

# Schoolcraft College



## Stormwater Management Program Plan

### Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit

Prepared By:



Arch Environmental Group, Inc.  
37720 Interchange Drive  
Farmington Hills, Michigan 48335

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# Stormwater Management Program Plan

## 1.0 Introduction

Schoolcraft College is a public Metro Detroit community college based in Livonia, Michigan that owns or operates a regulated Municipal Separate Storm Sewer System (MS4). This Stormwater Management Plan (SWMP) has been developed to retain authorization to discharge stormwater to surface waters and reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable and protect water quality. The SWMP has been developed in accordance with the appropriate water quality requirements of Section 402 of the Federal Clean Water Act (the Federal Act), as amended (33 U.S.C. 1251 et seq., P.L. 92-500, 95-217), and under Part 31, Water Resources Protection, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (the Michigan Act). Schoolcraft College will implement and enforce this SWMP to the Maximum Extent Practicable.

This Stormwater Management Plan commits to actions throughout the permit cycle. This SWMP includes measurable goals for Best Management Practices (BMP), focusing on the six minimum measures. Measurable goals describe the actions Schoolcraft College will take to implement each BMP and allow Schoolcraft College to evaluate progress toward meeting key objectives outlined in the following sections.

Schoolcraft College owns and/or operates seven (7) properties within the boundaries of the "Detroit Urbanized Area". All of Schoolcraft College properties are within the urbanized area based off the 2010 Census data, and the properties include:

1. Main Campus, 18600 Haggerty Rd, Livonia, MI 48152
2. Public Safety Training Complex in Livonia (PSTC), Academy Training Center (ATC), 31777 Industrial Road, Livonia, MI 48150
3. Public Safety Training Complex in Livonia (PSTC), Firearms Training Center (FTC), 31623 Industrial Road, Livonia, MI 48150
4. Public Safety Training Complex in Livonia (PSTC), Fire Training Site, 32303 Glendale, Livonia, MI 48150
5. Public Safety Training Complex in Livonia (PSTC), Driving Course, 2000 Glendale Street, Livonia, MI 48150
6. Radcliff Center, 1751 Radcliff St. Garden City, MI 48135
7. STEM Building, 13001 Merriman Road, Livonia, MI 48152

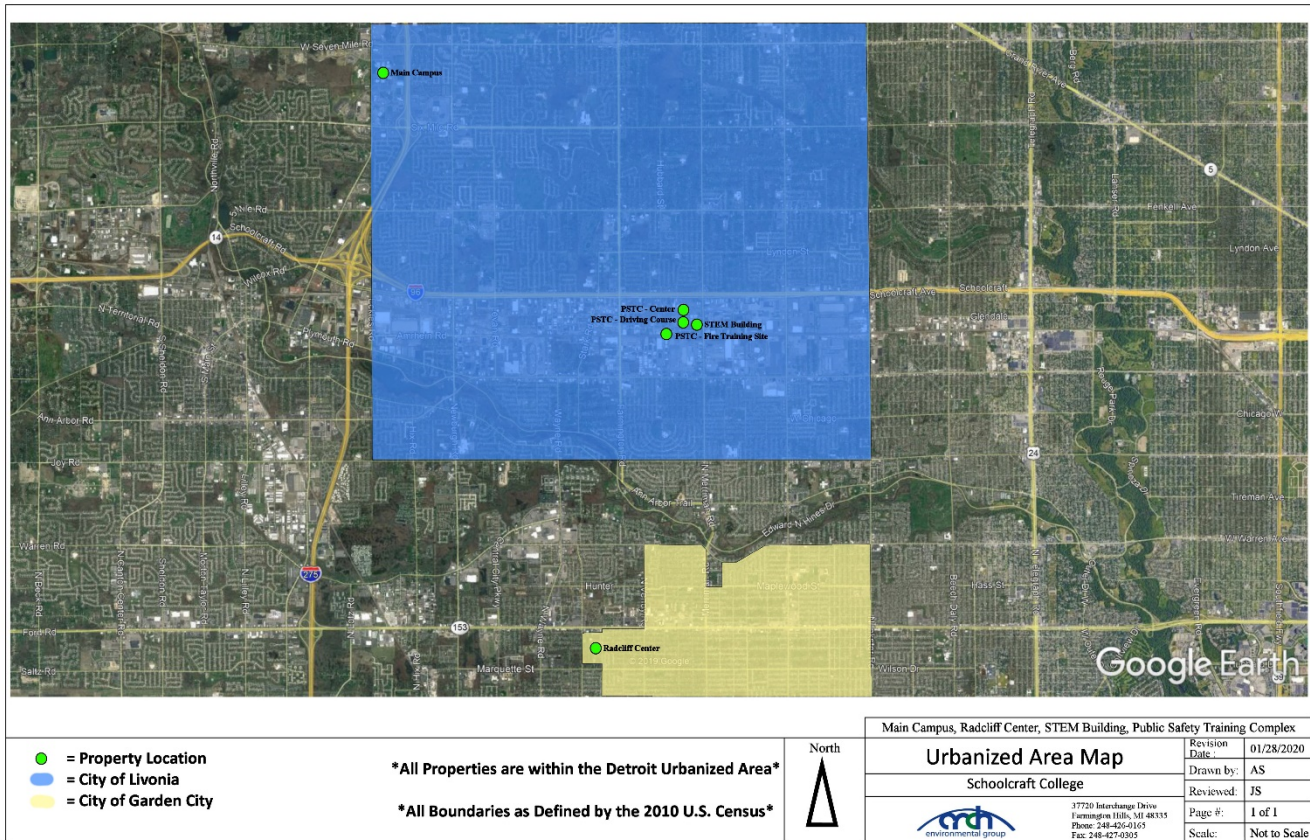
Currently, Schoolcraft College leases a portion of the owned property on the Main Campus. The Responsible lessee shall keep and maintain that part of the storm drain system within their property. These leased areas are noted on the Main Campus site map located in Appendix "A".

## 1.1 Regulated Area

Schoolcraft College is located in the Detroit urbanized area, as delineated by the 2010 Census. The Schoolcraft College regulated area is shown below in Map 1.



**Map 1 – Regulated Urbanized Area<sup>1</sup>**



## 1.2 Outfalls & Discharge Points/ Receiving Waters

The permit authorizes the discharge of stormwater from municipal separate stormwater drainage systems to waters of the state from all existing outfalls or points of discharge.

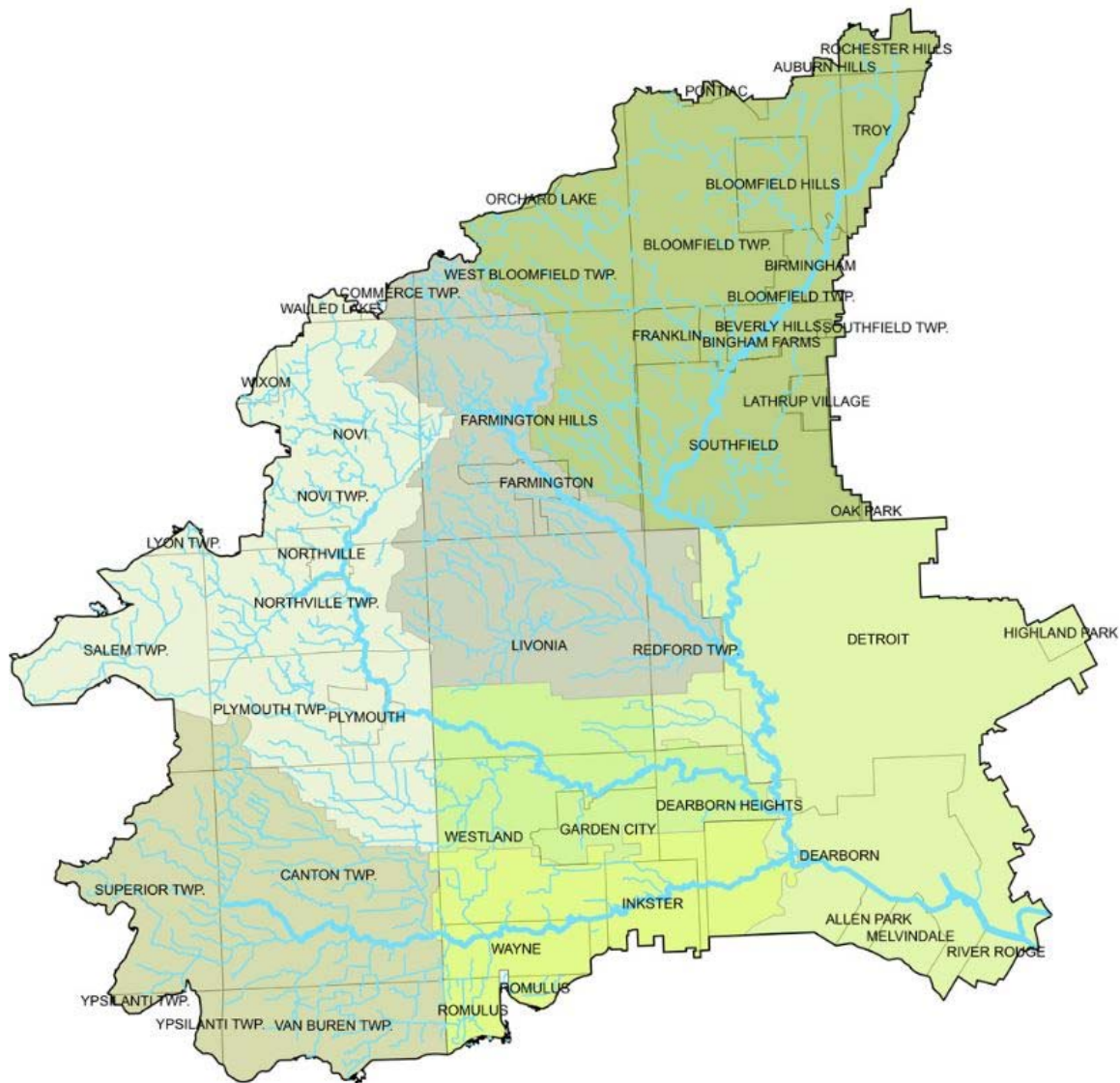
Schoolcraft College has identified outfalls that discharge directly into surface waters of the state and discharge points that discharge into other MS4 drainage systems. The Schoolcraft College drainage system discharges directly or indirectly into the Rouge River watershed as detailed in Map 2 below.

