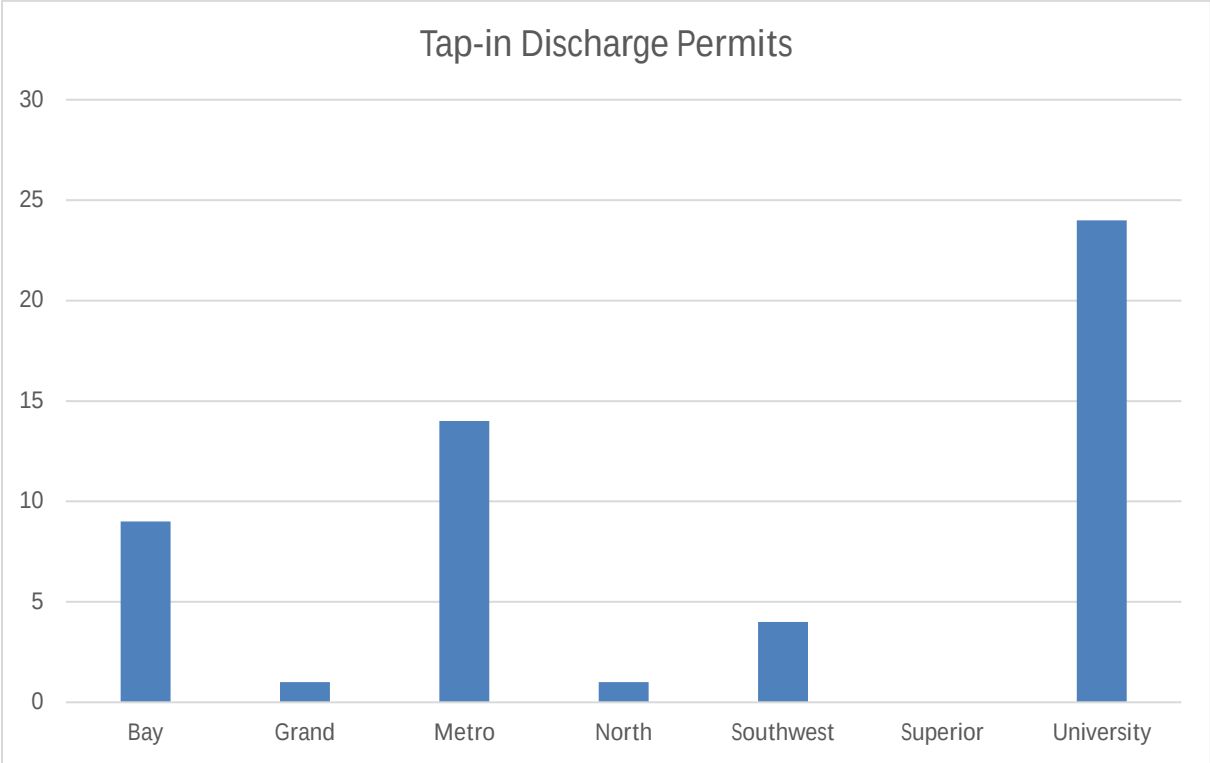


Figure A1 – 2019 Tap-In Permits Issued By Region

ACTIVITY EDUCATION 5: UPDATE EXISTING MODULES AND DEVELOP MS4 TRAINING MODULE FOR DESIGNERS

MONITORING YEAR: 2019

Minimum Control Measure : Training Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting IDEP 4: Notify MDEQ of Illicit Discharges

OBJECTIVE

Educate the job-related public about the Stormwater Management Program, focusing on design.

DESCRIPTION

Use the four 15 minute MDOT stormwater program training modules to train Lansing and Region/TSC staff and contract agencies.

- Module One: Introduction to SW Management
- Module Two: Best Management Practices
- Module Three: Maintenance Considerations
- Module Four: Illicit Discharge & Maintenance
- A new module on MS4's for all MDOT staff

ANNUAL REPORTING

- Track training attendance.
- Track contract agencies receiving modules.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review and update modules to pertain up to date information relevant for designers. Once updated, modules will be added to the MDOT training database (On-Track) to track individual employee training. Training completion shall be included in employee performance evaluations. The first update will add illicit discharge reporting and notification information to Training Module Four.	Modules to be updated annually and confirmed by the MDOT Stormwater Program Manager

Annual Assessment: In 2016, a Municipal Separate Storm Sewer System (MS4) training module was developed. This module was created as an overview of MS4's, how MDOT complies with MS4 requirements, and guidance for designers on stormwater management. Creating this module was the first step for MDOT in developing updated versions of existing training modules and feedback on this module will be considered in development of these other modules, as well. No additional modules were completed in 2019. Stormwater training was offered at the MDOT development conference, approximately 60 MDOT staff members attended the training.

Determine specifically who will be trained with the stormwater modules. All new employees shall be trained within the first year. All staff shall be trained once per permit cycle. Maintenance and construction staff with stormwater responsibilities will be trained to follow the illicit discharge	List of trained employees reported by the MDOT training coordinator to Stormwater Program Manager

notification procedure with the MS4 Training Module.	
Annual Assessment: The MS-4 Training module was completed in December of 2016 and made available on the department's intranet site. The training has been incorporated into all new hire training. In 2019, 117 unique internal users have accessed the MS-4 Training module with a total of 234 page hits.	
Provide modules to contract agencies and contracting associations with a request to use the modules. Provide information through the Michigan Local Technical Assistance Program (LTAP).	Modules given to contract agencies on an as needed basis.
Annual Assessment: No agency requests have been reported for 2019.	

ACTIVITY EDUCATION 6: CERTIFY MDOT'S STAFF FOR PESTICIDE/FERTILIZER APPLICATIONS

MONITORING YEAR: 2019

Minimum Control Measure : Training Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting

OBJECTIVE

To reduce pollution entering waters of the state, statewide, that originates from pesticide and/or fertilizer applications.

DESCRIPTION

The existing training and certification program for pesticide/fertilizer applications will be evaluated and tracked to document performance and to prevent stormwater pollution. A turf grass management plan and soil testing for nutrients to determine appropriate fertilizer usage shall be added to the existing training. Results will be used to recommend changes if appropriate.

ANNUAL REPORTING

- Track the number of individuals attending annual pesticide training.
- Track number of MDOT personnel certified as a pesticide applicator.
- Summarize evaluation and review of programs, policies, procedures and information.
- Report changes to fertilizer specifications.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
MDOT Staff applying pesticides will be trained and certified per Michigan Department of Agriculture requirements. Staff are responsible for ensuring their certification is completed every three years and they have appropriate certification documents.	List of trained employees will be provided by the MDOT training coordinator to the Stormwater Program Manager by the TSC Region offices.
Annual Assessment: MDOT conducted a two-day training session to keep all certified MDOT applicators up to date on new regulations, procedures, and equipment and product changes. This training is approved by the Michigan Department of Agriculture and Rural Development (MDARD) and an MDARD Inspector presents at the training session. MDARD issues recertification credits for this training, which are required to maintain/renew the applicators certification every three years. There is a total of 73 MDOT staff members that are certified as pesticide applicators. Furthermore, a total of 97 MDOT employees attended the annual MDOT Vegetation Management Conference in 2019.	
MDOT Staff or Contract Agencies will follow MDOT's Standard Specifications for Construction, Sections 816 and 917 for fertilizer application practices.	Verified by MDOT Stormwater Program Manager.
Annual Assessment: This specification is a focus of the MDOT fertilizer and pesticide application training. In 2019, staff and agencies were in compliance with these specifications.	
Evaluate application practices and pollution prevention measures and recommend and formalize any changes if appropriate.	A task to be completed annually, as checked by the Stormwater Program Manager.
Annual Assessment: No changes to the protocol have been identified by the Environmental Maintenance Team.	

ACTIVITY EDUCATION 7: TRAIN STAFF RESPONSIBLE FOR ADMINISTERING PART 91 AND STORMWATER OPERATORS

MONITORING YEAR: 2019

Minimum Control Measure : Training Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • CONSTRUCTION 1: Review QAQC Protocol for Construction Stormwater Runoff Control

OBJECTIVE

To reduce non-stormwater discharges to the MEP to receiving water bodies.

DESCRIPTION

The existing MDEQ sponsored Soil Erosion and Sedimentation Control (SESC) training program will be attended by appropriate maintenance staff. Successful completion of the training and certification of stormwater operators will be documented.

ANNUAL REPORTING

- Track total number of staff trained and certified for compliance with Part 31 and Part 91 requirements.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
MDOT Staff Responsible for Administering Part 91 and those having Decision Making Authority for SESC Plan Development or Review, Inspections, or Enforcement will receive NPDES training.	The number of trained staff reported annually to the Stormwater Program Manager

Annual Assessment:

Number of MDOT staff trained, by region:

Bay – 7 licensed herbicide applicators trained.
Grand – 18 staff re-certified as stormwater operators, 12 staff attended MDOT annual herbicide applicator training conference, 8 staff attended Red River annual herbicide applicator training conference.
Metro – 14 staff attended SESC/SWO training, 10 staff attended the pesticide and herbicide training. 35 Metro Region employees attended Sharon Ferman's Handling Hazardous Materials Handling Certification (HM 181) Year 2 Environmental Training at garages and labs which includes a section about stormwater good housekeeping practices.
North – 4 staff obtained their Construction Stormwater Operators licenses, 6 staff, obtained their Soil Erosion Plan Review & Design certifications, 10 North Region employees attended pesticide and herbicide training through both the department as well as continuing education credits, 37 staff completed year two of the Hazardous Materials & Waste Awareness training. Among other topics, this training provides guidance concerning chemical releases that could impact storm sewers, and natural drainage features.
Superior – 11 Staff attended the pesticide and herbicide training.
Southwest – 13 staff attended the 2019 MDOT Vegetation Management Conference. Multiple employees completed training and/or recertification for Part 91.
University – 79 staff attended training sessions for the Environmental Housekeeping Topic, 39 staff attended training sessions for Hazardous Material and Waste Awareness. 1 staff attended SESC PRD training, 3 certifications and 2 recertifications for SESC PRD, 3 certifications and 2 recertifications for stormwater operator. Numerous regional personnel attended the Vegetation Management Conference.

Appendix B – Public Involvement and Participation Activities

ACTIVITY PUBLIC INVOLVEMENT 1: POST STORMWATER MANAGEMENT PLAN (SWMP) ON MDOT'S PUBLIC STORMWATER WEBSITE AND DEVELOP COMMENT FORUM

MONITORING YEAR: 2019

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • EDUCATION 1: Convert Lansing Information Center to Web-Based Stormwater Website

OBJECTIVE

To obtain statewide comments from the public on the SWMP.

DESCRIPTION

Establish procedures for the public notice and distribution of the draft SWMP. Provide at least 30 days for public review and comment.

ANNUAL REPORTING

- Track number of public comments
- Track number of downloads of the draft SWMP from MDOT Stormwater website.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Post draft SWMP on MDOT Stormwater Website.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: A draft will be posted once MDOT and EGLE have moved farther through negotiation process on what is required in the SWMP.	
Distribute draft SWMP to all TSCs and Region Offices.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: The SWMP was shared within the Stormwater Steering Committee in 2019. Once negotiations with EGLE have progressed, a draft copy will be forwarded to the Region and TSC offices.	
Develop comment forum for general public to comment on publicly posted SWMP.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: A public comment forum on the MDOT Stormwater Website will be created once the draft SWMP is posted on the MDOT Stormwater Website.	
Distribute SWMP to watershed and environmental organizations listed in **Appendix E** of the SWMP.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: Once the SWMP is posted on the MDOT Stormwater Website, the organizations listed in **Appendix E** of the SWMP will be notified of its posting.	
Distribute SWMP to planning organizations state-wide that are involved with transportation planning efforts.	Comment on in Annual Report.
Annual Assessment: Once the SWMP is posted on the MDOT Stormwater Website, it will be distributed to these organizations.	

Report and respond to public comments on SWMP.	Relevant comments to be incorporated into final version of SWMP. All comments compiled in SWMP **Appendix F**.
Annual Assessment: As comments on the SWMP are given, they will be documented and responded to through the end of 2020.	
Post final SWMP on MDOT Stormwater Website.	Posted by due date & confirmed by Stormwater Program Manager.
Annual Assessment: The final SWMP will be posted on the MDOT Stormwater Website after receipt of the NPDES permit.	

ACTIVITY PUBLIC INVOLVEMENT 2: DEVELOPMENT OF OFFSET PROGRAM INCLUDING PARTNERING WITH OTHER STATE AGENCIES, DRAIN COMMISSIONERS, AND MUNICIPALITES

MONITORING YEAR: 2019

Minimum Control Measure: Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting

OBJECTIVE

To expand outreach activities and gain partners to better the management of stormwater by adopting existing stormwater management practices in the state of Michigan and for off-site mitigation for redevelopment projects that cannot meet 100 percent of the performance standards.

DESCRIPTION

MDOT will encourage the partnership with other state agencies, drain commissioners and municipalities, as appropriate, in order to better the management of stormwater and maintain the vitality of Michigan's surface waters.

ANNUAL REPORTING

- List of agencies that have agreed to a partnership or may be interested in the future.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop list of organizations to reach out to by November 2019.	List included in Annual Report.
Annual Assessment: MDOT began the process by working with multiple groups including SEMCOG, CRA, and EGLE. There has been no list developed to date.	
Develop process for establishing partnerships. SEMCOG partnership to be used as a pilot program.	Standard procedure developed & distributed to appropriate persons by Stormwater Program Manager.
Annual Assessment: There was no focus on establishing a pilot program for partnership development in 2019.	

ACTIVITY PUBLIC INVOLVEMENT 3: IDENTIFY AND COORDINATE WITH MPOs HAVING A SWMP

MONITORING YEAR: 2019

Minimum Control Measure : Education/ Outreach **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 3: Procedure to Select and Apply BMPs • POST CONSTRUCTION 6: Periodically Update Drainage Manual

OBJECTIVE

To identify and coordinate, statewide, with MPOs having stormwater quality control programs to properly handle stormwater management issues during construction and maintenance activities.

DESCRIPTION

Further improve the management of stormwater by collaborating with MPOs during early coordination efforts of MDOT projects. The purpose of these efforts will be to inform and comply with local planning efforts and watershed goals.

ANNUAL REPORTING

- Track the major action environmental documents (environmental assessments and environmental impact statements) distributed to watershed groups for their comments.
- Track responses from watersheds and environmental groups concerning areas of concern.
- Track any early coordination meetings held with watershed and environmental groups including whether groups attend a public meeting or comment on one of the major action documents.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Consider watershed and environmental group input during early coordination of MDOT transportation projects.	In projects identified as impacting 303(d) listed water bodies or other important surface water features, MDOT will coordinate with local watershed and environmental groups.

Annual Assessment: No watershed groups requested information in 2019. Nor correspondence was received from environmental groups regarding stormwater in 2019.

Appendix C – Illicit Discharge Elimination Plan Activities

ACTIVITY IDEP 1: MAINTAIN LIST OF CONSTRUCTION PROJECTS AND MAINTENANCE ACTIVITIES

MONITORING YEAR: 2019

Minimum Control Measure: Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • IDEP 2: Update Maps for Outfalls in Urban Area • CONSTRUCTION 1: Review QAQC Protocol for Construction Stormwater Runoff Control

OBJECTIVE

To inform interested persons of construction projects and maintenance activities which will include work on the drainage system.

DESCRIPTION

List of construction projects and maintenance activities available to the public through the MDOT website and documented in the Stormwater Annual Report.

ANNUAL REPORTING

- A list of these projects and activities will be made available on the MDOT website.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop a list of construction projects and maintenance activities which include work on the drainage system at the end of the fiscal year.	List to be given annually from TSC and Region Managers to the Stormwater Program Manager

Annual Assessment: The MDOT public website contains 3 links that list construction projects in the state. The links cover MDOT's major road projects, the current construction projects, and future projects covered under MDOT's 5-year plan. The current construction projects are also available using the Mi Drive application. The following information is also available on the following pages:

- Maintenance activities completed in 2019, in summary:
  - A total of 55 litter pick up events.
  - Eighteen (18) BMPs inspected and maintained.
  - A total of 12,664.26 miles of streets were swept.
  - A total of 24,977 catch basins were cleaned out.
  - A total of 61 catch basins were reported as being repaired.
  - A total of 46,057 ft of ditches were reported as being cleaned out.
  - A total of 598 washouts were reported as being repaired.
  - 4265 ft of drain leads were reported as being cleaned.
- A summary of salt and sand usage for winter maintenance activities.

Table 1. Litter Pick-Up Programs

Region	Litter Pick-Up Programs
Bay	• 3 pick-up events
Grand	• 3 pick-up events • The county road commissions crews pick up litter once a month. • Grand Region Youth Development Mentorship Program (YDMP) crews picked up litter from sections that were available through the Adopt-A-Highway program during the summer months. • All counties utilized Adopt-A-Highway (3 pick-ups). Continued recycling program at Rockford Rest Area. • Recyclables (clean paper and plastic) is picked up at the rest area weekly and is taken to the recycling center in Rockford, Michigan.
Metro	• Averaged 2 litter pickups for each route/freeway performed under mowing contract (outside Taylor TSC). • 234 miles of highway were cleaned by Adopt-A-Highway groups, averaged over 3 litter pickups. • 40 miles were cleaned through the Sponsor-A-Highway program.
North	• Adopt-A-Highway program had 3 standard Adopt—Highway pick-ups throughout the year.
Southwest	• The Southwest Region held 3 Adopt-A-Highway periods in 2019.
Superior	• 3 Adopt-A-Highway pick-up events.
University	• 12 Adopt-A-Highway pick-up events • 162 garage litter pickup events • 300 bags of litter were collected by region Youth Development and Mentoring (YDMP) crews.

Table 2. BMP Maintenance Activities

Region	BMP Maintenance Activities
Bay	None reported.
Grand	None reported.
Metro	None reported.
North	Five (5) detention basins, three (3) vortecs, two (2) infiltration basins, and one (1) retention basins were inspected and maintained.
Southwest	None reported.
Superior	None reported.
University	None reported.

Table 3. Miscellaneous Maintenance Activities for 2019

Region	Street Sweeping (miles)	Clean Basin Cleanout (#)	Catch Basins Repaired (#)	Ditch Cleanout (ft)	Washout Repairs (#)	Culvert Cleanout (ft)	Drain Leads Cleaned (ft)
Bay	1129	254	5	46057	1	-	-
Grand	950	1715	-	-	18	-	-
Metro	9700	14990	-	-	537	-	4265
North	145**	3345	-	-	-	-	-
Southwest	467	164	-	-	15	-	-
Superior	163.8	796	27	-	3	-	-
University	576.46	3907	29	-	39	-	-

**Additionally, each bridge in the Gaylord TSC service area is swept once a year and each trunkline that passes through a city or village is swept twice per year.

