ROAD COMMISSION for OAKLAND COUNTY

Stormwater Management Program

Permit No. MI0060263

Updated March 2026

Certification Statement

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Signature: _____

Date: _____

Name: _____

Title: _____

Phone: _____

List of Acronyms

BMP- Best Management Practices

EGLE- Michigan Department of Environment, Great Lakes, and Energy

ERP- Enforcement Response Procedure

IDEP- Illicit Discharge Elimination Program

MS4- Municipal Separate Storm Sewer System

NPDES- National Pollutant Discharge Elimination System

PEP- Public Education Program

PPP- Public Participation/Involvement Program

RCOC- Road Commission for Oakland County

SESC- Soil Erosion and Sediment Control

SWMP- Stormwater Management Plan

TMDL- Total Maximum Daily Load

TSS- Total suspended solids

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Overview of the Stormwater Management Program

Purpose

The mission of the Road Commission for Oakland County (RCOC) is to provide the public "Quality Life through Good Roads." This mission involves leadership in safe and convenient roads, sound financial management, respect for the environment, responsive and dependable service, and sensitivity to community concerns. RCOC maintains over 2,700 miles of county roads, 230 miles of state highways and approximately 1,500 traffic signals. The roadways often coincide with city/township municipal separate storm sewer systems (MS4), however, majority of the roads discharge drainage to the RCOC MS4.

A National Pollutant Discharge Elimination System (NPDES) Permit (No. MI0060263, herein referred to as the Permit) issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to the RCOC for the MS4 became effective on December 1, 2024, and extended into 2026. The permit is expected to be reissued in five-year cycles thereafter. This document describes the specific actions that RCOC is taking to comply with the Permit.

The Permit directs the RCOC to develop and implement a stormwater management program designed to reduce the discharge of pollutants from the RCOC drainage systems, including roadways and district garages, to the maximum extent possible. This is to protect the waters of the state that the MS4 discharges into.

Scope

The stormwater management plan (SWMP) describes what the RCOC does in terms of planning, design, construction, operation and maintenance to limit the discharge of pollutants to the MS4. It also documents RCOC's commitment to the eight required measures within the Permit. These measures are available to be reviewed by EGLE as part of the biennial report and the Permit reissuance process. The eight measures are:

- Enforcement Response Procedure (ERP)
- Public Participation/Involvement Program (PPP)
- Public Education Program (PEP)
- Illicit Discharge Elimination Program (IDEP)
- Construction Stormwater Runoff Control Program
- Post-Construction Stormwater Runoff Program
- Pollution Prevention and Good Housekeeping Activities for Municipal Operations
- Total Maximum Daily Load (TMDL) Implementation Plan

The RCOC coordinated the SWMP with EGLE to ensure the required measures are feasible for the RCOC, acknowledging we will meet them to the maximum extent possible.

RCOC Facilities and MS4

The RCOC facilities range from urbanized areas to rural areas within Oakland County. The RCOC maintains and operates state highways, primary roads, local roads, sublocal roads, roundabouts, intersections, bridges, culverts, and select streams, as well as six district garage locations. The RCOC is authorized to discharge stormwater through outfalls and points of discharge so long as the discharges are controlled and monitored through approved best management practices (BMPs). The Permit authorizes the discharge of stormwater to surface waters from nested MS4s, such as schools, universities, airports, and county, state, or federal agencies, but the RCOC does not have any nested organizations under this permit. No other types of discharges except for stormwater are authorized under the Permit. In addition, the RCOC MS4 discharges cannot cause or contribute to an exceedance of water quality standards to the receiving waters. Signs of exceedance include several physical characteristics, such as turbidity, color, oil films, floating solids, foams, settable solids, suspended solids, or deposits. In some areas, the surface water that receives discharge is in impaired water, meaning that it has an exceedance of a pollutant, and will need special provisions to not increase the concentration. The impaired waters have a TMDL for the pollutant (or pollutants) and the RCOC must consider the impaired waters when assessing priority of maintenance activities.

The RCOC designs and operates stormwater drainage systems which direct water off roadways for public safety purposes. The RCOC owned roads may have curbs and gutters or roadside ditches that direct water towards an outfall or discharge point. The RCOC is responsible for these stormwater discharges, including reporting illicit connections found during inspections, and maintenance activities. A figure of the RCOC Stormwater Assets Map is located in **Appendix A**.

RCOC Staff Responsibilities for Stormwater Management

The RCOC staff that oversees the requirements of this Permit are within the Planning and Environmental Concerns Department. Although there are several other departments within the RCOC who are subject to the requirements of this permit, the Environmental Concerns Division is responsible for the initial implementation, maintenance and modification of all stormwater procedures.

Table 1 RCOC Staff Organization

Name	Title	Contact
Brad Knight	Director of Planning and Environmental Concerns	248-645-2000 ext. 2254
Nate Jessee	Environmental Concerns Manager	248-645-2000 ext 2233
Lydia Rooney	Environmental Specialist II	248-645-2000 ext 2215

The responsibilities listed in this Permit are overseen by the Environmental Concerns Division. Oversight is provided to the following RCOC Departments: Engineering (Design, Construction, and Permits) and Highway Maintenance. Each of these divisions has a direct connection to stormwater management, and are provided guidance from Environmental Concerns to protect stormwater runoff and discharge that enters the MS4.

Interconnection with agencies

The RCOC works with all 62 local municipalities within Oakland County, as well as Oakland County Water Resources (WRC), Parks and Recreation, and private landowners to satisfy the MS4 requirements. The RCOC has authority to conduct maintenance activities within the ROW, however, there are times that features are beyond the ROW. In such times, the RCOC works with landowners to maintain these features. Collaboration with each entity is often necessary, particularly in the discovery of an illicit connection or illicit discharge.

Stormwater Best Management Practices

Introduction

The RCOC stormwater management program includes the implementation, maintenance, and modification of best management practices (BMPs) that comply with each of the Permit requirements.

Enforcement Response Procedure

The ERP is required to correct violations of the Permit. The ERP assists the RCOC in eliminating illicit discharges by working together with the local municipalities and the WRC. For construction projects, the RCOC is an Authorized Public Agency (APA) and self-enforces the Soil Erosion and Sediment Control (SESC) for work completed by the RCOC, contractors working on behalf of the RCOC, and administratively through permits sought by the public for use of the RCOC MS4. The ERP is attached in **Appendix B**.

Public Participation/Involvement Program

The RCOC is required to encourage public participation and involvement in the implementation and review of the SWMP. The SWMP is available on the RCOC website, rcocweb.org, for review and commentary. The PPP is in **Appendix C**.

Public Education Program

The RCOC Environmental Concerns Division has several methods of providing public education on stormwater topics. In the Public Education Plan (PEP), environmental issues are sorted by priority to determine what topics are most important to cover. The highest priority topics include watersheds, MS4s relationship to water quality, illicit discharges, protecting riparian lands, and proper disposal of waste and chemicals. Medium priority items include procedures for outdoor materials washing, the benefits of green infrastructure and low impact development, and how different entities contribute to stormwater runoff. The lower priority item includes septic system maintenance. These topics are covered on the RCOC website. In addition, the RCOC offers various pamphlets and brochures about the local watersheds and how to reduce pollution in stormwater. The Environmental Concerns Division attends the Clinton River Watershed Festival and participates in discussing watershed topics with the attending 5th grade classes.

The Permit also requires a procedure for determining the effectiveness of each educational item. Through the website the RCOC can track how many times the Environmental topics were visited. The RCOC can also see how much interaction each environment-related social media post received. The inventory of the pamphlets is tracked to see how many have been picked up by the public. The number of illicit discharges from the year prior to the current year also determines the effectiveness of this program. The PEP is in **Appendix D1**, with the table following in **Appendix D2**.

Illicit Discharge Elimination Plan

The RCOC operates over 2,000 outfalls within its jurisdiction. With EGLE, the RCOC has developed a plan to monitor the outfalls. The IDEP in **Appendix E1** discusses monitoring of outfalls requires dry weather screenings. The outfall will be examined for signs of illicit connections, including discharges during dry weather events, discoloration or staining near the outfall, or unusual characteristics of water RCOC staff are trained to identify illicit discharges and on pollution prevention/good housekeeping practices. Several departments and divisions within the RCOC are staffed with certified construction stormwater operators and designers, including the Environmental Concerns Division.

The district garages contain stockpiles of materials, which requires heavy machinery, and conducts maintenance on RCOC roads and vehicles. The district garages are inspected in the spring and in the fall for stormwater pollution prevention BMPs. The Commercial and Industrial Areas Map is in **Appendix E2**. The Environmental Concerns Division works with Central Operations to address stormwater issues and enforce BMPs.

If an illicit connection is suspected or found the RCOC will work with local municipalities who possess enforcement power to correct the issue. All illicit discharges found or reported to the RCOC are documented. The Spill Response Flowchart is in **Appendix E3**, which includes details on notifying EGLE of illicit discharges.

The IDEP program is assessed for effectiveness using four criteria parameters:

- The annual amount of outfalls or discharge points with an illicit connection discovered during a dry weather screening compared to the total amount of dry weather screenings.
- The total number of complaints received about a potential discharge is compared to the number of complaints that resulted in a discovery of a discharge is also used to measure the increase or decrease annually.
- The number of illicit discharges is compared to the number of illicit discharges corrected to measure the completion rate of discovered illicit discharges.
- An estimation of the amount of pollution by type and quantity removed by the IDEP is used to determine effectiveness.

Construction Stormwater Runoff Control

Permit requirements state that disturbance of one acre or more within 500 feet of the edge of any waters of the state will need soil SESC measures. Soil erosion BMPs such as silt fences are used to prevent surface flow of stormwater from carrying excess sediment. Silt bags are installed in storm drains and changed as needed. When applicable, silt socks are used to prevent silt from depositing into a storm drain at a lower geomorphic position, as that drain takes in more stormwater than others. These BMPs are inspected routinely to ensure their efficiency. All reports of sediment discharge within the RCOC MS4 are investigated by the Environmental Concerns Division. The Construction Stormwater Runoff Guidelines is in **Appendix F**.

Post Construction Stormwater Management

After a RCOC construction project is complete, the RCOC is responsible for ensuring that the area is cleared of construction debris and that there is no risk of sediment or other contamination entering the MS4 as a direct result of the construction. To manage

stormwater quality standards, two factors are taken into consideration: treatment volume and treatment efficiency. The treatment volume is calculated from the 90% annual non-exceedance storm, which at the time of writing the program in **Appendix G**, is a 2 year - 24-hour event. The permit requires that site-specific BMPs must be designed to remove a minimum of 80 percent of total suspended solids (TSS) in comparison with uncontrolled runoff.

Several BMPs exist to treat stormwater, such as installing grassy swales, ponds, sumps within catch basins, swale check dams, bioretention areas, and manufactured treatment devices like the swirl concentrator. In addition, the RCOC works cooperatively with local agencies or the WRC to reduce stormwater runoff. The RCOC also avoids infiltration in contaminated areas to prevent the migration of contaminates.

The RCOC conducts inspections and reviews as part of the BMP recordkeeping. During construction projects, the RCOC applies plant seed to disturbed, pervious areas based on the needs of the community and specific ecosystems (grass seed, native plant seed, wetland areas, etc). Inspections are conducted and documented to ensure the vegetation has taken root, thus preventing sedimentation of the stormwater. The RCOC reviews site plans for work discharging to the MS4 if the work disturbs one or more acres to confirm the site plans comply with the Permit.

Pollution Prevention/Good Housekeeping for RCOC Operations

The RCOC has assessed their facilities and assigned a priority ranking classification for each activity and material that may impact stormwater runoff quality. Priority rankings are presented in the Municipal Facility Inventory and Assessment Guidelines in **Appendix H1**.

To assist and accompany that guideline, RCOC has created several other guidelines that address pollution prevention and good housekeeping, including:

- Drainage Feature Maintenance and Inspection Guideline, located in **Appendix H2**.
- Procedure for cleaning the catch basins can be found in EGLE Catch Basin Cleaning Rules in **Appendix H3**.
- Forms used for the inspections is in Drainage Feature Inspection Forms, in **Appendix H4**.
- The Municipal Operations Guideline details different assets and actions with BMPs, which is in **Appendix H5**.
- The TMDL Guidelines, TMDL Table, Inspection Table, Inspection Schedule, and Schedule Maps, are in the following, in order: **Appendix H6-8**, and **Figures 1-5**.

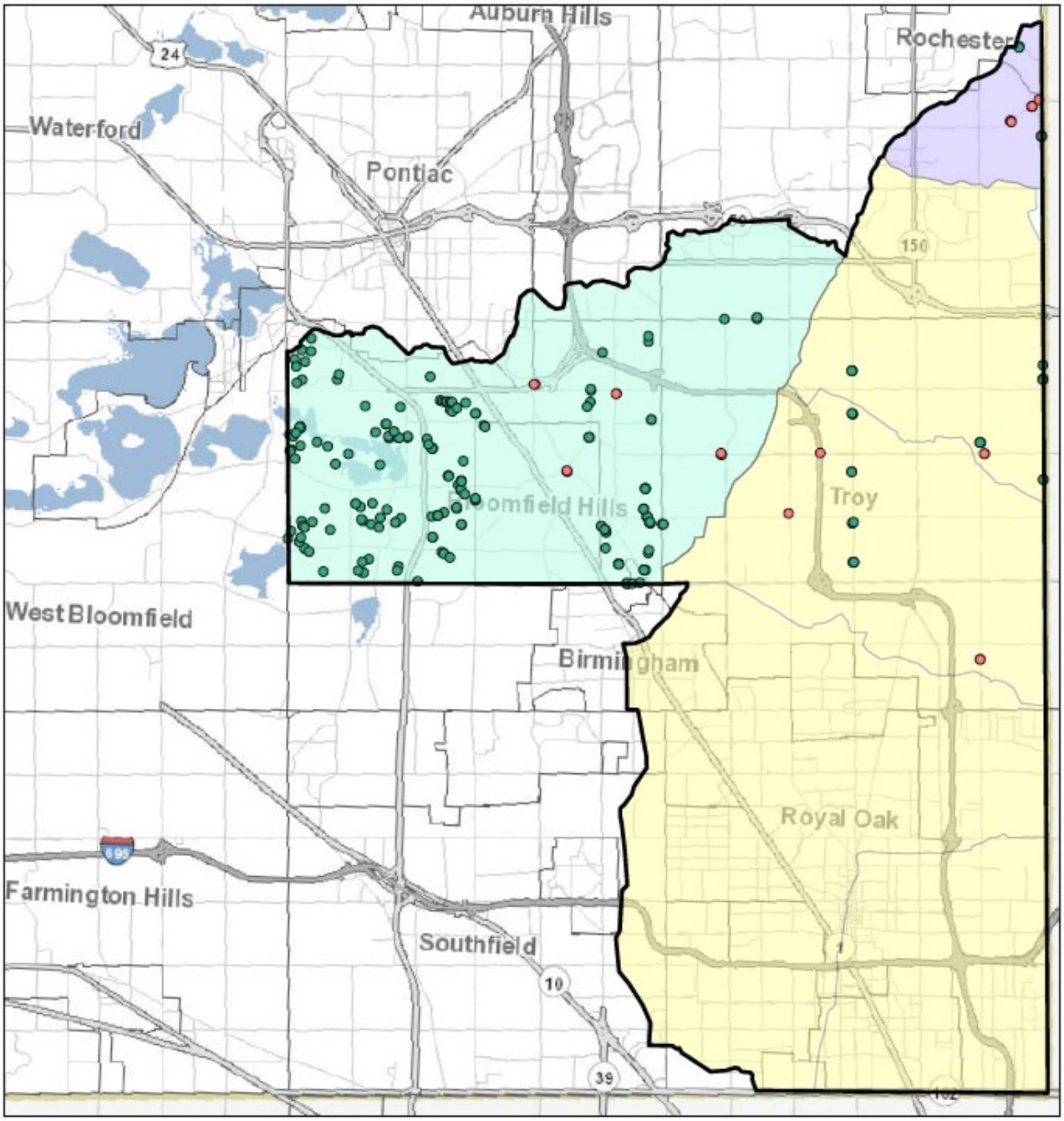
RCOC has operations and maintenance activities that require pollution prevention and good housekeeping BMPs. For roadway and bridge maintenance, RCOC conducts street sweeping, catch basin cleaning, conducting road maintenance during dry weather, and keeping stockpiles away from stormwater features. ROW maintenance, such as ditch maintenance, is conducted during dry weather and then the soil is stabilized with hydroseed or mulch blankets. Unpaved roads BMPs includes stabilizing exposed soils, especially near steep slopes, and minimizing the use of brine used for dust control. Cold weather operations utilize BMPs like routinely calibrating spreaders, minimizing the use of salt/sand, prewetting roads to further reduce the amount of salt/sand used, salt storage practices outlined in each district garage BMPs, and storing snow piles away from storm drains. Vehicle washing and maintenance are contained to areas where excess water will drain into onsite treatment (oil-water separators). Outdoor washing is limited to water use only and it will be conducted where the water will drain into a catch basin with a sump to collect excess sediment and discharge into on-site retention ponds.

Summary

The RCOC works diligently with EGLE and local agencies to ensure the discharging stormwater from the MS4 is acceptable to EGLE's stormwater standards. Initiatives such as public participation, public education, in-house training, SESC measures, and stormwater monitoring all contribute to the quality of the stormwater discharges. The RCOC also assesses and monitors several factors that may impact stormwater at each of the district garages twice annually. It is a goal of the RCOC to continue in each stormwater protection measure to certify stormwater discharging from

Figure 1

Year 1 Outfall Inspections



*Priority Outfalls - Any outfall within 500 feet of an industrial or commercial land parcel.

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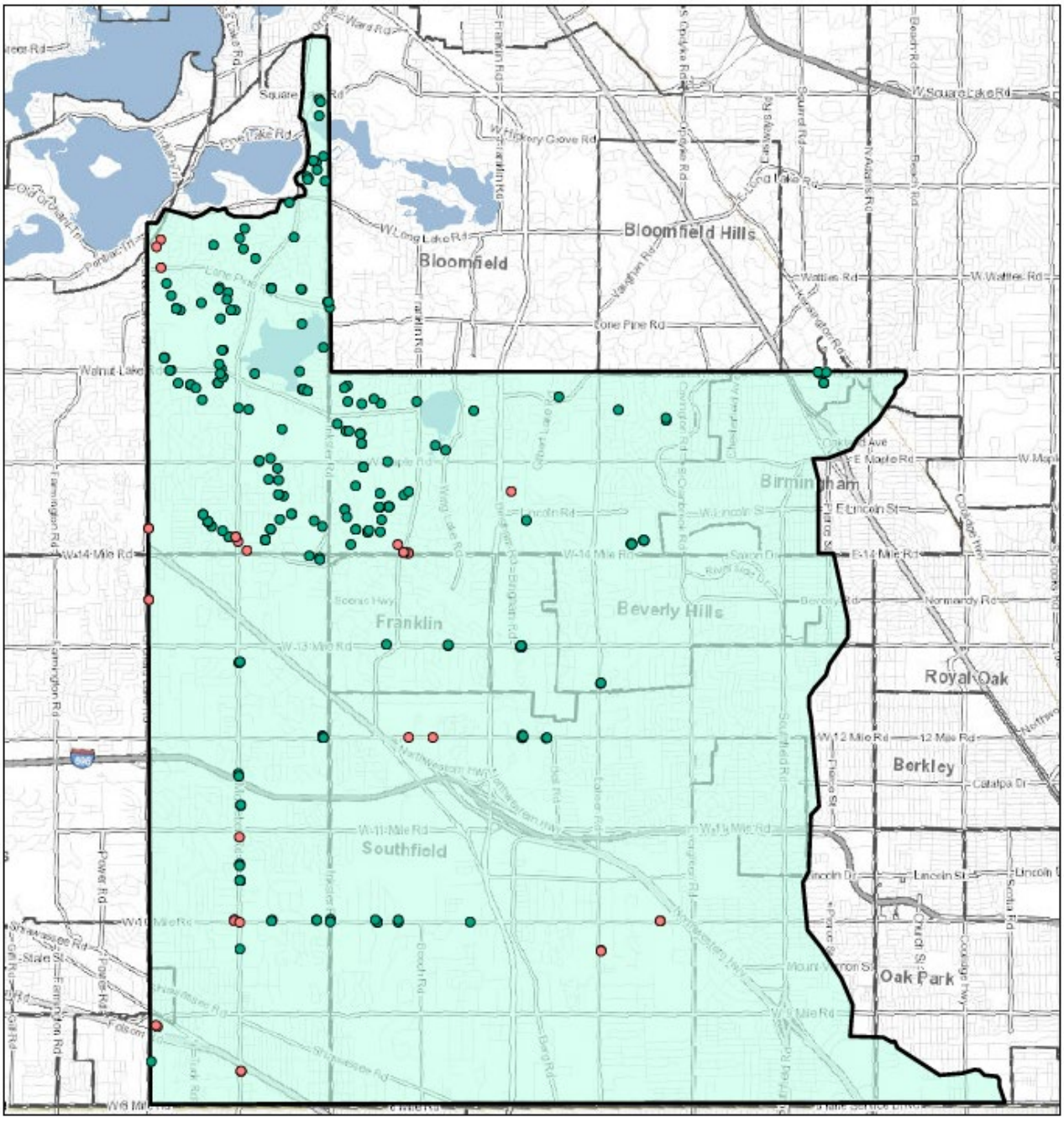
Figure 2

Year 2 Outfall Inspections



*Priority Outfalls - Any outfall within 500 feet of an industrial or commercial land parcel.