Schoolcraft College has developed site specific storm sewer system maps which identify outfall and discharge point locations, including discharge point source identification numbers, and receiving waters. A receiving water table and site-specific storm sewer system maps are provided in Appendix “A”. Any changes to the Schoolcraft College storm sewer system will be reflected on the storm sewer system maps and reported provided to the Michigan Department of Environment, Great Lakes and Energy (EGLE) during progress reporting. The Rouge River watershed boundary map is provided in below in the map listed as “Map 2”.

<sup>1</sup> Urbanized area boundary based on U.S. Census Bureau 2010 Urban Area Reference Maps.



**Map 2 –Rouge River Watershed Map**



### **1.3 Enforcement Response Procedure (ERP)**

The Schoolcraft College properties are regulated as an MS4 under the NPDES Permit program. Environmental compliance staff members from Schoolcraft College have the authority to inspect and monitor stormwater-related activities on campus and require full compliance with all stormwater permit requirements. Enforcement of Schoolcraft College policies, procedures, and best management practices (BMPs) outlined in this SWMP is the responsibility of the Stormwater Program Manager or their designee. Any questions regarding this policy and procedure will be directed to the Stormwater Program Manager.

The primary goal is to ensure that the ERP is followed in a timely and consistent manner and track compliance issues and schedules.



To achieve compliance, the following steps may be conducted:

1. Reviews reported violation.
2. Contact business or non-district individual responsible for the violation.
3. Ensures that compliance actions taken are consistent and timely.
4. Tracks instances of noncompliance.
5. Reviews compliance reports and schedules to ensure that appropriate enforcement actions are taken, and compliance goals are met.
6. Conduct follow-up inspection(s) to verify the violation has been corrected.
7. Legal action may be pursued for the most serious violations including where the response to previous enforcement actions is inadequate.

The tracking of instances of noncompliance includes the following information:

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

Information shall be placed into a Noncompliance Enforcement Tracking Sheet located in Appendix “B”.

This procedure will be reviewed on an annual basis by the Stormwater Program Manager for any updates. A copy of the Stormwater Management – Illicit Discharge Regulatory Policy is available in Appendix “B”.

## 2.0 Stormwater Management Program Plan (SWMP) Minimum Control Measures

This SWMP has been developed to describe the Best Management Practices (BMPs) Schoolcraft College will implement to meet the six minimum control measures and water quality requirements. The six minimum control measures include:

- **Public Participation/Involvement Program (PPP)**  
To promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants to stormwater to the maximum extent practicable.
- **Public Education Program (PEP)**  
To share components of the SWMP and encourage participation in its review and implementation.
- **Illicit Discharge Elimination Program (IDEP)**  
To detect and eliminate illicit connections and discharges to the MS4.
- **Construction Stormwater Runoff Control Program**  
To augment Part 91 rules dealing with soil erosion, offsite sedimentation and other construction-related wastes.
- **Post-Construction Stormwater Runoff Program**



To address post-construction stormwater runoff from projects that disturb one acre or more, including projects less than one acre that are part of a larger common plan of development that would disturb one acre or more.

- **Pollution Prevention/Good Housekeeping Program**

To minimize pollutant runoff to the maximum extent practicable from municipal operations that discharge stormwater to the surface waters of the state.

Each BMP includes a measurable goal, implementation schedule, and measure of assessment.

## **2.1 Public Involvement/Participation Program (PPP)**

Engaging and empowering the public in the effort to reduce the impacts of stormwater runoff is a key element of the public involvement/participation program. Schoolcraft College has entered into a collaborative agreement with the Alliance of the Rouge Communities (ARC) and is included as an Arc participating partner in the Rouge River Collaborative Public Participation / Involvement Program Plan (PPP). This plan will be implemented collaboratively by the ARC participating communities and partners through September 30, 2022 which is the end of the permit cycle for the Rouge River watershed. A copy of the Rouge River Collaborative Public Participation / Involvement Program Plan is available in Appendix “E”.

### **2.1.1 Public Involvement/Participation Program Objectives**

1. Process for making the Schoolcraft College Stormwater Management Plan and available for public inspection and comment.
2. Process for inviting public involvement and participation in the implementation of SWMP best management practices and periodic review of the SWMP.

### **2.1.2 Public Involvement& Participation Procedure**

1. As required, the approved Stormwater Management Program (SWMP) will be made available to the public via the Schoolcraft College website throughout the permit cycle.
2. The stormwater webpages will include contact information for public comments.
3. The public will be notified through announcements or newsletters that a copy of the SWMP is available on the Schoolcraft College stormwater webpage.
4. ARC and its members will invite the public to participate in the implementation and periodic review of the SWMP at least 2 times during the permit cycle. This will be advertised on the ARC website and links on the community’s websites.
5. Promote opportunities for the public to participate in watershed activities.



## 2.1.4 Public Involvement & Participation Program (PPP) Implementation BMP Table

Referenced from the Rouge River Collaborative Public Participation/Involvement Program Plan

BMP	Implementation of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.1.4.1</b>  <b>Procedure for Inspection and Comment of the SWMP</b>	Contact information will be available on the stormwater webpages to forward comments regarding the SWMP.	Continual Throughout Permit Cycle Once SWMP Approved	SWMP approved and posted on the Schoolcraft College stormwater webpage.	Verify SWMP available on stormwater webpage, and track changes webpage posting of SWMP.	Schoolcraft College & ARC
				Keep copies of official SWMP posting notifications.	
	Post approved SWMP on the stormwater webpage. Posted SWMP includes ARC Collaborative Plans.			Compile and track comments from the public.	
<b>BMP #2.1.4.2</b>  <b>Procedure for Public Participation in Implementation and Review of the SWMP.</b>	ARC and its members will invite the public to participate in the implementation and periodic review of the SWMP at least 2 times during the permit cycle.	Twice Per Permit Cycle	This will be advertised on the ARC website and links on the community's websites. The ARC will also use social media to promote the public's involvement and will periodically request FOTR to invite its members to participate in the implementation and periodic review of the SWMP during the permit cycle.	The ARC staff will compile and track comments from the public by documenting the commenter's name, date, and synopsis of the comment. ARC staff will document SWMP posting dates on both the ARC and community's websites along with recording links to the SWMP documents and collaborative plans.	ARC
	Schoolcraft College shall include a link to the Alliance of the Rouge Communities on the stormwater webpage for review of activities and events. <a href="http://www.allianceofrougecommunities.com/documents.html">http://www.allianceofrougecommunities.com/documents.html</a>	Throughout Permit Cycle	Link to ARC webpage placed on Schoolcraft College stormwater webpage.	Verify link available and working on stormwater webpage. Maintain copies of posting.	Schoolcraft College



## **2.2 Public Education Program (PEP)**

Public Education is designed to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants into the Schoolcraft College separate storm sewer system. Schoolcraft College has entered into a collaborative agreement with the Alliance of the Rouge Communities (ARC) and is included as an Arc participating partner in the Rouge River Collaborative Public Education Program Plan (PEP). This plan will be implemented collaboratively by the ARC participating communities and partners through September 30, 2022 which is the end of the permit cycle for the Rouge River watershed. A copy of the Rouge River Collaborative Public Education Program Plan is available in Appendix “E”.

### **2.2.1 Public Education Program Objectives**

- A. Promote public responsibility and stewardship in the Rouge River watershed.
- B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the State.
- C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.
- D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.
- E. Inform and educate the public on the proper application and disposal of pesticides, herbicides, and fertilizers.
- F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter the MS4.
- G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids.
- H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
- I. Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.
- J. Identify and educate commercial, industrial, educational and institutional entities likely to contribute pollutants to stormwater runoff.

### **2.2.2 Public Education Program Procedure**

The Rouge River Watershed communities have regularly conducted public opinion surveys to gauge the public’s knowledge of watershed-related issues and concerns. Surveys were conducted in 1992 and 1999 by the Rouge River National Wet Weather Demonstration Project and in 2004 by SEMCOG. In 2008, the ARC conducted a survey to assess the public’s opinion about the goals for the RRWMP. The survey asked the public:

- To rank the goals in order of importance
- To rank issues, such as flooding, streambank erosion and water quality in order of importance, and
- To discuss any concerns about the river

Using these past surveys, this plan outlines the priority, community-wide and targeted issues that are of most significance to the ARC communities. By focusing on those elements, the ARC will have the greatest impact on public education of watershed issues and will in turn have the greatest behavioral changes to reduce their effects in the Rouge River watershed.



### 2.2.3 Public Education Program Implementation BMP Table

Referenced from the Rouge River Collaborative Public Education Program Plan

BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Responsible Party
<b>BMP #2.2.3.1</b>  <b>PEP Topic: A, B, C, D, E, F, G, H, I, and J</b>	Distribute pollution prevention literature on various topics through brochures, educational materials, and other media	Ongoing Throughout Permit Cycle	ARC shall provide Schoolcraft College copies of materials to be displayed at Schoolcraft facilities or used at community events.	Access provided by Schoolcraft College to distribute pollution prevention literature on various topics through brochures, educational materials, and other media.	ARC & Schoolcraft College
			ARC shall provide Schoolcraft College electronic material to use on their community website.	Posting of electronic material on Schoolcraft College stormwater webpage as directed by ARC.	
			The ARC will also promote its message using electronic media outlets which could include cable TV, social media and billboards. ARC shall develop 24 new posts annually.	Schoolcraft College shall promote ARC Facebook posts as directed by ARC.	
<b>BMP #2.2.3.2</b>  <b>PEP Topic: A, B, C, D, E, F, G, H, I, and J</b>	Coordinate and distribute community articles and ad graphics on pollution prevention and watershed restoration and stewardship	One (1) Per Year Throughout Permit Cycle	ARC shall develop five (5) new articles for distribution to Schoolcraft College.	Articles possibly promoted on the Schoolcraft College stormwater webpage and social media outlets as directed by ARC.	ARC & Schoolcraft College
			ARC shall develop five (5) new ad graphics for distribution to Schoolcraft College.	Ad graphics promoted on the Schoolcraft College stormwater webpage and possibly social media outlets as directed by ARC.	



BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Responsible Party
<b>BMP #2.2.3.3</b>  <b>PEP Topic: A, B, C, D, E, F, G, H, and I</b>	Provide static displays and posters on pollution prevention and watershed restoration and stewardship	Three (3) out of the Five (5) Years Throughout Permit Cycle	ARC shall provide Schoolcraft College with four (4) seasonal posters to be distributed.	Schoolcraft College display posters and rotate during each season a minimum of three (3) out of the five (5) years during the permit cycle at highly visible locations.	ARC & Schoolcraft College
<b>BMP #2.2.3.4</b>  <b>PEP Topic: A, B, C, E, G, and J</b>	Promote environmental hotlines to educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4	Ongoing Throughout Permit Cycle	Environmental hotline numbers will be advertised on the Schoolcraft College stormwater webpage.  Michigan's Pollution Alert System (PEAS): 800-292-4706 Washtenaw County: 734-222-3800 Macomb County: 877-679-4337 St. Clair County: 277-504-SWIM Oakland County: 248-858-0931 Wayne County: 888-223-2363	Environmental hotline numbers posted and maintained on the Schoolcraft College stormwater webpage.	ARC & Schoolcraft College
			Collection/disposal will be advertised on the Schoolcraft College stormwater webpage.  Wayne County: <a href="https://www.waynecounty.com/departments/environmental/landresources/household-hazardous-waste.aspx">https://www.waynecounty.com/departments/environmental/landresources/household-hazardous-waste.aspx</a> Oakland County: <a href="https://www.oakgov.com/health/information/Pages/Hazardous-Materials-and-Household-Waste.aspx">https://www.oakgov.com/health/information/Pages/Hazardous-Materials-and-Household-Waste.aspx</a> Washtenaw County: <a href="https://www.washtenaw.org/278/How-Do-I-Dispose-Of">https://www.washtenaw.org/278/How-Do-I-Dispose-Of</a> Macomb County: <a href="https://health.macombgov.org/Health-Programs-EnvironmentalHealth-RiskAssessment-HouseholdWaste">https://health.macombgov.org/Health-Programs-EnvironmentalHealth-RiskAssessment-HouseholdWaste</a> St. Clair County: <a href="http://www.stclaircounty.org/Offices/landfill/hhw_drop.aspx?meid=-603">http://www.stclaircounty.org/Offices/landfill/hhw_drop.aspx?meid=-603</a>	Collection/disposal links posted and maintained on the Schoolcraft College stormwater webpage.	ARC & Schoolcraft College



BMP Topic	Description of BMP	Timeframe	Measurable Goal & Key Messages	Measure of Assessment	Responsible Party
<b>BMP #2.2.3.5</b> <b>PEP Topic: A, B, C, D, E, F, G, H, and I</b>	Distribution of “homeowner” materials to promote the importance of pollution prevention and watershed restoration and stewardship	Annually Throughout Permit Cycle	A homeowner educational brochure will be provided Schoolcraft College for possible distribution.	Homeowner brochure distributed by Schoolcraft College where appropriate as directed by ARC.	ARC & Schoolcraft College
<b>BMP #2.2.3.6</b> <b>PEP Topic: A, B, C, D, E, F, G, H, I, and J</b>	Develop and promote educational workshops and presentations	Ongoing Throughout Permit Cycle	ARC members may promote, host and participate in these workshops and presentations.	Promote, host and participate in these workshops and presentations as directed by ARC.	ARC & Schoolcraft College
<b>BMP #2.2.3.7</b> <b>PEP Topic: A, B, C, D, E, F, G, H, I, and J</b>	Promote and Support volunteer activities	Ongoing Throughout Permit Cycle	Promotion of activities will be annually and up to 4 workdays may be hosted during the permit cycle	Promote, participate or host volunteer and other watershed events.	ARC & Schoolcraft College
<b>BMP #2.2.3.8</b> <b>PEP Topic: A, B, C, I, and J</b>	Promotion of and support for volunteer monitoring activities within the Rouge River Watershed	Ongoing Throughout Permit Cycle	Website/social media, materials distributed and presentations.	Promote, participate or host volunteer and other watershed events.	ARC & Schoolcraft College
<b>BMP #2.2.3.9</b> <b>PEP Topic: A, B, F, and I</b>	Rouge River Watershed signage	Ongoing Throughout Permit Cycle	Implement maintenance and/or new signage at high-priority locations during the first permit cycle.	Place new signage where appropriate.	ARC & Schoolcraft College



#### **2.2.4 Public Education Program Effectiveness**

The ARC will conduct a public awareness survey during the permit cycle and compare it to the previous survey results to evaluate changes in public awareness/behavior. After comparing the results from the surveys, the ARC PIE Committee will determine if any modifications will be made to the PEP to address ineffective implementation.

### **2.3 Illicit Discharge Elimination Program (IDEP)**

The following Schoolcraft College Illicit Discharge Elimination Program is designed to identify, locate, prohibit and effectively eliminate illicit discharges, including discharges of sanitary wastewaters, to the permitted separate stormwater drainage systems.

#### **2.3.1 Illicit Discharge Elimination Program (IDEP) Program Objectives**

1. Establish authority to investigate, inspect and monitor suspected illicit discharges.
2. Maintain maps of the MS4, points of discharge, and outfalls.
3. Prohibit non-stormwater discharge into the MS4.
4. Provide regular training to staff.
5. Instruct contractors to prevent dumping into the MS4.
6. Conduct routine dry weather screening.
7. Conduct source investigations if the source of an illicit discharge/connection is not identified by field screening.
8. Illicit discharge identification and elimination program performance & effectiveness.

#### **2.3.2 Facility Site Storm Sewer System Maps and Lists**

Schoolcraft College and consultants completed storm sewer system mapping at each of the owner operated properties identified in Section 1.0 of this Stormwater Management Plan. Storm sewer system maps include detailed information of the storm sewer system, including the locations of outfalls, points of discharge, and waters of the State that receive the discharges. The maps include a unique identification number for each storm sewer location identified on the map. Latitude and longitude are also noted for outfall and points of discharge location. Storm sewer system information will be maintained and updated and reported in Progress Reports. If new discharges are added, Schoolcraft College will update storm sewer site maps with new outfalls, discharge points, structures and conveyances within 30 days of project completion.

**Outfalls** are discharge points where stormwater is discharged directly to surface waters of the state. Surface waters of the state include streams, lakes, ponds, county drains, and wetlands. Outfalls can be pipes, ditches, or even sheet flow from the facility. Some facilities will have an outfall where they can manually control the discharge.

**Points of Discharge** are discharge points where stormwater is discharged to a municipal or private separate storm sewer system. The visual assessment will be conducted as close to the point of discharge as possible before the storm water enters the municipal or private separate storm sewer system. Points of discharge include on-site catch basins and trench drains, in-street catch basins, and conveyances to roadside ditches.

Copies of the current facility storm sewer system maps are available at the Service Building, 18600 Haggerty, Livonia, Michigan 48152. Additionally, copies of the storm sewer system maps and a list of the outfalls and points of discharge are provided in Appendix "A".

#### **2.3.3 Illicit Discharge Identification & Investigation Procedure – Field Observations**



Schoolcraft College will conduct field observations for 100% of all outfalls and points of discharge locations during dry weather or more expeditiously if Schoolcraft College becomes aware of a non-stormwater discharge. Outfalls and points of discharge will be inspected by personnel trained to recognize all signs of possible illicit discharges. Dry weather screening will occur at once every five (5) years. Preferably, each outfalls and points of discharge will be inspected and evaluated following a period of at least 48-72 hours of dry weather.

The field observations will focus on visual inspection for the following:

- Outfall/point of discharge number
- Date/name of inspector
- Date of last rainfall
- Presence or absence of flow
- Presence or absence of standing water
- Water clarity and color
- Presence of oil sheen, trash and or other floatable materials
- Presence of bacterial sheen or slimes
- Excessive vegetative growth
- Odor
- Suds
- Presence of oil
- ❖ These characteristics are documented even if no flow is observed at the time of the inspection.

All field observations are detailed on a "Screening Inspection Log". A copy of the Screening Inspection Log is provided in Appendix "C".

During field observations, in instances where the storm sewer outfalls and points of discharge is submerged or is connected to another enclosed sewer, the inspector will observe the nearest upstream storm sewer location or access point. Additionally, if dry weather flow is observed and it is obvious that an illicit discharge is present and the source of the discharge is obvious, Schoolcraft College will document the observations and the source and follow-up with applicable parties. Once a potential discharge is indicated at an outfall or point of discharge, additional inspection, field screening and source investigation activities are conducted.

#### **2.3.4 Illicit Discharge Identification & Investigation Procedure – Field Screening & Source Investigation**

At the time of the outfall or discharge point inspection, if dry weather flow is observed and the source is not obvious, the inspector who identified the discharge shall continue and conduct an upstream source investigation to determine the origin of the flow. The initial investigation includes visual and olfactory observations upstream from the outfall/point of discharge. If necessary, relevant indicator field screening or dye tracing will be conducted.

If the origin of the flow is not identified during the visual upstream investigation, a grab sample is collected from the discharge for indicator field screening analysis within 1-2 business days. Indicator monitoring/field screening is the secondary tool utilized for dry weather flow without obvious indicators such as very high turbidity, strong odors or visible discharge. Screening may include some or all of the indicator parameters:

- Temperature



- pH
- Detergents (i.e., surfactants)
- Chlorine
- Ammonia
- Turbidity
- Conductivity

Indicator parameters used to assess the dry weather flow shall be determined by the visual and olfactory observations and upstream source investigation.

Additional grab samples may be collected and delivered for external laboratory analysis, only if additional test parameters are required for the source investigation. The laboratory analysis parameters for grab samples are determined by the type of contamination suspected at the time of the source investigation. A copy of the Stormwater Sampling and Analysis Protocol is included in Appendix “C”.

Laboratory indicator parameters are based on EGLE guidance and as specified in the reference sources identified above. The selected laboratory parameters are:

- Fluoride
- Coliform
- E-coli
- Potassium
- Color
- Ammonia

The exact procedure for tracking the illicit discharge will depend on the particular facts of each incident. At the time of the identification of the observed dry weather flow, the flow will be tracked upstream until the source is isolated. Once the source has been isolated down to a specific site location, the work will become source confirmation. If the source is not confirmed, additional fieldwork, building evaluation, or dye testing may be necessary. Additional source investigations will be conducted within thirty (30) days of the original observed dry weather flow.

Once the elimination of an illicit connection or illicit discharge has occurred, an elimination report detailing the corrective actions with attached work orders, photos or dye tracing results will be compiled for documentation purposes. Field inspections will continue until it can be reported that no illicit connection or discharge is present at that outfall/point of discharge. Information regarding specific techniques are provided in the Stormwater Sampling and Analysis Protocol Screening included in Appendix “C”.

Schoolcraft College shall obtain approval from EGLE for authorization to discharge tracer dyes in surface waters per General Rule 97 to conduct source investigations.

### **2.3.5 Illicit Discharge/Connection Elimination Procedure**

Illicit discharges and connections are identified through reporting, routine storm sewer system inspections and dry weather screening inspections.