STATEWIDE SUMMARY : FY 2019 County & Garage Winter Material Usage

May Report

Statwide Statistics YTD

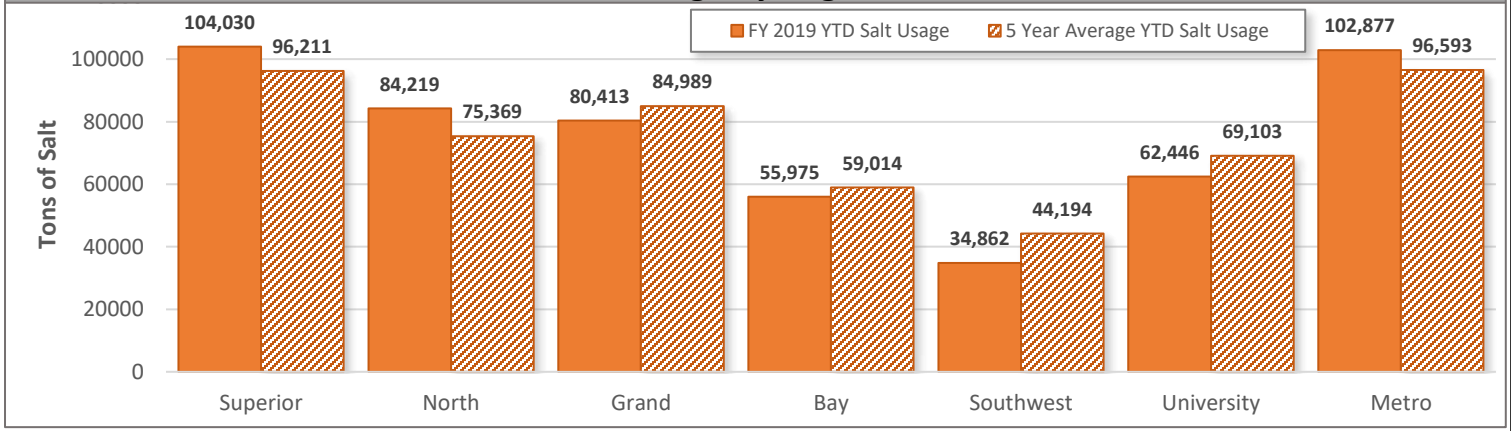
Statewide Total Lane Miles
29599.0

Salt Usage per Lane Mile
17.7

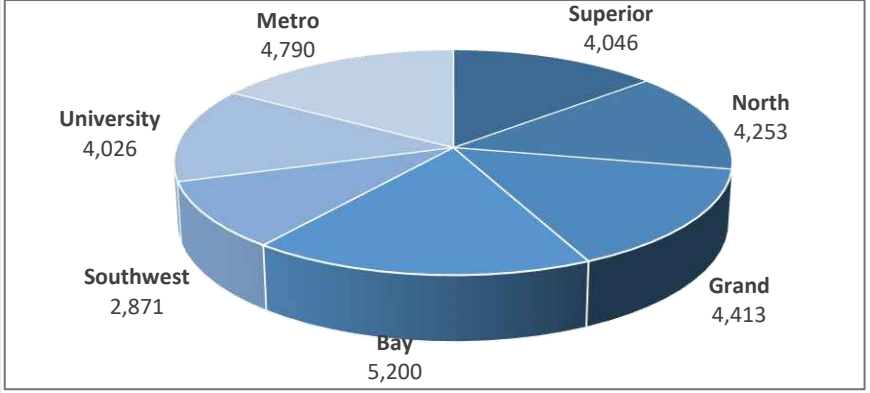
Liquid Usage per Lane Mile
75.6

Sand Usage per Lane Mile
3.3

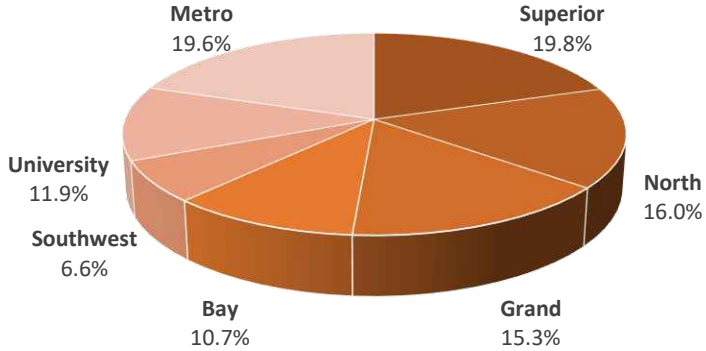
YTD Salt Usage by Region FY 2019



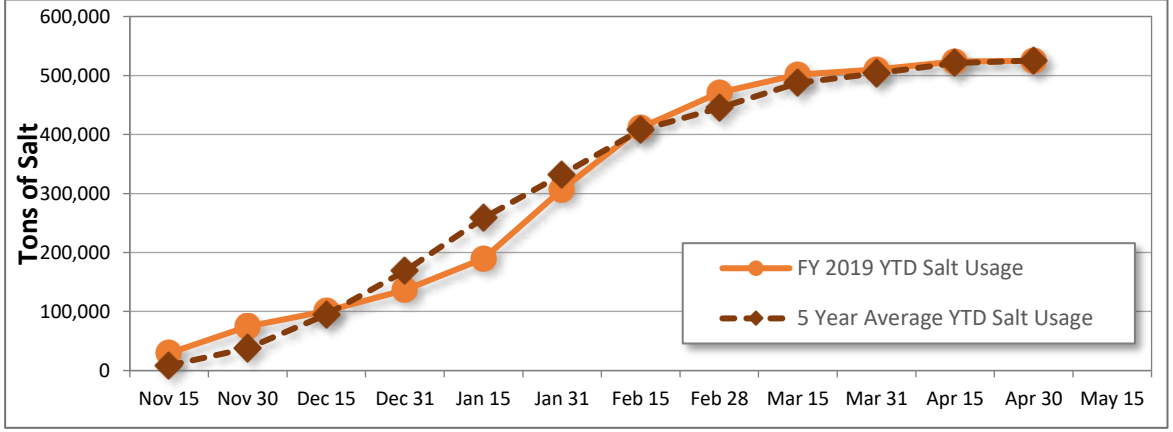
Regions Lane Miles FY 2019



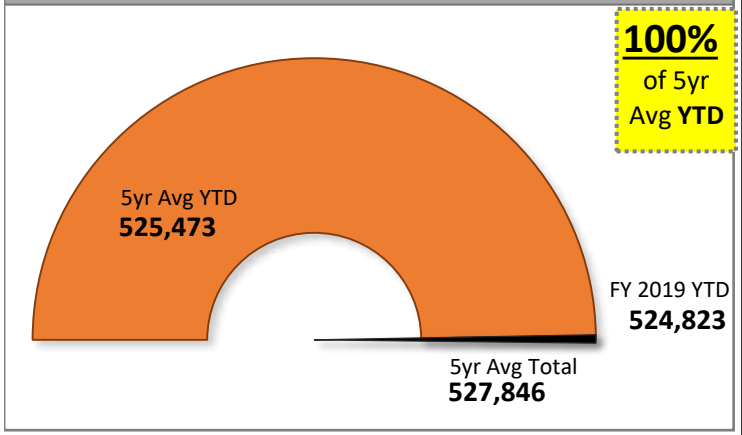
YTD Salt Usage by Region FY 2019



Cumulative Salt Usage FY 2019 YTD

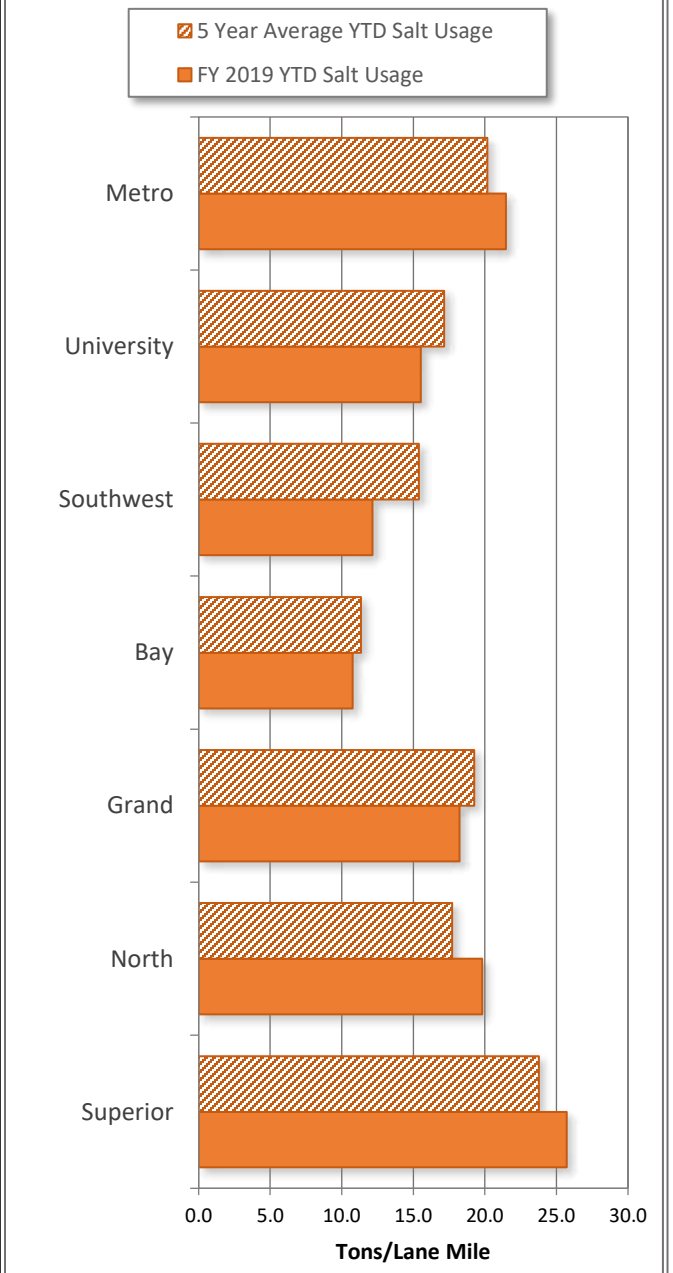


Statewide YTD Salt Usage FY 2019 (in tons)

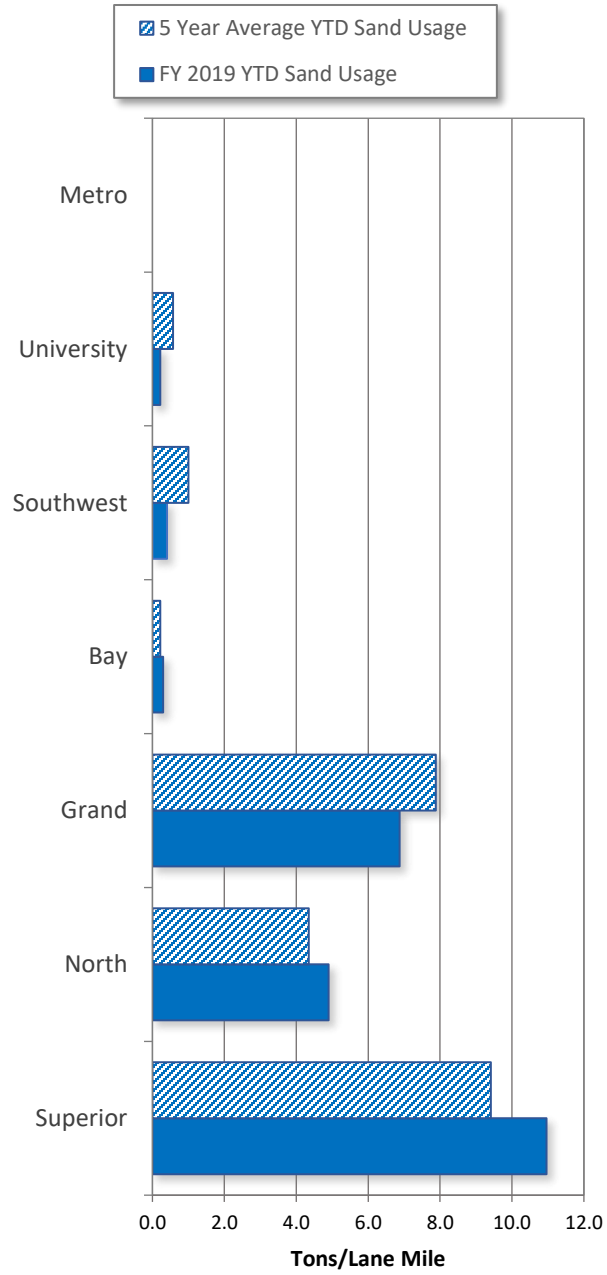


STATEWIDE SUMMARY : FY 2019 County & Garage Winter Material Usage

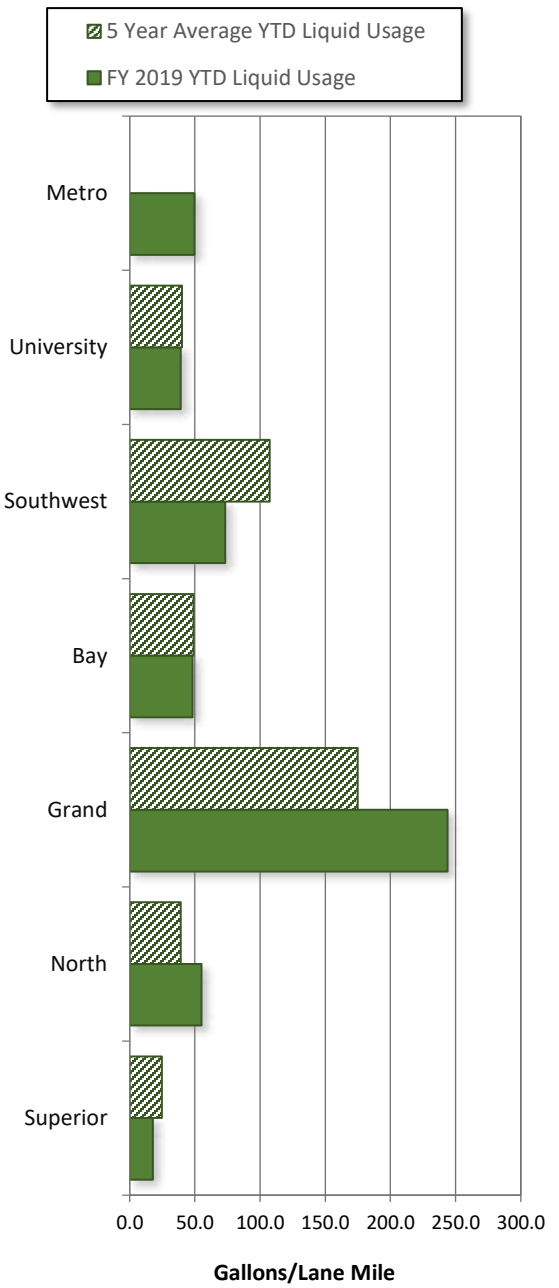
Salt Usage FY 2019 YTD per lane mile



Sand Usage FY 2019 YTD per lane mile



Liquid Usage FY 2019 YTD per lane mile



ACTIVITY IDEP 2: DEVELOP MAPPING SCHEDULE AND UPDATE MAPS FOR OUTFALLS IN URBAN AREAS

MONITORING YEAR: 2019

Minimum Control Measure: Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Urbanized Area **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • IDEP 1: Maintain List of Active Construction Projects and Major Maintenance Activities

OBJECTIVE

To develop current outfall maps and schedule for updating in the future.

DESCRIPTION

To develop an annual mapping schedule and complete mapping of outfalls in MDOT right-of-way in urbanized areas including MDOT roads crossing 303(d)-listed water bodies and other non-impaired water bodies. Known outfalls will be mapped based on existing survey maps.

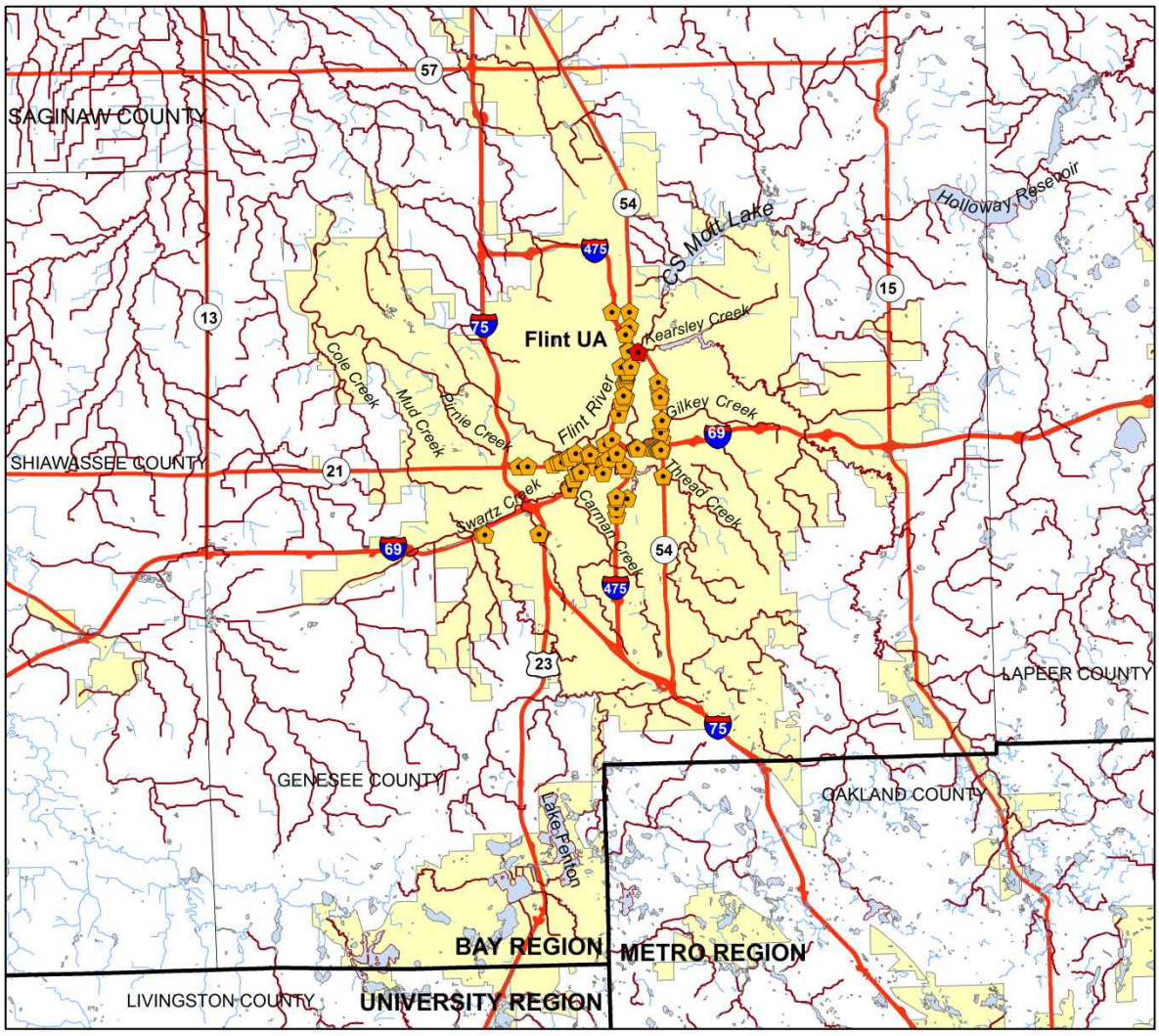
ANNUAL REPORTING

- Track completed maps and updated outfalls
- Report physical location where up-to-date storm sewer system maps are available

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Map outfalls in MDOT right-of-way in urbanized areas.	To be reported annually to the Stormwater Program Manager
Annual Assessment: Maps of outfalls at stream crossings over or within 300 feet of impaired waters of the state within urbanized areas based are on field inspection of top priority outfalls. Maps of outfalls at stream crossings over waters of the state within urbanized areas that are not field screened are based on a GIS analysis. Detailed storm sewer maps are also available at each MDOT Region office.	
Update known outfall maps annually and include in the annual progress report.	Maps given to the Stormwater Program Manager by the consultant annually.
Annual Assessment: Maps created in 2016 are available on the following pages and will be updated throughout the permit cycle as more outfalls are identified.	
MDOT to provide permanent identification for all outfall structures.	ID will be documented and tracked by MDOT Stormwater Program Manager
Annual Assessment: MDOT utilizes a special provision that requires all new or reconstructed outfalls under MDOT ownership to be labelled as such. In 2019, 9 projects utilized this special provision.	