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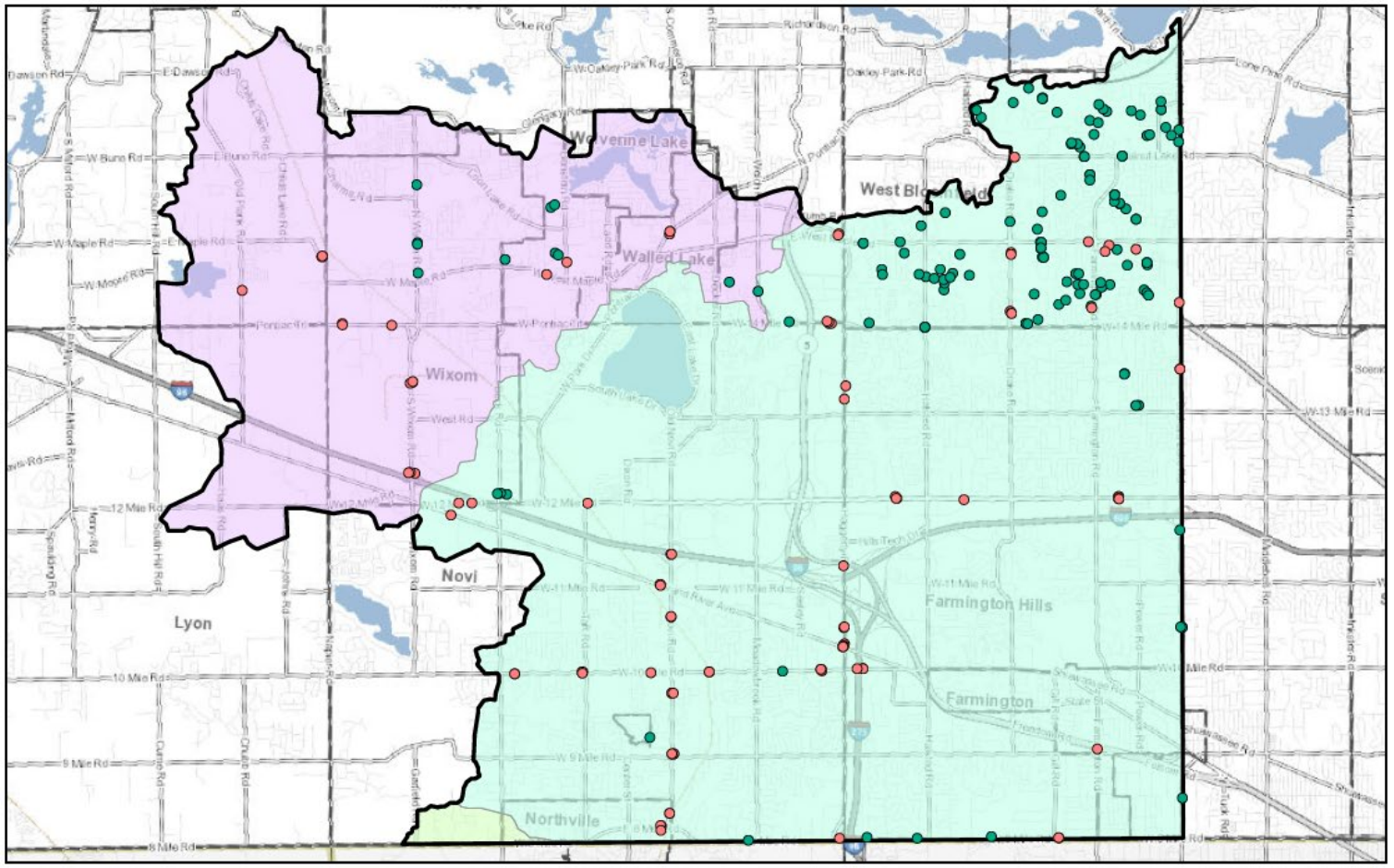
Figure 3

Year 3 Outfall Inspections



*Priority Outfalls
Outfalls
Norton Creek Watershed
Rouge River Watershed
Johnson Creek Subwatershed

*Priority Outfalls - Any outfall within 500 feet of an industrial or commercial land parcel.

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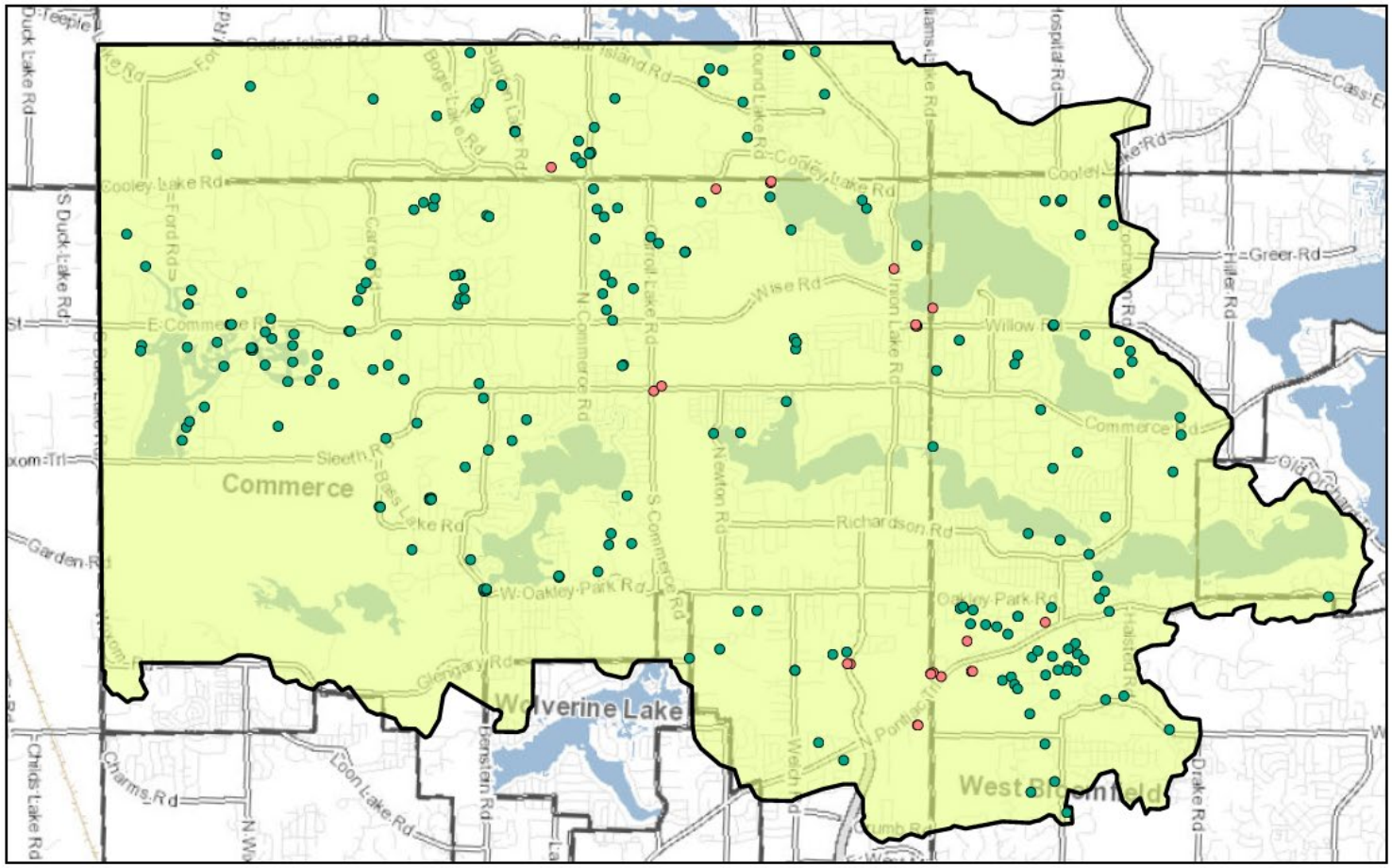
Figure 4

Year 4 Outfall Inspections



- *Priority Outfalls
- Outfalls
- Kent Lake Subwatershed

*Priority Outfalls - Any outfall within 500 feet of an industrial or commercial land parcel.

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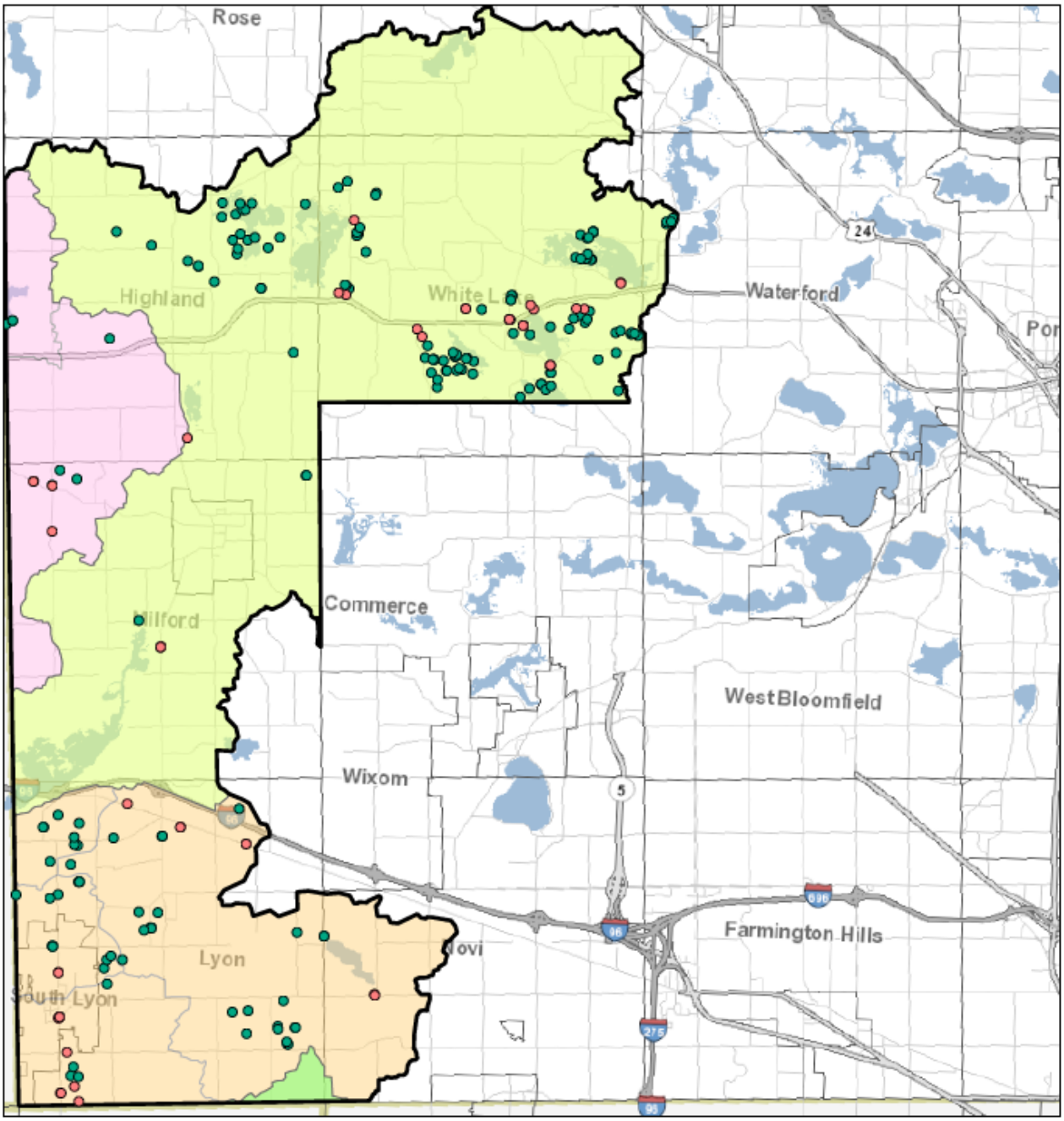
Figure 5

Year 5 Outfall Inspections



*Priority Outfalls - Any outfall within 500 feet of an industrial or commercial land parcel.

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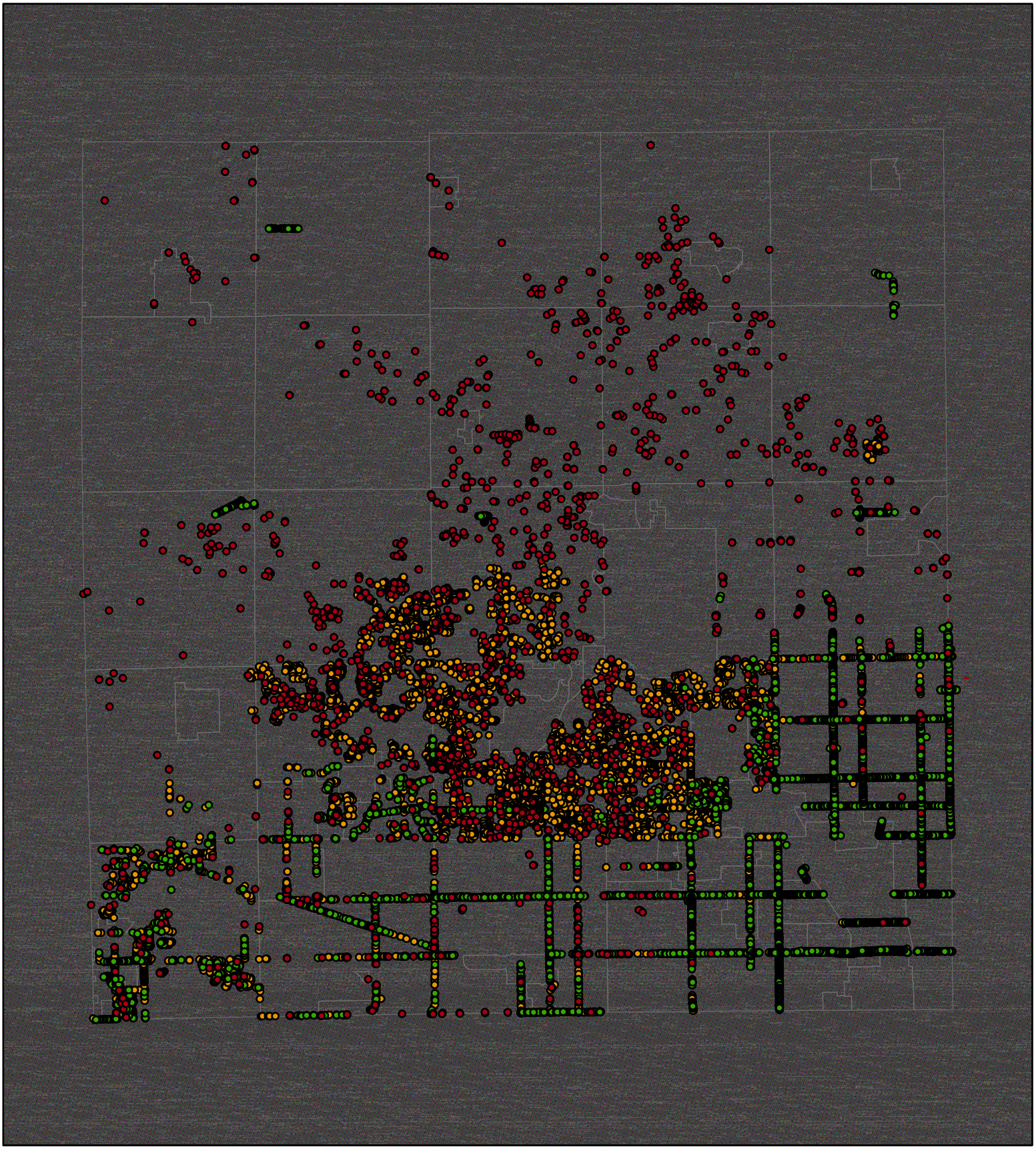
Appendix A- Stormwater Assests Map

Road Commission for Oakland County Stormwater Assets Map



MS4

Manhole

Catch Basin

Stormwater Pipes

0 2.5 5 10 Miles

N

Updated: November 2018

Appendix B- RCOC Enforcement Procedure

Road Commission for Oakland County Enforcement Response Procedure Guidelines	**TITLE:** Enforcement Response Procedure Guidelines	
	DATE: **1/31/2019**	**ISSUED BY:** Brad Knight
		Director of Planning and Environmental Concerns

Purpose

Describe the Enforcement Response Procedures for the Illicit Discharge Elimination, Soil Erosion and Sedimentation Controls (SESC) and compliance with current Road Commission for Oakland County (RCOC) design standards.

Responsibility

The RCOC Planning & Environmental Concerns Department, Maintenance Department, Engineering Department, Department of Customer Services or designated employee(s) are responsible for following these procedures (Stormwater Permit Application #1).

Regulatory Mechanisms

The regulatory mechanisms include:

- Illicit Discharge Elimination:
  - Drain Code, Public Act 40 of 1956, Chapter 18, Section 280.423.1 – 423.10, "Discharge of certain sewage or waste matter into drains prohibited"
  - Public Health Code, Act 306 of PA of 1927, Article III, Section 2, "Unlawful Sewage Disposal"
  - Michigan Construction Code (local level)
  - Local Building and Plumbing Code (local level)
  - Michigan Department of Environmental Quality (MDEQ), Part 31, discharges to Surface Waters of the State
  - MDEQ National Pollution Discharge Elimination Systems (NPDES) Industrial Discharge Permit Program
- Part 91 of Act 451 of the Public Acts of 1994, as amended: Regulations for Soil Erosion and Sedimentation Control
  - Enforcement via Soil Erosion and Sedimentation Control Permitting and Inspection Programs
- Stormwater Design Standards
  - Michigan Department of Transportation (MDOT), Water Resource Commissioners (WRC) or Local Design Standards
  - Enforcement via Permitting and Site Plan Review Processes, as well as Construction Inspection

As other regulatory mechanisms are completed and passed by the governing body, the enforcement mechanism will be conveyed to the MDEQ NPDES Permit Contact.

Procedure

<u>Enforcement Procedure for Illicit Discharge Elimination</u> (1)

The RCOC has permitting authority under the Michigan Drain Code and Public Highways and Private Roads Act and are able to investigate and permit or require the elimination of illicit connections and direct discharges to County Drains and County Road Drains within their jurisdictional authority; however, the agency does not have regulatory authority to investigate or enforce corrective actions to eliminate illicit discharges from public and private property or entering County Drains indirectly through local public or private storm drains. The RCOC works with local community authorities, private property

owners, the Oakland County Health Department, and other State and Federal regulatory agencies for the investigation and elimination of illicit discharge sources outside of their jurisdiction.