Schoolcraft College's goal is to evaluate all potential unauthorized or suspected illicit discharge to the municipal separate storm sewer system (MS4), and perform any necessary notifications and reporting to the applicable agencies (i.e., EGLE, local drain commission, etc.) within the required time period(s).

Schoolcraft College will evaluate and conduct the following actions regarding reported or observed illicit discharges/illegal dumping spills into the storm drainage system.

- If, in the opinion of Schoolcraft College, immediate action to address the suspected discharge is indicated, Schoolcraft College will ensure that the site is investigated within fourteen (7) days.
- Schoolcraft College shall conduct source investigations, including applicable field screening to trace the origin of the materials within thirty (30) days of the reported/observed illicit discharge.
  - Schoolcraft College will follow spill response procedures outlined in Section 2.3.10, under Spill Response, Policy & Procedures, if required.
- Once the source has been isolated down to a specific site location, the work will become source confirmation
- If the responsible party is identified, educate the party on the impacts of their actions, explain the stormwater requirements and provide information regarding Best Management Practices.
- Evidence of illicit discharges traced to other MS4 jurisdictions will be provided to the responsible MS4 operator along with any collected data to assist that MS4 operator in completing their investigations to correct the illicit discharge or connection.
- Schoolcraft College will cooperate with the MS4 operator in determining the source or type of illicit discharge and/or connection and will follow-up to ensure that appropriate action has been completed by the MS4 operator to eliminate the discharge.
- Continue inspection and follow-up activities until the illicit discharge activity has ceased.
- Document all activities utilizing the Illicit Discharge/Illegal Dumping Reporting form.

A copy of the Illicit Discharge/Illegal Dumping Reporting form is in Appendix "D".

Once an illicit discharge has been confirmed from a Schoolcraft College facility, the discharge will be corrected using the most expedient method possible based on the type and configuration of the discharge or connections. Other illicit discharges or releases of polluting materials will be corrected through administrative measures including employee training, placement of signs or markings, policy revisions, or any other steps necessary to eliminate the continued release of polluting materials to the MS4.

Within ninety (90) days of a confirmed illicit connection from a Schoolcraft College facility, Schoolcraft College will take steps to fix or eliminate the illicit connection. These steps include a review of corrective methods to be used to repair or eliminate the connection, determine the length of time the repair or elimination will take to complete, the cost of the elimination, the pollution potential and consider how the removal of the illicit connection will be confirmed. Corrective methods include capping, closing, or re-routing illicit connections to the sanitary sewer or other collection systems.

### **2.3.6 Illicit Discharge Regulatory Mechanism**

Schoolcraft College developed a "Stormwater Management – Illicit Discharge Regulatory Policy". This illicit discharge regulatory policy was developed as a regulatory policy for prevention of pollution from storm water



runoff and to protect the quality of the waters of the State of Michigan through the regulation of non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This regulatory mechanism establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit through the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The objectives of the regulatory mechanism are:

1. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
2. To prohibit illicit connections and discharges into the MS4.
3. To establish authority to investigate, inspect, and monitor suspected illicit discharges.

The Stormwater Program Manager or designee will be provided full access to all Schoolcraft facilities and properties owned and operated by the district as required to inspect, investigate, and monitor suspected or confirmed illicit discharges or connections to the MS4.

This policy is posted on the Schoolcraft College Policies webpage. Additionally, the Schoolcraft College stormwater webpage includes information on how to notify Schoolcraft College if a discharge is witnessed taking place. Finally, the “Stormwater Management – Illicit Discharge Regulatory Policy” will be emailed to Schoolcraft College staff members. The “Stormwater Management – Illicit Discharge Regulatory Policy” is available in Appendix “B”.

**Illicit Discharge** means any discharge to, or seepage into the separate stormwater drainage system that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit. Illicit discharges include but are not limited to the following:

- Dumping of motor vehicle fluids
- Improper disposal of household hazardous wastes
- Grass clippings
- Leaf litter
- Pet & other animal wastes
- Unauthorized discharges of sewage
- Industrial wastes
- Restaurant wastes
- Vehicle & equipment wash waters
- Any non-stormwater waste

All activities are documented utilizing the Illicit Discharge/Illegal Dumping Reporting form.

**Illicit Connection** means a physical connection to the MS4 separate stormwater system that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4 separate storm sewer system; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Schoolcraft College’s policy is to eliminate all illicit connections or discharges from their facilities and restrict the discharge of polluting substances to the separate storm sewer system. The process to achieve these goals will consist



of the inspection and screening of all storm sewer systems and elimination of any improper connection from any Schoolcraft College facility to any waterway or the municipally owned separate storm sewer system (MS4).

### **Prohibitions of Illicit Discharges**

1. Prohibition of Illicit Discharges:
  - a. Schoolcraft College prohibits the discharge of non-stormwater discharges into the storm drain system, including but not limited to pollutants or waters containing any pollutants.
  - b. No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than stormwater.
2. The following discharges **are not** prohibited:
  - a. This policy excludes prohibitions from the discharge or flows from firefighting activities to the Schoolcraft College MS4. Discharge or flows from firefighting activities will be addressed only if they are identified as significant sources of pollutants to surface waters of the state.
  - b. The following activities are not prohibited under this policy unless they are determined to be significant sources of pollutants to surface waters of the state:
    - Water line flushing and discharges from potable water sources.
    - Landscape irrigation runoff, lawn water runoff, and irrigation waters.
    - Diverted stream flows and flows from riparian habitats and wetlands.
    - Rising groundwater and springs.
    - Uncontaminated groundwater infiltration and seepage.
    - Uncontaminated pumped groundwater, except groundwater cleanups specifically authorized by NPDES permits.
    - Air conditioning condensation.
    - Waters from noncommercial car washing.
    - Street wash water.
    - Dechlorinated swimming pool water from single, two, or three family residences.

Identifying a discharge or flow as a significant contributor is completed on a case-by-case basis and is dependent on many factors, including the type of pollutant, amount discharged, and impacts to surface waters of the state.

### **Prohibition of Illicit Connections**

1. The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.
2. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
3. A person is considered to be in violation of this regulatory mechanism if the person connects a line conveying sewage to the MS4 or allows such a connection to continue.
4. Improper connections in violation of this regulatory mechanism must be disconnected and redirected. e. Illicit discharge and connections will be eliminated immediately.

### **Enforcement**

The Schoolcraft Stormwater Program Manager will administer and enforce the stormwater management program, including investigate, inspect, and monitor suspected illicit discharges or illicit connections.



Notify the public that if a discharge is taking place, please contact the Schoolcraft College Police at 734-462-4424 or notify via the [Take Action](#) link located on the Schoolcraft College Police Department webpage.

<https://www.schoolcraft.edu/scaware/sc-aware>.

### **2.3.7 Illicit Discharge Elimination Training**

A training program is an important component of to an effective IDEP. Training is required for all employees whose job responsibilities involve illicit discharge related activities, or indicate a potential to cause, witness, or report and illicit discharge or connection. Employees may include but are not limited to elimination training to all landscaping, plumbing, roofing, metal services, engineering services, and custodial staff. Training is conducted as part of Schoolcraft College employee risk management training. Training will occur for existing staff once during the permit cycle and new hires within the first year of their hire date. An example of the training sign in sheet is available in Appendix “F”.

### **2.3.8 Illicit Discharge Elimination Program Effectiveness**

The effectiveness of the IDEP program can be measured by summarizing compliance with the prohibition of illicit discharges into Waters of the State. This will be measured by the number of suspected illicit discharges that are confirmed and then removed.

Schoolcraft College shall evaluate and maintain records of its IDEP screening program and any illicit discharges that are identified. The records will include:

- Number of outfalls/discharge points screened.
- Number of illicit connections found.
- Number of illicit connections eliminated.
- Details of the methods used to eliminate the discharge and follow up investigations to assure that the discharge has been permanently removed.
- Number and type of discharges that are investigated.
- Actions conducted to follow-up discharges that are identified or reported.
- Number of scheduled clean-outs and routine maintenance work conducted.

Schoolcraft College Stormwater Management Annual IDEP Effectiveness Evaluation form is located in Appendix “D”.



### 2.3.9 Illicit Discharge Elimination Program Implementation BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.3.9.1</b> <b>Facility Storm Sewer System Maps</b>	Provide an up to date storm sewer system map. The maps shall identify the storm sewer system, location of outfalls and points of discharge, and names and locations of the surface waters of the state receive the discharge.	Maps Completed in January 2020	100% of facilities mapped, and 100% of storm sewer system updates mapped.	Site maps maintained at the Service Building, 18600 Haggerty, Livonia, Michigan 48152.	Schoolcraft College
		Within 30 days of Project Completion Throughout Permit Cycle	Schoolcraft College will update storm sewer site maps with new outfalls, discharge points, structures and conveyances.	Update facility map with sewer system updates. Maintain maps for progress report submittal. Update SWMP as necessary.	Schoolcraft College
<b>BMP#2.3.9.2</b> <b>Illicit Discharge Regulatory Mechanism</b>	Written policy to enforce elimination of illicit discharges into MS4 owned by the Permittee.	Stormwater Management – Illicit Discharge Regulatory Policy Developed in 2020  Email to Staff Annually Throughout Permit Cycle  Webpage Posting Maintained Throughout Permit Cycle	Email “Stormwater Management – Illicit Discharge Regulatory Policy” to staff	Copy of annual email to staff regarding the Illicit Discharge Policy.	Schoolcraft College
			Post Stormwater Management – Illicit Discharge Regulatory Policy on the College Policy page for students <a href="https://www.schoolcraft.edu/college-policies">https://www.schoolcraft.edu/college-policies</a>	Verify policy and reporting information available and working on stormwater webpage. Maintain copies of posting.	
			Notice on stormwater webpage “If you witness or think a discharge is taking place, please contact the Schoolcraft College Police at 734-462-4424 or notify via the Take Action link located on the Schoolcraft College Police Department webpage.” <a href="https://www.schoolcraft.edu/scaware/sc-aware">https://www.schoolcraft.edu/scaware/sc-aware</a>		



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.3.9.3</b> <b>Dry Weather Screening</b>	Dry Weather Screening conducted every five (5) years. Dry weather screening will be conducted by personnel trained to recognize all signs of possible illicit discharges.	Once Per Permit Cycle Year 2	100% of outfalls and point of discharges inspected and evaluated following a period of 48-72 hours of dry weather.	Maintain dry weather screening inspection logs/reports, including photographs.	Schoolcraft College
			Source investigations conducted of all dry weather flow observed. Outfalls/points of discharges re-inspected if necessary.	Maintain reports of source investigations. Track all illicit discharges identified on Illicit Discharge/Illegal Dumping Reporting form. (Appendix "D").	
<b>BMP #2.3.9.4</b> <b>Illicit Discharge Reporting</b>	Eliminate illicit discharges and connections through reporting, routine storm sewer system inspections and dry weather screening inspections.	Email to Staff Annually Throughout Permit Cycle	Email "Stormwater Management – Illicit Discharge Regulatory Policy" to staff	Copy of annual email to staff regarding the Illicit Discharge Policy.	Schoolcraft College
		Ongoing Throughout Permit Cycle	Notice on stormwater webpage <i>"If you witness or think a discharge is taking place, please contact the Schoolcraft College Police at 734-462-4424 or notify via the Take Action link located on the Schoolcraft College Police Department webpage."</i> <a href="https://www.schoolcraft.edu/scaware/sc-aware">https://www.schoolcraft.edu/scaware/sc-aware</a>	Verify policy and reporting information available and working on stormwater webpage. Maintain copies of posting.	