Flint Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations
- Estimated Outfalls

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

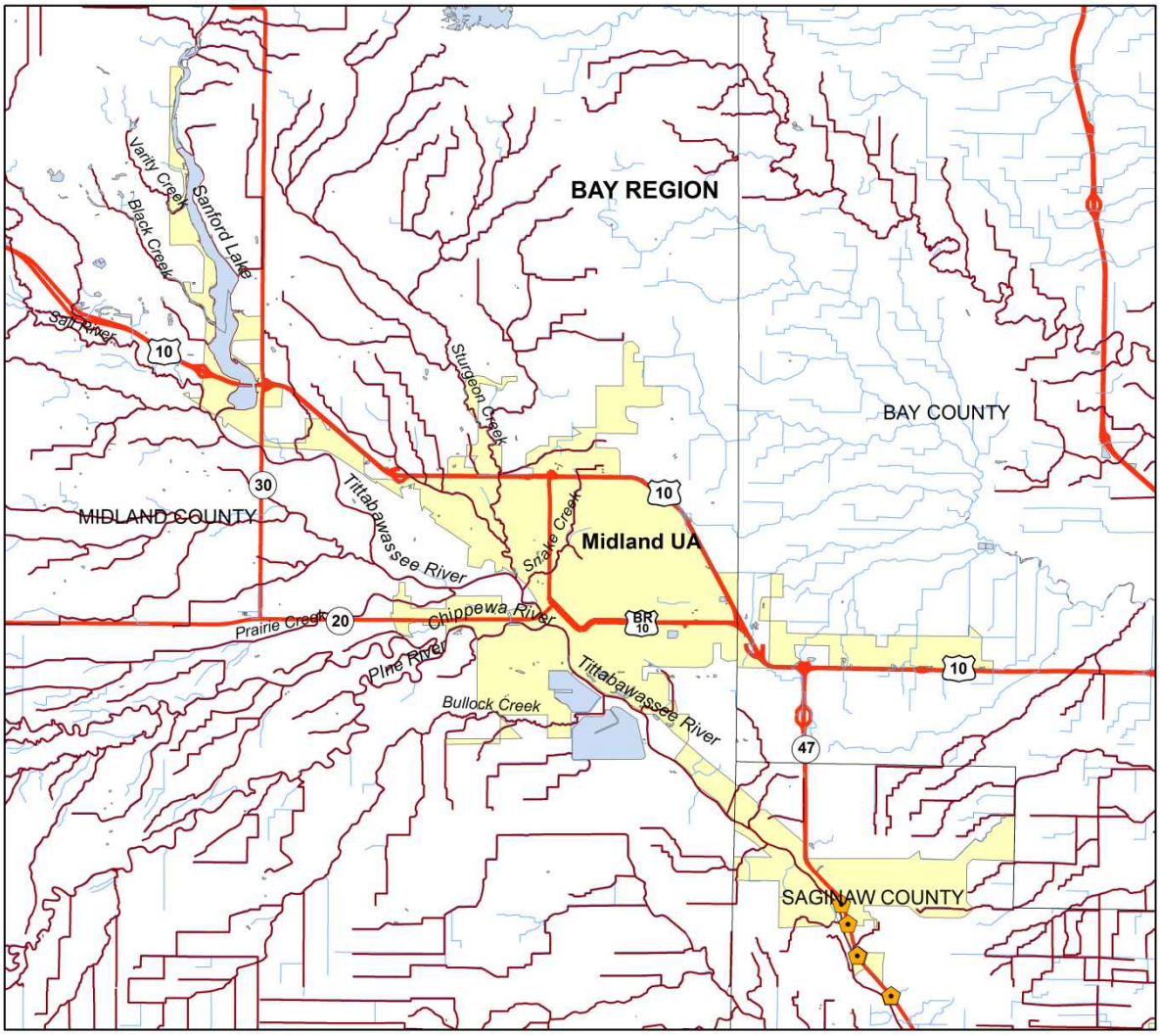
N

0 1.5 3 6 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Midland Urbanized Area



Legend

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N

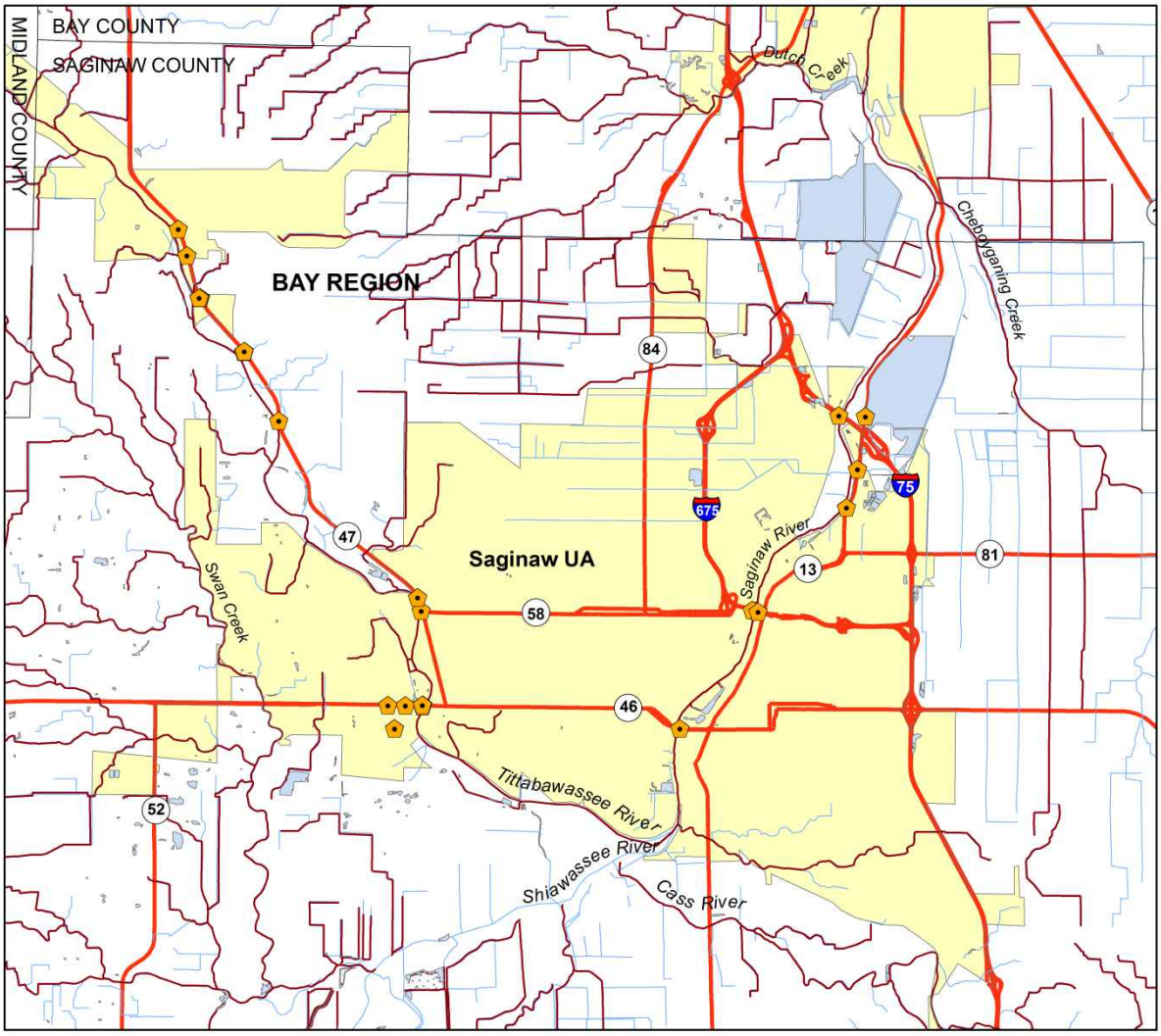
0 1.25 2.5 5 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Bay Region Urbanized Area Map

Saginaw Urbanized Area



Legend

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- Impaired Streams
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- MDOT Roads
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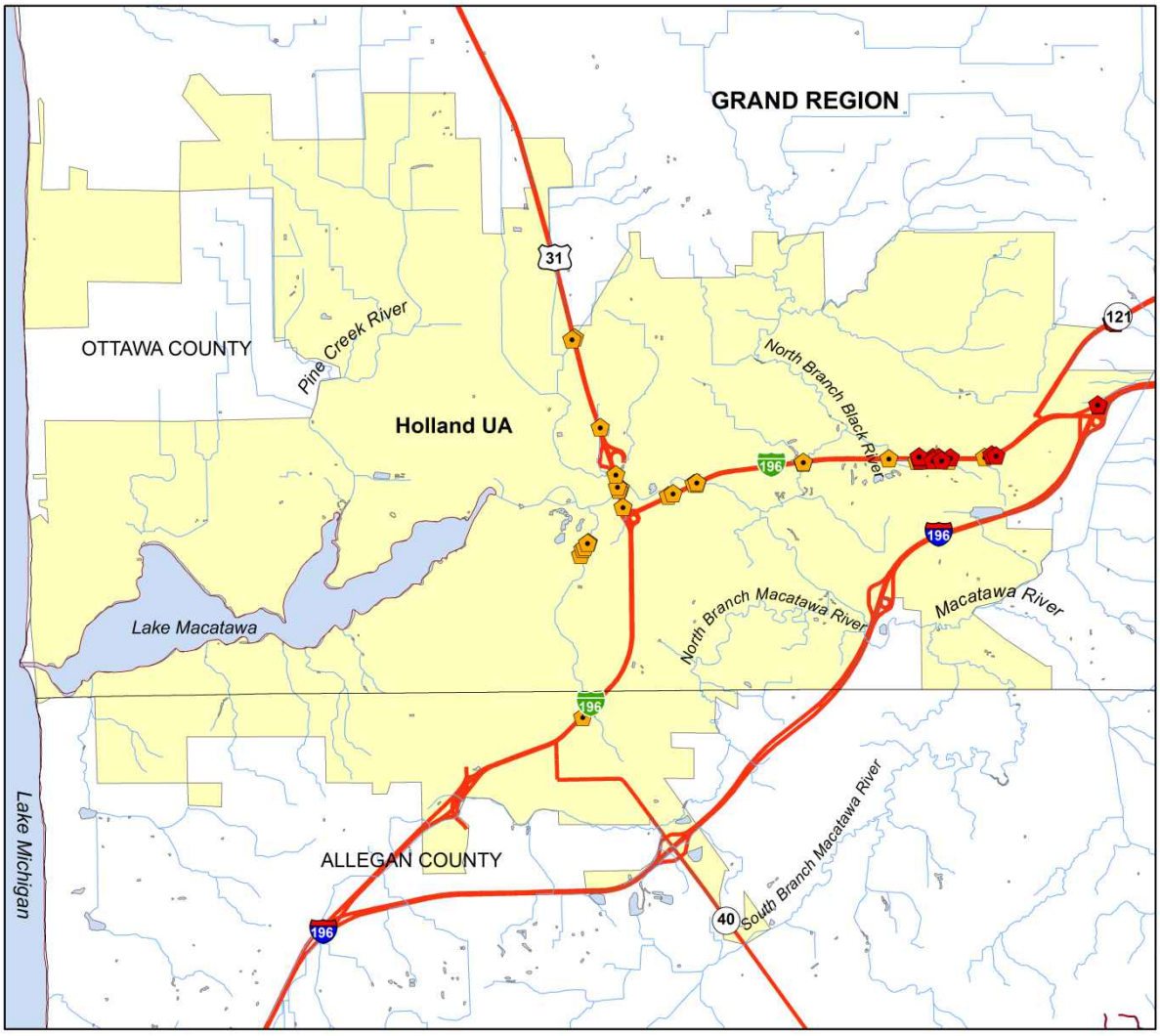
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Holland Urbanized Area



Legend

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- MDOT Roads
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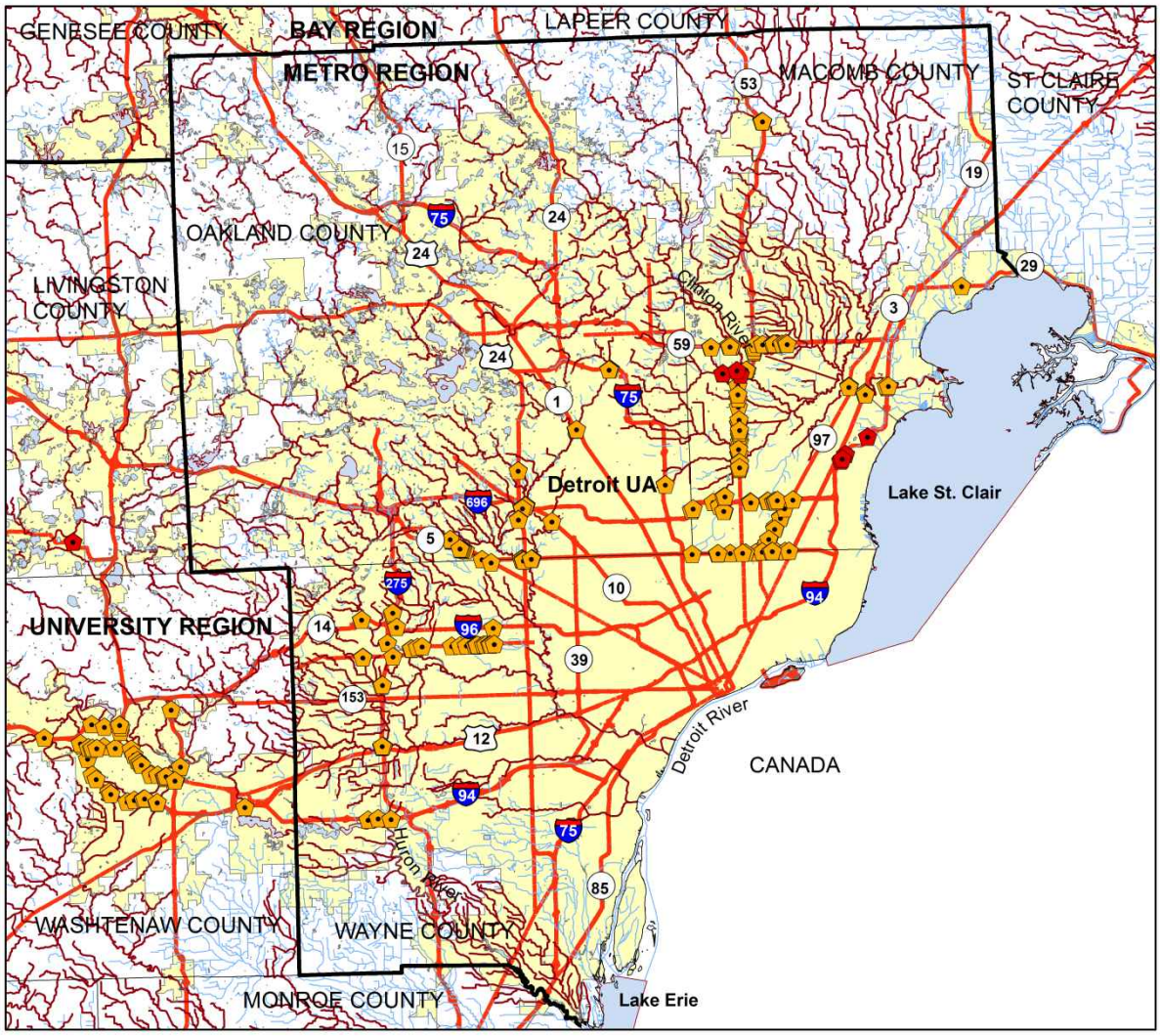
N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Detroit Urbanized Area



Legend

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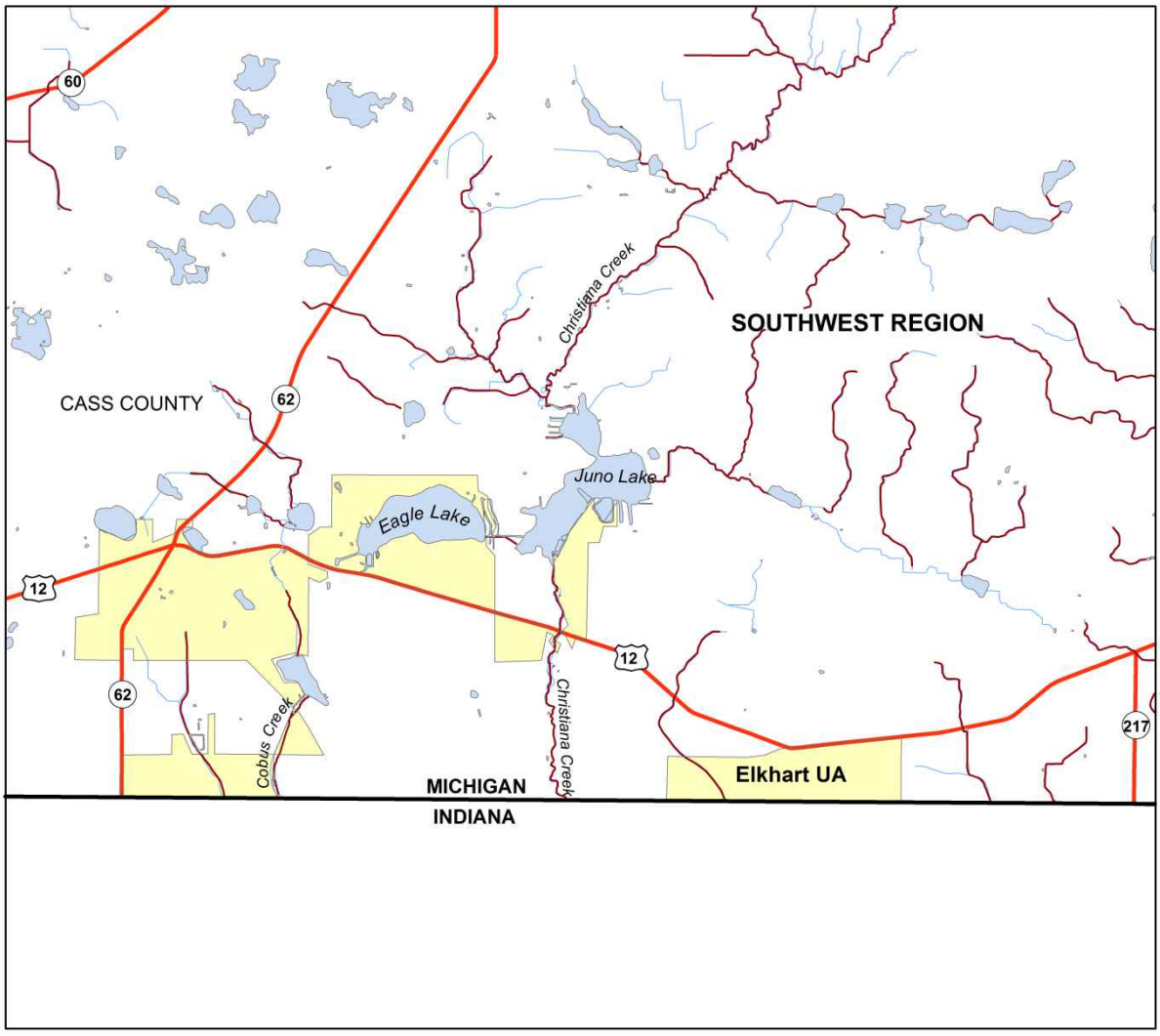
N

0 3.5 7 14 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Elkhart Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area

No IDEP Investigation

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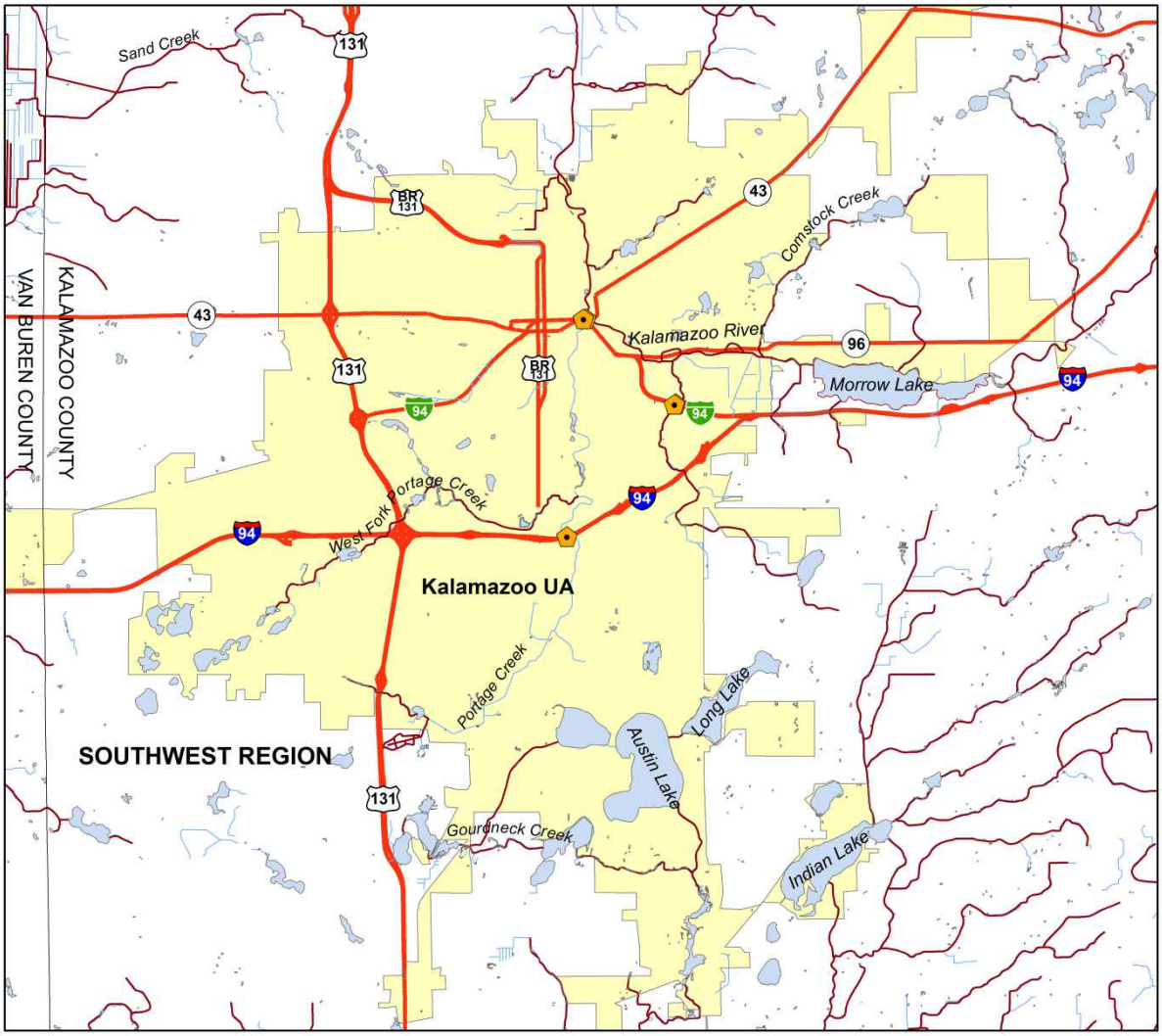
N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Kalamazoo Urbanized Area