RCOC is responsible for elimination of illicit discharges to County Drains and County Road Drains either directly through drain permits or by working with property owners, local communities, the Oakland County Health Department, and other regulatory agencies, as appropriate, to locate and eliminate the discharge sources outside of their jurisdictional authority.

The following information is tracked as it relates to a confirmed illicit discharge to the Oakland County Municipal Separate Storm Sewer Systems (MS4).

- Name
- Date
- Location of Violation (address, cross streets, etc.,)
- Residence/Business/Agency/Organization (as appropriate)
- Description of Violation
- Description of Enforcement Response
- Date Violation was Resolved

Illicit discharge sources are to be eliminated as soon as practicable to protect the public health and safety from nuisances and causes of sickness resulting from inadequate sewage disposal and treatment.

RCOC Enforcement Procedure for Soil Erosion and Sedimentation Control

RCOC is a MDEQ-approved Authorized Public Agency (APA) and as stated in RCOC's SESC procedures, there are compliance and enforcement actions for construction and maintenance projects and activities.

A. Construction Projects

The RCOC is ultimately responsible for SESC practices undertaken by contractors under contract with RCOC or under contract with MDOT (where MDOT is providing oversight on RCOC Federal Aid contract, working within and outside of the road right-of-way (ROW) in discrete, Temporary Grading Easements for particular projects only) under their APA designation. Therefore, all contractors shall comply with and will be held accountable to this SESC procedure. The RCOC shall ensure that contracts include clear language describing the responsibility of contractors to comply with the SESC procedure, the authority of RCOC to enforce compliance with the SESC procedure and the consequences for noncompliance. All contractors that are awarded the bid on a construction project are required to sign a commitment to protect Waters of the State and adjacent properties from soil erosion and sedimentation.

Contractor compliance can be assured with contract language including, but not limited to the following:

- The contractor is responsible for maintaining SESC devices and removing any accumulated sediment. The work is included in a RCOC device pay item established via a RCOC Special

Provision rather than the MDOT standard specification that allows extra payment for clean-out. Failure to implement SESC per the contract will result in withholding payment or stopping work.

- The contractor is responsible for repairing any/all final shoulders and slopes damaged by erosion until project acceptance, which is until permanent vegetation is established, which may or may not be paid for separately.
- Contractors are required to obtain a construction bond to ensure that work is performed according to plans and specifications and this procedure. If a contractor refuses to comply with SESC requirements following verbal and written "Notices of Noncompliance" within a time period specified by the Engineer, the RCOC may notify the Surety company and the contractor that a third-party contractor will be hired by RCOC (or the Surety company) to perform the necessary SESC repairs as authorized by Section 9119 of Part 91.

B. Maintenance Projects and Activities

Earth change activities performed by RCOC's Maintenance workforce will incorporate appropriate soil erosion and sedimentation control measures. If further compliance and enforcement is necessary, the Maintenance Highway Engineer, Maintenance Operations Engineer or staff from the Planning & Environmental Concerns Department will work with the District Superintendent to seek appropriate action as follows:

- Issue directions to staff to correct deficiencies in a specified time frame; follow up to ensure corrective action has been completed.
- Arrange additional staff training on proper work methods and the importance of soil erosion and sedimentation control.
- Arrange for others to perform the work.

RCOC Procedure for Compliance with Current RCOC Design Standards

A. Projects within RCOC ROW

Prior to beginning a new project, the landowner or developer must contact the RCOC Permits Department to obtain a permit to work within a RCOC ROW. Prior to a permit being issued, plans of proposed work must be submitted for review to protect the integrity and usefulness of existing RCOC property. Plans are reviewed to ensure that there are adequate stormwater BMPs to protect the integrity of receiving water systems.

B. Road Construction and Subdivision Projects

The RCOC oversees all its own road and subdivision projects during and after construction. If a third party has a project on RCOC property, or within the RCOC ROW, an RCOC inspector oversees the project. As-builts are completed after a project is completed to ensure the project was built to the project specifications, including post-construction best management practices (BMP's). Water quality BMP's on RCOC-owned properties are inspected after construction by a District Superintendent or Foreman or by the Environmental Concerns Department. Post-construction stormwater controls in regard to subdivisions are enforced by the local ordinances.

Other

Any questions on this procedure should be directed to RCOC Planning & Environmental Concerns Department.

Process For Updating/Revising This Procedure

This procedure shall be reviewed once per permit cycle by the Planning & Environmental Concerns Department for any updates to streamline the requirements.

Appendix C- Public Participation Program

Road Commission for Oakland County Public Participation/Involvement Program (PPP) Guidelines	**TITLE:** Public Participation/Involvement Program Guidelines	
	DATE: **01/31/2019**	**ISSUED BY:** Brad Knight
		Director of Planning and Environmental Concerns

Purpose

Describe the process for notifying and involving the public in implementation and review of the Road Commission for Oakland County's (RCOC) stormwater permit (Stormwater Permit Application 2 & 3).

Responsibility

The Planning & Environmental Concerns Department, Department of Customer Services or designated employee(s) are responsible for following these procedures.

Procedure

The RCOC will make the stormwater permit and the stormwater management plan (SWMP) available for review within one month of its approval by EGLE to provide opportunities for the public to inspect and comment for a 1 month period, the RCOC will:

1. Notify the cities and township governments, the Oakland County Water Resources Commission (WRC), and local watershed groups in Oakland County (in compliance with their public notice requirements) when the stormwater permit is available for public review **(2)**. Public review will be open for 2 weeks.
2. Post on social media and the RCOC website that the stormwater permit and other appropriate supporting documents are available as a hardcopy at the RCOC Department of Customer Services for public review for a 1 month period.
3. Post the stormwater permit and other appropriate supporting documents electronically on the RCOC website. After the 1 month period, the same information will be posted, but public comments will no longer be accepted.
4. Utilize our social media presence (Facebook, Twitter, etc.) to inform the public of other updates.

Process for Updating/Revising This Procedure

This procedure shall be reviewed once per permit cycle by the Planning & Environmental Concerns Department for any updated to streamline the requirements **(3)**.

Appendix D1- Public Education Program Guidelines

Road Commission for Oakland County Public Education Program (PEP) Guidelines	TITLE: Public Education Program Guidelines	
	DATE: **01/31/2019**	**ISSUED BY:** Brad Knight
		Director of Planning and Environmental Concerns

Purpose

Describe the process for determining the priority levels for key issues that reduce pollutant runoff (Stormwater Application #4-6).

Responsibility

The Road Commission for Oakland County (RCOC) Planning & Environmental Concerns Department or designated employee(s) are responsible for following these procedures.

Procedure

Based on RCOC jurisdiction, RCOC has designated the following list as high-priority county-wide issues that require the education of residents in the area to reduce the level of pollution entering surface waters of the state **(4 & 5)**:

1. Promoting environmental responsibility and stewardship in Oakland County watersheds;
2. The connection between MS4s and surface water quality;
3. Promoting the public reporting of illicit discharges to the storm sewer system;
4. Promote methods for managing riparian lands to protect water quality;
5. The proper disposal practices for grass clippings, leaf litter and animal wastes;
6. The proper usage and disposal of chemicals and waste;

Based on RCOC jurisdiction, RCOC has designated the following list as medium-priority county-wide issues that require the education of residents in the area to reduce the level of pollution entering surface waters of the state **(4 & 5)**:

1. Promoting preferred cleaning materials and procedures for car, pavement and power washing;
2. The benefits of Green Infrastructure and Low Impact Development;
3. Identifying and educating commercial, industrial, and institutional entities likely contributing to storm water runoff.

Based on RCOC jurisdiction, RCOC has designated the following list as low-priority county-wide issues that require the education of residents in the area to reduce the level of pollution entering surface waters of the state **(4 & 5)**:

1. The proper application and disposal of pesticides, herbicides, and fertilizers;
2. The proper septic system care and maintenance.

Since most of the residents in Oakland County are covered under their city or townships Phase II permit, RCOC will focus the majority of public education on posting general stormwater information on RCOC's website.

Program Evaluation

Road Commission for Oakland County Public Education Program (PEP) Guidelines	TITLE: Public Education Program Guidelines	
	DATE: **01/31/2019**	**ISSUED BY:** Brad Knight
		Director of Planning and Environmental Concerns

The Environmental Concerns Department will determine the effectiveness of RCOC's Public Education Program by **(6)**:

1. Tracking hits on RCOC's website once per year to see how many people from the public are visiting and interacting on the Public Education pages.
2. Tracking hits on RCOC's stormwater-related social media posts to see how many people from the public are interacting on these posts.
3. Tracking pamphlets collected at public meetings and by RCOC facility visitors.
4. Comparing the frequency of illicit discharges reported during the current year to the previous year and during the current permit cycle to the previous permit cycle.

Changes to our Public Education Program will be made as needed based on the results of our evaluation methods.

Appendix D2- Public Education Program Table

Road Commission for Oakland County Public Education Program

Table 2 : Public Education Program Best Management Practices (BMPs)

Priority Ranking	PEP Topic	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal	Method of Evaluating Effectiveness
High	Environmental responsibility and stewardship in Oakland County watersheds	Raise awareness to the public regarding what RCOC is doing to be stewards in Oakland County. Encourage them to become involved in their own community.	N/A	Residents, Employees, Contractors, Visitors	The RCOC is working to protect the environment that residents work, live, and play in. The public can get involved in their local watershed organizations. We all have a responsibility to contribute to water quality health the local watershed they work, live, and play in.	RCOC will include links to watershed groups on RCOC's website so residents can get involved in their local watershed. Pamphlets will be available for all at RCOC-sponsored public meetings. RCOC will distribute stickers and business cards with 'No Pollution Down the Drain' and the RCOC reporting phone number. Continue educating employees on this topic through regularly scheduled staff training. RCOC will attend and present at a minimum of 2 public education events/year and will cover this topic. RCOC Newsletters (Interchange and/or Road Report Newsletter) will cover this topic once/year.	2019	Ongoing	The RCOC	100% of new relevant RCOC staff will be trained on this topic within one year of hiring and regular full-time staff will be re-trained once per permit cycle. Maintain the website with the most up-to-date information available. Present at two public education events/year.	Report on pamphlets taken from public meetings, quantity of sticker and business cards distributed, website hits for environmental programs, any surveys/feedback from public education event attendees or sponsors.
High	The connection between MS4s and surface water quality	Educate the public to know that only rain and snow runoff should be entering the storm drains.	N/A	Residents, Employees, Contractors, Visitors	Stormwater discharges to surface waters of the state. This water is untreated before it reaches a waterbody. Dumping chemicals down the drains increases pollution in our surface water.	Maintaining information on RCOC's website about the link between MS4's and the quality of surface water on the RCOC website. Pamphlets will be available for all at RCOC-sponsored public meetings. RCOC will distribute stickers and business cards with 'No Pollution Down the Drain' and the RCOC reporting phone number. Continue educating employees on this topic through regularly scheduled staff training. RCOC will attend and present at a minimum of 2 public education events/year and will cover this topic.	2019	Ongoing	The RCOC	100% of new relevant RCOC staff will be trained on this topic within one year of hiring and regular full-time staff will be re-trained once per permit cycle. Maintain the website with the most up-to-date information available. Present at two public education events/year.	Report on pamphlets taken from public meetings, quantity of sticker and business cards distributed, website hits for environmental programs, any surveys/feedback from public education event attendees or sponsors.
High	Reporting illicit discharges	Educate the public on what they can do if they notice an illicit discharge in their community.	N/A	Residents, Employees, Contractors, Visitors	There is a number to call if an illicit discharge is observed on an RCOC road.	Maintaining illicit discharge reporting on RCOC's website. RCOC will distribute stickers and business cards with 'No Pollution Down the Drain' and the RCOC reporting phone number. Continue educating employees on this topic through regularly scheduled staff training.	2019	Ongoing	The RCOC	100% of relevant RCOC staff will be trained on this topic on a bi-annual basis. Maintain the website with the most up-to-date information available.	Report on website hits, illicit discharges reported
Medium	Preferred methods of cleaning materials and procedures for car, equipment, and power washing activities.	Educate the public on proper ways to clean cars, equipment, and perform power washing activities.	N/A	Residents, Employees	Wastewater from cleaning cars, equipment, and power washing should not enter the storm sewer system.	Maintaining information on RCOC's website about ways to clean cars, equipment, and performing power washing activities in ways that reduce the potential to harm the environment. Continue educating employees on this topic through regularly scheduled staff training.	2019	Ongoing	The RCOC	100% of new relevant RCOC staff will be trained on this topic within one year of hiring and regular full-time staff will be re-trained once per permit cycle. Maintain the website with the most up-to-date information available.	Report on website hits, number of illicit discharges reported from car/equipment/power washing operation
Low	Application and disposal of pesticides, herbicides, and fertilizers	Educate the public on proper application & disposal of pesticides, herbicides, and fertilizer methods.	N/A	Residents, Employees	An increase in the use of fertilizers has resulted in an increase in algal blooms to surface waters of the state. The increased use of pesticides and herbicides has caused an increase in aquatic life toxicity. Residents and employees can prevent an increase in algal bloom & aquatic toxicity by reducing or eliminating the use of fertilizers, pesticides, & herbicides.	Maintaining information on RCOC's website about acceptable ways to apply of pesticides, herbicides, and fertilizers. Promote minimizing the levels or refraining from using fertilizers on grass.	2019	Ongoing	The RCOC	Maintain the website with the most up-to-date information available.	Report on website hits, illicit discharges reported
High	Disposal of grass clippings, leaf litter, and animal waste	Educate the public on proper disposal of grass clippings, leaf litter and animal waste methods.	N/A	Residents, Employees	Grass clippings and leaf litter are bio-degradable. Residents can utilize the clippings to promote grass growth and should not blow grass clippings into the street due to flooding potential. RCOC employees will not blow grass clippings into the street. Animal waste is partially responsible for E.coli in beaches and lakes. Residents with pets should be cognizant of this and pick up after their animals.	Posting information on RCOC's website and Facebook page about the proper disposal of grass clippings, leaf litter, and animal waste reduction methods. Continue educating employees on this topic through regularly scheduled staff training.	2019	Ongoing - min. 1 social media post/year	The RCOC	100% of new relevant RCOC staff will be trained on this topic within one year of hiring and regular full-time staff will be re-trained once per permit cycle. Maintain the website with the most up-to-date information available.	Report on website hits, number of complaints reported about grates clogged with grass clippings
High	Disposal of waste	Educate the public on the proper disposal for wastes.	N/A	Residents, Employees	Where to properly dispose of small gallon drums, small bottles, used liquids, tires, and other wastes.	Posting a link to Oakland County's website, which has information about when and where residents can disposal of household wastes. Displaying SEMCOG posters at the front desk. Continue educating employees on this topic through regularly scheduled MCM6 inspections and staff training.	2019	Ongoing - min. 2/year	The RCOC	100% of new relevant RCOC staff will be trained on this topic within one year of hiring and regular full-time staff will be re-trained once per permit cycle. Maintain the website with the most up-to-date information available.	Report on website hits, number of incorrect waste disposal illicit discharges reported
Low	Septic system maintenance	Educate the public on proper septic system maintenance methods.	N/A	Residents	How residents should responsibly maintain their septic system.	Posting a link to Oakland County's website that has information about septic system maintenance.	2019	Ongoing	The RCOC	Maintain the website with the most up-to-date information available.	Report on website hits, number of septic-related illicit discharges reported
Medium	Green Infrastructure (GI) and Low Impact Development (LID)	Educating the public on ways to use GI and LID methods at home.	N/A	Residents	How residents can utilize GI and LID methods in their homes to reduce pollution entering the storm sewer system. Residents are aware of GI and LID practices in Oakland County.	Providing information on our website with links to different types of GI and LID methods	2019	Ongoing	The RCOC	Maintain the website with the most up-to-date information available.	Report on website hits
High	Management of riparian lands	Inform the public employees about managing riparian lands.	N/A	Residents, Employees	Riparian lands are important because they have higher quality soils, help sustain agricultural productivity, can prevent flooding, increases diversity of plants and animals, etc. Removing these areas causes a decrease in soil fertility, agriculture, and animals & plants and can increase flooding.	Providing information on our website about riparian lands. Continue educating employees on this topic through regularly scheduled staff training.	2019	Ongoing	The RCOC	100% of new relevant RCOC staff will be trained on this topic within one year of hiring and regular full-time staff will be re-trained once per permit cycle. Maintain the website with the most up-to-date information available.	Report on website hits, illicit discharges reported
Medium	Pollution from industrial, commercial, and institutional entities	Educate the commercial, industrial, and institutional entities about reducing pollution to the storm sewer system.	N/A	Residents	How the commercial, industrial and institutional entities can reduce pollution to the storm sewer system. Promotion of EGLE information.	Providing links to the EGLE's website with program information for commercial, industrial and institutional entities.	2019	Ongoing	The RCOC	Maintain the website with the most up-to-date information available.	Report on website hits, number of industrial/commercial/institutional illicit discharges reported

Appendix E1- IDEP Guidelines Document

ROAD COMMISSION for OAKLAND COUNTY
QUALITY LIFE THROUGH GOOD ROADS – WE CARE

Appendix E

Alternative Illicit Discharge Elimination Program (IDEP) Guidelines

Purpose

Describe the process to detect and eliminate illicit discharge(s), on Road Commission for Oakland County (RCOC) owned or maintained properties, to ensure compliance with the National Pollutant Discharge Elimination System (NPDES) Phase II Storm Water Permit (Stormwater Permit Application #8-14, 17-26).

Responsibility

The RCOC Environmental Concerns Division, which includes the Environmental Concerns Coordinator, Environmentalist II, Seasonal Intern(s) and other designated employees, are responsible for following these procedures.

Procedure

The Environmental Concerns Division conducts routine inspections and follows up on complaints to identify and eliminate illicit discharges.

Identification and Mapping of Outfall and Discharge Point (DP) Locations

The Environmental Concerns Division is responsible for identifying Outfall and Discharge Point (DP) locations. The Environmental Concerns Division reviews existing IDEP Outfall Inventory data, GIS data, drain maps, and as-built plans to identify the Outfall and DP location(s). The Environmental Concerns Division collects GPS data as necessary to verify existing or add new Outfall and DP locations. The Environmental Concerns Division collects the GPS points and processes the data in-house.

Dry Weather Screening (DWS)

The Environmental Concerns Division is responsible for coordinating DWS inspections at Outfall and DP locations that are in relation to RCOC owned or maintained properties to detect pollutants associated with illicit discharges. The Environmental Concerns Division reviews previous dry weather screening results, historical water quality data and any pertinent complaint information to determine a schedule for DWS of Outfall and DPs. From this data, it has been concluded that industrial/commercial area have the highest rate of pollutant potential. The Environmental Concerns Division completes the DWS inspections and collects GPS data (if needed), visual observation data, water quality data and water samples (if needed). Water quality parameters used for DWS inspection are listed on the attached table. Visual and physical observation data is collected and recorded during the DWS inspections. Water quality data is collected if dry weather flow is observed and water samples are sent to the Oakland County Health Department for analysis **(10)**.

DWS Schedule

The Environmental Concerns Division will conduct ~300 inspections/year for the duration of the permit cycle to complete inspections on 75% of all mapped outfalls each permit cycle. Inspections are located in TMDL watersheds and subwatersheds, industrial and commercial areas, or known sites of development. Inspections exclude discharge points and include stream crossings to prioritize issues that might impact waters of the States. All outfalls and stream crossings within 500ft of an industrial/commercial land parcel will be considered first priority within the inspection area. A map is attached to show the DWS schedule overall. A map is also attached to outline each inspection area per year. **(8-9)**.