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.3.9.5</b>  <b>Unauthorized Discharge/ Illicit Discharge Complaint Response</b>	The District will evaluate any potential unauthorized or suspected illicit discharge to the municipal separate storm sewer system (MS4) and perform any necessary notifications and reporting to the applicable agencies (i.e., EGLE, local drain commission, etc.) within the required time period(s). This procedure is outlined in Section 2.3.10 Polluting Materials Emergency and Spill Response Policy & Procedures.	If, in the opinion of Schoolcraft College, immediate action to address the suspected discharge is indicated, the District will follow up within seven (7) days.	100% of unauthorized or suspected illicit discharges evaluated (field observation, field screening, and source investigation) and eliminated.	Documentation of relevant field observations, field screening or source investigations.	Schoolcraft College
		Within thirty (30) days of reported suspected discharge.		Track number of calls and document calls onto Illicit Discharge/Illegal Dumping Reporting form. (Appendix "D").	
<b>BMP #2.3.9.6</b>  <b>Illicit Connections</b>	Reroute, repair, or disconnect any illicit connections.	Within ninety (90) days of identified illicit connection	Take steps to eliminate 100% of identified illicit connections.	Work order, receipt or report detailing the illicit connection correction activities.	Schoolcraft College
<b>BMP #2.3.9.7</b>  <b>Training- Illicit Discharge Elimination</b>	Internal training of applicable staff on the identification and reporting of illicit discharges or improper connections and the cleanup/notification procedures for spills of polluting materials.	Once per permit cycle or during the 1 <sup>st</sup> year of employment Throughout Permit Cycle	Goal of providing illicit discharge elimination training to all landscaping, plumbing, roofing, metal services, engineering services, and custodial staff who work for Schoolcraft College.	Training conducted as part of Schoolcraft College employee risk management training. Copy of sign in sheets and Agenda (if available).	Schoolcraft College
<b>BMP #2.3.9.8</b>  <b>Notice of Intent to Discharge Tracer Dyes</b>	Schoolcraft College shall obtain approval from EGLE for authorization to discharge tracer dyes in surface waters per General Rule 97 to conduct source investigations.	As needed Throughout Permit Cycle	EGLE approval to discharge tracer dyes.	Documentation of EGLE approval.	Schoolcraft College



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.3.9.9</b> <b>IDEP program Performance &amp; Effectiveness</b>	Review performance measures to evaluate the effectiveness of the IDEP program. Items include number of outfalls/discharge points screened, number of illicit connections found, number of illicit connections eliminated, number and type of violations investigated, and number of scheduled clean-outs and routine maintenance work conducted.	Annually Throughout Permit Cycle	Annual review of IDEP program performed. Evaluate reduced illicit discharges, increase reporting and evaluate dry weather screening data. IDEP Form located in Appendix "D".	Maintain copy of illicit discharge annual review and evaluation information for progress reporting.	Schoolcraft College



### **2.3.10 Polluting Materials Emergency and Spill Response Policy and Procedures**

#### **Purpose**

This policy and associated procedures have been developed to define appropriate and safe response procedures for spill or accidental releases of hazardous materials or substances at all Schoolcraft College's facilities.

#### **Policy**

Only trained and authorized personnel are permitted to respond to hazardous materials incidents! Employees must be trained in the safe use of chemicals or chemical management prior to working in a lab or cleaning up minor spills. The Stormwater Program Manager will immediately report any release of any polluting materials from the MS4 to surface waters or groundwater of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules and comply with all Federal, State, and local regulatory requirements for the management and reporting of all hazardous materials and/or waste releases.

If it is determined that the release poses a threat to the safety or the environment outside the facility or in excess of the threshold reporting quantities, the Stormwater Program Manager will report the release immediately or within 24 hours of knowledge of the release to:

- The EGLE District Office at (586)-753-3700 during regular working hours.
- The 24-hour Michigan Pollution Emergency Alerting System (PEAS) at 1-800-292-4706 after working hours.

Any release of oil (includes gasoline, diesel fuel, used oil and mineral spirits) to navigable waters or adjoining shorelines will be reported to the immediately or within 24 hours of knowledge of the release to:

1. The 24-hour National Response Center (NRC) at 1-800-424-8802

The Stormwater Program Manager will maintain responsibility for monitoring any changes in regulatory requirements regarding hazardous materials and waste spills or accidental releases. This policy will be revised as necessary based upon any changes in the regulatory requirements or internal experiences. All hazardous materials spills or releases will be thoroughly investigated by the Stormwater Program Manager.

#### **Emergency Spill Response Procedures**

Each facility having the potential for the release of a hazardous material or substance shall have trained and knowledgeable staff members to respond and/or implement spill response procedures for that facility. Spill containment materials such as absorbent pigs, pads, booms, diking materials, storm drain covers, etc. are to be stored and maintained at all facilities for use by trained employees in the event of a spill or accidental release.

The following general guidelines are to be implemented as applicable in managing spills and accidental releases:

##### **1. Minor Spill or Leak**

- Attempt to contain the spill.
- Wear proper Personal Protective Equipment (PPE) while cleaning up the spill/leak.
- Notify supervisor and call Schoolcraft College Police Department at 734-462-4424 or 4424 from any campus phone.



- Notify Stormwater Program Manager.

## 2. Major Spill or Leak

- Call Schoolcraft College Police Department immediately at 734-462-4424 or 4424 from any campus phone.
- Notify Stormwater Program Manager.
- Do not attempt to clean up the spill yourself.
- Provide clean-up/rescue personnel with appropriate Safety Data Sheets (SDS) and other important information.

Refer to sections **2.3.4 Illicit Discharge Identification & Investigation Procedure – Field Screening & Source Investigation** and **2.3.5 Illicit Discharge/Connection Elimination Procedure** for implementation timeframes.

This guidance has been developed in anticipation of potential releases of hazardous materials and substances. The procedures outlined in this guidance will only be implemented by those persons who have received sufficient training and are competent in the handling of the released material.

As appropriate, illicit discharges or releases of polluting materials will be corrected through administrative measures including employee training, placement of signs or markings, policy revisions, or any other steps necessary to eliminate the continued release of polluting materials to the MS4. Schoolcraft College will conduct follow-up inspections and sampling as needed to ensure that appropriate action has been completed.

## **2.4 Construction Site Stormwater Runoff Control Program**

Schoolcraft College's goal is to establish procedures for construction stormwater runoff control to meet minimum measure requirements to maximum extent practicable.

**Construction** refers to actions that result in a disturbance of the land, including clearing, grading, excavating, and other similar activities.

**Construction-related activities** are activities that support the construction project such as stockpiles, borrow areas, concrete truck washouts, fueling areas, material storage areas and equipment storage areas.

### **2.4.1 Construction Site Stormwater Management Program Objectives**

- A. Process for notify the Part 91 Agency appropriate staff when soil or sediment is discharged to the MS4 from a construction activity.
  - The procedure shall allow for the receipt and consideration of complaints or other information submitted by the public or identified internally as it relates to construction stormwater runoff control.
- B. Procedure for when to notify the EGLE when soil, sediment, or other pollutants are discharged to the MS4.
  - Other pollutants include pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed.
- C. Procedure for ensuring that construction activity one acre or greater in total land disturbance obtains a Part 91 Permit.



### **2.4.2 Construction Notification Procedure**

The EGLE certified construction stormwater operator inspector conducting site inspections will normally detect any soil or sediment entering the MS4.

#### **In the event an inspector identified a discharge during an inspection:**

1. The inspector shall document all details of the soil erosion and sedimentation control deficiency and report to the Stormwater Program Manager (or designee).
2. The Stormwater Program Manager (or designee) is responsible for assessing any suspected or confirmed discharge and notifying the appropriate agency.
3. Schoolcraft College will notify the local Part 91 agency and EGLE when significant runoff of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, or solid wastes from the construction site discharges to the MS4 or surface waters of the state within 24 hours of discovery or as otherwise required by the issuing agency.

#### **In the event of a public complaint:**

Schoolcraft College will track the receipt of complaints submitted by the public or noted by staff during regular course of business of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are being discharged into the MS4.

The tracking will include:

- Name of person providing the complaint.
- Location (address or nearest cross street).
- Description of follow up (e.g., date referred to the Part 91 enforcing agency).

Schoolcraft College will notify the Part 91 Agency, when soil, sediment, and other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are discharged into MS4.

Schoolcraft College ensures that construction activity one acre or greater in total earth disturbance with the potential to discharge to the MS4 does obtain a Part 91 Permit and State of Michigan Permit by Rule.

### **2.4.3 Part 91 Permit**

Schoolcraft College will ensure that any construction activity that result in a land disturbance meeting the following criteria:

- Greater than or equal to one (1) acre or greater.  
OR
- Disturb less than one (1) acre that is part of a common plan of development or sale.

Will obtain a Part 91 Permit through the site plan review process with the appropriate county or municipal permitting agency.



#### **2.4.4 Permit by Rule Compliance**

Schoolcraft College shall comply with the State of Michigan Permit by Rule (Rule 323.2190) for stormwater discharge from construction activity. Sites disturbing one (1) to five (5) acres with a point source discharge to the waters of the state receive automatic storm water coverage upon securing a SESC permit from the appropriate Part 91 recognized County Enforcing Agency, Municipal Enforcing Agency, or Authorized Public Agency (APA) under the authority of Part 91.