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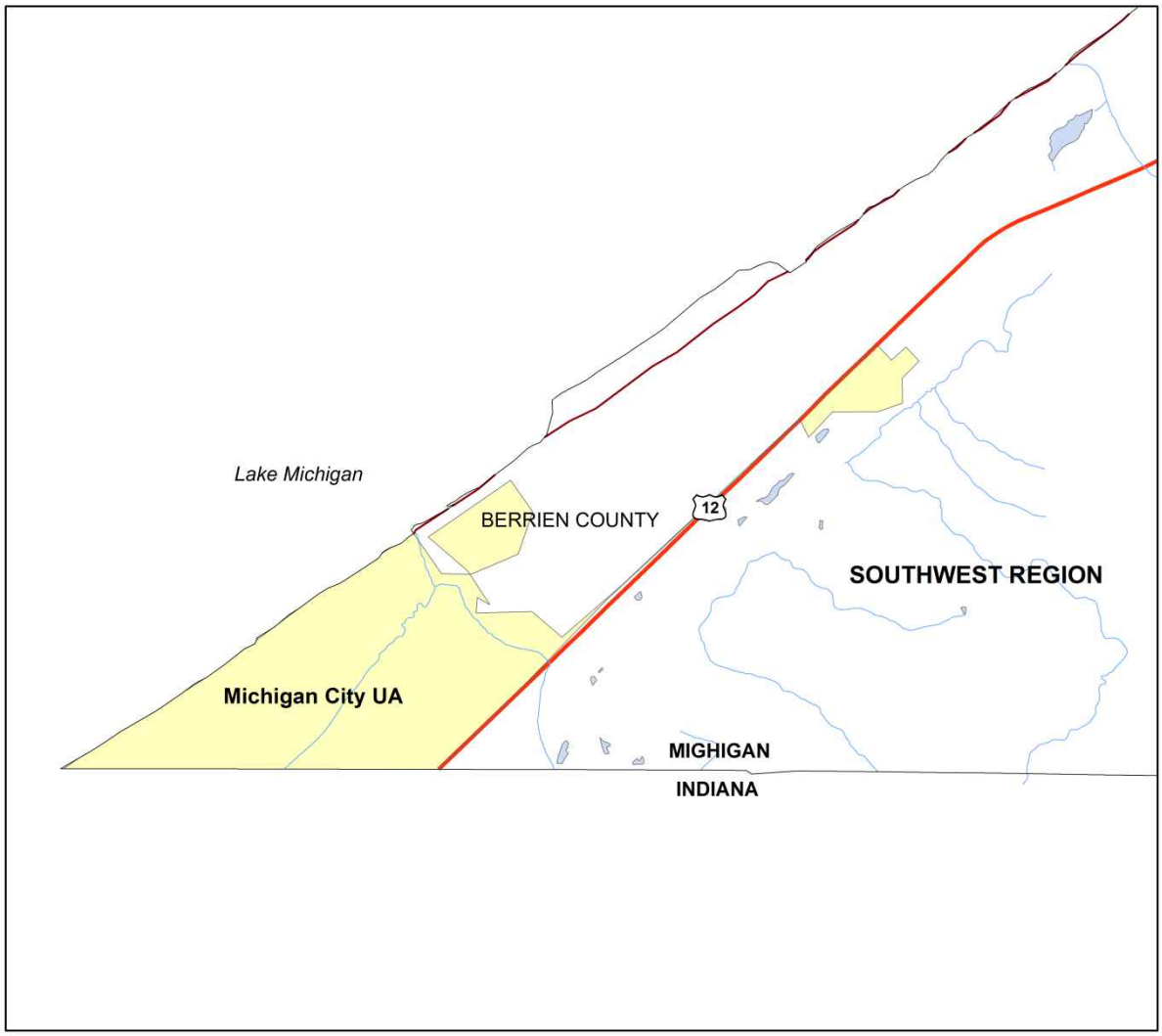
N

0 1 2 4 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Michigan City Urbanized Area



Legend

- County Lines
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- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area

No IDEP Investigation

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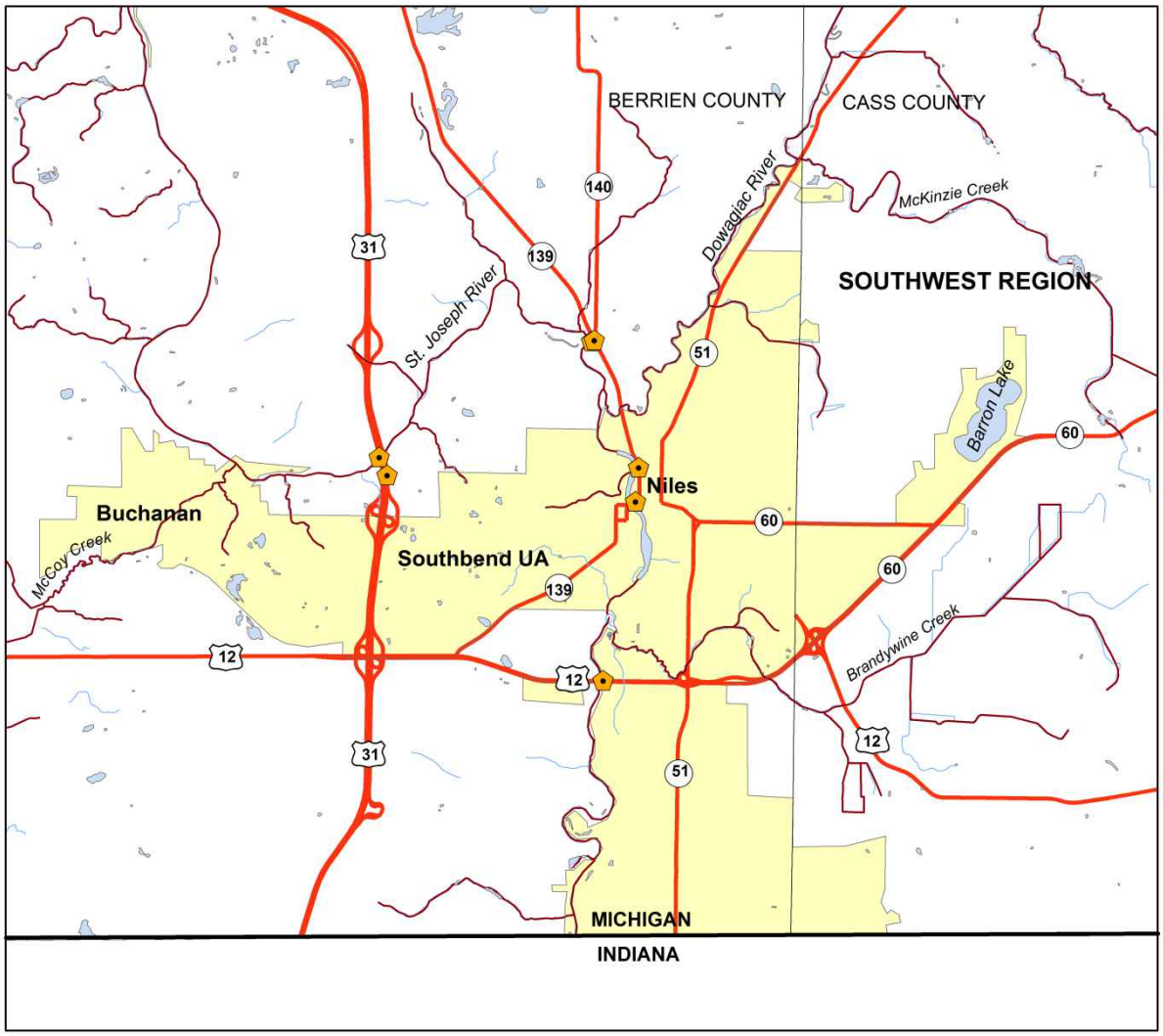
N

0 0.2 0.4 0.8 Miles

Designer: CSM
Date: 6/2/2016

AECOM

South Bend Urbanized Area



Legend

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N

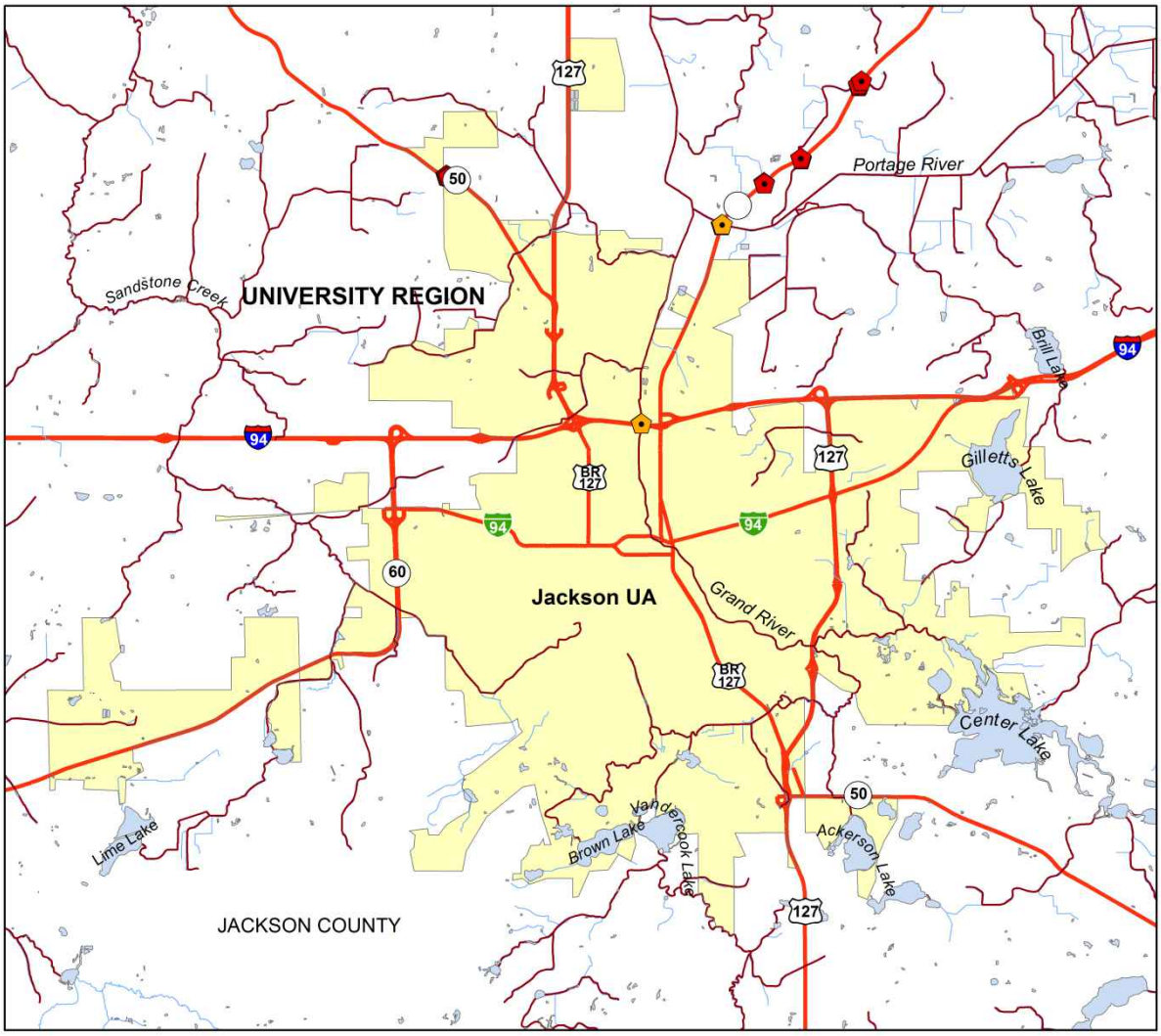
0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

University Region Urbanized Area Map

Jackson Urbanized Area



Legend

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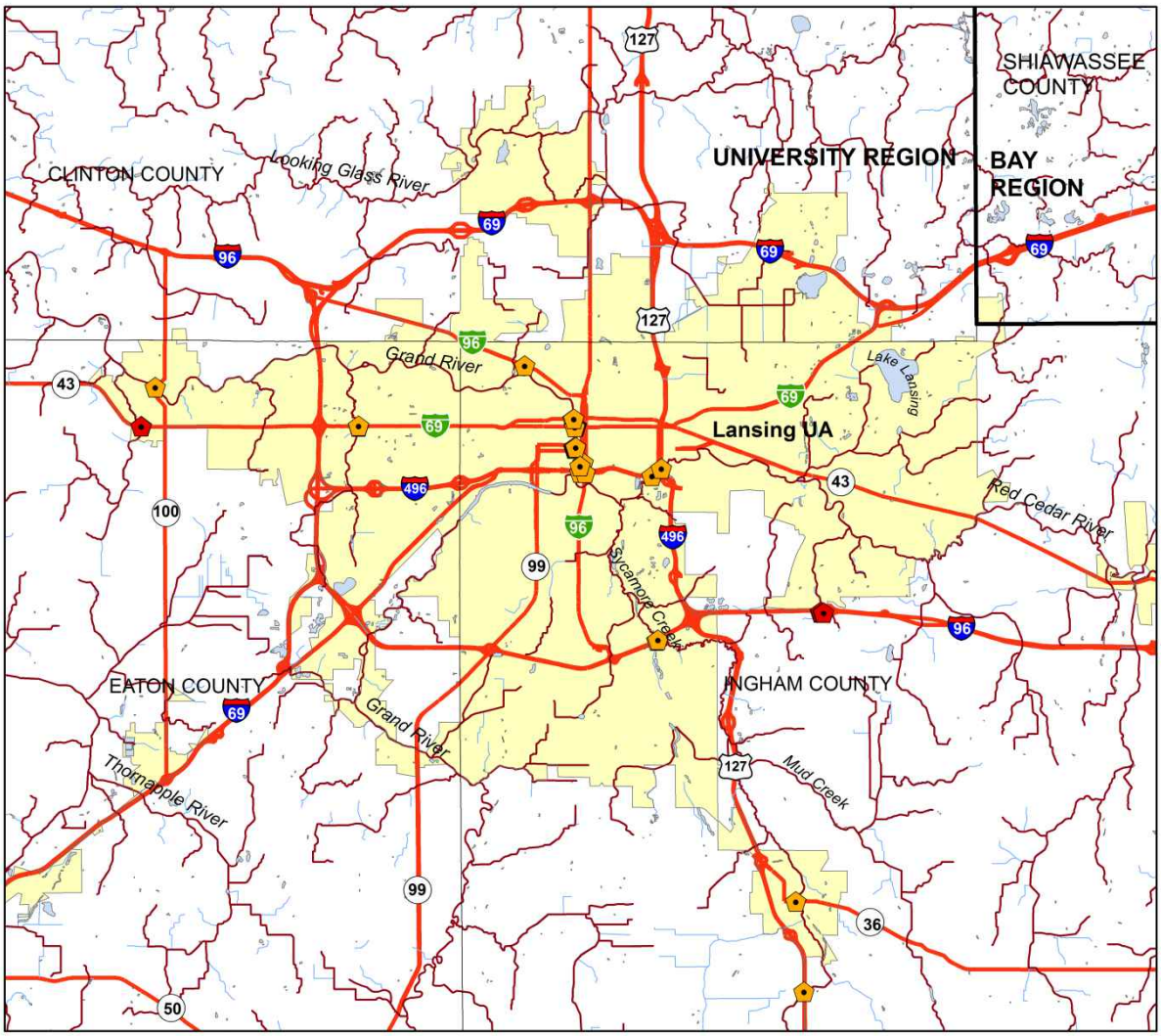
N

0 0.75 1.5 3 Miles

Designer: CSM
Date: 6/2/2016

AECOM

Lansing Urbanized Area



Legend

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- Lakes
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-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

N

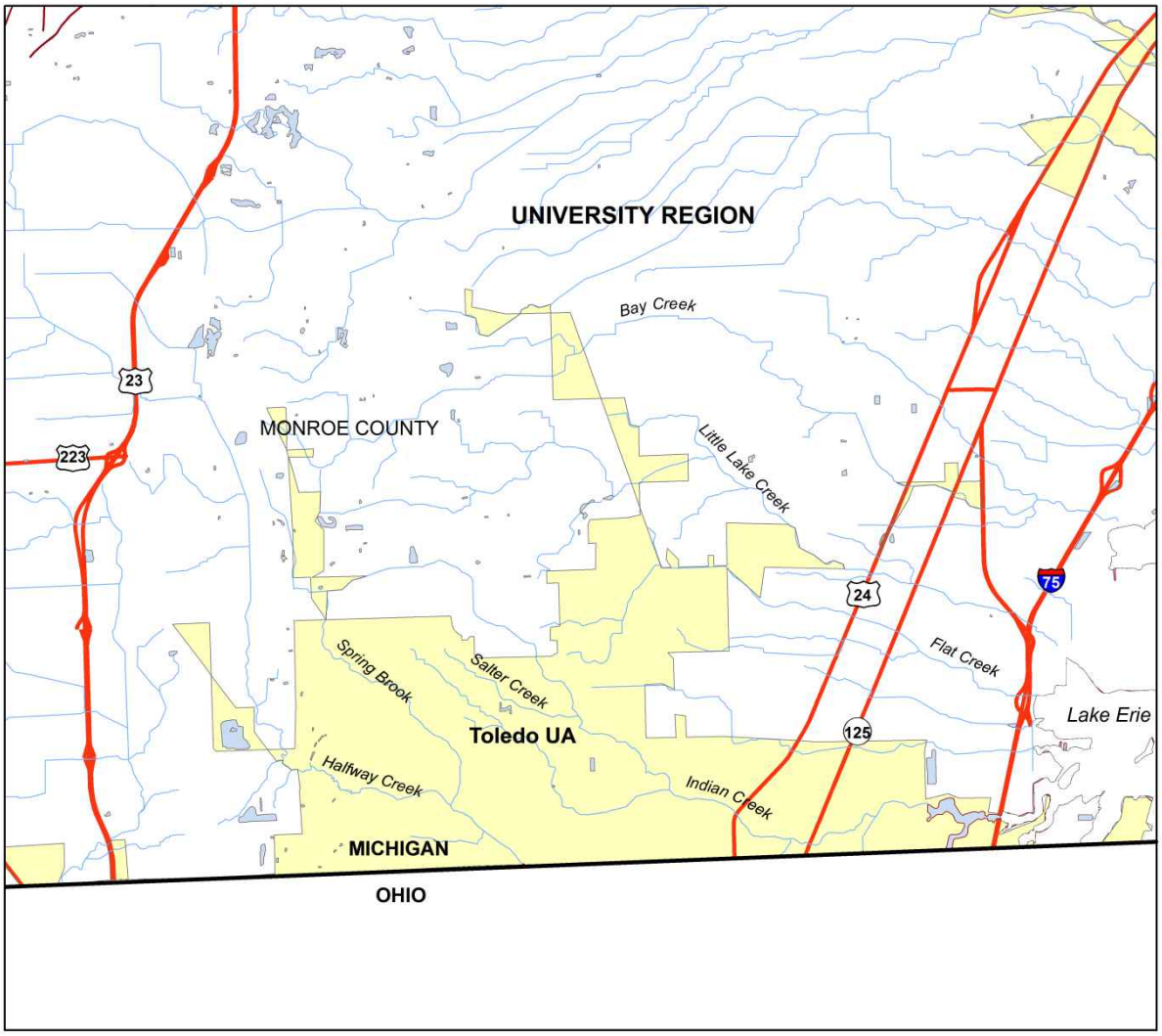
0 1.25 2.5 5 Miles

Designer: CSM
Date: 6/2/2016

AECOM

University Region Urbanized Area Map

Toledo Urbanized Area



Legend

- County Lines
- Impaired Waterbodies
- Streams and Rivers
- Lakes
- MDOT Roads
- Urbanized Area
- IDEP Field Investigation Locations

-Michigan county line data was obtained from the Michigan Center for Geographic Data Library
-MDOT road data was obtained from the Michigan Center for Geographic Framework Data Library
-Urbanized Area status is based on 2010 census data.
-Impaired waterbodies data was obtained from the USEPA National Geospatial Dataset
-Michigan waterbody data was obtained through the Michigan Center for Geographic Framework Data Library

N

0 0.5 1 2 Miles

Designer: CSM
Date: 6/2/2016

AECOM

ACTIVITY IDEP 3: CONTINUE TO IDENTIFY ILLICIT DISCHARGE CONNECTIONS AND CONDUCT DRY WEATHER SCREENING PILOT PROJECT

MONITORING YEAR: 2019

Minimum Control Measure: Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: Urbanized Area	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • IDEP 4: Notification of MDEQ of Illicit Discharges • IDEP 5: Procedure for Determining Effectiveness of the IDEP • EDUCATION 4: Develop MS4 Training Module for Designers

OBJECTIVE

To identify illicit discharges and connections from the MDOT storm sewer system within 2010 Census urbanized areas as prioritized in the IDEP Plan.

DESCRIPTION

MDOT will continue to identify illicit discharges and illicit connections. This can be done through dry weather screenings. The Red Cedar River Dry Weather Screening project will be used as a pilot program used to determine feasibility of using dry weather screenings to identify illicit discharges and connections.