- **Year 1**; Lower Clinton subwatershed, Red Run subwatershed and Rouge River watershed north of Quarton Rd.
- **Year 2**; Rouge River watershed south of Quarton Rd and east of Orchard Lake Rd.
- **Year 3**; Norton Creek subwatershed and remaining area of the Rouge River watershed
- **Year 4**; Kent Lake subwatershed south of Cedar Island Rd and east of Duck Lake Rd
- **Year 5**; Brighton Lake subwatershed, Strawberry Lake subwatershed and the remaining area of the Kent Lake subwatershed.

If dry weather flow is observed, in-field testing will occur no longer than within 24 hours of detection. Samples are submitted to the lab on the day-of collection.

IDEP Investigations

Illicit discharge investigations are conducted in response to DWS results and/or surface water pollution complaints that are received. The Environmental Concerns Division may survey the MS4, storm drain system or surface water upstream of the impacted Outfall or DP to locate the illicit discharge source(s). The Environmental Concerns Division may collect GPS data, digital photographs, visual observation data, water quality data and water samples as necessary, to identify and confirm illicit discharge source(s). An inspection form template is available at the end of this document. Site inspection and water quality sampling will occur no longer than within 24 hours of initial detection or complaint.

Illicit Discharge Elimination

The Environmental Concerns Division is responsible for managing the process to ensure that the sources of illicit discharges discovered during investigations are found and eliminated if discharge originated within RCOC jurisdiction. Illicit discharges from sources outside the jurisdiction of RCOC are referred to the local municipality, or other jurisdictional authority for follow-up investigation. The Environmental Concerns Division may help to negotiate with the responsible party, community, municipalities, Oakland County Health Department or other entities to eliminate illicit discharge(s). The Environmental Concerns Division may initiate follow-up illicit discharge

investigations as necessary to verify that illicit connections to the RCOC property have been eliminated **(11-12)**. When exceedances are detected, RCOC will inform the CVT or other enforcing jurisdiction within 7 – 14 days of our observations and begin a full investigation and final resolution within 60 days **(13-14)**.

Equipment and Data Management

GPS unit equipment and data is managed and maintained by the Environmental Concerns Division. Water quality testing equipment is managed by Oakland County Health Department. Water quality data is managed by Environmental Concerns Division.

Reporting

The Environmental Concerns Division reports IDEP Outfall and DP DWS information along with illicit discharge investigation results to the State of Michigan in its Permit Report, in accordance with the NPDES Phase II Storm Water Permit. The Environmental Concerns Division is responsible for reporting illicit discharges and spills to the surface waters of the United States as required under the Federal NPDES Phase II Storm Water Permit.

Table 1: Water quality parameters to be used in the evaluation for illicit discharges.

Parameter	Detection Method	Detection Limit	Range	Trigger Value	State Surface Water Quality Standard
Odor	Physical Examination	Presence	N/A	Type/Strength (Sewage, odor, petroleum products)	In concentrations which impair use for public, industrial, or agricultural water supply
Color	Physical Examination	Visual	N/A	Unnatural discoloration	Unnatural quantities injurious to designated use
Clarity	Physical Examination	Visual	Clear-Opaque	Unnatural turbidity	Unnatural quantities injurious to designated use
Floatables	Physical Examination	Visual	N/A	Oil sheen, sewage, soap suds	Unnatural quantities injurious to designated use
Deposit/Stains	Physical Examination	Visual	N/A	Type/quantity	Unnatural quantities injurious to designated use
Vegetation Change	Physical Examination	Visual	Normal to location	Excessive growth, dead, or none where expected, algal blooms	Plant nutrients or toxic substances
Structural Damage	Physical Examination	Visual	N/A	Damage due to corrosive or erosive conditions	N/A

E. coli	Laboratory Analysis	ND	0-1,000,000 + cfu/100ml	>1,000 cfu/100ml	>1,000 cfu/100/ml >3,000 cfu/100ml
pH	Laboratory Analysis	0.01 units	2-12 units	<6.5 or >9.0	6.5-9.0
Surfactants	Laboratory Analysis	0.25 mg/L	0-3 mg/L	>0.25 mg/L	NA

(Water quality data is used as a general indicator in evaluating potential for contaminating pollutants associated with illicit discharge sources. Data is subject to interpretation and does not imply any regulatory status or legal limit).

Training

RCOC staff are trained on the various portions of the Phase II Stormwater Permit and IDEP requirements. The training programs, requirements and mechanisms vary from the overall IDEP program training to individualized training for specific portions of the IDEP program procedures. This includes training on the agency-wide spill response procedure attached. The Environmental Concerns Division develops and administers training programs to staff and reports the training activities to the EGLE. Table 2 lists the different types of training associated with RCOC's IDEP program **(18)**.

Table 2: Training for RCOC staff to identify and respond to illicit discharges.

Training Program/Topic	Target Staff/Audience	Training Mechanism	Frequency
General Stormwater Pollution Prevention Awareness	General Staff, New Hires	Training Session	Once per permit cycle; within one year for new hires
Illicit Discharge Identification & Reporting	Maintenance Staff, DCS, Night Watchmen	Training Session, Handouts	Once per permit cycle; within one year for new hires
Soil Erosion and Sedimentation Storm Water Management Operator / Plan Review and Design	Environmental Concerns Division	EGLE Certification	Recertification every 5 years
CWSO/Plan Review	Environmental Concerns Division/SESC Program Inspectors	EGLE Certification	Recertification every 5 years

IDEP Program Effectiveness

RCOC's IDEP program will be evaluated annually for effectiveness. This information is reported periodically to the EGLE. An evaluation of the overall effectiveness of the IDEP program is based on the chart below **(19)**.

Table 3 Criteria parameters to be used in the evaluation for illicit discharges.

Criteria	Display	Evaluation Method
Number of outfalls & DP's DWS vs. the number of DWS resulting in the discovery of an illicit discharge	Percent	Total number increase/ decrease annually
Number of complaints vs. complaints resulting in the discovery of an illicit discharge	Percent	Total number increase/ decrease annually
Number of illicit discharges found vs. number of illicit discharges corrected	Percent	Total number increase/ decrease annually
Estimate of amount of pollutants removed via IDEP	Percent	Type and quantity % increase/decrease annually

Regulatory Mechanisms for Illicit Discharge Investigation and Elimination

The RCOC has permitting authority under the Public Highways and Private Roads Act 283, 1909 Sect. 224.19b, to investigate and permit or require the elimination of illicit connections and direct discharges to County Road Drains within our jurisdiction; however, the RCOC does not have the regulatory authority to investigate or enforce corrective actions to eliminate illicit discharges from public and private property. The RCOC works with the private property owners, city, village and township authorities, the State and Federal regulatory agencies and the County Health Department to investigate and eliminate illicit discharge sources outside of RCOC's jurisdiction. A Memorandum of Understanding has been developed to establish RCOC capabilities and coordinate with interconnected CVTs and agencies **(17, 23-26)**.

The RCOC has permitting and enforcement authority under Part 91, Soil Erosion and Sedimentation Control (SESC) of NREPA, Public Act 451 of 1994, to address runoff from construction sites within RCOC's jurisdiction.

The Environmental Concerns Division has submitted language for the Permits Division of the Department of Customer Service to include in RCOC's "Permit Rules, Specifications and Guidelines" document. The updated permit application would exclude prohibiting the following discharges or flows if they are identified as not being a significant contributor to violations of Water Quality Standards."

A. Water line flushing and discharges from potable water sources;
B. Landscaping irrigation runoff, lawn watering runoff and irrigation waters;
C. Diverted stream flows and flows from riparian habitats and wetlands;
D. Rising groundwaters and springs;
E. Uncontaminated groundwater infiltration and seepage;
F. Uncontaminated pumped groundwater, except for groundwater cleanups specifically authorized by the NPDES permits;
G. Air conditioning condensation;
H. Waters from noncommercial car washing;
I. Street wash water
J. Dechlorinated swimming pool water from single, two, or three family residences. (A swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to surface waters of the United States without NPDES permit authorization from the MDEQ); and
K. Firefighting Activities, if they are identified as not being significant sources of pollutants to Waters of the State **(20-22)**.

Dry Weather Screening – Field Form

General Information

Date(s): _____

Structure ID: _____

GPS Coordinates/Address: _____

Inspector(s): _____

Pipe Size: _____

Material

- ☐ Reinforced Concrete Pipe (RCP)
- ☐ Polyvinyl Chloride (PVC)
- ☐ Steel
- ☐ High Density Polyethylene (HDPE)
- ☐ Other: _____

Weather

- ☐ Sunny
- ☐ Rainy
- ☐ Overcast
- ☐ Snow

Last Rain Event

- ☐ 48-72 Hours
- ☐ >72 Hours

Field Observations

Dry Weather Flow

- ☐ No
- ☐ Yes, Constant
- ☐ Yes, Intermittent
- ☐ Trace, Insufficient flow to sample
- ☐ Submerged

Color

- ☐ Clear
- ☐ Brown
- ☐ Gray
- ☐ Other _____

Vegetation

- ☐ None
- ☐ Algae
- ☐ Slime

Structure Condition

- ☐ Good
- ☐ Fair
- ☐ Poor

Sediment Accumulation

- ☐ No
- ☐ Yes
- ☐ Needs Cleaning

Floatables

- ☐ Sewage
- ☐ Suds
- ☐ Petroleum Sheen
- ☐ Bacterial Sheen
- ☐ Trash
- ☐ None
- ☐ Other _____

Odor

- ☐ Sewage
- ☐ Petroleum
- ☐ Detergent
- ☐ Rotten Egg
- ☐ None
- ☐ Other_____

Field Screening

Date(s): _____

Parameters	Action Level	Results
☐ **pH**	<6.5 or >9.0	
☐ **Temperature**	N/A	
☐ **E. coli**	>1,000 cts/100ml	
☐ **Ammonia**	>1.0 mg/l	
☐ **Surfactants**	>0.5 mg/l	
☐ **Other** _____		
☐ **Other** _____		

Source Investigation

Sewershed Investigation Conducted: ☐ Yes ☐ No

Land Use Type: ☐ Residential ☐ Commercial ☐ Industrial

Televised Investigation Conducted: ☐ Yes ☐ No

Dye Test Conducted (**Note:** Inform EGLE-WRD if performing dye testing): ☐ Yes ☐ No

Further Investigation Required: ☐ Yes ☐ No

Illicit Discharge Identified: ☐ Yes ☐ No

Date Identified: _____

Date Responsible Party Notified: _____

Date Elimination Required: _____

Date Eliminated: _____

Illicit Connection Identified: ☐ Yes ☐ No

Date Identified: _____

Date Responsible Party Notified: _____

Date Elimination Required: _____

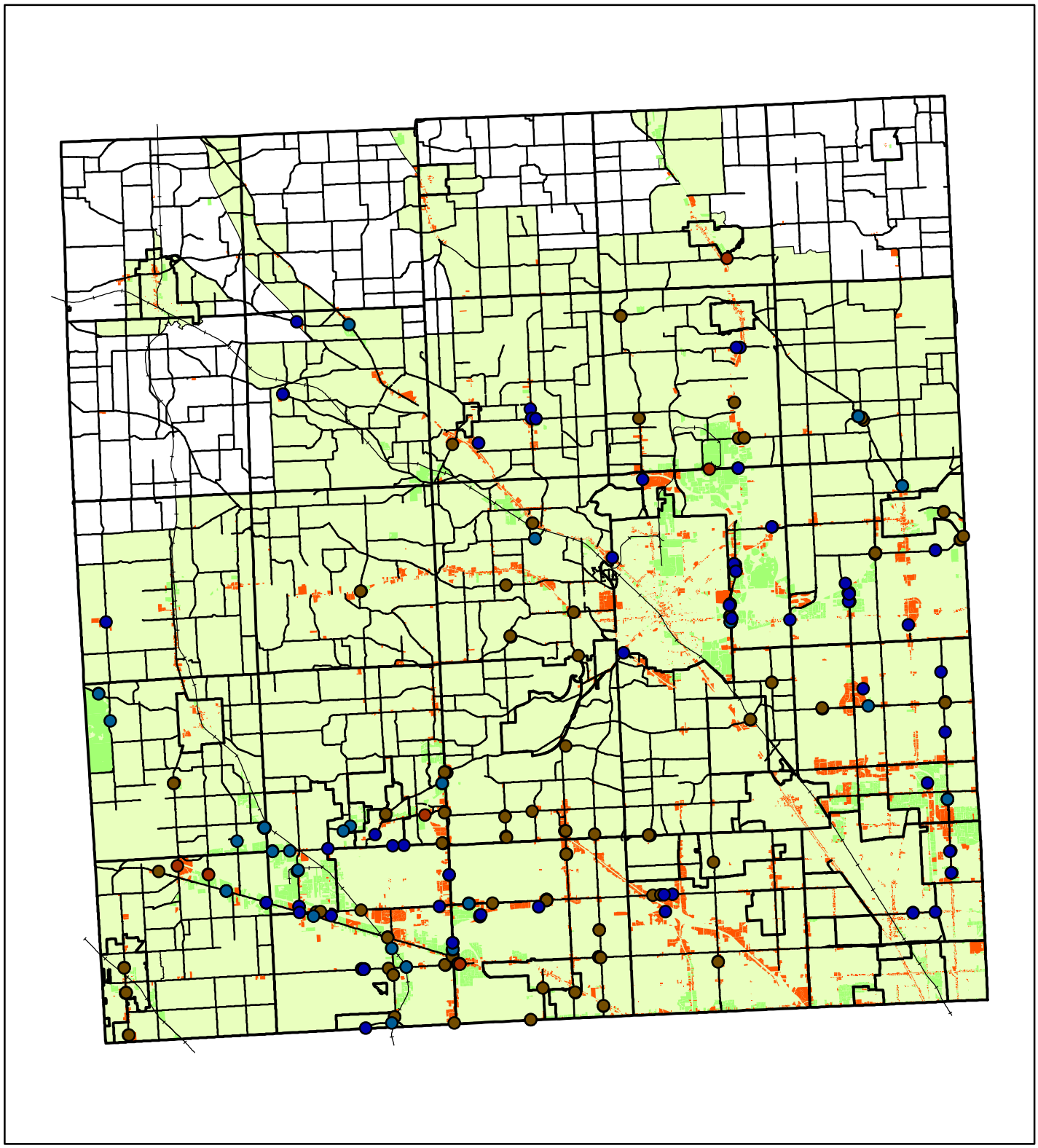
Date Eliminated: _____

Enforcement Action Taken: ☐ Yes ☐ No

Summary/Notes:

Appendix E2- RCOC Commercial and Industrial Areas Map

RCOC Industrial & Commerical Area
IDEP Map



Legend

- Commercial Road To Road
- Industrial Road To Road
- Commercial Road Stream Crossing
- Industrial Road Stream Crossing
- Commerical Area
- Industrial Area
- Primary & Local Roads
- Railroads

N

ROAD COMMISSION for OAKLAND COUNTY	EFFECTIVE DATE:	NUMBER
ROAD COMMISSION REGULATION BOARD OF COUNTY ROAD COMMISSIONERS OAKLAND COUNTY	JAN 18 2019	46
	PREPARING ORGANIZATION PLANNING & ENVIRONMENTAL CONCERNS DEPARTMENT	SUPERCEDES NUMBER: NEW DATED:

SUBJECT:

SPILL RESPONSE PROTOCOL

PURPOSE:

To codify processes for hazardous spill reporting.

INFORMATION:

The Federal Clean Water Act, being 33 USC 1251 et al, as amended, establishes directives and guidelines designed to protect the waters of the United States; and likewise, the Michigan Natural Resources and Environmental Pollution Control Act, being Act 451, P A 1994, as amended, provides for the protection of the waters of the State of Michigan.

The spill reporting process outlined in the Spill Response Flowchart attached hereto as Exhibit A, shall be followed by RCOC employees in reference to any significant spill or discharge involving potentially hazardous materials which may occur on RCOC roads or other RCOC properties.

Exhibit A to this Regulation may be revised from time to time by the RCOC Environmental Concerns Coordinator (Coordinator) as may be required by law or as otherwise deemed appropriate by the Coordinator.

Dennis G Kolar
Managing Director

1/18/19
Date

33 USC 1251 et seq, as amended

Act 451, P A 1994, as amended

Appendix E3- RCOC Spill Response Flowchart

EXHIBIT A

RCOC's Spill Response Flowchart for reported **spills, discharges** or **releases of materials** on RCOC-owned roads or properties:

If you are contacted about a major spill, discharge or release of material, obtain the following information from the caller:

1. The detailed location of the incident
2. The type & quantity of material spilled, discharged or released
3. If a vehicle was involved, note if it was an RCOC or non-RCOC vehicle (if it was an RCOC vehicle, ask for name of the employee and the vehicle number)

If there is a spill of hydrogen peroxide or brine at the brine wells, contact RCOC's Brine Well Field Specialist Rod Pierson at **(248) 686-6786.** Rod will follow up with Environmental Concerns if the materials enter the storm sewer system.

After collecting the above information, contact DCS at **877-858-4804** (or after business hours contact the night watchman at **248-931-0868**), give them the above information and they will perform the following procedure:

If the incident **is not** caused by RCOC, contact each of the following agencies/departments and give them the above information:

1. MDEQ PEAS Hotline (**800-292-4706**)
2. Local Police Department
3. Local Fire Department
4. Oakland County Health Division (**248-858-1280**).
   If after hours, leave a message.
5. RCOC's Risk Management Division – Steve Hott **(248) 763-9575**
6. District Foreman

The local police or fire department will contact an appropriate contractor to clean up the spill. If the party responsible for the spill is unknown, the RCOC clean-up consultant /contractor shall be used.

If the incident **is** caused by RCOC, contact each of the following agencies/departments and give them the above information:

1. MDEQ PEAS Hotline (**800-292-4706**)
2. Local Police Department
3. Local Fire Department
4. Oakland County Health Division (**248-858-1280**).
   If after hours, leave a message.
5. RCOC's Risk Management Division – Steve Hott **(248) 763-9575**
6. RCOC's Environmental Concerns Division
7. District Foreman
8. Department of employee involved in the incident

After contacting these agencies/departments, DCS/night watchman will contact our consultant Marc Czajka from Marine Pollution Control at **(313) 551-9972** or their 24-hour hotline at **(313)-849-2333** to clean the spill.

Once the proper agencies/departments have been notified, DCS will generate a service request (in Cityworks) by writing a summary of the incident. The summary shall include all the information obtained regarding the incident, a list of the agencies and departments that were contacted and the status of the cleanup. Once the service request has been generated, DCS will send it to the Environmental Concerns Division for follow-up of the incident, reporting to the MDEQ, collection of manifests (if needed) and to close the service request.

Document revised: 01/16/19

Appendix F- Construction Stormwater Runoff Program Guidelines

Road Commission for Oakland County MS4 Construction Stormwater Runoff Control Guidelines	**TITLE:** Municipal Separate Storm Sewer System Construction Stormwater Runoff Control Gudelines	
	DATE: **01/31/2019**	**ISSUED BY:** Brad Knight
		Director of Planning and Environmental Concerns

Purpose

To establish procedures for construction stormwater runoff control for the Road Commission for Oakland County (RCOC) (Stormwater Permit Application #27-31).

Background

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a procedure for construction stormwater runoff control that includes notification procedures and ensuring proper permits are obtained by County departments and landowners that are performing any earth change of one acre or more, or that is within 500 feet of a lake, stream, pond, open drain, river, or wetland.