1. Construction sites with at least one (1) acre but less than five (5) acres of soil disturbance with a surface water discharge, must obtain a county or municipal SESC permit, and are required to follow the provisions of the Permit by Rule, but do not need to notify the EGLE of the construction activity.
2. Construction sites disturbing over five (5) acres with a point source discharge to the waters of the state must obtain a county or municipal SESC permit and submit a Notice of Coverage (NOC) and other pertinent documents and the appropriate fee to the EGLE.

Requirements of Permit by Rule include, but are not limited to:

- Weekly site inspections conducted by a Certified Construction Stormwater Operator.
- Inspection within 24 hours of a precipitation event that results in a discharge from the site by a Certified Construction Stormwater Operator.



#### 2.4.5 Construction Site Stormwater Management Implementation BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.4.5.1</b> <b>Notification of Deposit during Inspection</b>	Schoolcraft College will notify the local part 91 agencies or EGLE when runoff from the construction site discharges significant pollutants to the MS4 or surface waters of the state within 24 hours of discovery or as otherwise required by the issuing agency. The Schoolcraft College Stormwater Manager (or designee) is responsible for assessing any suspected or confirmed discharge and notifying the appropriate agency. (Refer to section 2.4.2)	As necessary Throughout Permit Cycle	100% discharges identified and appropriate agencies notified. Control of potential system failure.	Documentation of Construction Stormwater Operator site inspection.	Schoolcraft College
	Track complaints submitted by the public or noted by staff during regular course of business of soil, sediment, or other pollutants such as pesticides, petroleum derivatives, construction chemicals, and solid wastes are being discharged into the MS4.			Documentation of public complaint (Name of person providing the complaint, location [address or nearest cross street] description of follow up [e.g., date referred to the Part 91 enforcing agency]).	Schoolcraft College
<b>BMP #2.4.5.2</b> <b>Part 91 Permit</b>	Schoolcraft College will ensure that any construction activity that result in a land disturbance greater than or equal to one (1) acre or disturb less than one (1) acre that is part of a common plan of development or sale will obtain a Part 91 Permit through the site plan review process.	As necessary Throughout Permit Cycle	100% of permits obtained.	Copy of permit and associated soil erosion and sedimentation control plans.	Schoolcraft College



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
BMP #2.4.5.3  Permit by Rule	Construction sites between (1) acre but and five (5) acres of soil disturbance follow the provisions of the Permit by Rule, but do not need to notify the EGLE of the construction activity.	As necessary Throughout Permit Cycle	Goal of 100% of weekly and precipitation event inspection completed by certified Construction Stormwater Operator.	Copy of inspections.	Schoolcraft College
	Construction sites disturbing over five (5) acres with a point source discharge to the waters of the state must follow provisions of the Permit by Rule and submit a Notice of Coverage (NOC) and other pertinent documents and the appropriate fee to the EGLE.		Goal of 100% of weekly and precipitation event inspection completed by certified Construction Stormwater Operator.	Copy of inspections.	Schoolcraft College
			100% NOC obtained.	Copy of NOC	Schoolcraft College



## **2.5 Post-Construction Stormwater Controls for New Developments & Redevelopments**

Post-construction storm water runoff is the storm water that would flow from a project site to the Municipal Separate Storm Sewer System (MS4) after completion of a development or redevelopment project (not during the project).

A post-construction stormwater runoff program compliance assistance document is available via the internet at [https://www.michigan.gov/documents/deq/wrd-storm-MS4-ComplianceAssistance\\_470350\\_7.pdf](https://www.michigan.gov/documents/deq/wrd-storm-MS4-ComplianceAssistance_470350_7.pdf).

### **2.5.1 Post-Construction Stormwater Management Program Objectives**

The post-construction stormwater run-off controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment.

The objects of this program and associated procedures are to:

- a. Develop and implement regulatory mechanisms to address post-construction stormwater runoff for new development and redevelopment projects, including preventing or minimizing water quality impacts.
- b. Develop and implement regulatory mechanisms for projects that disturb one or more acre, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicants MS4.
- c. Ensure post construction controls to minimize water quality impacts by following water quality treatment standards.
- d. Require that BMPs be designed on a site-specific basis to reduce post-development total suspended solids loading.
- e. Procedure to meet water quality treatment and channel protection standards of new development or redevelopment projects.
- f. Address “hot spots”.
- g. Submit site development plans for review and approval.
- h. Require adequate long-term O&M of BMPs by ordinance or other regulatory mean

### **2.5.2 Post-Construction Policy and Procedure**

Schoolcraft College has developed a “Stormwater Management - Post-Construction Policy & Procedure” to direct compliance with these requirements. The “Stormwater Management - Post-Construction Policy & Procedure” is located in Appendix “B”.

Schoolcraft College construction and redevelopment projects on Schoolcraft property are regulated under and must comply with the Schoolcraft College NPDES permit for stormwater discharges, as issued by the Michigan Department of Environment, Great Lakes and Energy (EGLE). The Stormwater Management Post-Construction Requirements Guideline has been developed to provide guidance regarding responsibilities and actions to meet the NPDES permit conditions for construction and renovation projects on Schoolcraft properties, which include but are not limited to, the Main Campus, Public Safety Training Complex, Radcliff Center and STEM Building.

The post-construction plan for stormwater management on regulated sites **must** include:



- A minimum treatment volume standard to address water quality impacts.
- Channel protection criteria to address resource impairment resulting from flow volumes and rates.
- Review sites with known soil and/or groundwater contamination, including potential “hot spots” and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.
- Drawings showing the location of stormwater control measures and the storm system.
- Details on the proposed stormwater control measures.
- Operation & Maintenance (O&M) requirements.
- Supporting information
  - Calculations used for designing all components of the stormwater management systems.
  - Total suspended Solids (TSS) design removal rates and supporting manufacturer documentation, if applicable.
  - Geotechnical report including soil boring and infiltration test data.

The project team [Architecture, Engineering & Construction, Other Project Manager, Project Developer and/or Contractors] shall develop the post-construction stormwater management plan in accordance with this guideline and the NPDES permit.

The Schoolcraft Stormwater Program Manager will administer and enforce the stormwater management program, including maintaining procedures, guidance, information, etc. to aid Schoolcraft staff and contractors in complying with the post-construction requirements for stormwater management.

### **2.5.3 Water Quality Treatment Volume Standard**

Schoolcraft College goal is to include water quality treatment volume standards for each new construction or redevelopment of projects where the area of disturbance exceeds one (1) acre. One or more of the following treatment standards will be included as part:

- 1) Treat the first one (1) inch of runoff from the area of new construction or redevelopment.  
OR
- 2) Treat the runoff generated from ninety percent (90%) of all runoff-producing storms for the project site.

The source of the rainfall data for the water quality treatment standard of requiring the treatment of the runoff generated from the ninety percent (90%) of all runoff-producing storms is:

- The EGLE memo dated March 24, 2006, which is available via the internet at [https://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent\\_557709\\_7.pdf](https://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent_557709_7.pdf)

### **Total Suspended Solids Removal**

Treatment methods shall be designed on a site-specific basis to achieve the following:

1. A minimum of eighty percent (80%) removal of total suspended solids (TSS), as compared with uncontrolled runoff.  
OR
2. Discharge concentrations of TSS not to exceed 80 milligrams per liter (80mg/L).



A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80mg/L.

Treatment methods shall be designed on a site-specific basis to reduce the discharge of sedimentation or TSS from the site. Such methods may include:

1. Underground Detention
2. Underground Retention
3. Hydrodynamic Separators/Swirl Concentrator
4. Dry/Wet Detention and Retention Basins
5. Grassed Swales/Vegetated Swales
6. Rain Gardens
7. Pervious pavement systems

#### **2.5.4 Channel Protection Performance Standard**

Schoolcraft College understands that channel protection criteria are necessary to maintain post-development stormwater runoff volumes and peak flow rates at or below existing levels for all storms up to the 2-year, 24-hour event. "Existing Levels" means the runoff volume and peak flow rate for the last land use prior to the planned new development or redevelopment. More restrictive channel protection criteria may be utilized on a case-by-case basis, as appropriate.

#### **Rainfall Data**

The rainfall data for calculating runoff volume and peak flow rate shall be the Rainfall Frequency Atlas of the Midwest, 1992 [National Oceanic & Atmospheric Administration (NOAA) - Huff & Angel].

#### **2.5.5 Site –Specific Requirements**

Because each site has its own special circumstances and conditions, the following BMPs will be considered as appropriate according to site conditions:

- Reduce runoff from the site to greatest extent possible (provide holding basins, divert water through grassed swales).
- Prevent spills and discharges.
- Control waste such as building materials, concrete washout, chemicals, litter, and sanitary waste.
- Phasing will be considered to limit amount of exposed soils.
- Interim soils stabilization methods are to be considered (temporary seeding, mulching etc.).
- Buffer preservation (avoid exposing soils to property limits).
- Inspection staff will be trained in the proper maintenance and operation of Soil Erosion and Silt Prevention measures.

Construction plans will be reviewed for sites with known soil and/or groundwater contamination, including potential "hot spots" and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.



Additional water quality standards or pretreatment measures may be required in addition to those included in the water quality criteria in order to remove potential pollutant loadings from entering either groundwater or surface water systems.

Pretreatment measures include:

Stormwater Hot Spots	Minimum Pre-Treatment Options
Vehicle service and maintenance facilities	<ol style="list-style-type: none"> <li>1. Oil/Water Separators/Hydrodynamic Devices</li> <li>2. Use of Drip Pans and/or Dry Sweep Material under Vehicles/Equipment</li> <li>3. Use of Absorbent Devices to Reduce Liquid Releases</li> <li>4. Spill Prevention Response Program</li> </ol>
Vehicle Fueling Stations	<ol style="list-style-type: none"> <li>1. Oil/Water Separators/Hydrodynamic Devices</li> <li>2. Water Quality Inserts for Inlets</li> <li>3. Spill Prevention Response Program</li> </ol>
Vehicle equipment cleaning facilities	BMPs that are part of a Stormwater Pollution Prevention Plan (SWPPP)
Outdoor liquid container storage	Spill Prevention Response Program

### **2.5.6 Site Plan Review**

This policy is to establish requirement to submit a site plan for review as required by the EGLE NPDES MS4 Stormwater Discharge Permit. Schoolcraft College will prepare and submit a written application, including a site plan for review and approval of post-construction stormwater runoff BMPs, for all new construction or redevelopment projects where the area of disturbance exceeds one (1) acre. The application will be completed in a form and manner as prescribed by the local municipality or governing unit in which the property is located. The site plan will be reviewed by the appropriate local municipal, county, state or other governmental agency. The review of the stormwater site plan will provide local municipal, county, state or other governmental agency with the ability to ensure that water quality objectives, erosion and sediment control requirements, and BMP maintenance are adequately considered.