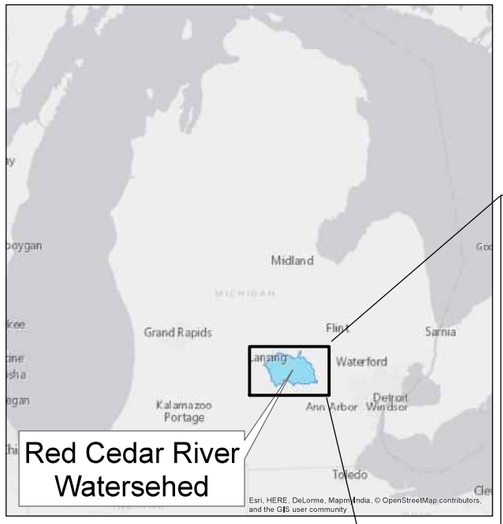
ANNUAL REPORTING

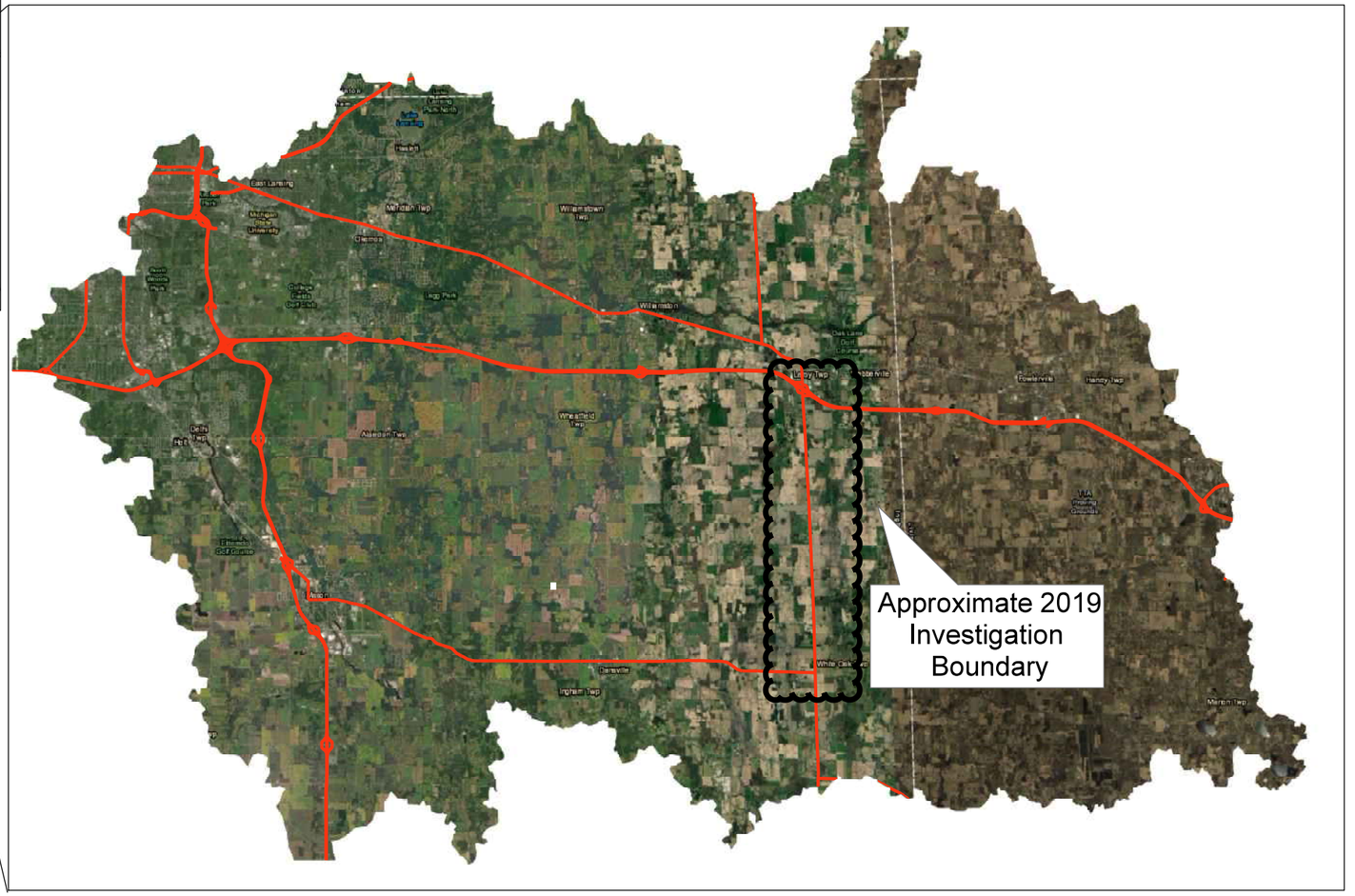
- Number and location of confirmed outfalls.
- Total number of suspected illicit connections/discharges identified.
- Number and location of manholes tested for each suspected illicit connection/discharge
- Results of sample analysis.
- Description and number of illicit connections/discharges verified.
- Estimated amount and type of pollutant removed.

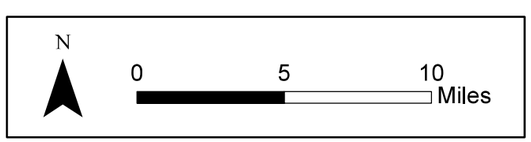
MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Follow illicit discharge procedure for 100% of illicit discharges found in order to eliminate illicit connections and discharges.	Follow up with persons who reported illicit discharge to ensure protocol was followed appropriately.
Annual Assessment: . AECOM performed illicit discharge inspections on July 15, 2019. Areas of coverage are indicated on the attached figure 1, covering approximately 9.87 miles. The list of encountered hard discharge points (drain tiles or culverts) is attached. No suspected illicit connections were noted or referred for further investigation. In addition, MDOT followed the established IDEP procedure for all investigations listed under Activity IDEP 5.	
Update MDEQ of the areas selected for dry weather screening.	Updated list of dry weather screenings sent to the appropriate person at MDEQ by the Stormwater Program Manager.
Annual Assessment: The areas for dry weather screening were chosen in 2019 and MDEQ notified.	
Desktop analysis for dry weather screening	Preparing storm sewer maps, stormwater system map, developing dry weather screening procedures

Annual Assessment: The desktop analysis was completed in 2016.	
Review outfalls identified in desktop analysis	Field work such as verification of drainage system components and locating stormwater outfalls.
Annual Assessment: MDOT received known outfalls from counties and cities within the dry weather screening project area.	
Results of dry weather screenings will be used to identify and eliminate illicit discharges	The effectiveness of the program will be assessed at the end of the program, in 2020.
Annual Assessment: During the dry weather screening field work in 2019, there were no suspected illicit connections that required further reference to the MDEQ for investigation.	
The effectiveness of the dry weather screening will be assessed at the end of the first pilot project.	Report to be given to the Stormwater Program Manager at the conclusion of the dry weather screening pilot project
Annual Assessment: This effort will be addressed once the dry weather screening project is finished in 2020**.**	
Develop a guide on prioritized areas for non-stormwater discharges based on findings from the first dry weather screening pilot project.	Guide to be completed and distributed to relevant MDOT employees and job-related public.
Annual Assessment: This effort will be addressed once the dry weather screening project is finished in 2020	
Develop a plan and schedule for re-inspecting stormwater point sources for the inspection of stormwater point sources in conjunction with the plan to ensure point sources are inspected every five years.	A plan and schedule will be developed with coordination from a consultant and the Stormwater Program Manager. The final plan to be given to the Stormwater Program Manager for implementation.
Annual Assessment: This effort will be addressed once the dry weather screening project is finished in 2020	







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MDOT STORMWATER MANAGEMENT PROGRAM

RED CEDAR RIVER WATERSHED

DRY WEATHER SCREENING - PHASE II

2019

AECOM

MDOT

2019 ILLICIT DISCHARGE INVESTIGATION SUMMARY

OBJECTID	Drainage Basin	Notes	Longitude	Latitude
1806	Red Cedar	12” conc culvert dry	-84.1980547	42.6611899
1807	Red cedar	Spillway from s bound m52	-84.1980619	42.6611217
1808	Red cedar	Concrete spillway from e bound off ramp dry	-84.1978239	42.660687
1809	Red cedar	Fiberglass pipe with conc end section, dry	-84.1953809	42.6593653
1810	Red cedar	FRP with corrugated metal over, dry	-84.1957463	42.6592906
1811	Red cedar	6” conc headwall, dry. Footing drain assumed.	-84.197714	42.6594432
1812	Red cedar	FRP with conc end section, in wetland, not running.	-84.1965553	42.6588624
1813	Red cedar	FRP with conc end section, in wetland, not flowing.	-84.1969215	42.6583939
1814	Red cedar	FRP with conc end section, in wetland, not flowing	-84.1967799	42.658505
1815	Red cedar	6” conc headwall, assumes footing drain, dry and partially obstructed with sediment.	-84.1978743	42.6583839
1816	Red cedar	Frp culvert from median, in standing water wetland, not flowing..	-84.1972933	42.6575702
1817	Red cedar	30” conc end section, standing water with oily sheen, not running.	-84.1977623	42.6569499
1818	Red cedar	Roadway spillway south of 96 on NB 52, east side, dry	-84.1977328	42.6566191
1819	Red cedar	Conc culvert, standing water not flowing, drains apparent to south.	-84.1976297	42.6565461
1820	Red cedar	Concrete end section, culvert, dry	-84.1976274	42.6563573
1821	Red cedar	Concrete spillway from NB 52, east side, south of EB on ramp.	-84.1976434	42.6563294
1822	Red Cedar	Conc culvert for field access, dry	-84.1916639	42.5563439
1823	Red Cedar	Concrete culvert for field access	-84.1915649	42.5564553
1824	Red Cedar	12” conc culvert for farm field access	-84.1918967	42.5634728
1825	Red Cedar	12” conc culvert for farm field access	-84.1917999	42.5635325
1826	Red Cedar	12” conc culvert for farm access	-84.1917964	42.563653
1827	Red Cedar	12” conc culvert for farm access	-84.1918107	42.5637947
1828	Red Cedar	12” conc culvert for farm field access	-84.1922281	42.5717117
1829	Red Cedar	12” conc culvert for farm field access	-84.1920742	42.5715107
1830	Red Cedar	12” conc culvert for farm field access	-84.1921056	42.5724772
1831	Red Cedar	12” conc culvert for farm field access	-84.1921191	42.5726074
1832	Red Cedar	Catch basin, standing water inside, running NE to SW, approx 8” pipes.	-84.1921643	42.5755281
1833	Red Cedar	48” catch basin with beehive casting, 8” estimated, running SW to NE, under 52	-84.1926832	42.5750607
1834	Red Cedar	Corrugated poly culvert	-84.1925984	42.5787797
1835	Red Cedar	Driveway culvert	-84.1924649	42.5789455
1836	Red Cedar	12” conc culvert for farm access	-84.1927725	42.5806895
1837	Red Cedar	12” conc culvert for farm access	-84.1925574	42.5806028
1838	Red Cedar	36” concrete culvert from east to west.	-84.1926842	42.5833277
1839	Red Cedar	Poly sump with beaver cover for farm field runoff, no pipes visible.	-84.1926098	42.5833515
1840	Red Cedar	36” concrete culvert from east to west, dry.	-84.1931538	42.5833179
1841	Red Cedar	12” conc culvert for farm field access	-84.1928769	42.5850096
1842	Red Cedar	12” conc culvert for farm field access	-84.192809	42.585098
1843	Red Cedar	12” conc culvert for farm field access	-84.1931126	42.5873178
1844	Red Cedar	12” conc culvert for farm field access	-84.19293	42.5870969
1845	Red Cedar	12” conc culvert for farm field access	-84.1933091	42.5900869
1846	Red Cedar	12” conc culvert for farm field access	-84.1931315	42.5900878
1847	Red Cedar	CMP culvert across road, standing water, nothing flowing	-84.193149	42.5913125
1848	Red Cedar	Sinkhole and damage to end section, some standing water but nothing flowing.	-84.1935736	42.5913201
1849	Red Cedar	Catch basin with beehive casting. 8” conc pipe from nw	-84.1932818	42.5933554
1850	Red Cedar	Damaged, unable to see through to other side, abandoned?	-84.1932159	42.593266
1851	Red Cedar	24” CMP damaged, abandoned?	-84.1936917	42.5932843
1852	Red Cedar	Conc culvert for farm access	-84.1934388	42.5952715
1853	Red Cedar	Conc culvert for farm access	-84.1934287	42.5953857
1854	Red Cedar	12” CMP culvert across road	-84.1938466	42.5973154
1855	Red Cedar	No end section, this culvert previously abandoned?	-84.1935238	42.597307
1856	Red Cedar	Conc culvert for farm access	-84.1935825	42.5983203
1857	Red Cedar	Conc culvert for farm access	-84.1936008	42.5984672
1858	Red Cedar	18” concrete culvert from e to west.	-84.1937175	42.6006421
1859	Red Cedar	18” concrete culvert from east to west	-84.1940368	42.6006553
1860	Red Cedar	Conc culvert for farm access	-84.19389	42.6020871
1861	Red Cedar	Conc culvert for farm access	-84.1937869	42.6022034
1862	Red Cedar	Culvert east to west.	-84.1939806	42.6034726
1863	Red Cedar	Catch basin with estimated 4” pipe, running water noted, no clear outlet.	-84.1937756	42.603491
1864	Red Cedar	18 conc culvert across road	-84.1942343	42.603471
1865	Red Cedar	Conc culvert for farm access	-84.1940253	42.6045676
1866	Red Cedar	Conc culvert for farm access	-84.1939362	42.6047031
1867	Red Cedar	Conc culvert for farm access	-84.1939566	42.6047292
1868	Red Cedar	Conc culvert for farm access	-84.1939645	42.6048902
1869	Red Cedar	Conc culvert for farm access	-84.1941639	42.6058558
1870	Red Cedar	Conc culvert for farm access	-84.1939627	42.6059732
1871	Red Cedar	Conc culvert for business access	-84.1939946	42.6074756
1872	Red Cedar	12” inlet/outlet in E/W direction.	-84.1940289	42.6076121
1873	Red Cedar	12” from north, dripping, 12” to east apparently outlet.	-84.1945739	42.607644
1874	Red Cedar	Conc culvert for farm access	-84.1941701	42.6024364
1875	Red Cedar	Conc culvert for farm access	-84.1941701	42.6025275
1876	Red Cedar	Conc culvert for farm access	-84.1941007	42.6019868

2019 ILLICIT DISCHARGE INVESTIGATION SUMMARY

OBJECTID	Drainage Basin	Notes	Longitude	Latitude
1877	Red Cedar	Conc culvert for farm access	-84.1941028	42.6018721
1878	Red Cedar	Conc culvert for farm access	-84.1940894	42.6011633
1879	Red Cedar	Conc culvert for farm access	-84.1940823	42.6010632
1880	Red Cedar	Conc culvert for farm access	-84.1937131	42.5980751
1881	Red Cedar	Conc culvert for farm access	-84.1935963	42.5979468
1882	Red Cedar	Conc culvert for farm access	-84.19375	42.5977519
1883	Red Cedar	Conc culvert for farm access	-84.1938987	42.5976482
1884	Red Cedar	Conc culvert for farm access	-84.1938527	42.5971873
1885	Red Cedar	Conc culvert for farm access	-84.1938743	42.5972599
1886	Red Cedar	Conc culvert for farm access	-84.1932963	42.5871665
1887	Red Cedar	Conc culvert for farm access	-84.1932942	42.5870731
1888	Red Cedar	Conc culvert for farm access	-84.1932967	42.5870381
1889	Red Cedar	Culvert for farm access	-84.1932764	42.5869206
1890	Red Cedar	Culvert for farm access	-84.1932393	42.5858431
1891	Red Cedar	Culvert for farm access	-84.1932287	42.5857794
1892	Red Cedar	Culvert for farm access	-84.1928707	42.5814748
1893	Red Cedar	Culvert for farm access	-84.1929363	42.581349
1894	Red Cedar	Culvert for farm access	-84.1929422	42.5811201
1895	Red Cedar	Culvert for farm access	-84.1929358	42.5810183
1896	Red Cedar	Culvert for farm access	-84.1928249	42.5805649
1897	Red Cedar	Culvert for farm access	-84.1927858	42.5804558
1898	Red Cedar	Culvert across road	-84.1925687	42.5794357
1899	Red Cedar	Culvert across the road	-84.1928466	42.5793773
1900	Red Cedar	Culvert for farm access	-84.1924523	42.5725601
1901	Red Cedar	Culvert for farm access	-84.1924687	42.5726805
1902	Red Cedar	Culvert for farm access	-84.1924004	42.5719342
1903	Red Cedar	Culvert for farm access	-84.192437	42.5717995
1904	Red Cedar	Culvert for farm access	-84.1923026	42.5691306
1905	Red Cedar	Culvert for farm access	-84.1922991	42.5689951
1906	Red Cedar	Culvert for farm access	-84.1922983	42.5689328
1907	Red Cedar	Culvert for farm access	-84.1923259	42.5687597
1908	Red Cedar	Culvert for farm access	-84.1920789	42.56373
1909	Red Cedar	Culvert for farm access	-84.1921546	42.5635799
1910	Red Cedar	Culvert for farm access	-84.1920974	42.5631077
1911	Red Cedar	Culvert for farm access	-84.1920982	42.5630326
1912	Red Cedar	Conc culvert across road	-84.1920612	42.563008
1913	Red Cedar	Culvert for farm access	-84.1920988	42.5628634
1914	Red Cedar	Culvert for farm access	-84.1921337	42.562781
1915	Red Cedar	Culvert across the road	-84.1918033	42.5629978
1916	Red Cedar	Culvert for farm access	-84.1920203	42.5606064
1917	Red Cedar	Culvert for farm access Obstruction by shrubs	-84.1921491	42.5604849
1918	Red Cedar	Catch basin connected to 6” tile has been crushed per home owner.	-84.1921445	42.5605935
1919	Red Cedar	Culvert for farm access	-84.1919123	42.5570269
1920	Red Cedar	Culvert for farm access	-84.1919596	42.5569071
1921	Red Cedar	Culvert for farm access	-84.1919528	42.5567832
1922	Red Cedar	Culvert for farm access	-84.1919459	42.5566567
1923	Red Cedar	Culvert for farm access	-84.1918788	42.5564776
1924	Red Cedar	Culvert for farm access	-84.1919611	42.5563689
1925	Red Cedar	Culvert for farm access	-84.191925	42.5563144
1926	Red Cedar	Culvert for farm access	-84.1919309	42.5562159
1927	Red Cedar	Culvert for farm access	-84.1919014	42.5559446
1928	Red Cedar	Culvert for farm access	-84.1919473	42.5558353
1929	Red Cedar	Culvert for farm access	-84.1917534	42.5546709
1930	Red Cedar	Culvert for farm access	-84.1917512	42.5546121
1931	Red Cedar	Conc culvert across m52	-84.1918654	42.5547701
1932	Red Cedar	Conc culvert across m52	-84.191558	42.5547351
1933	Red Cedar	Extends out of survey area to the south.	-84.1915494	42.5547414
1934	Red Cedar	Conc culvert for farm access	-84.19156	42.5546268

ACTIVITY IDEP 4: REVIEW AND UPDATE PROCEDURE FOR RECEIVING AND NOTIFYING MDEQ OF ILLICIT DISCHARGES AND ACTIONS TAKEN

MONITORING YEAR: 2019

Minimum Control Measure: Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • IDEP 3: Identify Illicit Connects/ Dry Weather Screening

OBJECTIVE

To receive reports and notify the MDEQ of illicit discharges, statewide, to the MDOT storm sewer system. To take action toward removing these discharges.

DESCRIPTION

Procedure for receiving and responding to reports of illicit discharges is established as part of Section 1512.71 of the Construction Permit Manual. Training to effectively implement the procedure will be conducted. Procedure for receiving reports from construction site runoff is already in place as part of the SESC Manual.

ANNUAL REPORTING

- Track the number of notices received and the follow-up actions taken.
- Track the number of illicit connections/discharges identified and removed.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review the procedure for receiving the notice of an illicit discharge. (As stated in Activity IDEP-3, follow the illicit discharge protocol for 100% of the illicit discharges identified).	A notification of procedure method will be posted on the MDOT Stormwater website.
Annual Assessment: The procedure was reviewed in 2019 by the Stormwater Program Manager, Stormwater Steering Committee, and Region IDEP coordinators. The process was adjusted to fit current methodologies and updated instructions and flow charts were submitted for inclusion in the Construction Permit Manual.	
Update procedure for notifying MDEQ of illicit connections and discharges.	The developed procedure will be sent in a notice to appropriate MDOT staff, identified in the responsible party, by the Stormwater Program Manager.
Annual Assessment: The procedure was reviewed in 2019 by the Stormwater Program Manager, Stormwater Steering Committee, and Region IDEP coordinators. The process was adjusted to fit current methodologies and updated instructions and flow charts were submitted for inclusion in the Construction Permit Manual.	