Procedure

The RCOC will track the receipt of complaints submitted by the public or noted by staff during the regular course of business of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes that are being discharged into the Oakland County MS4. The tracking will include:

- Date
- Time of day
- Name of person providing the complaint
- Location (address or major cross roads)
- Description of complaint
- Complaint priority (emergency or non-emergency)
  - Goal is to have complaint response by the end of the next business day
- Referral to other county department or community
- Description of follow-up actions
- Resolution

The Michigan Department of Environmental Quality has designated RCOC as an Authorized Public Agency (APA) under Part 91, 1994 PA 451 **(27)**. According to this act, permits are required for projects which disturb more than one acre or are within 500 feet from the water's edge of a lake or stream. To maintain the APA status, all earth change activities must be conducted in accordance with approved procedures (MDEQ approved RCOC's SESC procedures in November 2012). The purpose of this program is to establish uniform criteria for the design, installation, and maintenance of SESC measures under the control of the RCOC. Due to the importance of erosion and sedimentation control for environmental and safety reasons, the RCOC will implement SESC measures as part of their routine operations. This erosion and sedimentation control program will be subject to continuous review and evaluation. These procedures are adopted as a working document; its contents are intended to serve as guidance for all activities of RCOC. These procedures will apply to all design, construction and maintenance projects conducted or sponsored by RCOC. All requirements of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451 as amended and the administrative rules promulgated under the authority of Part 91 are included in these procedures by reference **(28)**.

As outlined in the RCOC's "Rules and Regulations for Plat Development" dated March 22, 2007, under Section III, Utilities and Soil Erosion, Erosion Control Provision" section, it states that, "Prior to the start of any construction activity, a soil erosion permit must be obtained from the Oakland County Drain (Water Resources) Commission or local Municipal Enforcement Agency (MEA) in accordance with the provisions of Public Act 347. During all phases of construction, proper soil erosion controls must be installed and maintained by the contractor and/or developer. Prior to Road Commission acceptance of the streets for maintenance, acceptable vegetation must be established and all temporary soil erosion controls removed from the road rights-of-way." **(30)**

Reporting to MDEQ

RCOC will notify the MDEQ PEAS Hotline (1-800-292-4706) when soil, sediment, and other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are discharged into the Oakland County MS4 in a quantity that could negatively impact surface waters of the state **(29)**.

Other

RCOC is considered the landowner of any RCOC APA projects; as such, as an APA, there is no need to advise other landowners about the State Permit by Rule. In terms of subdivisions, the land and homes are being built on private property and the township requires the permits (since the property is not owned by RCOC). However, language in the RCOC Subdivision Handbook states that the landowner must, "Demonstrate that the proposed project will meet all NPDES Federal, State and Local stormwater management and soil erosion and sedimentation control requirements." **(31)**

Any questions on this guidelines and procedure should be directed to the RCOC Environmental Concerns Coordinator.

Process for Updating/Revising the Procedure

This procedure shall be reviewed once per permit cycle by the RCOC Environmental Concerns Coordinator for any updates to streamline the requirements.

Appendix G- Post Construction Stormwater Runoff Program Guidelines

ROAD COMMISSION for OAKLAND COUNTY
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Appendix G
Post-Construction Stormwater Runoff Program Guidelines

I. Overall Program

Due to the linear nature of the Road Commission for Oakland County's (RCOC) infrastructure, RCOC implements post-construction stormwater runoff controls on a project by project basis (Stormwater Permit Application # 32-33, 36-39, 41-42, 53-59, & 76).

II. Post-Construction Stormwater Runoff from New Development and Redevelopment Projects

The following will apply to the issuance of permits for activities being completed in the right-of-way (ROW) under the jurisdiction of RCOC. These rules will be made part of any permit issued by RCOC for these activities. For RCOC administered/construction projects, Rules 1, 2 and 4 listed below will be enforced. RCOC will follow the Oakland County Water Resource Commissioner (OCWRC) or the local community's rules (if required by those entities) if RCOC is utilizing any of their facilities. For permit projects, Rule 3 will be enforced. For subdivision projects, Rules 5 and 6 will be enforced **(32-33)**:

1. The current edition of the Michigan Department of Transportation: "Standard Specifications for Construction".
2. RCOC: "Frequently Used Special Provisions (FUSP)".
3. RCOC: "Permit Rules, Specifications, and Guidelines".
4. RCOC "Post-Construction Stormwater Runoff Program Guidelines".
5. Oakland County Water Resources Commission (OCWRC) "Engineering Design Standards for Storm Water Facilities".
6. Local Community Stormwater Standards.

III. Post-Construction Size and Scope

While it is intended that the maximum number of appropriate stormwater Best Management Practices (BMPs) be employed on all projects regardless of size or scope, the following projects do not require adherence to the Post Construction Control (PCC) stormwater quality or quantity standards:

1) Projects located within the rural area of the County as defined by SEMCOG. The Municipal Separate Storm Sewer System (MS4) program only applies to locations within the urban boundary.
2) Projects that do not increase impervious area and are limited in scope. Project examples would include HMA overlay projects, spot concrete pavement replacement or pavement maintenance type projects.
3) Projects less than 1 acre is size.

In addition to the above, the scope of this guideline is further described more specifically for each affected RCOC Department and/or activity;

A. Department of Citizen Services (DCS) ROW Permits

The DCS is responsible for issuance of permits for construction activities within the public road ROW to be completed by other private or public entities. DCS issues approximately 1200 to 2000 permits a year for work completed within the road ROW. Construction permits that are issued can range from driveway construction and/or replacement, public facility construction (sidewalks/paths), minor road widening, utility installation including storm sewer and storm sewer discharges and public road improvement/construction projects.

The following description is a guideline of how PCC standards will be implemented within the DCS;

a) Drive approach reconstruction/reconstruction within the road ROW, including any minor ROW improvements including but not limited to sidewalk/path construction and turn lane construction for public safety will not be required to conform to the PCC standards. The RCOC cannot legally require permittees to construct improvements outside of the affected property frontage and in addition to this, cannot legally deny safe and reasonable access to a property that may not be able to be constructed as a result of the inability to meet the PCC standards. However, BMPs such as construction of grassy swales, check dams and other appropriate stormwater management BMPs will be implemented to the fullest extent possible given the existing site and ROW constraints.
b) Sidewalk/path or other public facility construction permits will not be required to conform to the PCC standards. Many of these types of projects are constructed to improve mobility and public safety and are constructed within the existing road ROW. Many of these projects do not include storm sewer within the scope nor, due to site constraints, have the reasonable ability to comply with the PCC standards within the road ROW. If these types of projects were required to comply with the PCC standard, public safety and mobility for all public road users would be negatively affected as many of these projects simply could not be constructed. It should be noted that where opportunity exists for these types of projects to comply with the PCC standards or portions thereof, the PCC standards will be implemented utilizing the most BMPs as possible.
c) Private sites that are being redeveloped or constructed from a greenfield site (currently undeveloped site) and are requesting a permit to discharge storm water to the ROW will be required to follow the OCWRC PCC standards for new developments as a minimum standard. This will be completed via the RCOC permit process (through DCS) with the permittee submitting the required storm water calculations prepared by a licensed professional Engineer, licensed in the State of Michigan.
d) Public road improvement projects will follow the guidelines set forth as outlined in this guideline.

B. Subdivision Improvement and Development Division (SID) – Engineering Department
SID is responsible for the oversight of the construction of new roads proposed by developers to be dedicated to the use of the public. SID reviews plans and documents for compliance with RCOC requirements. In addition, SID designs and administers the special assessment district (SAD) program which allows property owners to pay directly for road improvement paving.

The following description is a guideline of how PCC standards will be implemented within SID;

a) New developments that will be dedicated to the use of the public upon completion will be required to follow the project's city, village or township PCC standards as a minimum standard. This will be completed via the permit process with the permitee submitting the required storm water calculations prepared, signed and sealed by a professional Engineer, licensed in the State of Michigan.
b) SAD projects involve the repaving or improvement of existing sub-local streets (residential streets). These projects are exempt from the PCC standards because RCOC is rehabilitating the roads in-kind.

C) Design Division – Engineering Department
The design division is responsible for the preparation of plans for road improvement projects on county primary and local roads. Project scope can include the following type of work; preventative maintenance (PM) projects; restoration, rehabilitation and resurface (3R) projects; restoration, rehabilitation, resurface, reconstruction (4R) projects; bridge maintenance and; bridge/culvert reconstruction projects.

The following description is a guideline of how PCC standards will be implemented within Design;

a) Preventative Maintenance Projects (PM) – Preventative maintenance projects generally consist of surface improvements to existing roadways. Project scope can include milling/surface repairs, HMA overlays, minor safety improvements, guardrail upgrades, equalizer culvert removal and replacement etc. Minor safety improvements can include paving portions of existing gravel shoulders. Given the limited scope and budget for these types of projects, PCC standards will not be applied to these projects. However, BMP implementation will be evaluated throughout the design process and appropriate BMPs will be implemented to the maximum extent possible.

b) Restoration, Rehabilitation and Resurface Projects – 3R projects generally consist of projects that involve more substantial pavement resurface rehabilitation, safety improvements which can include the addition of turn lanes, shoulder paving, hill cuts, drainage improvements etc. 3R projects generally consist of less than 50% base reconstruction. 3R projects are allowed some latitude in design standards in order to minimize reconstruction effort and ROW acquisition. These projects will require PCC standard evaluation contained in this guideline.

c) Reconstruction, Restoration, Rehabilitation and Resurface Projects – 4R projects generally consist of the reconstruction of roadways and can include road widenings, paving of existing gravel roads etc. The work includes the reconstruction of the pavement cross sectio n and associated base, local government improvements (sidewalks etc.), drainage system improvements and other safety related improvements. ROW acquisition is limited to only what is required in order to complete the reconstruction of the roadway. These projects will require PCC standard evaluation contained in this guideline.
d) Bridge Maintenance and Bridge/Culvert Reconstruction – Bridge maintenance projects include superstructure repairs, surface sealings and minor safety improvements. Since these projects do not increase imperious areas, the bridge maintenance projects are exempt from the PCC standards.
e) Bridge/Culvert reconstruction projects are limited in scope to the area immediately surrounding the existing stream crossing and may include some localized, minor widenings at the structure and approaches. The work can include localized drainage system improvements/reconstruction, addressing undersized stream crossing structure sizing as well as addressing localized erosion/scour concerns. These projects impacting an area greater than 1 acre in size will require PCC water quality standard evaluation as contained in this guideline.

IV. Storm Water Quality Treatment Standards

i) Treatment Volume

The minimum standard as contained in the Michigan Department of Environmental Quality "Post-Construction Storm Water Runoff Controls Program" specifies two methods in determining the volume of storm water that requires treatment. The intent is to treat the first flush that would contain the majority of pollutants.

One option is to treat a storm water volume consisting of 1" of runoff generated from the entire site. The second option is to calculate and treat the runoff resulting from the 90% annual non-exceedance storm event.

The RCOC treatment volume standard is to calculate and treat the runoff generated from a site based on the runoff resulting from the 90% annual non-exceedance storm **(36)**. At the time of writing this document, the 90% annual non-exceedance storm for the metro Detroit area is 0.9" of rainfall from the EGLE's memo dated March 24, 2006 **(37)**. The duration of the storm utilized for this calculation is a 2 year – 24 hour event.

ii) Treatment Efficiency

Treatment efficiency is dependent upon the method employed in order to treat the storm water prior to discharge. The RCOC will, to the maximum extent practicable, remove up to 80% removal of TSS compared to untreated runoff OR a discharge concentration not to exceed 80 mg/L. This will be studied on a site-specific basis and may include the direct sampling and measuring of existing TSS concentrations **(38)**.

Design Division – Engineering Department - 3R/4R and Bridge/Culvert Replacement Projects
Each project will be evaluated on a project by project basis in satisfying the water treatment standard. Every project is unique in scope and site conditions where not all of the methods for treating storm water can be employed. Throughout the design process, treatment volume and efficiency will be analyzed and documented within the project files. The maximum amount of treatment will be provided on a project by project basis given the existing site conditions.

The following is a list of treatment options that will be evaluated throughout the design process;

1) Installation of a Manufactured Treatment Device (MTD) (swirl concentrator) prior to discharge. The RCOC will evaluate the appropriateness of installing an MTD prior to discharge. The RCOC will specify MTDs that are certified by the New Jersey Department of Environmental Protection (NJDEP) in order be certain treatment efficiencies are achieved.
2) Construction of grassy swales prior to discharge to provide storm water treatment.
3) Construction of wet/dry ponds to allow for filtration prior to discharge.
4) For small storm systems where installation of a MTD is not feasible due to site constraints, installation of sediment chambers (deeper sumps/in structure traps) will be used to pretreat prior to discharge.
5) Where possible, avoid direct discharge to waters of the State. Discharges will be placed as far from open waters of the State as site conditions allow.
6) Other BMPs such as catch basins, permanent in swale check dams, bio retention areas will be evaluated on a project by project basis and implemented if appropriate.

It is not intended for the above list to be exhaustive nor for all of these treatments be employed on all projects. Since this standard applies within the urban boundary, in the majority of projects, options are very limited due to limited space available in the existing ROW and the majority of the surrounding lands are fully developed. In addition, funding and ROW/easement acquisition mechanisms do not allow for building of offsite treatment facilities.

V. Channel Protection Standard

The minimum standard as contained in the Michigan Department of Environmental Quality "Post-Construction Storm Water Runoff Controls Program" specifies "*channel protection criteria that require maintaining the post-development project site runoff volume and peak flow rate at or below pre-development levels for all storms up to the 2-year, 24 hour event. Pre-development level means the runoff flow volume and rate for the last land use prior to the planned new development or redevelopment*."

It should be noted that the standard as stated above cannot be fully achieved for every project in a linear site such as an existing roadway network located within the urban boundary. Site locations exhibit different soil types that inhibit infiltration and the majority of adjacent properties to the site are developed and cannot be acquired to provide infiltration. Road funding and/or ROW acquisition mechanisms do not allow for the acquisition of off-site locations to construct banking facilities for storm volume or peak flow rate control facilities **(39)**.

Design Division – Engineering Department - 3R/4R and Bridge/Culvert Replacement Projects
Each project will be evaluated on a project by project basis in an effort to comply with the standard above and will be documented in the project files.

The RCOC will evaluate opportunities for the following;

1) Surface retention and/or extended detention basins within the project boundaries. As space allows on a project, RCOC may incorporate these types of facilities on a project by project basis. For these types of facilities, pretreatment prior to discharge into the facilities (either by MTD or forebay) will be required to minimize long term maintenance of the basin.
2) Each project will be evaluated for creating shoulder/ditch sections to promote infiltration and treatment of storm water flows where space allows and does not cause undo adjacent property impacts.
3) The construction of bio-retention areas with local units of government during the design phase for agreement on long term maintenance.
4) Inquiring with the local community and/or OCWRC to identify additional opportunities to reduce discharges to assist with meeting this standard when feasible.

VI. Site-Specific Requirements

The RCOC will avoid infiltration in the contaminated areas because this would provide a transportation mechanism for contamination to travel **(41)**. The RCOC will coordinate with the cities, villages and townships at project early coordination meeting to discuss any potential hot spots in the project area (**42**).

VII. Site Plan Review

Any permitees that submit a project to the DCS are required to submit a site plan for review and approval of post-construction stormwater BMP's **(53)**. Specific information regarding the site plan review process can be found in RCOC's "Permit Rules, Specifications, and Guidelines" **(54, 55)**. Since RCOC is an Authorized Public Agency, the site plans for RCOC projects are developed in-house and are reviewed internally.

VIII. Storm Water Controls Documentation

All improvements to the storm water system within the road ROW will be located and documented. Information regarding the improvements will include, but not limited to, the location of the

improvement, type of improvement, year installed, and any other documentation that is pertinent to the long term operation and/or maintenance of the improvement.

A. Department of Citizen Services (ROW Permits)
DCS shall forward no later than once per year information regarding the permits completed that involved improvements and/or additions of storm water discharge points to the RCOC MS4. This information shall be forwarded to Environmental Concerns Division to be catalogued and tracked on an information system. Information shall include any required storm water design calculations used for the design of the discharge and any upstream treatment and volume controls.

B. Subdivision Improvement and Development Division (SID) – Engineering Department
SID shall forward no later than once per year information regarding developments accepted for the use of the public that involved improvements and/or additions of storm water discharge points to the RCOC MS4. This information shall be forwarded to the Environmental Concerns Division to be catalogued and tracked on an information system. Information shall include any required storm water design calculations used for the design of the discharge and any upstream treatment and volume controls.

In addition, SID shall review proposed SADs to ensure that all existing storm water systems and/or discharge locations are accurately identified on the RCOC information system. If discrepancies are identified, corrections shall be forwarded to Environmental Concerns Division.

C. Design Division – Engineering Department
Design shall review all projects to compare that the existing storm water systems and/or discharge locations are accurately identified on the RCOC information system. If discrepancies are identified, corrections shall be forwarded to Environmental Concerns Division.

For 3R/4R and bridge/culvert replacement projects, design shall forward all design elements regarding the storm water system to the Environmental Concerns Division. This can include design calculations, location of controls, methods of storm water treatment and volume control employed on the project.

IX. Post-Construction Stormwater Control Inspections

When a project is completed, an RCOC inspector finalizes the project and completes as-builts to ensure the project was built properly. After a project has been finalized and it is determined that the BMP's are working properly, inspections are completed as needed.

X. Long-term Operation and Maintenance

Stormwater BMP's that are not owned by the RCOC, or are located outside the road ROW in subdivision and condominiums are maintained by the subdivision or condominium. In the event the

subdivision or condominium fails to provide adequate maintenance, repair or replacement, the City, Village, or Township has enforcement authority to ensure BMP's are properly maintained.

If and when an RCOC BMP fails, RCOC's Maintenance Department corrects any deficiencies to that BMP. RCOC's Maintenance Department oversees all RCOC-owned BMPs and cleans and maintains the BMPs when needed. RCOC also has a complaint system in place and if there is any water quality or quantity issue missed by a staff member and the public reports it, the Maintenance Department will correct the issue(s) at that time **(56-58)**.

XI. Enforcement

RCOC is not an enforcing agency; however, RCOC oversees all of its own roads and projects during and after construction. If a third party has a project on RCOC property, or within our ROW, an RCOC inspector oversees the project. As-builts are completed after a project is completed to ensure the project was built to project specifications, including post-construction BMPs. Water quality and quantity BMPs on RCOC-owned facilities are inspected routinely by District staff or by the Environmental Concerns Division. On new public road subdivision developments, master deeds are required to specify that the Homeowners Association maintain, repair, and replace the storm drainage system that is not under the jurisdiction of the RCOC. It is also specified that any failure to comply may be administered by the local government. If there is an issue with water quality on an RCOC road or facility property, RCOC will correct the problem as soon as possible. If there is a water quality issue in an RCOC ROW or facility stemming from an adjacent property, RCOC will contact the local city/village/township/health department to administer enforcement to the responsible property owner (**59, 76**).

<u>Additional information about RCOC enforcement authority:</u>
Local governments and public bodies in Michigan have no regulating authority on their own, except as granted to them by the state constitution, statutes and local charters. In the case of cities and villages, the Michigan Constitution provides broad authority to adopt ordinances in Article 7, Section 22 which provides that "Each such city and village shall have the power to adopt resolutions and ordinances relating to its municipal concerns, property and government, subject to the constitution and the law." The Michigan Legislature has also provided cities, townships, and villages ("CVTs") with the power to adopt ordinances to secure public health, safety and general welfare in the Home Rule City Act (1909 PA 279), the Home Rule Villages Act (1909 PA 278) and the Township Ordinances Act (1945 PA 246). These statutes further allow CVTs to classify ordinance violations as civil infractions and to levy fines to punish violations.

Unlike CVTs, Michigan Road Commissions have no such constitutional or statutory authority to enact and enforce ordinances. The powers granted to road commissions are set forth in County Road Law (1909 PA 283), which sets forth the composition and authority of road commissions, (MCL 224.6) general road commission duties and powers (MCL 224.10), authority to employ and purchase (MCL 224.10) etc.

Without specific constitutional or legislative authority, RCOC cannot enact ordinances to control discharges into its system or to maintain BMPs.

XII. BMP Toolbox Development

The RCOC is currently developing a BMP Toolbox to use for Design and SID projects to ensure BMP's are utilized to the maximum extent practical. The number and types of BMP's used on a project will vary on a project-by-project basis based on available ROW and funding.