The goal of the site plan review is to:

- Minimize clearing and grading.
- Protect waterways.
- Limit soil exposure.
- Protect steep slopes and cuts.

### **2.5.7 Long-term Operation & Maintenance of Stormwater Controls**

Ongoing operation and maintenance of the stormwater BMPs is a critical component of the Stormwater Management Plan. All structural and vegetative stormwater control measures installed as a requirement under this



section of the permit shall include guidance for maintaining maximum design performance through long-term operation and maintenance.

- Update and revise the stormwater structural controls on facility site diagrams as identified during scheduled inspections or within 30 days following the completion a new facility or reconstruction/redevelopment site project.
- Follow long-term guidance for inspection and operation to maintain maximum design performance.
- Stormwater runoff facilities shall be maintained in good condition, in accordance with the approved storm water plan.

Trained staff or certified contractors will conduct routine inspection of all identified structural controls and complete maintenance, repair, or replacement as necessary.



### 2.5.8 Post-Construction Stormwater Management Implementation BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.5.7.1</b> <b>Regulatory Mechanism</b>	Develop and implement regulatory mechanisms to address post-construction stormwater runoff for new development and redevelopment projects, including preventing or minimizing water quality impact.	Stormwater Management-Post Construction Policy & Procedure Developed January 2020  Ongoing Throughout Permit Cycle	Completed Stormwater Management-Post Construction Policy & Procedure.	Copy of Completed Stormwater Management-Post Construction Policy & Procedure.	Schoolcraft College
	Develop and implement regulatory mechanisms for projects that disturb one or more acre, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicants MS4.				
<b>BMP #2.5.7.2</b> <b>Post-Construction Standards</b>	Ensure post-construction channel protection standards and water quality treatment standards are met.	As necessary Throughout Permit Cycle	All applicable site plans are reviewed by the appropriate local municipal, county, state or other governmental agency.	Copy of site plan.	Schoolcraft College
				Drawings showing the location of stormwater control measures and the storm system.	
				Calculations used for designing all components of the stormwater management systems.	
				Total Suspended Solids (TSS) design removal rates.	



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.5.7.3</b> <b>Site Specific</b>	Schoolcraft College will review construction plans for sites with known soil and/or groundwater contamination, including potential “hot spots” and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria.	As necessary Throughout Permit Cycle	Reduce or eliminate discharge of pollutants during construction on contaminated sites.	Documentation of additional stormwater controls.	Schoolcraft College
<b>BMP #2.5.7.4</b> <b>Site Plan Review</b>	Prepare and submit a written application, including site plan for construction of storm water management systems for all new construction or redevelopment projects where the area of disturbance meets or exceeds one (1) acre.	As necessary Throughout Permit Cycle	All applicable site plan are reviewed by the appropriate local municipal, county, state or other governmental agency.	Copy of reviewed plans.	Schoolcraft College
<b>BMP #2.5.7.5</b> <b>Operation &amp; Maintenance</b>	All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include guidance for maintaining maximum design performance through long-term operation and maintenance.	Within 30 days of following the completion a new facility or reconstruction/redevelopment site project. Throughout Permit Cycle	Update and revise the stormwater structural controls on facility site diagrams. Follow long-term guidance for inspection and operation to maintain maximum design performance.	<div>Copies of updated site plans.</div> <div>Operation &amp; Maintenance (O&amp;M) requirements.</div>	Schoolcraft College



## **2.6 Pollution Prevention & Good Housekeeping Program**

Develop, implement, and ensure compliance through a program of operation & maintenance of BMPs, with the goal of preventing or reducing pollutant runoff to the maximum extent practicable from operation that discharge stormwater to surface waters of the state.

Pollution prevention covers a wide variety of activities and land uses that are potential sources of stormwater pollutants. These include but are not limited to roadways; parking lots; transportation and equipment garages; fueling areas; warehouses; stockpiles of salt and other raw materials; open ditches and storm sewers; turf and landscaping for all municipal properties, including parks; and waste handling and disposal areas.

### **2.6.1 Pollution Prevention & Good Housekeeping Program Objectives**

- a. Maintain an up-to-date inventory of owned facilities and stormwater structural controls.
- b. Procedure for updating and revising inventory of stormwater structural controls.
- c. Procedure for assessing each facility for the potential to discharge pollutants.
- d. Develop an SOP (SWPPP) for all facilities with a high potential for pollutant runoff.
- e. Procedure identifying BMPs currently implemented or to be implemented to prevent or reduce pollutant runoff at each facility with medium and lower potential to discharge.
- f. Procedure for prioritizing of catch basins/manholes for maintenance and cleaning.
- g. Schedule for routine catch basin/manhole inspection, maintenance and cleaning.
- h. Provide the geographic location of stormwater structures.
- i. Procedure for dewatering, storage and disposal of materials extracted from storm sewer cleaning.
- j. Procedure for inspecting and maintaining storm water controls.
- k. Procedure for new structural controls to be designed and implemented in accordance with post-construction stormwater runoff control performance standards.
- l. Best management practices for operation and maintenance activities.
- m. Procedure for street sweeping.
- n. Procedure for pesticide application.
- o. Training.
- p. Contractor requirements and oversight.

It is the goal of Schoolcraft College to prevent and reduce pollutant/contaminant runoff from Schoolcraft College facilities to the maximum extent practicable. All BMPs are implemented at all low, medium and high priority facilities.



### **2.6.2 Structural Control Inventory & Schedule Table**

No prioritization will be needed, as all structures are to be inspected and maintained equally. All structural controls will have routine inspection, maintenance schedules, and long-term procedures which adequately control, to the maximum extent practicable, pollution removal and control. Structural control effectiveness will be determined based on the results of these inspections and repaired, upgraded, or replaced as indicated.

Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
<b>Schoolcraft College Main Campus</b>  <b>General Area</b> 18600 Haggerty Road Livonia, MI 48152	Low	Catch Basins/Manholes	287	Inspect Once Every 3 Years, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	5	Inspect Once Every 3 Years, Maintain as Needed
		Stabilized Outlet	1	Inspect Once Every 3 Years, Maintain as Needed
		Detention Pond	1	Inspect Once Every 3 Years, Maintain as Needed
		Underground Detention System	2	Inspect Once Every 3 Years, Maintain as Needed
		Trench Drain	1	Inspect Once Every 3 Years, Maintain as Needed



Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
<b>Schoolcraft College Main Campus</b>  <b>Maintenance / Storage Area</b>  18600 Haggerty Road Livonia, MI 48152	High	Catch Basins/Manholes <i>[ID#s SC-60 through SC-94]</i>	35	Inspect Once Every 3 Years, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Oil/Water Separator <i>[Applied Science Oil Water Separator is currently not in use]</i>	2	Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed
		Above Ground Storage Tank	1	Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed
		Underground Storage Tank	1	Inspected as part of the Class A/B Operator Program, Maintain as Needed
		Fuel Dispenser	1	Inspected as part of the Class A/B Operator Program. Additionally, Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed
		Secondary Containment	2	Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed
		Salt Storage	1	Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed



Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Schoolcraft College Main Campus  Maintenance / Storage Area		Aggregate Storage	4	Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed
		Roll-Off Waste Dumpster	3	Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed
		Roll-Off Scrap Metal Dumpster	1	Inspect Every 6 Months During Comprehensive Inspection, Maintain as Needed
Schoolcraft College Main Campus  *Leased Area  18600 Haggerty Road Livonia, MI 48152	N/A	Catch Basin/Manholes	118	Responsible lessee shall keep and maintain that part of the storm drain system within their property.
		Open Pipe Outlet	10	Responsible lessee shall keep and maintain that part of the storm drain system within their property.
		Drainage Receptor	2	Responsible lessee shall keep and maintain that part of the storm drain system within their property.
		Stabilized Outlet	4	Responsible lessee shall keep and maintain that part of the storm drain system within their property.
		Stormwater Conveyance Channel	2	Responsible lessee shall keep and maintain that part of the storm drain system within their property.



Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
Schoolcraft College Main Campus  *Leased Area		Stream Bank	1	Responsible lessee shall keep and maintain that part of the storm drain system within their property.
		Detention Ponds	2	Responsible lessee shall keep and maintain that part of the storm drain system within their property.
Public Safety Training Complex (PSTC)  Fire Training Site  32303 Glendale Street Livonia, MI 48150	Medium	Catch Basins/Manholes	7	Inspect Once Every 3 Years, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	1	Inspect Once Every 3 Years, Maintain as Needed
		Drainage Receptor	1	Inspect Once Every 3 Years, Maintain as Needed
		Stabilized Outlet	2	Inspect Once Every 3 Years, Maintain as Needed
		Stormwater Conveyance Channel	1	Inspect Once Every 3 Years, Maintain as Needed
		Sump Pit	1	Inspect Once Every 3 Years, Maintain as Needed
		Detention Pond	1	Inspect Once Every 3 Years, Maintain as Needed



Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
<b>Public Safety Training Complex (PSTC)</b>  <b>Academy Training Center (ATC)</b> 31777 Industrial Road, Livonia, MI 48150  <b>Firearms Training Center (FTC)</b> 31623 Industrial Road, Livonia, MI 48150	Low	Catch Basins/Manholes	9	Inspect Once Every 3 Years, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
<b>Public Safety Training Complex (PSTC)</b>  <b>Driving Course (Leased from City of Livonia)</b>  2000 Glendale Street, Livonia, MI 48150	Low	Catch Basins/Manholes	6	Inspect Once Every 3 Years, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Open Pipe Outlet	4	Inspect Once Every 3 Years, Maintain as Needed
		Drainage Receptor	4	Inspect Once Every 3 Years, Maintain as Needed
		Stormwater Conveyance Channel	1	Inspect Once Every 3 Years, Maintain as Needed
		Pump Station	1	Inspect Once Every 3 Years, Maintain as Needed



Facility	Priority Level of Potential Discharge (High, Medium, Low)	Type of Structural Control	Number of Controls	Inspection/Maintenance Schedule
<b>Radcliff Center</b>  1751 Radcliff Street Garden City, MI 48135	Low	Catch Basins	22	Inspect Once Every 3 Years, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.
		Stormwater Conveyance Channel	1	Inspect Once Every 3 Years, Maintain as Needed
		Open Pipe Outlet	1	Inspect Once Every 3 Years, Maintain as Needed
		Drainage Receptor	2	Inspect Once Every 3 Years, Maintain as Needed
		Infiltration Basin	1	Inspect Once Every 3 Years, Maintain as Needed
		Detention Basin	1	Inspect Once Every 3 Years, Maintain as Needed
<b>STEM Building</b>  13001 Merriman Road Livonia, MI 48152	Low	Catch Basin/Manholes	11	Inspect Once Every 3 Years, Clean Once per Permit Cycle or if Build-Up of Accumulated Solid Material is Between 30 and 50% of the Total Sump Depth.