ACTIVITY IDEP 5: DEVELOP PROCEDURE FOR EVALUATING AND DETERMINING THE OVERALL EFFECTIVENESS OF THE IDEP

MONITORING YEAR: 2019

Minimum Control Measure: Illicit Discharge Elimination Program Activities **Statewide or Urbanized Area:** Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • IDEP 3: Identify Illicit Connects/ Dry Weather Screening • IDEP 4: Notification of MDEQ of Illicit Discharges

OBJECTIVE

Develop a procedure that will determine the effectiveness of the IDEP program to effectively eliminate illicit discharges.

DESCRIPTION

A procedure for assessing the effectiveness of the IDEP program will be developed. The procedure will be put in place and evaluated annually.

ANNUAL REPORTING

- Report number of illicit connection and discharge notices and resolutions
- Report trends in the number of notices and resolutions

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Report number of notices and resolutions per year.	Notices to be reported in the Annual Report

Annual Assessment: The following Illicit Discharges were reported in 2019:

-Bay Region: None.

-Grand Region: None.

-Metro Region:

- Blue Ribbon Illicit Discharge - On August 9, 2019 MDOT received notice from EGLE regarding a PEAS call of milky white substance entering the I-275 roadside ditch and discharging to McBride Drain. MDOT investigated and sent Blue Ribbon Contracting, Inc. a notice and order to discontinue encroachment into ROW. Blue Ribbon provided MDOT with a letter on September 9, 2019 stating measures were completed to remove the encroachment, and on September 18, 2019 EGLE closed their notice of violation.

-North Region: None.

-**Southwest Region:**

- Van Buren County Road Commission, Western District Maintenance Facility – Garage floor drain discharging directly into M-43 ditch. Illicit discharge remedied on December 3, 2019.
- I-196/ JB Hunt Transportation Services, Hagar Township, Berrien County - JB Hunt site drainage discharges onto I-196 ROW, causing a large erosion issue located during recent MDOT construction. Awaiting assessment from TSC Operations Engineer to determine a remedy.

-Superior Region: None.

-University Region:

- 8065 M-100, City of Grand Ledge. A house sump pump connection to M-100 ditch was discovered. TSC spoke to the owner and he did not remove the connection. An encroachment letter was then sent. The issue is not yet resolved.
- I-94 project: Reconstruction of I-94 from Lansing to Elm and Cooper Street interchange. Illicit discharge was found on Cooper Street, (Blind tap of trunk sanitary into a stormwater structure with direct outlet into the Grand River since possibly the 70's). Contractor made corrections to remedy the situation.

If any feedback on the program is given through stormwater contacts provided on the MDOT website,t hey will be forwarded to the Stormwater Program Man ager to compile in an archive. This archive canbe mon itored over time to determine the evolving comments and effectiveness of the program.	Stormwater contacts to forward any feedback on the stormwater program to the Stormwater Program Manager

Annual Assessment: No feedback was received in 2019.

Appendix D – Post Construction Stormwater Management Activities

ACTIVITY POST CONSTRUCTION 1: UPDATE MAP OF KNOWN STRUCTURAL BMPS AND DEVELOP PROCESS FOR TRACKING NEW STRUCTURAL BMPS

MONITORING YEAR: 2019

Minimum Control Measure: Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINSTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 2: Review and Update BMP Maintenance Requirements

OBJECTIVE

To develop a more complete map of the existing BMPs in Michigan and a system for reporting newly constructed BMPs.

DESCRIPTION

A map containing the most up to date BMPs installed in Michigan & system for tracking newly installed BMPs.

ANNUAL REPORTING

- Newly constructed BMPs to be included in the annual report.
- Updated map of known BMPs

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop map of all known BMPs in the state	Map will appear in the Annual Report
Annual Assessment: A map of all BMPs in the state was compiled in 2018. This map has been updated to reflect BMP sthat were constructed in 2019 and reported to the Stormwater Program Manager to compile the annual report. The map is available on the following page.	
Develop form of means for communicating newly constructed BMPs to the Stormwater Program Manager	Form to be distributed to all TSC Region offices by the Stormwater Program Manager.
Annual Assessment: PC-BMPs constructed in the previous year are reported to the Stormwater Program Manager during the annual report information gathering period.	
Newly constructed BMPs will be submitted using the developed form to the Stormwater Program Manager.	Form given to the Stormwater Program Manager by the TSC Region Managers on an annual basis. New BMPs to be listed in the Annual Report.
Annual Assessment: New BMPs that were constructed in 2019 have been identified in the attached table.	
Update map of known BMPs in the state	Map will appear in the Annual Report
Annual Assessment: The most recent version of the BMP map is available on the following page.	

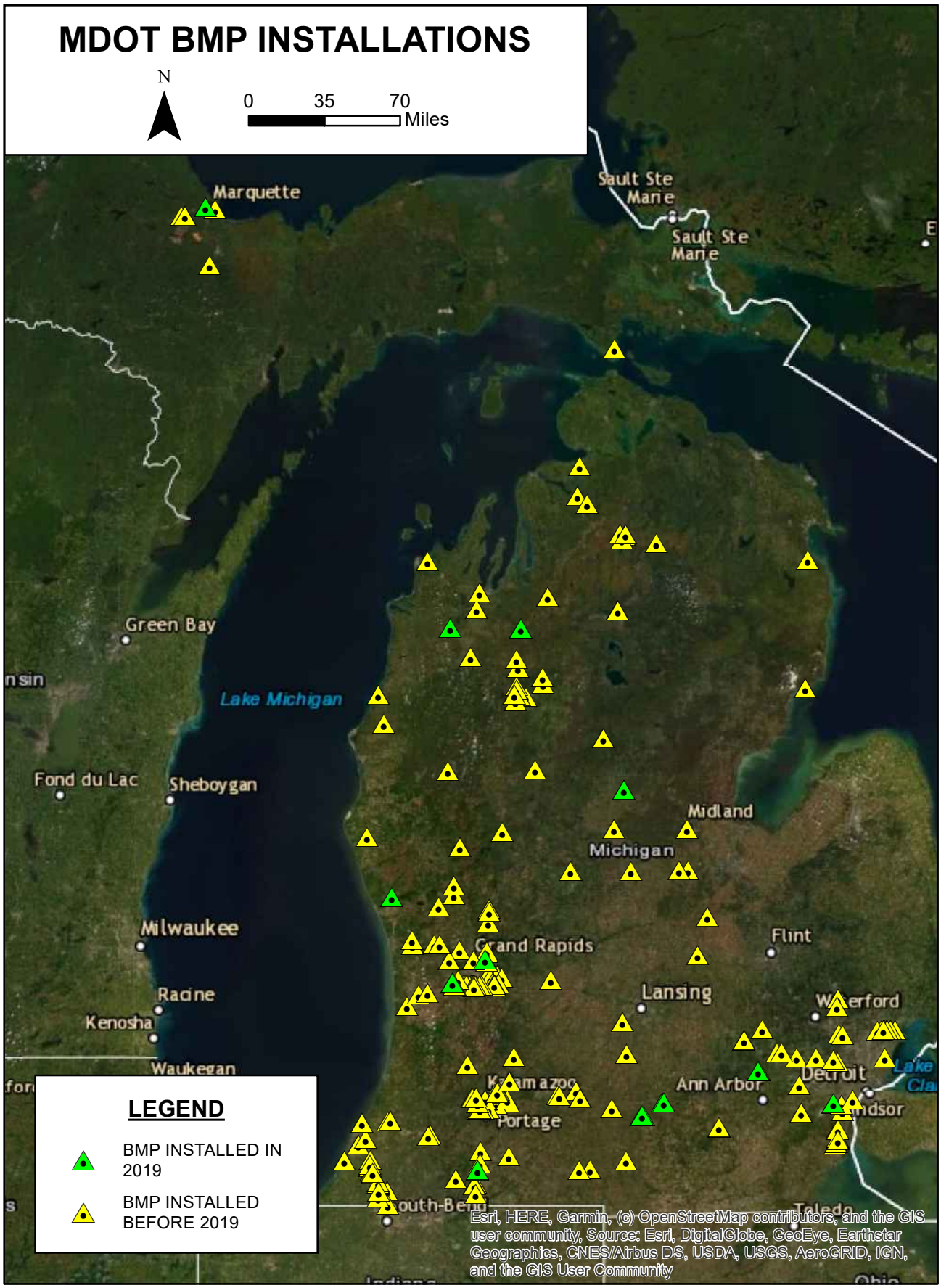

MDOT BMP INSTALLATIONS
N
0
35
70
Miles
Marquette
Sault Ste Marie
Sault Ste Marie
Green Bay
Lake Michigan
Fond du Lac
Sheboygan
Midland
Michigan
Milwaukee
Grand Rapids
Flint
Racine
Kenosha
Lansing
Waukegan
Kalamazoo
Ann Arbor
Detroit
Portage
Toledo
LEGEND
BMP INSTALLED IN 2019
BMP INSTALLED BEFORE 2019
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Table D1: 2019 BMP Construction Projects		
Region	Location	Type
Bay	US-10	Permanent check dams
Grand	I-96, I-196 flip	Extra deep sumps
Grand	M-120	Leaching basins/perforated pipe
Grand	I-196	Extra deep sumps
Metro	US-24 @ Van Born	Extra deep sump
North	US-131 @ M-186	Retention Basin
North	US-131 @ M-186	Retention Basin
North	US-131 @ M-186	Retention Basin
Southwest	US-131, Three Rivers	Infiltration Basin
Southwest	US-131, Three Rivers	Infiltration
Superior	US-41, M-28, Brickyard Road roundabout	Sump (extra deep)
University	M-60, Spring Arbor	Infiltration Basin
University	M-60, Spring Arbor	Infiltration Basin
University	M-60, Spring Arbor	Sumps (Deep)
University	I-94	Basin (detention)

Table D1: 2019 BMP Construction Projects		
Region	Location	Type
University	I-94	Basin (detention)
University	US-23 carpool lot	Basin (Detention)
University	US-23 carpool lot	Basin (Detention)
Bay	US-10	Permanent check dams
Grand	I-96, I-196 flip	Extra deep sumps
Grand	M-120	Leaching basins/perforated pipe

ACTIVITY POST CONSTRUCTION 2: REVIEW AND UPDATE MAINTENANCE REQUIREMENTS FOR MDOT BMPS

MONITORING YEAR: 2019

Minimum Control Measure: Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 1: Update Map of Structural BMPs • POLLUTION PREVENTION 4: Track Road Maintenance Activity

OBJECTIVE

To protect receiving water quality statewide by reviewing and updating maintenance requirements for permanent MDOT-approved BMPs.

DESCRIPTION

Updated procedures for the continued maintenance of BMPs.

ANNUAL REPORTING

- Discuss updates to the maintenance requirements

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review Maintenance Activity Guides and update accordingly.	Develop recommendations based on the review. To be given to the Stormwater Program Manager and documented in the Annual Report.
Annual Assessment: Developing a process to review and update the Maintenance Activity Guides was discussed by the Stormwater Steering Committee in 2019. A process was agreed upon and the group will be piloting the process on various Activity Guides in 2020. This measurable goal will be a focus for 2020.	
Develop and implement procedures for maintaining permanent BMPs not already having a maintenance procedure.	Newly developed procedures will be documented by the Stormwater Program Manager
Annual Assessment: Design guides are being developed for various post construction stormwater BMPs. Each guide will have a section specific to the maintenance for the BMP. This process is occurring concurrently with the Maintenance Activity Guide updates and will be a focus for 2020.	
Develop and implement a procedure for maintaining permanent BMPs after acceptance of BMP for use on MDOT projects	Newly developed procedures will be documented by the Stormwater Program Manager
Annual Assessment: For each new BMP constructed in 2019, current maintenance practices will be followed.	
Notify appropriate staff of changes to guides.	Notification to be sent out to the appropriate staff via email as needed.
Annual Assessment: As guides are created/updated, appropriate staff will be notified.	
Maintain existing permanent BMPs according to existing MDOT procedures.	BMPs will be inspected every 5 years by a consultant to ensure proper maintenance.
Annual Assessment: BMPs are maintained according to the maintenance plans and are inspected on a rotating five-year basis. In 2019, 32 BMPs were inspected to ensure proper maintenance.	

ACTIVITY POST CONSTRUCTION 3: DEVELOP PROCEDURE TO SELECT AND APPLY BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER MANAGEMENT ACTIVITIES (POST-CONSTRUCTION) AND IMPLEMENT PROCEDURES
MONITORING YEAR: 2019

Minimum Control Measure: Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINSTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 1: Update Map of Known Structural BMPs and Develop Process for Tracking new Structural BMPs • POST CONSTRUCTION 2: Review and Update Maintenance Requirement for MDOT BMPs • POST CONSTRUCTION 4: Achieve Water Quality and Channel Protection Compliance • POST CONSTRUCTION 6: Update Drainage Manual • POLLUTION PREVENTION 1: BMP Inspections

OBJECTIVE

To develop a procedure for selecting, applying and maintaining permanent BMPs for selected MDOT projects statewide. Implementing these procedures will protect receiving water quality.

DESCRIPTION

Development of selection procedure for applying BMPs for stormwater management activities.

ANNUAL REPORTING

- Report completion of BMP selection and pollutant discharge reduction estimate tools.
- Track the permanent BMPs selected for earth-disturbing projects using existing databases.
- Track permanent BMP installations, maintenance, and modifications.
- Track employee training on BMP selection and maintenance.
- Report pollutant discharge education based on theoretical BMP performance.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Update procedures for selecting permanent BMPs.	A selection tool for selecting BMPs will be posted on th eMDOT Stormwater website.
Annual Assessment: A draft version of the BMP selection tool has been completed and is being tested for accuracy with MDOT projects.	
Develop a procedure to estimate pollutant discharge reduction based on theoretical BMP performance.	The BMP selection tool will incorporate a procedure for estimating pollutant discharge reductions.
Annual Assessment: The version of the BMP selection tool distributed to MDOT designers suggests structural BMPs based on the pollutant reduction requirements onsite.	
Issue staff guidance for the selection tool.	A document outlining the instructions for the tool will be distributed to the appropriate storm water related staff.
Annual Assessment: This was completed during 2017 and is being monitored for effectiveness & accuracy.	

Implement procedures to select permanent BMPs.	Procedures will go into effect on the first of the year.
Annual Assessment: This was completed in 2017.	
Evaluate existing procedures for applying and maintaining permanent BMPs.	Recommendations based on the evaluations will be given by the responsible party to the Stormwater Program Manager.
Annual Assessment: This was completed in 2017.	
Update and/or develop procedures for applying and maintaining permanent BMPs.	Approved recommendations will be implemented into procedures.
Annual Assessment: There were no changes to procedures as to when PC-BMPs are required on projects. This measurable goal is ongoing.	
Document procedures and issue staff guidance.	Updated procedures and guidance will be emailed to stormwater related staff.
Annual Assessment: There were no new procedures developed for the stormwater program in 2019. This measurable goal is ongoing.	
Implement procedures to select, apply, and maintain permanent BMPs.	Updated or new procedures will be implemented for the selection, application, and maintenance of BMPs.
Annual Assessment: The BMP selection tool was issued to relevant MDOT staff in 2017 and involves the procedure of how to select and apply structural BMPs. The maintenance of BMPs will be an ongoing goal.	
All projects will be evaluated for permanent stormwater BMP inclusion during scoping and early design.	BMPs identified for inclusion in new projects will be outlined in the Stormwater Annual Report.
Annual Assessment: There were several projects which incorporated permanent, structural BMPs in 2019: • JN 132412, US-131 @ M-186, Retention Basin • JN 123643, US-10, Permanent check dams • JN 120277, M-60, Spring Arbor, Infiltration Basins and Deep Sumps • JN 120273, I-94, Detention Basin • JN 126499, I-96, I-196 flip, Extra deep sumps • JN 119937, US-41, M-28, Brickyard Road roundabout, Sump (Extra Deep) • JN 118165, M-120, Leaching basins/perforated pipe • JN 118618, I-196, Extra deep sumps • JN 116377, US-131, Three Rivers • JN 132128, US-23 carpool lot, Detention Basins • JN 120459, US-24 @ Van Born, 4 each 48” Drainage structure & 48” extra deep sumps. There were several other projects which incorporated temporary measures or general stormwater improvements in 2019 including: • JN 118947 & 123643, included permanent stone check dams and wide bottom ditches for sediment removal. This project was 8.22 miles of concrete overlay on US-10 from US-127 easterly to the Midland/Isabella county line in Clare and Isabella Counties. • Many Emergency Contract where approximately $993,000 in washout repairs, ditch cleanouts, and culvert cleanout done on US-41, M-26, and M-203 in Houghton County due to the June 17, 2018 flood event at 58 locations. The total length of the project was 2.678 miles. • Four-foot deep sumps were constructed on some of the catch basins on US-41/M-28 at the Brickyard Road intersection in Marquette County with a roundabout construction project. • US-41 culvert replacement with washout repair at Denton Road in Houghton County for $332,000. • Northbound M-11 in Kent County: 600 linear feet of new curb and installation of drainage structures. For more information, see Activity Post Construction 1.	

ACTIVITY POST CONSTRUCTION 4: COMPLY WITH PERFORMANCE STANDARDS FOR NEW DEVELOPMENT AND RE-DEVELOPMENT PROJECS TO THE MAXIMUM EXTENT PRACTICABLE
MONITORING YEAR: 2019

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION1: Program Assessment and Reporting • POST CONSTRUCTION 3: Develop Selection Procedure for BMPs • POST CONSTRUCTION 5: Review Projects Discharging to Impaired Waters • POST CONSTRUCTION 7: Site Plan Review for Post Construction Projects

OBJECTIVE

Achieve compliance standards for water quality and channel protection issued by the United States Environmental Protection Agency (EPA) for all new development and redevelopment projects.

DESCRIPTION

As designated by the EPA, all new development and redevelopment projects must comply with water quality and channel protection standards. Compliance with channel protection and water quality standards will be estimated, per project, using the BMP selection tool as a preliminary analysis tool, as described in Activity Post Construction 3.

ANNUAL REPORTING

- Post construction projects achieving standards will be documented in the Annual Report
- All newly constructed BMPs (as well as modifications, replacements, or enhancements of BMPs) will be documented in the Stormwater Annual Report

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Desktop assessment of new development and redevelopment projects using the BMP screening tool in preliminary analysis.	Results from the analysis will be submitted for each project to the Stormwater Program Manager.
Annual Assessment: The BMP screening tool has been completed and distributed to MDOT designers. Throughout 2019, the tool was be tested for future projects, with the goal of this tool being used in the preliminary analyses of all projects. The tool was tested on several projects with reasonable results. Training was provided to 338 unique internal users with a total of 537 total page hits.	
Meet compliance standards goals to the maximum extent practicable. Compliance standard goals include: • BMPs are designed based on site constraints to reduce post development suspended solids loadings • Treat runoff from the 90% non-exceedance storm • When impervious area is increased, post-construction runoff rate and volume match pre-development conditions as closely as possible for storms up to the two-year, 24-hour event • Addressing specific pollutants on a site specific basis	Results from the analysis will be submitted for each project to the Stormwater Program Manager.
Annual Assessment: All newly constructed BMP projects listed in Activity Post-Construction 1 meet either the water quality or channel protection standards prior to 2020.	
Document the modification, replacement, or enhancement of BMPs.	A description of the work done will be given to the Stormwater Program Manager for inclusion in the Annual Report
Annual Assessment: One existing BMP was modified, replaced or enhanced in 2019. I-196/I-96 Flip Project: During the winter of 2019 a 4' diameter Leach Basin was constructed to filter the stormwater on EB 96.	

ACTIVITY POST CONSTRUCTION 5: REVIEW PROJECTS WITH STORMWATER DISCHARGES TO WATER BODIES WITH PROMULGATED TOTAL MAXIMUM DAILY LOADS (TMDLs)

MONITORING YEAR: 2019

Minimum Control Measure: Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINSTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 3: Procedure to Select BMPs • POST CONSTRUCTION 4: Water Quality and Channel Protection • POST CONSTRUCTION 6: Update Drainage Manual

OBJECTIVE

To develop a procedure for the review of projects with stormwater discharges to water bodies with a promulgated TMDL and to and implement stormwater controls statewide to meet responsibilities established by TMDLs to the MEP.

DESCRIPTION

An interactive map showing trunklines crossing 303(d) listed water bodies will be beneficial in the planning of MDOT projects to ensure compliance with water quality standards of discharges. All new development and redevelopment projects will use this map as a tool to assess if stormwater discharges to TMDL water bodies.

ANNUAL REPORTING

- Report completion of interactive mapping system on MDOT Stormwater Website
- Track location of projects discharging to waters with TMDL
- Track compliance with TMDL requirements.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Develop interactive mapping system on the MDOT Stormwater Web Site showing MDOT trunklines crossing 303(d)-listed water bodies.	Completed tool available to MDOT staff.
Annual Assessment: This measureable goal was completed in 2016 and is available to MDOT design staff. This newly created GIS tool allows users to enter their project limits and see if they intersect with 303(d) listed waters.	
Review all new projects that discharge to waters of the state with a promulgated TMDL.	Projects to be reviewed by environmental staff as necessary.
Annual Assessment: All projects were reviewed in 2019 that could discharge to a waters of the state. Each was reviewed for applicable TMDL requirements.	
Evaluate various options to mitigate projects discharging to TMDL water bodies. BMPs are to be implemented to comply with stormwater related requirements to meet TMDLs.	Projects to be evaluated by environmental staff and an internal stormwater committee as needed.
Annual Assessment: In 2019, there were 35 projects within TMDL areas for Sediment, Dissolved Oxygen, and Nitrates. All projects were reviewed for compliance with TMDL requirements.	
Install and maintain BMPs on projects intersecting TMDL waterbodies.	Projects to be evaluated by environmental staff and an internal stormwater committee as needed.
Annual Assessment: All projects constructed in 2019 that were in TMDL attainment areas included appropriate BMPs to address the given TMDL.	