Appendix H1- Municipal Facility Inventory

ROAD COMMISSION for OAKLAND COUNTY
QUALITY LIFE THROUGH GOOD ROADS – WE CARE

Appendix H, Attachment 1
Municipal Facility Inventory & Assessment Guidelines

Purpose

To establish procedures for identifying and assessing Road Commission for Oakland County (RCOC) facilities and stormwater structural controls with a discharge of stormwater to surface waters of the state or other MS4. This procedure also includes a process for updating and revising this inventory, a process for assessing each facility for the potential to discharge pollutants, and a prioritization of each facility based on the potential to discharge pollutants to surface waters of the state or other MS4 (Stormwater Permit Application # 60, 62-70).

Responsibility

The RCOC Environmental Concerns Division, Maintenance Department or designated employee(s) are responsible for following these procedures.

Municipal Inventory

Outlined in the table below is a list of RCOC facilities with a discharge of stormwater to surface waters of the state or other MS4. The estimated number of stormwater structural controls is identified for each site, along with the priority level of potential discharge of pollutants to waters of the state or other MS4 (**60, 64)**.

Low/Medium Potential

For facilities that have a medium or low potential for the discharge of pollutants to surface waters of the state or other MS4, each facility was evaluated for the presence of the following factors **(63)**:

0. Absence of any factors
1. Presence of urban pollutants stored at the site (i.e. sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants
2. Identification of improperly stored materials
3. Potential for polluting activities to be conducted outside (e.g. vehicle washing)
4. Proximity to waterbodies
5. Poor housekeeping practices
6. Discharge of pollutants of concern to impaired waters

Best Management Practices (BMPs) were identified for each facility with low or medium potential to discharge pollutants to surface waters of the state or other MS4. For all low-potential facilities where no assessment factors are present, catch basin cleaning and street sweeping will be performed as indicated in the applicable procedures for these activities. For all medium-potential facilities, the appropriate BMPs were considered based on the assessment factor present to prevent or minimize the potential for pollutants from entering surface waters of the state or other MS4 **(70)**.

RCOC Facility Name	Estimated # of Stormwater Structural Controls	Type of Stormwater Structural Controls	Priority Level of Potential Discharge (High, Med, Low)	Presence of Assessment Factors	BMP's Implemented to reduce pollutant runoff at priority facilities
Subdivisions	*17,658	Catch Basin(s): *17,088 Outfall(s): *570 Detention Pond(s): *Unknown* Retention Pond(s): *Unknown* Oil/Water Separator(s): *Unknown*	Low	4	Catch basin cleaning Street sweeping
RCOC-Maintained Road ROWs	*15,402	Catch Basin(s): *13,708 Outfall(s): *1,680 Detention Pond(s): *Unknown* Retention Pond(s): *Unknown* Oil/Water Separator(s): Unknown Hydrodynamic Separators:14	Low	4	Catch basin cleaning Street sweeping Detention/retention pond inspections and maintenance Swirl concentrator inspections and maintenance
Administration building	8	Catch Basin(s): 7 Outfall(s): 1	Low	4	Catch basin cleaning Street sweeping
Milford Road Commission Garage	13	Catch Basin(s): 10 Outfall(s): 2 Retention Pond(s): 1	High	1, 3	Catch basin cleaning Street sweeping Retention ponds inspection and maintenance
Davisburg Road Commission Garage	16	Catch Basin(s):13 Outfall(s):1 Detention Pond(s):1 Retention Pond(s):1	High	1, 3	Catch basin cleaning Street sweeping Retention ponds inspection and maintenance
Lake Orion Road Commission Garage	18	Catch Basin(s): 14 Outfall(s): 1 Retention Pond(s):1 Oil/Water Separator(s):2	High	1, 3	Catch basin cleaning Street sweeping Retention pond inspection and maintenance, as needed Oil/water separator inspection and maintenance

RCOC Facility Name	Estimated # of Stormwater Structural Controls	Type of Stormwater Structural Controls	Priority Level of Potential Discharge (High, Med, Low)	Presence of Assessment Factors	BMP's Implemented to reduce pollutant runoff at priority facilities
Waterford Road Commission Garage	38	Catch Basin(s): 31 Outfall(s): 4 Retention Pond(s):1 Oil/Water Separator(s):2	High	1, 3	Catch basin cleaning Street sweeping Retention pond inspection and maintenance, as needed Oil/water separator inspection and maintenance
Southfield Road Commission Garage	19	Catch Basin(s): 15 Outfall(s): 3 Oil/Water Separator(s):1	High	1, 3	Catch basin cleaning Street sweeping Oil/water separator inspection and maintenance
Troy Road Commission Garage	16	Catch Basin(s): 12 Outfall(s):1 Detention Pond(s):2 Swirl Chamber:1	High	1, 3	Catch basin cleaning Street sweeping Detention pond inspections and maintenance, as needed Oil/water separator inspection and maintenance

**This data has not been collected or field verified at this time. RCOC continues to collect assets within subdivisions.*

<u>High Potential</u>

These guidelines are meant to provide a summary of where to find the following as it relates to RCOC's SWPPP and PIPP plans in place for facilities with a high potential for pollutant runoff into stormwater structural controls with a discharge of stormwater to surface waters of the state or other MS4:

- **A.** List of significant materials stored on site that could pollute stormwater, how they are stored and handled, and the potential for their discharge to stormwater **(66)**
- **B.** The good housekeeping practices implemented at the site **(67)**
- **C.** Description and schedule for conducting routine maintenance and inspections **(68)**
- D. Description and schedule for conducting comprehensive inspections at least once every six months **(69)**.

RCOCC Facility Name	Pollution Prevention Plan in Place	A	B	C	D
Milford District #1	SWPPP, PIPP	ICP Section 3.0 and Appendix A	ICP Sections 5.1.2 and Appendix F	ICP Sections 5.1.1 and 5.3 Appendices E and G	ICP Section 5.3. Appendix G
Davisburg District #2	SWPPP, PIPP	ICP Section 3.0 and Appendix A	ICP Sections 5.1.2 and Appendix F	ICP Sections 5.1.1 and 5.3 Appendices E and G	ICP Section 5.3. Appendix G
Lake Orion District #3	SWPPP, PIPP	ICP Section 3.0 and Appendix A	ICP Sections 5.1.2 and Appendix F	ICP Sections 5.1.1 and 5.3 Appendices E and G	ICP Section 5.3. Appendix G
Pontiac District #4	SWPPP, PIPP	ICP Section 3.0 and Appendix A	ICP Sections 5.1.2 and Appendix F	ICP Sections 5.1.1 and 5.3 Appendices E and G	ICP Section 5.3. Appendix G
Southfield District #5	SWPPP, PIPP	ICP Section 3.0 and Appendix A	ICP Sections 5.1.2 and Appendix F	ICP Sections 5.1.1 and 5.3 Appendices E and G	ICP Section 5.3. Appendix G
Troy District #6	SWPPP, PIPP	ICP Section 3.0 and Appendix A	ICP Sections 5.1.2 and Appendix F	ICP Sections 5.1.1 and 5.3 Appendices E and G	ICP Section 5.3. Appendix G

For facilities that have a high potential to discharge pollutants to surface waters of the state or other MS4, a Stormwater Pollution Prevention Plan (SWPPP), Pollution Incident Prevention Plan (PIPP) for salt and chemical storage, and/or a Spill Prevention Control and Countermeasure (SPCC) plan has been developed. These documents are available from RCOC upon request **(65)**.

Process for Updating/Revising the Inventory

Facility priority levels will be revised as facilities and structural stormwater controls are added, removed or no longer owner or operated by the applicant within 30 days of the biannual inspection process **(62)**. All other assets outside of those in as-builts will be updated during the regularly scheduled process **(63)**.

Appendix H2- RCOC Drainage Feature Maintenance and Inspection Guidenace

ROAD COMMISSION for OAKLAND COUNTY
QUALITY LIFE THROUGH GOOD ROADS – WE CARE

Appendix H, Attachment 2
Drainage Feature Inspection and Maintenance Priority Guidelines

Purpose

Describe the process for determining the priority level for catch basin cleaning and street sweeping on Oakland County Roads (Permit Application #71-75, 78-81-84).

Responsibility

The RCOC Maintenance Department, Environmental Concerns, or designated employee(s) are responsible for following these procedures.

Procedures

Catch Basins and Hydrodynamic Separators

The RCOC estimates that there are 30,899 known catch basins under its jurisdiction; however, the discovery of undocumented catch basins will add to this quantity. The Highway Maintenance Department conducts regular catch basin inspections and maintenance across the county, primarily between April and January. The purpose of the program is to maintain a maximum sump capacity of 50%. To accomplish this, asset cleaning and maintenance are performed at the time of observation. Currently, we are performing maintenance and/or cleaning of approximately 3,500 catch basins per year.

The RCOC Highway Maintenance Department is committed to inspecting and cleaning all catch basins within a 7-year timeline. However, the frequency at which catch basins are serviced is driven by historical knowledge and real-time observations. Historical knowledge is our greatest asset when determining where to apply our resources and is essential when making decisions. Based on the principle of generator knowledge, we know that drainage features along primary roads and those adjacent to gravel roads require more frequent inspections and servicing. Other high-priority areas include catch basins at or near outfalls and discharge points. The following is a description of our priority areas:

1. Priority Level One: All catch basins along primary and local roads and RCOC maintenance garages (approximately 13,803). These structures will be inspected and serviced at least once within the 7-year timeframe. RCOC owns and operates 14 hydrodynamic separators. These features will be inspected annually and serviced as identified during the time of inspection.

2. Priority Level Two: All other RCOC catch basins (approximately 17,088) on county sublocal roads. These drainage features will be included in the inspection and cleaning process when the priority level one features are in good working order. This schedule will be followed as closely as possible with the goal of inspecting and servicing (as needed) all catch basins at least once per 7-years, or when observed to need service or discovered through citizen comments **(72)**.

Because of our prioritization schedule and real-time needs, some features could be temporarily unassessed beyond the 7-year timeframe. An assessment of unmet needs will be conducted and reported in scheduled progress reports, as required under this permit.

Street Sweeping

The RCOC estimates that approximately 1,103 curb miles exist throughout the MS4-regulated area. Historical knowledge is our greatest asset when determining where to apply our resources and is essential when making decisions. Based on the principle of generator knowledge, we know that drainage features along primary roads and those adjacent to gravel roads require more frequent servicing. Therefore, all curbed primary and local roads (527 curb miles) will be swept three times a year (spring, summer, and fall seasons), and curbed sub-local roads (576 curb miles) will be swept once per year (to be completed by July 31). This equates to sweeping 2,157 miles of curb each year. Additionally, the RCOC is committed to surveying our resources and it is anticipated that the curb mileage total will increase as we update our databases. Newly identified or constructed segments of curbed roads will be added to their appropriate category (primary and local, or sublocal). All curb sweeping activities are completed by a contractor and verified by RCOC personnel oversight.

Detention and Retention Ponds

The RCOC currently owns 7 detention ponds within the ROW areas in the county, 2 detention ponds at RCOC-owned facilities, and 4 retention ponds at RCOC-owned facilities. These features will be inspected annually and maintained to meet their designed function. Newly identified or constructed ponds will be included in this inspection process.

New stormwater controls that are installed or identified by RCOC personnel will be included in these procedures and this document will be updated within 30 days of the implementation/installation **(75)**.

Schedule

The table below is a summary of the schedule outlined within the **Procedures** section above **(75)**.

Structural Control Type	Inspection Schedule	Maintenance Schedule
Catch Basins	On-going between April and December	Completed at the time of inspection
Street Sweeping	On-going between April and November	Curbed primary and local roads completed in spring, summer, and fall Curbed sublocal roads completed by July 31 each year
Hydrodynamic Separators	Annually	As needed based on annual inspection results
Detention/Retention Basins	Annually	As needed based on annual inspection results

Record Keeping and Reporting

Drainage feature inspections are recorded utilizing ESRI Field Maps (formerly known as ArcCollector), The RCOC collects the following information:

- Inspector/Operator name, date, and time
- Structure type
- Structure ID and location
- Structure condition
- Maintenance performed (repairs, cleaning/sediment removal, etc.)
- Weather conditions
- Structure material description (brick, poured concrete, etc.)
- Water quality characteristics (odor, discoloration, sheen, foam, oil or grease, other)

Inspection forms for catch basins and detention/retention ponds can be found in **Appendix H - Attachment 4**.

Material Disposal

RCOC follows the EGLE's Catch Basin Cleaning Activities guidance for the dewatering, storage and disposal of materials extracted from catch basins as well as internal Vactor Truck Operational Procedures **(74, 81)**. Catch basin waste is decanted at designated RCOC facilities in Waterford and Lake Orion. Decanted materials are then shipped by the RCOC as liquid industrial byproduct (LIB) to a licensed Type II Landfill (currently Oakland Heights Landfill by Republic Services). Non-hazardous waste manifests are kept for a minimum of three years.

RCOC's contractors who generate waste from these activities are required to comply with all applicable federal, state, and municipal regulations. The following special provision language is stated for contractor activities that require disposal of debris or protection of wetlands (which includes catch basin cleaning and street sweeping contracts). After contractor work has been completed, an RCOC district foreman or assigned RCOC personnel will perform an inspection to ensure work has been completed properly. No formal procedure is in place for the foreman's oversight activity.

Special Provision language:

The successful bidder(s) will be responsible for the disposal of all material gathered from sweeping operations, including areas where debris can temporarily be piled, landfill fess, and environmental costs due to testing and disposal, leveling and grading of stockpile areas, any and all agreements made with public or private individuals and land owners. Copies of the material disposal manifest must be submitted to the RCOC as material from locations under this contract are disposed of. No dumping will be permitted in areas where such dumping is prohibited by local ordinance. No dumping on gravel shoulders or fill areas within Oakland County right-of-way will be allowed. The contractor shall be responsible for the disposal of all debris resulting from unexpected equipment repairs **(83)**.

RCOC does not currently perform pesticide application on properties in-house or by contract. If an entity applies pesticides within the RCOC right-of-way, RCOC will require the applicator to be a certified pesticide applicator through MDARD **(82)**.

Employee Training

All maintenance staff will receive good housekeeping and environmental awareness training once per permit cycle. All new hires performing maintenance activities will receive good housekeeping training within one year of their hire date **(84)**.

Appendix H3- Catch Basin Cleaning Rules

Catch Basin Cleaning Activities

GUIDANCE

INTRODUCTION

Catch basins are included in storm sewer system designs as a best management practice to remove pollutants such as gravel, sand, oils, and organic material carried by storm water runoff. Catch basins are designed to capture the pollutants in a sump, which may vary in depth depending on the design. The solids captured in the sump may have elevated concentrations of metals from street runoff or drainage from industrial, commercial, and residential properties. In order to maintain the effectiveness of the catch basin, the sump must be regularly inspected and cleaned out. The Water Resources Division (WRD) and Materials Management Division (MMD) of the Michigan Department of Environment, Great Lakes, and Energy'S (EGLE) oversee environmental regulations pertaining to this activity. The Michigan Occupational Safety and Health Administration (MIOSHA) within the Department of Labor and Economic Opportunity oversees confined space entry and other worker health and safety standards.

Waste generated from catch basin cleaning activities and discharged back into the storm sewer system is unauthorized per Part 31, Water Resources Protection (Part 31) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and is therefore illegal. The combined solid and liquid waste stream from cleaning storm sewers systems, including catch basin sumps, is legally defined as "liquid industrial by-product" pursuant to Part 121, Liquid Industrial By-Products (Part 121) of NREPA. If an environmental spill were captured by a storm sewer system, the material in the storm sewer system could be a hazardous waste pursuant to the Part 111, Hazardous Waste Management (Part 111) of the NREPA and subject to additional management requirements.

If the storm sewer system is found to contain contaminants or abandoned waste materials, report the details to EGLE by calling the **Pollution Emergency Alert System** at 800-292-4706.

VISUAL INSPECTION

When cleaning out catch basin sumps, it is important to conduct a visual inspection prior to the cleaning. This is necessary to ensure the water in the sump has not been contaminated and qualifies to be managed as a liquid industrial by-product. The visual inspection is important for worker safety and to ensure proper management of the material once it is removed from the catch basin sump. If contamination is expected based on a visual inspection (visible sheen, discoloration, turbidity, obvious odor, etc.), a grab sample should be collected and analyzed

before handling the materials and generating a waste. While waiting for the sample analysis, efforts to prevent stormwater from entering the storm sewer system should be taken. For additional details on performing visual inspections, see the U.S. Environmental Protection Agency (U.S. EPA) Storm Water Management Fact Sheet on Visual Inspections. For additional details on sampling and determining if a material is hazardous or not, please see the EGLE Waste Characterization Guidance.

HANDLING THE LIQUID INDUSTRIAL BY-PRODUCT

The following are options for handling liquid industrial by-products generated from catch basin cleaning activities:

1. Have the liquid industrial by-product transported to drying beds to separate the solids and liquids. This is usually performed at a publicly owned treatment plant or at a privately-owned permitted facility where the liquid portion of the waste stream is separated from the solids and treated prior to discharge. Once dry, the solids should be disposed in a licensed solid waste landfill in accordance with Part 115, Solid Waste Management, of the NREPA.
2. Request permission from the local wastewater treatment plant operator to discharge the combined solid/liquid waste into the sanitary system. Most treatment plants will require pre-treatment prior to the discharge. All applicable local ordinance provisions must be followed.
3. When conducting catch basin cleaning activities where the above options are not available, the following method can be used after the water in the sump is confirmed to be non-contaminated.
    - Using a sump pump, or any other pumping mechanism, remove the majority of water in the sump of the basin without disturbing the solid material below. Do not use pumps connected to the vacuum truck's holding tank.
    - The clear water may then be directly discharged to one of the following:
        - Municipal sanitary sewer system (with prior approval from local sewer authority).
        - Application to the ground adjacent to the catch basin may be allowed on a site-specific basis. To learn more about this option, contact the WRD, Groundwater Discharge Program, at 517-290-9607.
    - The remaining liquid/solid in the sump should be collected with a vacuum truck and disposed of off-site in accordance with Parts 115 or 121.

The owner of the storm sewer system is responsible for meeting the liquid industrial by-products generator requirements under Part 121, even if the catch basins are cleaned out by a private contractor. See the Liquid Industrial By-Products Generator Requirements guidance for more details on the generator requirements for handling liquid industrial by-products.

Transporters of catch basin clean-out materials must be permitted and registered to transport liquid industrial by-products. Only local, state, and federal government agencies are exempt from this and only when using their own vehicles and staff to do the work. Transporters needing a permit and registration must notify MMD of their transport activity and obtain a Site Identification Number using the EQP5150 Form. There is a $50 fee for a new Site Identification Number that can be paid for on-line. For more details on transporter requirements, see the Hazardous Materials Transportation Act, 1998 PA 138, as amended and Transporters Web page.

When the liquid by-product is transported over public roadways by local government officials or by contractors, a shipping document is required. The shipping document can be a bill of lading, non-hazardous waste manifest, uniform hazardous waste manifest, consolidated shipping document, etc. The shipping records must be kept by both the generator and the transporter for at least three years from the date of shipment. The portion of the vehicle that contains the liquid industrial by-product and/or containers used to transport the liquid industrial by-products must be kept closed except when adding or removing the waste, and the exteriors must be kept free of any liquid industrial by-products and residue. Containers must also be labeled with words describing their contents. For more details on shipping documents, including details on consolidated shipping documents, please see the Liquid Industrial By-Products Frequently Asked Questions.