ACTIVITY POST CONSTRUCTION 6: PERIODICALLY UPDATE DRAINAGE MANUAL

MONITORING YEAR: 2019

Minimum Control Measure: Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • PUBLIC INVOLVEMENT 3: Coordinate with MPOs • POST CONSTRUCTION 3: Selection Procedure for BMPs • POST CONSTRUCTION 4: Water Quality and Channel Protection • POST CONSTRUCTION 5: Review Projects Discharging to Impaired Waters

OBJECTIVE

To update MDOT's policies and procedures for the design of BMPs. Other fields to be reviewed include the construction, maintenance, and demolition of BMPs as outlined in the manual.

DESCRIPTION

The existing Drainage Manual will be reviewed and revised as needed to include the latest details of the stormwater management program. Notification and guidance will be given to appropriate MDOT employees and job-related public.

ANNUAL REPORTING

- Track changes made to the Drainage Manual.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Assess the need to update the Drainage Manual. The first update of the Drainage Manual will include the new source of rainfall data of the MDEQ's 2006 memo providing the 90 percent annual non-exceedance storm statistics.	Proposed changes to be drafted by the environmental staff.
Annual Assessment: The Drainage Manual was assessed in 2016. The result of the assessment is that the manual needs to be updated to reflect the current status of the MDOT stormwater program.	
Update the Drainage Manual. Changes to manual must be approved by the Engineering Operations Committee (EOC).	Proposed changes to be delivered to the EOC for approval.
Annual Assessment: Instead of updating the Drainage Manual, a document named the Post-Construction Stormwater BMP Design Guidance has been created to supplement the Drainage Manual and aid MDOT designers in the design of structural stormwater BMPs. A draft of the document was created in 2017 and finalizing the document is a goal of 2020.	
Notify appropriate staff of changes to the manual.	Updated drainage manual will be distributed to the appropriate staff.
Annual Assessment: Once the document is completed, MDOT staff will be notified.	

ACTIVITY POST CONSTRUCTION 7: SITE PLAN REVIEW FOR PROJECTS

MONITORING YEAR: 2019

Minimum Control Measure: Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 4: Compliance with Water Quality and Channel Protection Standards

OBJECTIVE

Ensure compliance with post-construction stormwater requirements through a review process of site plans for installation, operation, and maintenance.

DESCRIPTION

As designated by the MDEQ MS4 Permit, MDOT must submit site plans for approval for each project subject to the post-construction stormwater runoff control requirements. Reviews will allow MDOT to ensure that the finished project will sufficiently meet post-construction stormwater runoff program requirements and long-term operation and maintenance of BMPs.

ANNUAL REPORTING

- Document number of projects submitted for review

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Initial site plans of post-construction stormwater BMPs shall be submitted for review to MDOT stormwater staff.	Site plan reviews by stormwater staff.
Annual Assessment: In 2019, 226 projects were reviewed by the MDOT Aquatic Resource Analyst for the inclusion of stormwater pc-bmps.	
Develop procedure for the site plan review and approval process. Procedure shall include a checklist of specific criteria to be used by plan reviewers.	Procedure shall be distributed to appropriate staff by the MDOT Stormwater Program Manager.
Annual Assessment: During the environmental clearance process, all projects are reviewed for appropriate PC-BMPs. The Stormwater Steering Committee is developing a process for staff to follow when a project doesn't fully meet the post construction treatment goals but has met them to the maximum extent possible. This measurable goal will be a focus for the year 2020.	

Appendix E – Construction Stormwater Runoff Control Activities

ACTIVITY CONSTRUCTION 1: REVIEW INTERNAL QUALITY ASSURANCE/QUALITY CONTROL (QAQC) PROTOCOL FOR CONSTRUCTION STORMWATER RUNOFF CONTROL

MONITORING YEAR: 2019

Minimum Control Measure: Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • POST CONSTRUCTION 4: Water Quality and Channel Protection • POST CONSTRUCTION 5: Review Projects Discharging to Impaired Waters • IDEP 1: List of Construction Projects and Maintenance Activities

OBJECTIVE

To improve the effectiveness of temporary BMPs statewide through internal QAQC for construction stormwater control.

DESCRIPTION

Development of the QAQC protocol is underway and will be submitted to the Environmental Committee for approval.

ANNUAL REPORTING

- Track number and result of internal reviews
- Track actions taken per MDOT/SESC Manual.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Review the QAQC protocol for construction stormwater control.	Revisions given to the Stormwater Program Manager by the responsible party.
Annual Assessment: 53 QAQC reviews were completed on plans and 34 reviews were done for construction.	
Update the QAQC protocol for construction stormwater control as necessary.	Final QA/QC protocol given to the Stormwater Program Manager by the responsible party.
Annual Assessment: No changes were deemed necessary to the QAQC protocol for 2019.	
Notify the appropriate staff of changes to the protocol.	Notification and guidance documents to be distributed to staff members.
Annual Assessment: There were no changes to the protocol so no staff notifications were needed**.**	

Appendix F – Pollution Prevention/Good Housekeeping Activities

ACTIVITY POLLUTION PREVENTION 1: BMP INSPECTIONS MONITORING YEAR: 2019	
Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting
OBJECTIVE	
Routine inspections of MDOT structural BMPs to ensure compliance with various components of the permit.	
DESCRIPTION	
BMPs will undergo inspection to ensure that facilities comply with developed maintenance procedures.	
ANNUAL REPORTING	
• Summary of all inspections done and recommendations for each BMP.	
MEASURABLE GOALS	
MEASURABLE GOAL	**MEASURE OF ASSESSMENT**
An inspection of BMPs shall be conducted at least once every five years to ensure appropriate maintenance.	Inspection reports to be given to the Stormwater Program Manager.
Annual Assessment: 32 BMPs were inspected during the 2019 monitoring period. See attached BMP Inspection Summary. See map in the inspection report for a BMP inspections schedule for all years in the permit cycle.	
Items identified during inspections as needing attention shall be addressed.	Stormwater Program Manager to notify maintenance crews and follow up, as necessary.
Annual Assessment: Recommendations provided in the 2019 summary will be addressed during 2020 as funding and scheduling allow.	
As needed, identify BMPs to be modified, replaced, or enhanced.	BMPs identified for modification, replacement, or enhancement will be outlined in the annual report.
Annual Assessment: On an as needed basis throughout the permit cycle, BMPs will be modified, replaced or enhanced.	

Stormwater Best Management Practices - 2019 Inspections Summary

Stormwater BMPs are inspected every 5 years on a rotating basis. 32 of these BMPs were inspected in 2019. **Figure 1** shows the locations of BMPs inspected in 2019 as well as a tentative schedule for future inspections.

Each components of the BMP such as fencing, inlet and outlet conditions, mowing, trash and debris, etc. is inspected and scored on a scale from 1-9. An average score is then taken and documented for each BMP. This value is used to track the BMP's condition over time. Recommendations are also given based on the condition of the BMP. A summary of each of the BMPs inspected in 2019 is listed in **Table 1**.

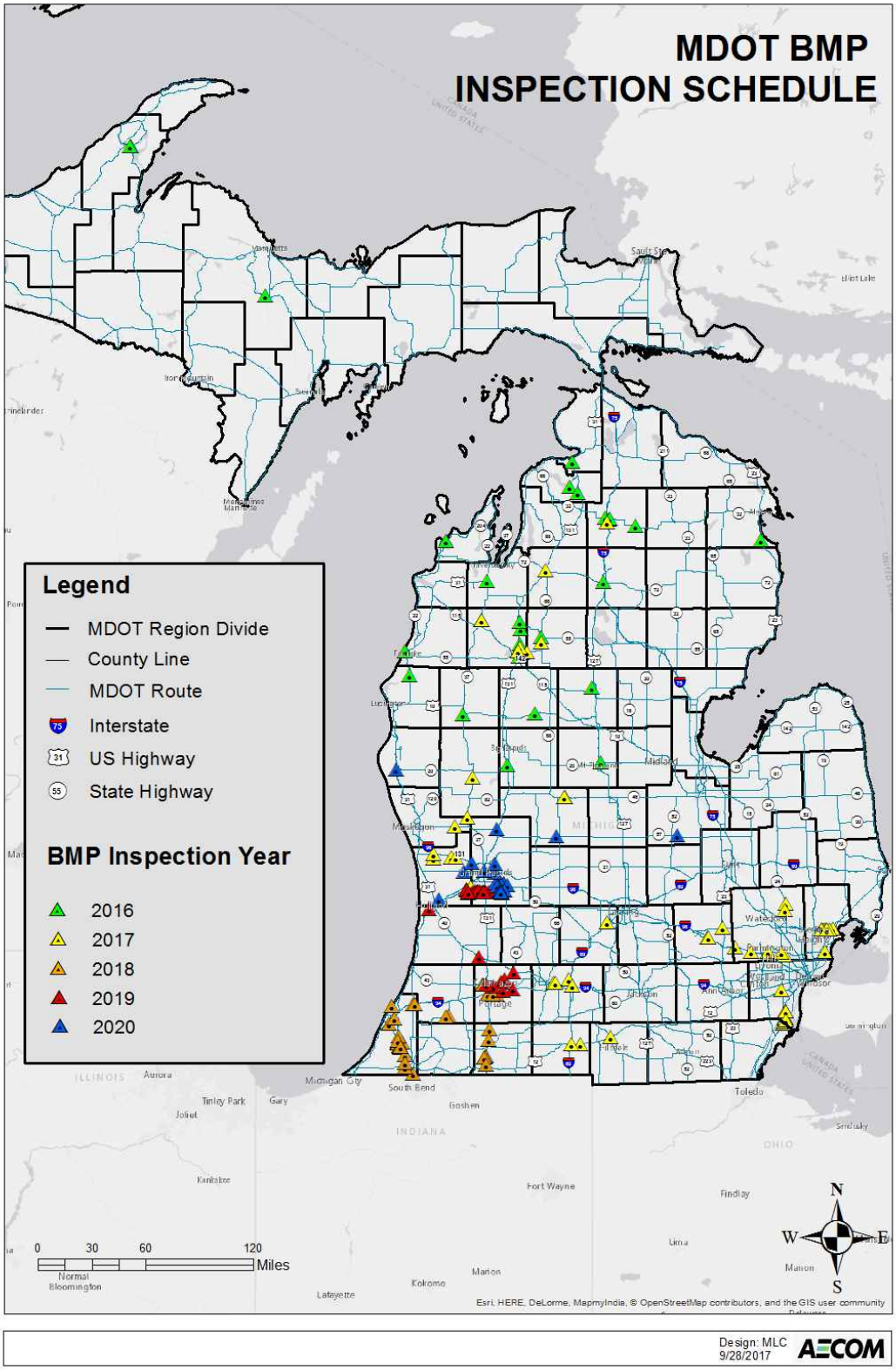


Figure 1 - BMP Inspection Schedule

Table 1: 2019 BMP Inspections Summary				
County	Location	Structures Inspected	Scoring Summary 2019	Recommendations
Allegan	US-31 S. of Washington Ave. in Median	Detention Basin	7.60	Remove trash regularly.
Allegan	M-89 at 800 ft W of Jefferson Avenue (500 ft E of Kalamazoo River)	Separator Chamber	7.17	Remove trees in rip rap of outlet channel. Fix end section of outlet. Monitor for trash and sediment accumulation in chamber. Remove as needed.
Barry	At Maple St	Stormwater Treatment Device	5.80	Replace lid or remove asphalt on outlet manhole. Monitor sediment and trash accumulation in Aquashield. Clean as needed.
Calhoun	M-99 in Albion	Extra Deep Sumps	6.64	Remove accumulated sediment from sumps for inlets 5 and 6. Install rip rap below outlet pipe to prevent further scout.
Kalamazoo	I-94 WB at Galesburg Rest Area (2500 ft west of 35th St.)	Retention Basin	5.79	Install end sections on inlet 1 to prevent flanking/piping. Remove accumulated sediment from inlets 2 and 3. Mow outlet 1.

Table 1: 2019 BMP Inspections Summary				
County	Location	Structures Inspected	Scoring Summary 2019	Recommendations
Kalamazoo	I-94 at Sprinkle Road in NE Quad	Detention Basin	5.46	Rebuild rundowns for inlets 1 and 2 so they are concave up. Remove sediment accumulation from inlet 1, inlet 2, and outlet. Repair gullies and rundowns to prevent future gullying. Monitor vegetation establishment and slope stability.
Kalamazoo	M-43 @ Nazareth in SW quadrant	Detention Basin	6.91	Repair inlet 1 pipe, end section, and surrounding erosion. Install erosion protection below inlet 1 to prevent additional flanking of inlet 1. Inspect man hole leading to inlet 1. Repair as needed.
Kalamazoo	I-94 BR (Stadium Dr) at Michigan Ave in N Quad	Infiltration Basin	6.08	Extensive growth of cattails and algae across basin, clean regularly. Remove vines from gate. Install lock and chain on gate. Clean Inlets #1 & #2 as they are one half full of sediment.
Kalamazoo	I-94 BR (Stadium Dr) at US-131	Detention Basin	7.23	Some weedy growth within the pond, mow regularly. Replace bolt and nut on the Gate's chain with a lock. Clean trash and weed growth in the rip-rap at Inlet #1.
Kalamazoo	M-43 @ US-131 ramp to NB	Infiltration Basin	5.18	Remove sediment at from inlets 1 and 2. Repair gully below inlet channel 1 and armor to prevent future gullying. Because of water levels, inlet 2 is expected to accumulate sediment quickly. Consider changing inlet design or making changes to basin to increase rate of infiltration.

Table 1: 2019 BMP Inspections Summary				
County	Location	Structures Inspected	Scoring Summary 2019	Recommendations
Kalamazoo	M-43 @ 26th Street SE quadrant	Retention Basin	6.00	Repair erosion around inlet 1. Repair fence damage. Clear trees around gate so that it can be opened all the way. Add lock and chain to gate.
Kalamazoo	M-89 at 34th Street SW Quad	Infiltration Basin	7.00	Clean trash rack on inlet 2.
Kent	M-6 at Kalamazoo Ave Ramp A in NE Quad	Detention Basin and Infiltration Forebay	6.81	Monitor water and algae. Remove trees growing against outlet sheet pile. Monitor or repair inlet 2 end section separation. Monitor sediment and debris accumulation at inlet channel.
Kent	M-6 at US-131 Ramp A in NE Quad	Detention Basin	6.53	Fix damaged fence along the railroad. Clean out inlets that filled with sediment or debris.
Kent	M-6 near Division Ave – North side	Detention Basin (wet bottom)	6.65	Repair gully erosion at Inlet 1 Channel.
Kent	M-6 at Wilson Ramp C in SW Quad	Detention Basin (wet bottom)	6.25	Clear fence of overgrowth. Clear inlets 1 and outlets of vegetation. Repair rilling at inlet 1.
Kent	M-6 at Wilson Ramp B in SE Quad	Detention Basin (wet bottom)	6.33	Fix erosion issues along north side of BMP and inlets Replace chain and check lock function. Replace chain and check lock function. Improve trash rack to capture more trash.

Table 1: 2019 BMP Inspections Summary				
County	Location	Structures Inspected	Scoring Summary 2019	Recommendations
Kent	M-6 at 2000 ft east of Burlingame Ave – South Side	Detention Basin	6.93	Replace lock and chain on gate. Clear trees and shrubs growing adjacent to gate.
Kent	M-6 at 700 ft West of Ivanrest – North Side	Detention Basin (wet bottom)	6.53	Add rip rap to basin spillway, inside and outside of fence. Repair fence near spillway. Remove shrubs and vines from fence
Kent	M-6 at Clyde Park Ave in NW Quad	Infiltration Basin	6.69	Clear vegetation around gate. Replace chain and lock. Place rip rap at Inlet Channel 1 and repair gullying.
Kent	M-6 east of Byron Center Ave Ramp B	Detention Basin (wet bottom)	6.61	Clear vegetation from around gate. Remove cattails from around inlet 3. Install grouted rip rap or similar to prevent cattail growth. Remove trash and debris from trash rack.
Kent	M-6 east of Byron Center Ave Ramp C in SW Quad	Detention Basin (wet bottom)	6.8	Replace lock on gate. Clear vegetation from inlets and outlet, Clear fragmites from outlet.
Kent	M-6 at Kent Trails – West of Byron Center Ramp C	Detention Basin	6.75	Replace lock. Repair scour hole. Re-grade, install berm, or similar to force flow from basin outlet (OUT-1) into culvert under bike path (OUT-2).
Kent	M-6 near Eastern Ave	Detention Basin (wet bottom)	6.46	Monitor for sediment accumulation in basin. Dredge as needed. Replace lock. Remove vegetation on inlet channel if capacity insufficient.

Table 1: 2019 BMP Inspections Summary				
County	Location	Structures Inspected	Scoring Summary 2019	Recommendations
Kent	US-131 at M-6 ramps and Buck Creek	Detention Basin and Retention Basin	6.48	Remove accumulated sediment and debris from pipes. Remove vegetation that is obstructing flow from pipes.
Kent	US-131 at ramp C/R in SW quadrant	Retention Basin	6.55	Remove sedimentation from inlets with pipes that are partially filled. Repair breaches in fence. Monitor slope stability.
Ottawa	M-6 at I-196 median ramp C & B	Detention Basin Basin #3	5.67	Monitor slope creep on the side slope from ramp C. Stabilize as needed or as other improvements to I- 196/M-6 interchange allow. Repair gullies in south corner. Remove fragmites, sediment and debris from inlets.
Ottawa	M-6 at 8th Ave. ramp B in SE quadrant	Detention Basin	6.65	Remove sediment accumulation from inlet 3. Remove trees and other dense vegetation from gate. Make sure gate is operable otherwise. Remove trees from rip rap in spillway.
Ottawa	M-6 at I-196 median ramp D & C	Detention Basin Basin #2	6.73	Monitor slope creep and repair as needed or as roadway improvements allow. Remove accumulated sediment in inlets and outlets.
Ottawa	M-6 at 8th Ave. ramp C in SW quadrant	Detention Basin (wet bottom)	6.4	Repair fence. Monitor gullies and rills. If erosion resumes, stabilize the features. Install lock and chain on gate. Monitor for rip rap displacement in inlet channels with trees.

Table 1: 2019 BMP Inspections Summary				
County	Location	Structures Inspected	Scoring Summary 2019	Recommendations
Ottawa	M-6 at I-196 median ramp D & C	Detention Basin	6.58	Monitor slope creep and repair as needed or as adjacent road improvement allows. Repair fence. Replace lock and chain.
St. Joseph	M-60 in Mendon	Stormwater Treatment Devise	7.1	Monitor sediment and trash accumulation in Aquashield. Clean as needed.

ACTIVITY POLLUTION PREVENTION 2: AUDIT THE POLLUTION INCIDENT PREVENTION PLAN (PIPP) REQUIREMENTS

MONITORING YEAR: 2019

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting

OBJECTIVE

Assure that vehicle maintenance activities statewide do not pollute stormwater runoff to the maximum extent practicable.

DESCRIPTION

Internal auditing of the PIPP will continue to be conducted and implemented.

ANNUAL REPORTING

- Summary of PIPP audits
- Document new programs, policies, procedures and information.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Conduct an audit of the PIPP requirements every three years.	Results of audit reported to Stormwater Program Manager

Annual Assessment:
Throughout 2019, the Safety and Security Administration conducted 17 environmental audits at various MDOT garages/facilities around the state. Environmental audits are required to be conducted at MDOT maintenance facilities at least once every three years to ensure environmental compliance and consistency with all State and Federal regulations. Part of the audit process includes looking at stormwater discharges and protection measures for polluting materials in place at each of the facilities. Every garage is required to have a site plan which includes information regarding the location of floor, roof and storm drains as well the direction of flow and discharge location. All wastewater coming from inside and around the facility is monitored by its direction of flow and where it is discharged to ensure that polluting materials do not reach the waters of the US. Major bodies of water, if any, that are in close proximity to the garages are noted on the site plan as well. Polluting materials that could cause harm to persons or the environment that are stored and/or used at garages are all documented in the PIPP which includes the name, location, quantity and pollution prevention measures in place for that specific material. If a large spill were to occur and polluting materials reached waters of the State, employees would follow the Environmental Emergency Spill Response Flowchart and contact the appropriate personnel. Protection of the environment and human health remains a top priority at all MDOT facilities.

Facilities visited included:
1. Engadine Garage
2. St. Ignace Garage
3. Mackinac Bridge
4. Mio Garage
5. Saginaw Special Crews
6. Auburn Hills Garage
7. Adrian Garage
8. Grand Ledge Garage
9. Hastings Garage
10. Plainwell Garage
11. Fennville Garage
12. South Haven Garage

13. Coloma Garage 14. Paw Paw Central Repair Facility 15. Zilwaukee Bridge Facility 16. Statewide Facilities Maintenance -Carpenter Shop 17. Statewide Bridge Crew, Overhead Sign, and Sign Fabrication	
Follow-up on any delinquent plan requirements and revise appropriately.	Follow up to be confirmed to Stormwater Program Manager
Annual Assessment: The MDOT Safety and Security Administration provided guidance when corrective measures were requested.	
Formally accept the changes made to the PIPP.	To be made by the Stormwater Program Manager
Annual Assessment: There were no formal changes to the overall PIPP process in 2019.	

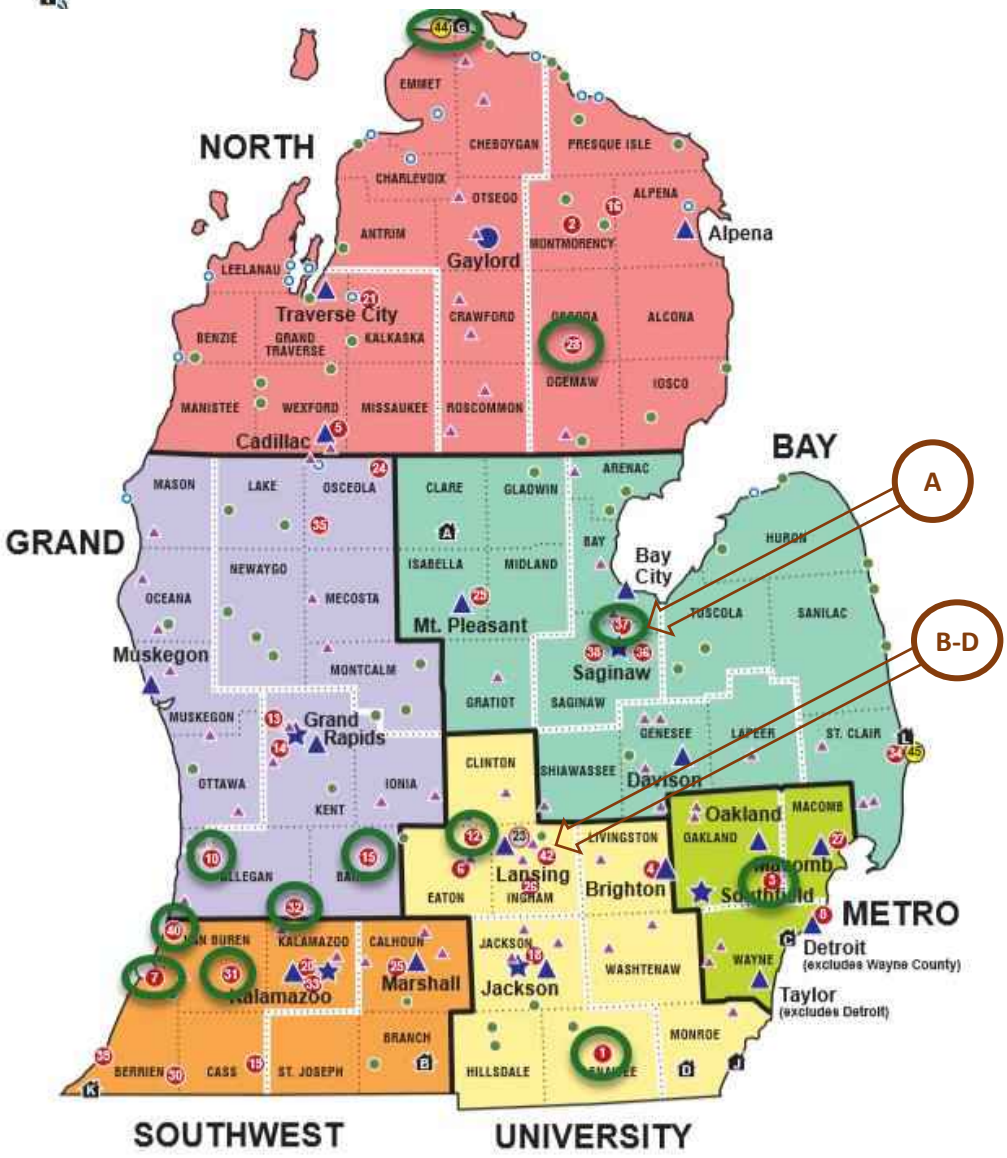
Year 2 Environmental Audits (3 Year Cycle 2018-2020)

MDOT
Michigan Department of Transportation

NUMBER/LETTER AND NAME:

9. Engadine Garage
41. St. Ignace Garage
44. Mackinac Bridge
28. Mio Garage
37. Saginaw Special Crews
3. Auburn Hills Garage
1. Adrian Garage
12. Grand Ledge Garage
15. Hastings Garage
32. Plainwell Garage
10. Fennville Garage
40. South Haven Garage
7. Coloma Garage
31. Paw Paw Central Repair Facility
A. Zilwaukee Bridge Facility
B. Office of Operations
Administrative Services
Statewide Facilities Maintenance
-Carpenter Shop*
C. Transportation Systems
Management Operations Signals
(formerly Operations Field Services)*
D. Bureau of Bridges and Structures
Statewide Bridge Crew, Overhead
Sign, and Sign Fabrication*

** Lansing area facilities*



5/17/2019

ACTIVITY POLLUTION PREVENTION 3: CONDUCT INSPECTIONS OF MAINTENANCE FACILITIES MONITORING YEAR: 2019	
Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINISTRATION 1: Program Assessment and Reporting • POLLUTION PREVENTION 2: Audit PIPP Requirements
OBJECTIVE	
Routine inspections of MDOT maintenance facilities to ensure compliance with various components of the permit.	
DESCRIPTION	
Maintenance facilities will undergo inspection to ensure that facilities comply with: good housekeeping for salt and sand storage, compliance with discharges from cutting, grinding, drilling, or hydro demolition of concrete or asphalt, and fleet maintenance activities.	
ANNUAL REPORTING	
• Summary of all inspections done and recommendations for each facility.	
MEASURABLE GOALS	
MEASURABLE GOAL	**MEASURE OF ASSESSMENT**
An inspection of maintenance facilities shall be conducted at least once every five years. Salt and sand storage facilities, cross connections between storm sewer and sanitary sewer, the washing of vehicles, and labelling of outfall structures shall be inspected.	Reporting of each inspection provided to the Stormwater Program Manager
Annual Assessment: 3 maintenance facilities were inspected during the 2019 monitoring year. See attached summary for details and for a schedule of all inspections during the permit cycle.	
Recommendations shall be presented if practices are not in compliance with the permit.	Reporting of each inspection provided to the Stormwater Program Manager
Annual Assessment: In 2019, there were several issues found during inspections which were presented to th e Stormwater Program Manager. All maintenance facilities with noted issues were notified by the Stormwater Program Manager to schedule corrective actions.	
Maintenance facilities with provided recommendations shall address concerns within one year of the inspection.	The Stormwater Program Manager will work closely with maintenance facility personnel to ensure recommendations are incorporated.
Annual Assessment: Recommendations given for issues found during the 2019 have been presented to appropriate region staff and will be scheduled for correction as budget and staffing allow.	

Maintenance Facilities – 2019 Inspections Summary

MDOT's Maintenance Facilities are inspected every 5 years on a rotating basis. Three maintenance facilities were inspected in 2019. A map of the garages inspected in 2019 as well as the future inspection schedule is presented in **Figure 1**.

Maintenance Facilities were inspected for cross connections between the storm sewer and sanitary sewer systems as well as functionality and maintenance of each of these systems. Items identified as a risk during inspections were assessed for the probability of failure and the consequence of failure. Based on the scores given for each of these categories, items were determined to be high, moderate, or low risks. Recommendations for each of the findings are presented in the **Tables 1 -3**.

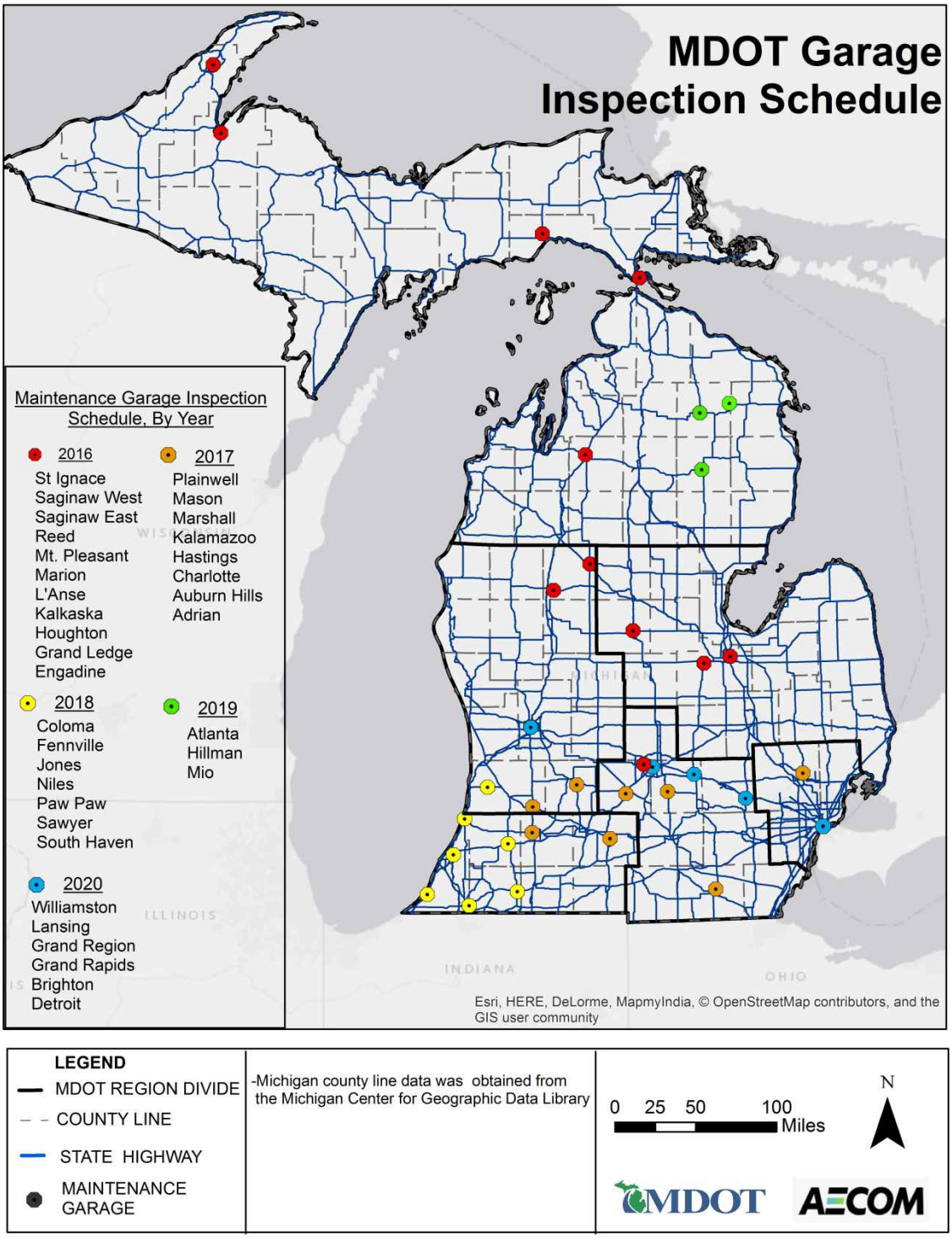


Figure 1 - Maintenance Facility Inspection Schedule

Table 1: Maintenance Facility Locations and Items with High Risk Ratings		
Location	High-Risk Items	Recommendations
Atlanta	Storm sewer and sanitary system are connected.	Disconnect FD-7 from the sanitary sewer and reconnected to the storm sewer to separate storm and sanitary sewer.
Atlanta	The frame and rim of ST6 are detached from the rest of the structure, and was covered by an orange traffic barrel, which contained a bee's nest.	The barrel should be removed and the frame and rim reattached.

Table 2: Maintenance Facility Locations and Items with Moderate Risk Ratings		
Location	Moderate- Risk Items	Recommendations
Atlanta	TANK5 is full and connections could not be confirmed.	TANK5 should be cleaned out and connections to FD8, FD9, FD10, and FD11 confirmed by dye testing.
Atlanta	Floor drains on site not draining properly.	Clean floor drains at least twice a year to allow proper drainage.
Atlanta	ST1 is located in a low spot in the pavement which may lead to ponding during rain	ST1 should have a perforated lid instead of solid to avoid ponding during rain.
Hillman	SS2 outlet was capped, causing the water to pond at the bottom.	The outlet at SS2 should be uncapped, cleaned out and repaired if necessary .
Mio	The oil/water separator at FD1 drains very slowly.	FD1 should be cleaned out and placed on a regular cleaning schedule.

Table 3: Locations and Items with Low Risk Ratings		
Location	Low-Risk Items	Recommendation
Atlanta	The rain reclamation system in the wash bay is currently not in use but still discharges to SS3	If this system will be used for rain reclamation in the future, it should be reconnected to the storm sewer.

ACTIVITY POLLUTION PREVENTION 4: DOCUMENTATION OF ROAD MAINTENANCE ACTIVITIES

MONITORING YEAR: 2019

Minimum Control Measure : Construction, Post Construction, Good Housekeeping **Statewide or Urbanized Area**: Statewide **Implemented in Regions**: All Regions	**Related Activities** • ADMINSTRATION 1: Program Assessment and Reporting

OBJECTIVE

Document road maintenance activities related to stormwater and stormwater pollution control.

DESCRIPTION

Road maintenance activities include catch basin cleaning and street sweeping will be documented and reported to the Stormwater Program Manager on an annual basis for inclusion in the Stormwater Annual Report. MDOT roadways will be operated and maintained and storage facilities will be constructed to reduce pollutants washing into surface waters statewide.

ANNUAL REPORTING

- Estimate actual quantity of salt used for de-icing versus maximum calculated amount based on Maintenance Activity Guide 1410.
- Track hours of street sweeping and catch basin cleaning conducted.

MEASURABLE GOALS

MEASURABLE GOAL	MEASURE OF ASSESSMENT
Street sweeping will be completed and time commitments will be determined annually, based on annual budgets.	Reported by TSC Region Manager to the Stormwater Program Manager on an annual basis.
Annual Assessment: Refer to Figure F1 for recorded street sweeping activity, by region.	
Catch-basin cleaning will be completed and time commitments will be determined annually, based on annual budgets.	Reported by TSC Region Manager to the Stormwater Program Manager on an annual basis.
Annual Assessment: Refer to Figure F2 for recorded catch basin cleaning activity, by region.	
Follow MDOT Maintenance Activity Guide for all maintenance activities (road maintenance, street sweeping, catch basin cleanout, bridge, unpaved road maintenance, right of way, culvert, underdrain and edge cleaning, facility and truck washing, deicing, cold weather)	Maintenance Staff Manager to ensure all employees follow procedures.
Annual Assessment: All regions have been in compliance with the maintenance activity guidelines for 2019. A summary of winter maintenance including salt, sand, and liquid treatment statewide, per county, and per MDOT region is presented in the following pages. Refer to Figure F3 for recorded washout repairs per MDOT region, as well.	

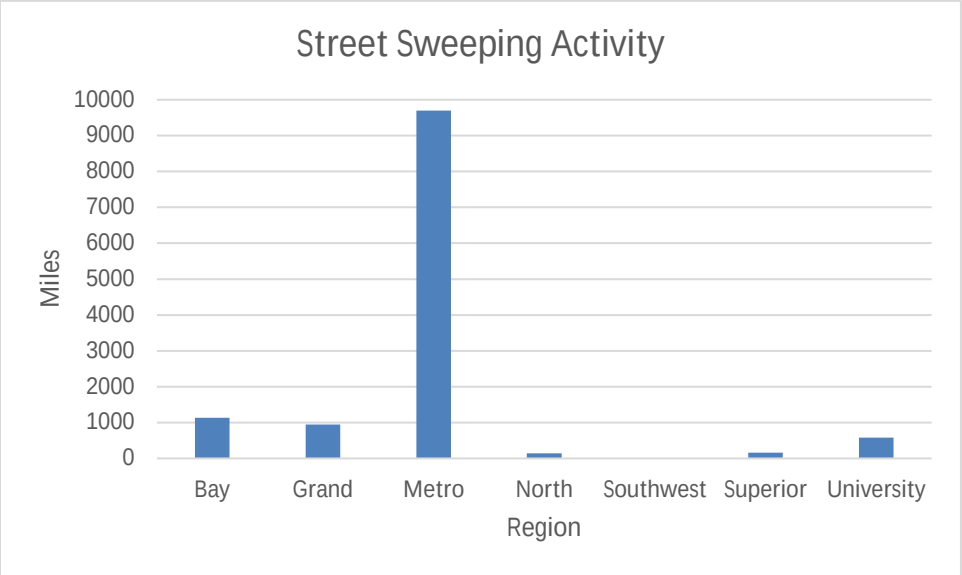


Figure F1 – 2019 Street Sweeping By Region

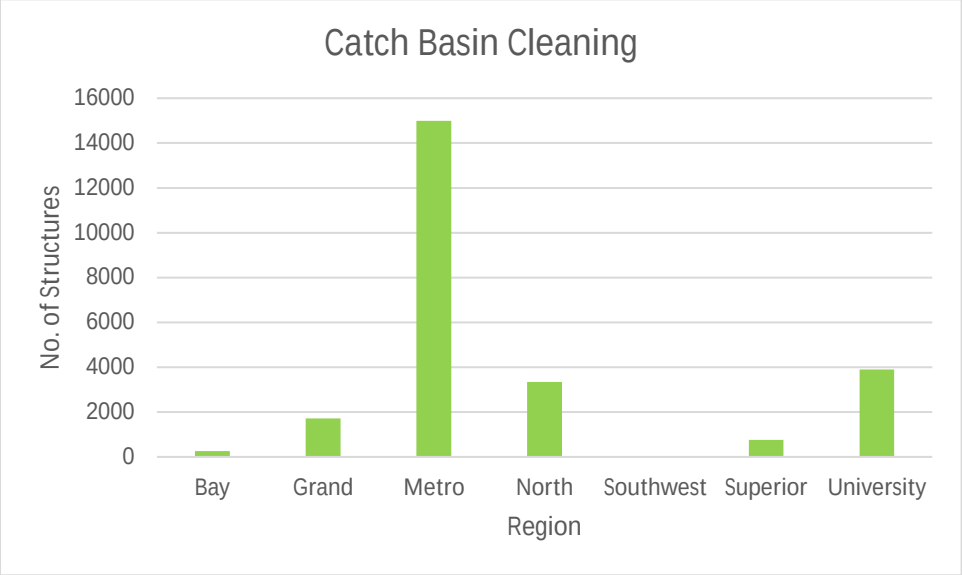


Figure F2 – 2019 Catch Basin Cleaning By Region

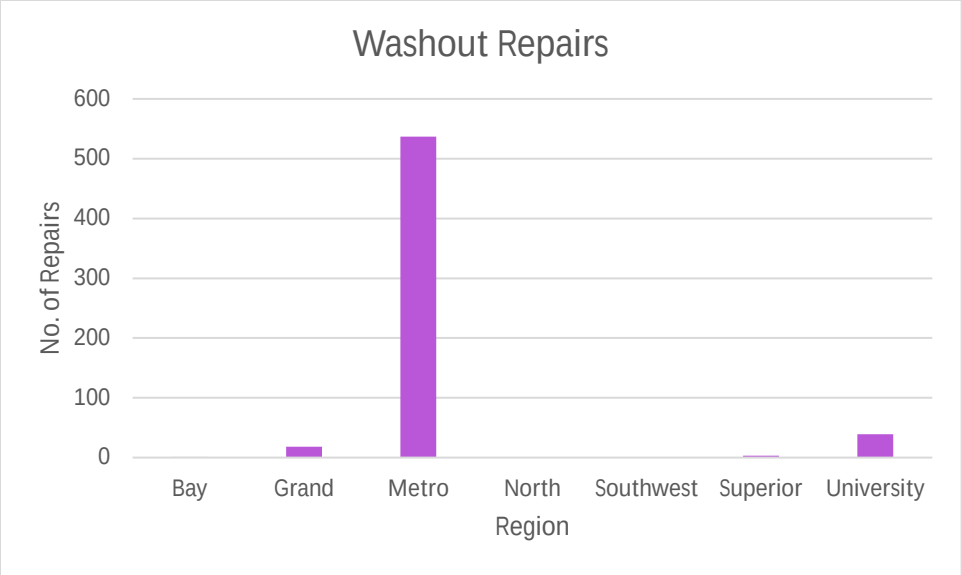


Figure F3 – 2019 Washout Repairs By Region