Facilities accepting liquid industrial by-products must meet the following operating requirements:

- They must notify MMD using the EQP 5150 Form that they are operating a liquid industrial by-product designated facility, obtain a Site Identification Number, and meet the operating requirements under Part 121. This includes implementing practices to prevent unauthorized discharge of the liquid industrial by-products; keeping shipping, training, and other records; having emergency response plans; annually reporting the amount and types of liquid industrial by-products received; and reporting unauthorized release to the environment. If managing containers of liquid industrial by-product, they must be kept closed, labeled, and protected from the weather, fire, physical damage, and vandals.
- The discharge of the liquids into the treatment plant that is permitted by the WRD must meet the wastewater treatment plant requirements. Any other discharge of the liquids would require a separate EGLE discharge permit.
- Any resulting solid waste from processing must be managed as specified under Part 115 and disposed in a licensed solid waste landfill. Contact the landfill for the specific testing and disposal requirements needed to verify the waste is solid and not a hazardous waste. They will likely require specific tests or only accept data from specific laboratories. Ask the disposal company for a list of required tests, the purpose for the tests, approved testing methods, and acceptable laboratories. The solids cannot be used as fill on public or private property, or for any other use, unless they meet the conditions in Section 11504 of Part 115 and can be demonstrated to be an inert material. EGLE relies upon the methods in the Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria for collecting representative samples.

See Part 121 for more details on the operating requirements for liquid industrial by-products designated facilities.

Street sweeping activities are also subject to the above solid waste requirements. Street sweeping involves the use of specialized equipment to remove litter, loose gravel, soil, pet waste, vehicle debris and pollutants, dust, de-icing chemicals, and industrial debris from road surfaces. See the best management practices for Street Sweeping.

WHERE TO GO FOR HELP

- **Using the solids as fill or other use under Part 115:** Solid Waste Program Staff Map
- **Part 121 and Hazardous Materials Transportation Act requirements:** Hazardous Waste and Liquid Industrial By-products Staff Map
- **Managing waste under Part 31, or general questions regarding this guidance:** Municipal Separate Stormwater Sewer System Program Staff Map
- **Groundwater permitting requirements:** Groundwater Discharge Program Staff Map
  Sherry Thelen: 517-290-9607 | ThelenS5@Michigan.gov
- **Confined space entry requirements:**
  MIOSHA Consultative Services: 517-284-7720

Appendix H4- Drainage Feature Inspection Forms

Dry Weather Screening – Field Form

General Information

Date(s): _____

Structure ID: _____

GPS Coordinates/Address: _____

Inspector(s): _____

Pipe Size: _____

Material

- ☐ Reinforced Concrete Pipe (RCP)
- ☐ Polyvinyl Chloride (PVC)
- ☐ Steel
- ☐ High Density Polyethylene (HDPE)
- ☐ Other: _____

Weather

- ☐ Sunny
- ☐ Rainy
- ☐ Overcast
- ☐ Snow

Last Rain Event

- ☐ 48-72 Hours
- ☐ >72 Hours

Field Observations

Dry Weather Flow

- ☐ No
- ☐ Yes, Constant
- ☐ Yes, Intermittent
- ☐ Trace, Insufficient flow to sample
- ☐ Submerged

Color

- ☐ Clear
- ☐ Brown
- ☐ Gray
- ☐ Other _____

Vegetation

- ☐ None
- ☐ Algae
- ☐ Slime

Structure Condition

- ☐ Good
- ☐ Fair
- ☐ Poor

Sediment Accumulation

- ☐ No
- ☐ Yes
- ☐ Needs Cleaning

Floatables

- ☐ Sewage
- ☐ Suds
- ☐ Petroleum Sheen
- ☐ Bacterial Sheen
- ☐ Trash
- ☐ None
- ☐ Other _____

Odor

- ☐ Sewage
- ☐ Petroleum
- ☐ Detergent
- ☐ Rotten Egg
- ☐ None
- ☐ Other_____

Field Screening

Date(s): _____

Parameters	Action Level	Results
☐ **pH**	<6.5 or >9.0	
☐ **Temperature**	N/A	
☐ **E. coli**	>1,000 cts/100ml	
☐ **Ammonia**	>1.0 mg/l	
☐ **Surfactants**	>0.5 mg/l	
☐ **Other** _____		
☐ **Other** _____		

Source Investigation

Sewershed Investigation Conducted: ☐ Yes ☐ No

Land Use Type: ☐ Residential ☐ Commercial ☐ Industrial

Televised Investigation Conducted: ☐ Yes ☐ No

Dye Test Conducted (**Note:** Inform EGLE-WRD if performing dye testing): ☐ Yes ☐ No

Further Investigation Required: ☐ Yes ☐ No

Illicit Discharge Identified: ☐ Yes ☐ No

Date Identified: _____

Date Responsible Party Notified: _____

Date Elimination Required: _____

Date Eliminated: _____

Illicit Connection Identified: ☐ Yes ☐ No

Date Identified: _____

Date Responsible Party Notified: _____

Date Elimination Required: _____

Date Eliminated: _____

Enforcement Action Taken: ☐ Yes ☐ No

Summary/Notes:

ROAD COMMISSION for OAKLAND COUNTY

Detention/Retention Basin Inspection Checklist

GENERAL INFORMATION		Date:
Name(s) person inspecting the basin:		Certification Number:
Location Address and Cross Streets:	Type of Basin:	
Name of Stream, or area the basin discharges into (if applicable):	Site Name/ID:	
Purpose of Survey:		

STRUCTURAL COMPONENTS	
Basin description, size and depth:	Is the basin accessible to maintain? Yes / No Is it maintained: Mowed, clear of woody plants, inlet/outlet blockages?
Number of inlets:	Outlet diameter:

GENERAL OBSERVATIONS	YES	NO	NOTES/REMARKS
1) Any reports on the basin not functioning?			
2) Are there any unauthorized or malfunctioning structures in the basin?			
3) Invasive species present? If yes, list species and percent coverage. (i.e. Common buckthorn, phragmites, giant hogweed, purple loosestrife).			
4) Fallen or overgrown trees present? If yes, quantify.			
INLET/S			
1) Signs of breakage, damage, corrosion or rusting of inlet structure/pipe?			
2) Debris or sediment accumulation in or around the inlet clogging the inlet opening/pipe?			
3) Signs of erosion, scour or gullies; rock or vegetation above or around the inlet structure?			
4) Tree roots, woody vegetation growing close to or through the inlet structure or a situation impacting the structure's integrity?			
5) If the inlet has a pretreatment structure (trash rack, forebay) is it filled w/ debris or sediment?			
BASIN			
1) Accumulation of debris or litter within basin?			
2) Exposed dirt or earth visible, are there areas without vegetation or where turf is damaged?			
3) Excess sediment accumulation in the basin?			
4) Basin walls/embankment eroded, slumping, caved or being undermined?			

ROAD COMMISSION for OAKLAND COUNTY

Detention/Retention Basin Inspection Checklist

OUTLET	YES	NO	NOTES/REMARKS
1) Breakage, damage, corrosion or rusting to outlet pipe or conveyance?			
2) Signs of erosion, scour or gullies; rock or vegetation above or around the outlet structure?			
3) Debris or sediment accumulation in or around the outlet pipe (i.e. debris or sediment)?			
4) Accumulation of debris or litter in or around outlet?			
5) Tree roots or woody vegetation impacting the outlet or causing potential damage to the structure?			
SECONDARY/EMERGENCY OVERFLOW SPILLWAY			
1) Are pipes, conduits, or conveyances free of debris, clogs and in good condition? (i.e. no visible cracks, breakage slumping)			
2) Large tree or root growth close to pipes or conveyances with the potential to crack structure or impede flow?			
3) Signs of erosion, scour or gullies; rock or vegetation above or around the spillway?			
BASIN OUTFALL AREA			
1) Signs of stormwater exiting the basin in an uncontrolled manner over or through wall or berm?			
2) Signs of erosion, scour or gullies; rock or vegetation at or down slope of the outfall?			
SUMMARY AND NOTES:			
Photos (number, description, direction)**:**			

Appendix H5- Municipal Operations Guidelines

Road Commission for Oakland County Municipal Operations and Maintenance Activities Guidelines	TITLE: Municipal Operations and Maintenance Guidelines	
	DATE: **1/31/2019**	**ISSUED BY:** Brad Knight
		Director of Planning and Environmental Concerns

Purpose

Describe the process for assessing the potential for pollutants from operation and maintenance activities at RCOC (Road Commission for Oakland County) -owned or operated facilities and RCOC maintained roadways that discharge to surface waters of the state. (Stormwater Permit Application #77).

Responsibility

The RCOC Maintenance Department or designated employee(s) are responsible for following these procedures.

Procedure

The operation and maintenance activities that are conducted at or within RCOC facilities and RCOC-maintained roadways with a discharge of stormwater to surface waters of the state have been evaluated for the potential to discharge pollutants such as sediment, nutrients, metals, hydrocarbons, chlorides, trash, bacteria, or other site-specific pollutants that could be discharged from those activities are identified.

The BMPs that are implemented to reduce pollutant runoff for each operation and maintenance activity are identified in the table below **(77)**.

RCOC Operation and Maintenance Activity	Potential Pollutants that could be Discharged	BMP's Implemented to Reduce Pollutant Runoff
Roadway and Bridge Maintenance	• Sediment • Nutrients • Metals • Hydrocarbons • Chlorides • Trash • Bacteria	Street Sweeping • Catch Basin Cleaning • Perform concrete, patching, resurfacing and surface sealing work in dry weather • Stockpile materials away from storm drain inlets and catch basins
Right-of-Way Maintenance (ditching, trash pickup, etc.)	• Sediment • Brine (chlorides)	• Ditch maintenance performed during dry weather and exposed soils stabilized with hydroseed or mulch blankets to prevent/minimize erosion • Implement/participate in "Adopt-a-Road" trash cleanup programs annually

Unpaved Road and Trail Maintenance	• Sediment • Brine (chlorides)	• Stabilize exposed soils, especially near steep slopes, to prevent erosion • Minimize use of brine for dust control to reduce brine runoff
Cold weather Operations: -Plowing -Sanding -Salt Application -Snow Pile Disposal	• Sediment • Metals • Hydrocarbons • Chlorides	Routinely calibrate spreaders • Minimize the use of salt and/or sand to the maximum extent practicable • Pre-wetting to reduce salt applications on roads • PIPP plans in place that describe salt storage BMPs • Snow piles are stored away from storm drains
Vehicle Washing and Maintenance (i.e. vactor trucks, truck fleet, televising trucks, etc.)	• Sediment • Nutrients • Metals • Hydrocarbons • Chlorides • Trash • Bacteria	Fleet vehicles are taken to a commercial carwash. Other equipment and trucks are cleaned indoors with biodegradable soap where washwater discharges to the sanitary sewer system, or they are cleaned outdoors using only water (no soap) at designated wash areas over gravel.

Process for Updating/Revising the Inventory

This assessment will be updated/revised within 30 days following the addition/removal of BMPs to address new and existing operation and maintenance activities.

Appendix H6- TMDL Guidelines

ROAD COMMISSION for OAKLAND COUNTY
QUALITY LIFE THROUGH GOOD ROADS – WE CARE

Appendix H, Attachment 6
TMDL Guidelines

Purpose

Describe the process for identifying BMP's currently and to be implemented during the permit cycle to continue progress toward reducing pollutant loading of each Total Maximum Daily Load (TMDL) in Oakland County (Stormwater Permit Application # 86-88).

Responsibility

The RCOC Environmental Concerns Department, Maintenance Department, Construction Department, contractors, or designated employee(s) are responsible for following these procedures.

U.S. Environmental Protection Agency (EPA) Designated TMDL in Oakland County

A TMDL represents the maximum amount of pollutant that a waterway can receive without exceeding State water quality standards. Below are the TMDL's that have been identified by EPA in Oakland County (as of 2017):

- Kent Lake, Strawberry Lake and Brighton Lake - Huron River Watershed: Total Phosphorus
- Norton Creek - Huron River Watershed: Dissolved Oxygen and Sedimentation/Siltation
- Rouge River Watershed: E. coli and Biota (Sedimentation)
- Johnson Creek - Rouge River Watershed: Dissolved Oxygen
- Lower Clinton River, Red Run Drain and Bear Creek - Clinton River Watershed: E. coli

Procedure

Prioritizing Procedure

The list of prioritized best management practices (BMPs) will be reviewed during the time of each biennial stormwater progress report that is due to the Michigan Department of Great Lakes, Environment, and Energy (EGLE). The review will potentially identify the effectiveness of BMPs to treat TMDL areas **(86)**. Existing priority BMPs have been institutionalized into the RCOC stormwater management plan (SWMP). However, if new technologies or activities become available and are financially viable to implement, those BMPs will be added to the RCOC's MS4's SWMP **(87)**.

Methods of Evaluating Effectiveness

See the "Method of Evaluating Effectiveness" column of the RCOC MS4 Activity Table spreadsheet for an assessment of the BMPs that will be implemented and will address the various TMDLs in the watersheds in Oakland County **(88)**.

RCOC also proposes to evaluate available data within the Clinton, Rouge and Huron Watershed areas to assess changing water quality and habitat conditions.

Monitoring Pollutants at RCOC High Priority Garages in the TMDL Areas

All RCOC-owned properties in TMDL areas were evaluated to determine if they may potentially contribute pollutants of concern to surface waters of the state. The following RCOC properties are in a TMDL area:

- Milford Garage – Kent Lake (phosphorus)
- Southfield Garage – Rouge River Watershed (E.coli and sediment)
- Troy Garage – Red Run Drain (E. coli)

The three RCOC garages have a Stormwater Pollution Prevention Plan (SWPPP) and inspections of the outfalls and discharge points (DP's) are conducted twice per year. Additionally, RCOC will be cleaning all catch basins at these garages on an annual basis (see RCOC's Catch Basin Cleaning Guidance Document for more information).

The following inspection and investigations will take place in TMDL areas:

- The RCOC will perform an advanced dry weather screening (DWS) IDEP inspection schedule in exclusively TMDL watersheds and subwatersheds. Prioritized outfalls within those areas will be those within 500ft of an industrial/commercial land parcel which are most likely to contribute pollutants to these TMDLs. Approximately 240 RCOC outfalls (including stream crossings and excluding discharge points) will be inspected per year. This will result in 50% of all RCOC-owned outfalls inspected each permit cycle. Additional information can be found in Appendix E. If any flow is observed or irregularities noted, RCOC will perform water quality sampling and correct any illicit discharges.

- The RCOC will perform two additional DWS investigations at the Milford Garage discharge points during the permit cycle. If any flow is observed, the RCOC will sample for phosphorus and correct any illicit discharges from the garage. The Milford garage also maintains a septic system. The system is inspected on a regular basis and will be added to the bi-annual inspection for additional oversight.

- One of the Alliance of the Rouge Community's (ARC) sampling data points (MN17) is just south of the Southfield garage; therefore, RCOC will review their data on an annual basis to see if any E. coli or sedimentation issues arose.

- The RCOC will perform two additional dry weather screening (DWS) investigations of the Troy Garage's outfall during the permit cycle. If any flow is observed, the RCOC will sample for E. coli and correct any illicit discharges from the garage.

It should be noted that the RCOC does not use chemical fertilizers, or detergents for equipment washing and regularly inspects and maintains two septic systems (one of which is outside of TMDL areas). Therefore, RCOC is unlikely to contribute to phosphorus or E. coli loadings through its regular operations. Pollutants sourced from roadway traffic are addressed through RCOC's MS4 Illicit Discharge Elimination Program (IDEP) outlined in Appendix E.

Wet Weather Sampling (WWS) Plan

Overview of TMDLs Included in WWS Plan

For waterbodies identified on the State's impaired waters list, the US EPA requires a TMDL assessment, which is then conducted by EGLE's Water Resource Division. The EPA lists three TMDLs within the Rouge River watershed[1]:

- Eschericha coli (*E. coli*) (MDEQ, 2007a)
- Biota (MDEQ, 2007 b)
- Dissolved Oxygen for Johnson Creek (up to 6 Mile Road) (MDEQ, 2007c)

The Norton Creek sub-watershed (part of the Huron River watershed) has a biota TMDL for Dissolved Oxygen (DO) and Sedimentation/Siltation (MDEQ, 2009a). Due to the proximity of this waterbody to the Rouge River watershed and its similar sampling and BMP needs, RCOC has elected to include the biota TMDL of the Norton Creek sub-watershed in this plan.

[1] The *E. coli* and biota assessments apply to the entire watershed, while DO only applies to the City of Northville, Northville Township, and the City of Novi.

Table 1: Impaired Waterbodies within Oakland County that will be addressed in the WWS Plan

Waterbody	Pollutant/Problem	TMDL Status
Rouge River Watershed	Biota/ Fish and macroinvertebrate communities rated poor; E. coli/ Partial and total body contact recreation impairment	Approved 2007
Johnson Creek *Subwatershed of Rouge River Watershed*	Dissolved Oxygen/ Impaired coldwater fish communities	Approved 2007
Norton Creek *Subwatershed of Huron Watershed*	Biota/ Fish and macroinvertebrate communities rated poor; Dissolved Oxygen/ Impaired coldwater fish communities	Approved 2009

Pollutants of Concern for Road Commissions

This plan functions under the assumption that transportation agencies are generally not sources of phosphorus, *E. Coli*, or dissolved oxygen (DO). The basis for this assertion is as follows:

- RCOC does not chemically treat median and right-of-way areas, and therefore does not directly contribute to a phosphorus pollutant load.
- RCOC refraining from fertilizing also minimizes its impact on excessive algal growth and therefore does not directly contribute to reduced DO.
- RCOC does not maintain or own sanitary sewer systems outside of four of their facility garages and therefore does not directly contribute to an *E. Coli* pollutant load.

Additionally, RCOC is limited in its capability to regulate its system from upstream pollutant generators. RCOC does not have the legal authority to enter an upstream owner's property or enforce the upstream owner(s) to stop contributing pollutants to RCOC's system.

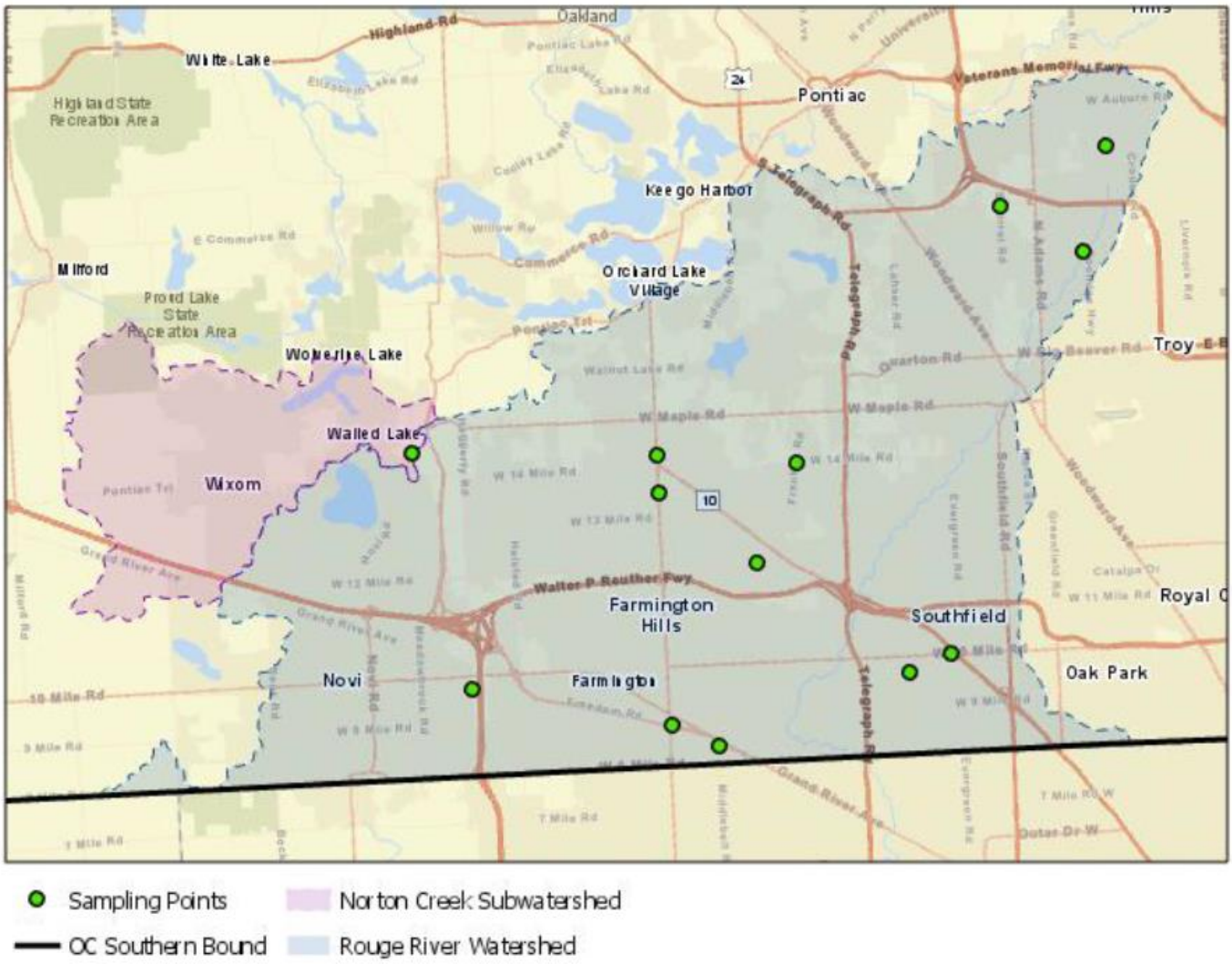
Since the presence of phosphorous, *E. Coli*, and DO would originate from an entity outside of RCOC's jurisdiction, RCOC does not install BMPs for the direct treatment of these pollutants and instead only constructs or installs BMPs to address TSS. Therefore, this plan will solely address the biota parameter within the Rouge River watershed as biota issues are stemmed from sedimentation and siltation issues.

Priority Outfalls

Since 2006, the Alliance of Rouge River Communities (ARC) has sampled and publicly published their data from the Rouge River watershed. In that time, they have identified priority areas to indicate overall watershed health. RCOC has elected to use locations near these ARC priority sites at outfall points. In addition, RCOC determined that sampling sites should also be within 500 feet of a commercial or industrially zoned parcel due to historical illicit discharge locations. Sampling locations are indicated on the ***Figure 1***[2].

[2] Note: The northwest point by Walled Lake is not an ARC sampling location. It is intended by RCOC to act as a proxy for RCOC's potential impact on the Norton Creek sub-watershed.

Figure 1: Relative Sampling Locations



Monitoring Methodology

RCOC field personnel will sample each of the identified locations during first flush of a storm event predicted to produce more than 0.25 inches of rain in a 24-hour period that does not occur within 72 hours of a previous storm. A grab sample will be collected within the first hour of rainfall from the flow discharging from the RCOC-owned outfall. If the discharge produced cannot fill sample containers, the instance will be recorded as "insufficient flow". Resampling will occur during the next applicable storm event, where possible.

After two years of monitoring, RCOC will review results and identify areas with TSS levels above 80 mg/L for potential BMP implementation or improvement. RCOC BMPs include, but are not limited to, those outlined in ***Table 2.***

Each BMP under consideration to address these increased TSS levels will be evaluated based on the following criteria:

A. Ability of the BMP to affect human health impacts caused by direct contact with the river (Low/Moderate/High).
B. Ability of the BMP to reduce concentrations of suspended solids or reduce peak stream flows (Low/Moderate/High).
C. Long-term maintenance responsibility and cost of the BMP (Low/Moderate/High).
D. Anticipated cost to implement the BMP (Low/Moderate/High).
E. Legal authority to implement the BMP (Yes/No).

Table 2: BMP Effectiveness and Practicality Evaluation

Best Management Practices	Associated TMDL Parameter	A	B	C	D	E
Street Sweeping	TSS Phosphorus *E. Coli*	Low	Moderate	High	High	Yes
Catch Basin Cleanouts	TSS	Low	Moderate	High	High	Yes
Hydrodynamic Separators	TSS	Low	Moderate	Moderate	Moderate	Yes
Roadside Detention/ Deep Sumps	TSS	Low	High	Moderate	Moderate	Yes
Facility Good Housekeeping Inspections and Management	TSS Phosphorus *E. Coli*	Low	Moderate	Moderate	Moderate	Yes
Dry Weather Screening During IDEP	TSS Phosphorus *E. Coli*	Low	Low	High	Moderate	Yes
Public Education Plan	TSS Phosphorus *E. Coli*	Low	Low	Moderate	Moderate	Yes
Erosion Control on Construction Sites	TSS Phosphorus	Low	High	Low	High	Yes
Post Construction Re-Seeding	TSS	Low	High	Low	Low	Yes

After evaluation, the BMP most efficient to address the TSS levels and the most cost-effective will be implemented. If suitable, multiple BMPs may be implemented. It should be noted that additional BMPs may be considered as opportunity for partnerships or new BMPs options become available.

If observed, RCOC will trace pollutants over jurisdictional boundaries during sampling events. The municipality with jurisdiction over the pollutant source will be notified. RCOC will assist municipalities in correcting the pollutant source, but the agency with jurisdiction is responsible for remediation. Potential sources that will be examined throughout the permit cycle are listed in ***Table 3***.

Table 3: Potential Sources of TSS Measurements Above 80 mg/L and RCOC's Legal Enforcement Capability.

Suspected Source	Suspected Cause	Legal Enforcement Capability	Possible RCOC Source
Site Construction or Development	Lack of or incorrectly installed erosion control	Possible	Road Construction Sites
Closed Construction Site	Missing vegetation from banks and ROWs	Possible	Washouts, improperly installed sediment control measures at construction sites
Industrial Material Storage	Improper storage of raw materials; Improper cleaning of machinery	No	Garage facilities
Storm Drain Overload	Poor catch basin cleaning schedule; Poor or no street sweeping routine	Possible	Catch basins along roadways

Household Activities	Bare lawns; unsustainable mowing practices; improper vehicle and driveway washing practices	No	None

Priority Areas for BMP Implementation and Evaluation

Priority areas are defined as segments of waterbodies downstream of sampling sites with TSS measurements of 80 mg/L or greater. In the second and third years of the MS4 Permit cycle, priority areas within the Oakland County portion of the Rouge River will be identified. In the second year, the first biannual progress report will be submitted and will include a BMP implementation plan for each priority area. In the fourth year of the permit cycle, designated priority sites will be resampled. Results will be assessed to verify BMP adjustments were sufficient in reducing TSS concentrations and submitted in the second biannual report. Our schedule is as follows:

Permit Cycle Year	Sampling	Reporting
1	Grab samples of each location	None
2	Grab samples of each location	Determination of priority areas, biannual progress report, BMP implementation
3	No samples will be taken	BMP implementation, cont.
4	Grab samples of priority areas	Second biannual progress report, BMP implementation assessment
5	Grab samples of remaining priority areas, as needed.	Report on any additional sampling results and BMP progress.

Reporting and Progress Evaluation

A biannual progress report will be submitted in the second year that will include a summary of field activities, field notes, sample locations, and sample results. A running table of historical results will be maintained for monitoring BMP efficiency.

Benefits and Effectiveness of this Approach

This approach allows RCOC to evaluate its BMPs to identify the most successful strategies for implementation. This information can be used, if applicable, in future construction designs to maintain a higher level of water quality. RCOC is also committed to sharing data (including water sampling results and visual observations) with watershed groups, freshwater associations, and stewardship organizations in an effort to have the RCOC TMDL Wet Weather Plan contribute to watershed-wide TMDL progress.

Additional TMDL Water Quality Data

There are many programs in place that will be beneficial in meeting TMDL targets and assessing improvements in water quality within the TMDL watersheds to help guide future potential BMP efforts. The following programs are currently conducted in the TMDL watershed areas:

1. Illicit Discharge Elimination Program (IDEP)

    - Dry Weather Screening and Illicit Discharge Investigation Water Quality Sample Data taken as part of the RCOC's MS4 Illicit Discharge Elimination Program (IDEP)

    - Oakland County operates a 24-hour Complaint Hotline for citizens to report pollution incidents to surface water throughout the County. The RCOC has trained all garage staff and the night watchman in spill response procedures for dealing with spills of hazardous and polluting materials on RCOC's property and RCOC-maintained roads.

    - The RCOC has trained IDEP inspectors that investigate illicit discharges discovered during dry weather screening of outfalls and discharge points, as well as in response to complaints. The

RCOC has established procedures for prioritizing IDEP activities and working with local communities, MDEQ, and other regulatory authorities to locate and eliminate illicit discharge sources. See RCOC's Alternative IDEP Guidelines for additional information about the IDEP program.

- The data related to RCOC's DWS, IDEP investigations, complaint investigations and illicit discharge elimination activities are reported to EGLE on a biennial basis. This information is also summarized and provided to communities for use to assist in their MS4 permit reporting.

2. Soil Erosion and Sedimentation Control (SESC) Program

   - The RCOC is an Authorized Public Agency (APA) and implements SESC standards on all road projects.

3. Watershed Collaborations and Data

   - Alliance of Rouge Communities (ARC) Collaborative TMDL Monitoring Plan work in the Oakland County portion of the Rouge River Watershed

   - Adopt-a-Stream (AAS) Program and Winter Stonefly Search Macroinvertebrate Data (available from Friends of the Rouge [FOTR, about 15 active "Bug Hunt" sites and data available here]) will be helpful to evaluate conditions in the Rouge River TMDL area for biota.

   - Frog and Toad Surveys (available from FOTR annually) or similar Amphibian/Fish Monitoring (FOTR began fish assessments in 2012) will be helpful to evaluate conditions in the Rouge River TMDL area for biota.

   - Long-term water quality monitoring in the Huron River Watershed for TP and TSS is done by the Huron River Watershed Council. Data for 2010 - 2016 for this site is available here.

4. Other Available Reports and Data

   - Reviewing the Michigan Department of Environmental Quality's (MDEQ) Biennial Integrated Monitoring Reports (Water Quality and Pollution Control in Michigan Sections 303(d), 305(b), and 314 Integrated Report) – Years 2018, 2020, etc.

   - MDEQ Assessments of Michigan Waters Results (watersheds evaluated on 5-year rotating cycles) – see 2017 Monitoring Strategy Update:
     - Huron River Watershed: To be conducted in Year 2017, 2022, etc.
     - Clinton River Watershed: To be conducted in Year 2019, 2024, etc.
     - Rouge River Watershed: To be conducted in Year 2020, 2025, etc.cx

   - United States Geological Survey (USGS) Water Quality Monitoring Data and Reports (future availability undetermined – reports will be evaluated as they become available). National assessment data is available online here.
     - There are six continuous flow USGS gage stations funded by WRC within Oakland County. Their locations and flow data (Discharge [cfs] and gage height) is available at:
       i. Huron River at Milford - #04170000
       ii. Upper Rouge River at Farmington - #04166300
       iii. Rouge River at Southfield - #04166100
       iv. Rouge River at Birmingham - #04166000
       v. Clinton River at Auburn Hills - #04161000
       vi. Paint Creek at Rochester - #04161540

Appendix H7- TMDL Table

Road Commission for Oakland County TMDL Activity Table
List of Prioritized BMPs

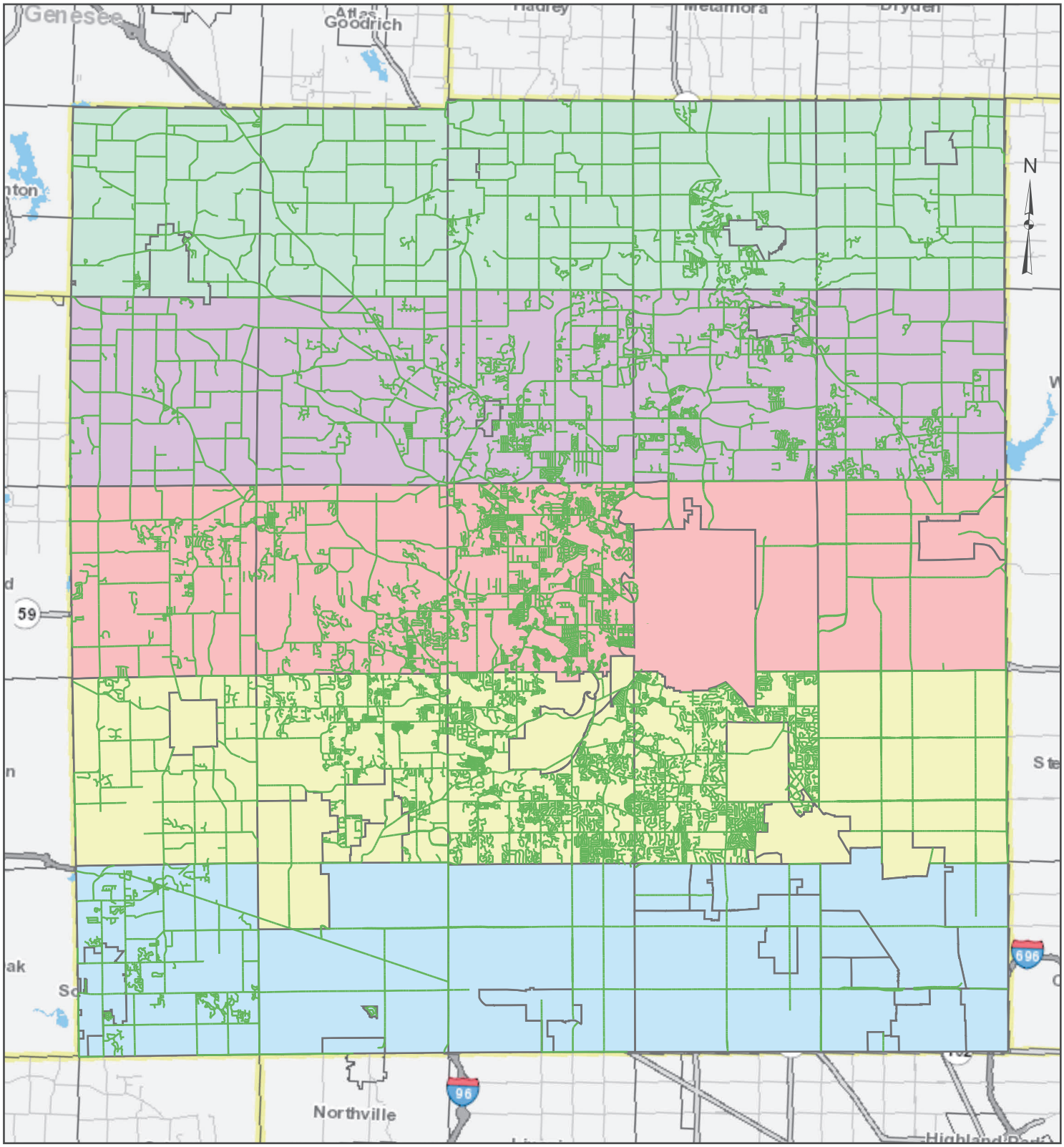
TMDL	Waste Load Allocation (WLA) or TMDL Target for RCOC	Common Sources of Impairment from Direct Discharges and Stormwater Runoff	Methods of Meeting TMDL Targets
E. coli	300 E. coli/100 mL daily max and 130 E. coli/100 mL 30-day geometric mean for Total Body Contact (TBC) (May 1 – Oct. 31) 1,000 E. coli/100 mL daily max for Partial Body Contact (PBC) (year-round)	• Illicit connections of sanitary to storm sewers • Contaminated runoff during storm events from pets, feral animals, nuisance wildlife, improper garbage disposal, failing septic systems and re-suspended sediments • Combined Sewer Overflow (CSO) and Sanitary Sewer Overflows (SSO) Events • Septic system malfunction	• Dry weather screening (DWS) of all Lower Clinton River, Red Run, Bear Creek, and Rouge River outfalls once/permit cycle [excludes discharge points] • Public education regarding pet waste and waterfowl waste management, and septic system inspection and maintenance • IDEP Implementation • Catch basin cleaning • Street sweeping • Retention/Detention Basin Inspection and Maintenance • Compliance with NPDES Permit • Septic system regular inspection and maintenance as needed at Milford Garage and Davisburg Garage • Bi-annual inspection of Troy and Southfield Garages outfalls and discharge points twice per year
Total Phosphorus	0.030 mg/L (in-lake concentration for Kent Lake) 4,700 lbs./year allocated to nonpoint source loads 2,700 lbs./year allocated to point source loads 200 lbs./year allocated to a margin of safety	• Phosphorus-containing fertilizers • Soil erosion and sedimentation • Organic matter (leaves, grass clippings, etc.) • Pet and waterfowl waste • Illicit discharges (sewage, soaps, cleaners and industrial discharge nutrient sources)	• Dry weather screening (DWS) of all Brighton Lake, Strawberry Lake, and Kent Lake outfalls once/permit cycle [excludes discharge points] • Not using chemical fertilizer on RCOC properties or rights-of-way • Not using chemical fertilizer for any operations at RCOC • Public education regarding proper fertilization practices, soil erosion prevention, yard waste, and pet waste management • IDEP Implementation • Soil Erosion and Sedimentation Control (SESC) program implementation • Enforcement of Post-Construction Stormwater Standards on New and Redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Catch basin cleaning • Street sweeping • Compliance with NPDES Permit • Bi-annual inspection of Milford Garage outfalls and discharge points twice per year.
Dissolved Oxygen	5 mg/L minimum for warm water fishery	• Loss of in-stream and nearshore habitat • Increased runoff from impervious surfaces • Increased peak flow velocities resulting in streambank and streambed scouring • Loss of stream canopy and cover • Increased BOD/COD from sewage and industrial • Nutrient loading resulting in excessive algal and plant growth • Soil erosion and sedimentation from construction sites, streambank erosion, and TSS loading from failing infrastructure	• Dry weather screening (DWS) of all Norton Creek and Johnson Creek outfalls once/permit cycle [excludes discharge points] • Enforcement of Post-Construction Stormwater Standards on new and redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Minimize clearing of tree canopy during routine drain maintenance; limit tree clearing to obstructions within open channel • Soil Erosion and Sedimentation Control (SESC) program implementation

Road Commission for Oakland County TMDL Activity Table
List of Prioritized BMPs

TMDL	Waste Load Allocation (WLA) or TMDL Target for RCOC	Common Sources of Impairment from Direct Discharges and Stormwater Runoff	Methods of Meeting TMDL Targets
		• Low flows during dry weather	
Sedimentation (TSS)	91 lbs./day TSS for MS4's	• Soil erosion and sedimentation from construction sites, streambank erosion, and TSS loading from improperly maintained stormwater infrastructure	• Dry weather screening (DWS) of all Norton Creek outfalls once/permit cycle [excludes discharge points] • SESC program implementation • Enforcement of Post-Construction Stormwater Standards on new and redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Catch basin cleaning • Street sweeping • Road maintenance cleaning and repair
Biota	1˚ - Procedure 51 (or similar) Scores greater than or equal to "acceptable" for 2 successive years 2 ˚ - Suspended solids less than or equal to 80 mg/L annual average during wet weather	• Soil erosion and sedimentation from construction sites, streambank erosion, and TSS loading from improperly maintained stormwater infrastructure	• Dry weather screening (DWS) of all Rouge River outfalls once/permit cycle [excludes discharge points] • SESC program implementation • Enforcement of Post-Construction Stormwater Standards on New and Redevelopments that require BMPs to stabilize runoff discharges and reduce flashy flows, improve infiltration of stormwater, and minimize sediment loading • Catch basin cleaning • Street sweeping • Road maintenance cleaning and repair • Bi-annual inspection of Southfield Garage outfalls and discharge points.

Appendix H8- Inspection Schedule

PROPOSED CATCH BASIN INSPECTION SCHEDULE



INSPECTION YEAR

- YEAR 1
- YEAR 2
- YEAR 3
- YEAR 4
- YEAR 5

RCOC JURISDICTION

0 1.75 3.5 7 Miles

ROAD COMMISSION for OAKLAND COUNTY