### **2.6.3 Facility Assessment & Prioritization**

Schoolcraft College has identified all applicant owned facilities with a discharge of stormwater to surface waters of the state, and during mapping of each facility, inventoried the number of stormwater structural controls (i.e. catch basins, detention basins, etc.) at each site. Each location was assessed to determine high, medium and low potential to discharge pollutants to surface waters of the state.

Schoolcraft College considered the following when assessing each facility:

- Absence of any factors,
- 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,
- Identification of improperly stored materials,
- Potential for polluting activities to be conducted outside (i.e. vehicle washing),
- Proximity to water bodies,
- Poor housekeeping practices,
- Discharge of pollutants of concern to impaired waters.

For facilities that have a high potential to discharge pollutants to surface waters of the state, a Stormwater Pollution Prevention Plan (SWPPP) and/or Pollution Incident Prevention Plan (PIPP) for salt storage facilities will continue to be implemented.

BMPs currently implemented by Schoolcraft College at facilities with medium and lower potential for the discharge of pollutants to surface waters of the state include:

1. Good housekeeping practices,
2. Employee training,
3. Routine visual inspections,
4. Spill prevention and response.

This inventory will be updated as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant following routine inspections or following new construction or redevelopment projects. Priority level assessments will be revised within 30 days following the completion a new facility or reconstruction/redevelopment.

### **2.6.4 Storm Sewer Structure Controls Inspection & Maintenance Policy & Procedure**

1. Develop a schedule for inspecting and maintaining catch basins and stormwater controls at each facility, for the reduction of pollutant runoff. A schedule is included in [Section 2.6.2 Structural Control Inventory & Schedule Table](#).
2. Visually inspect all stormwater controls identified on facility maps. Inspection includes:
  - Structural integrity of the structure.
    - Areas of significant cracking or sinkholes.
  - Sediment build-up.
    - Note areas with high amounts of build-up sediment.



- Locations identified with a build-up of accumulated solid material that is between 30 and 50% of the total sump depth, as established by the EGLE<sup>2</sup> shall be scheduled for cleaning.
  - Color, odor, sheen, and flow.
  - Overall functionality and presence of erosion.
  - Pond evaluation.
- 3. Note storm sewer structure inspection information on the “Storm Sewer System Inspection” form. Additionally, for detention basins, complete the “Detention BMP Inspection Checklist”. A copy of the inspection form “Storm Sewer System Inspection” and “Detention BMP Inspection Checklist” are in Appendix “C”.
- 4. Once the inspection is complete, the stormwater manager or designated person will review the report and determine if a work order or other item is needed to work with relevant departments or contractors to fix any problems.
- 5. If an illicit discharge is suspected, follow the procedure outlined in Section 2.3 Illicit Discharge Elimination Program.
- 6. Retain inspection forms.
- 7. Retain documentation regarding the scheduling or completion of the repair/maintenance if completed.
- 8. Debris and maintenance waste removed as part of the maintenance and/or repairs shall be disposed of in accordance with the Structural BMP Operation & Maintenance Waste Disposal procedures.

### **2.6.5 Structural BMP Operation & Maintenance Waste Disposal Procedures**

Waste materials generated from operation, maintenance, and cleaning activities associated with storm sewer systems has typically been discharged back into the storm sewer system. This type of discharge 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 (solid/liquid waste) from cleaning storm sewer systems is legally defined as “Liquid Industrial By-products” pursuant to Part 121, Liquid Industrial By-products (Part 121) of NREPA.

Schoolcraft College will ensure that all waste materials generated during operation and maintenance of structural stormwater controls are properly characterized, transported, and disposed as required under State of Michigan PA 451 Part 111 (hazardous wastes), Part 121 (liquid industrial by-products), and Part 115 (solid wastes). At a minimum, the following procedures will be implemented for wastes generated from cleaning or maintaining storm sewer structural controls.

#### **Waste Disposal Methods for Non-Contaminated Materials**

Non-contaminated waste materials generated during cleaning or maintenance of storm sewer structures will be properly disposed using one of the following methods:

1. Have the waste transported to drying beds to separate the solid/liquid waste. 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.

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<sup>2</sup> Michigan Department of Environment, Great Lakes, and Energy EGLE NPS BMP Manual – Catch Basins



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 maintenance activities where the above options are not available, the following methods can be used as long as there are no discharges to surface waters during dry weather conditions:
  - Conduct visual inspection to ensure the water in the sump has not been contaminated. If necessary, collect a grab sample of the water and look for signs of contamination such as visible sheen, discoloration, obvious odor, etc. If there is any doubt of the quality of the water, it will be collected into a vacuum truck and treated as Liquid Industrial By-Products under Part 121 or Part 115 of PA 451 (NREPA).
  - 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:
    - Sanitary system (with prior approval from local sewer authority).
    - Curb and gutter.
    - Back into the storm sewer system as long as it is contained within the system during dry weather condition to ensure no discharge into surface water.
    - Applied to the ground adjacent to the catch basin (evenly distributed at a maximum rate of 250 gallons/acre/year).
  - The remaining liquid/solid in the sump will be collected with a vacuum truck and disposed of off-site in accordance with MI P.A. 451 Parts 115 or 121.

If Schoolcraft College contracts with a private contractor to transport liquids generated from cleaning of catch basins or other structures, that contractor must be registered and permitted as a Uniform Liquid Industrial By-Product Hauler under the provisions of HMTA.

### **2.6.6 Pollution Prevention/Good Housekeeping – Municipal Operations & Maintenance Activities**

Schoolcraft College recognizes the importance of reducing pollutant runoff from maintenance activities. The following procedure will include an assessment of the potential activities for the potential to discharge pollutants. The assessment shall identify the pollutants that could be discharged from the applicable operation and maintenance activity and the BMPs implemented or to be implemented to prevent or reduce pollutant runoff.

#### **PROCEDURE**

Applicable operations and maintenance activities include parking lot and sidewalk maintenance, cold weather operations, vehicle washing, maintenance of vehicles, land disturbance and landscape. Bridge maintenance, right-of-way maintenance and unpaved road maintenance do not apply to Schoolcraft College.

#### **Roadways/Parking Lots**

Maintenance: Pothole, sidewalk, curb and gutter repair.

Possible Pollutants: Fuel, oil, sediment, concrete.

BMPs to address Pollutants:

1. Contractors and in-house staff contracted to complete for these jobs are informed of stormwater management practices to reduce pollution in stormwater.



2. Avoid mixing excess amounts of fresh concrete or cement.
3. Never dispose of washout into the street, storm drains, ditches or creeks.
4. Stencil storm drains to prevent disposal of wash water.
5. Schedule patching, resurfacing and surface sealing during dry weather.
6. If it rains unexpectedly, take appropriate action to prevent pollution of stormwater runoff (e.g., divert runoff around work areas, cover materials).
7. Maintain pollution prevention/good housekeeping practices, which is to remove stockpiles (asphalt materials, sand, etc.) by the end of the day to a covered location. Alternatively, cover the piles if they cannot be moved.

Process for updating assessment: Contractor or project is assessed on an ongoing basis, and problems are addressed when found.

### **Cold Weather Operations**

Maintenance: Plowing, sanding, deicing, snow pile disposal.

Possible Pollutants: Sodium, magnesium, calcium, potassium, chloride, turbidity.

BMPs to address Pollutants:

1. Keep all deicing material covered or in waterproof containers.
2. Prevent deicer drainage to storm sewers.
3. Mechanical removal of as much snow or ice as possible prior to applying deicing chemicals.
4. Proper salt storage management.
5. Maintain application equipment in good working condition.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

### **Vehicle Washing**

Maintenance: Washing of buses, staff vehicles and maintenance equipment.

Possible Pollutants: Petroleum based wastes, metals, and nutrients.

BMPs to address Pollutants:

1. All vehicle washing and maintenance is to be performed indoors where drains connecting to the sanitary system can receive all wastes.
2. Alternatively, vehicle washing can be performed at a commercial auto wash facility.
3. Alternatively, rinse grass from lawn care equipment on permeable (grassed) areas.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

### **Vehicle Maintenance**

Possible Pollutants: Petroleum based wastes, metals, and nutrients.

BMPs to address Pollutants:

1. Oil-water separators will be inspected routinely and serviced as necessary to maintain efficiency.
2. All vehicle or equipment maintenance will take place inside or away from storm drains where drains connecting to the sanitary system can receive all wastes.
3. All drains within maintenance garages will be dye tested to assure that no drains flow into the separate storm sewer system if diagrams are not available.
4. Recycle used motor oil, diesel oil, other vehicle fluids, and vehicle parts whenever possible.



Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

### **Landscaping**

Possible Pollutants: Wood chips, sediment, sand, and compost.

BMPs to address Pollutants:

1. Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain. Alternatively, place stockpiles on permeable (grassed) areas.
2. Proper Storage, handling, and use of pesticides, herbicides, and fertilizers.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

### **Land Disturbance**

Possible Pollutants: Sediment runoff.

BMPs to address Pollutants:

1. Plan land clearing so soil is not exposed for long periods of time.
2. Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain.
3. Protect against sediment flowing into drains.
4. Install sediment barriers.

Process for updating assessment: BMPs will be assessed for effectiveness within 30 days following their addition or removal.

### **Fire Training Activities**

Possible Pollutants: Fire depression foam chemicals, ashes and soot, condensates, heavy metals and other suspended solids

BMPs to address Pollutants:

1. Training area must be sweep and cleaned prior to training to ensure debris does not enter stormwater structures.
2. Ashes and partially burnt debris must be disposed of in dumpster.
3. Use water only during training. Do not use foam chemicals.
4. When cleaning trucks, fire apparatuses, hoses, and other equipment with detergents always use indoor facilities or facilities that are connected to the sanitary sewer system.

Process for updating assessment:

BMPs will be assessed for effectiveness within 30 days following their addition or removal.

### **ASSESSMENT**

Pollution prevention inspections ensure that these BMPs are carried out properly. Any issues identified during the inspections will be reviewed and addressed by the Stormwater Program Manager.



## **2.6.7 Street Sweeping Procedure, Prioritization & Schedule**

### **PRIORITIZATION**

The EGLE NPDES Phase II Stormwater Discharge Permit requires a procedure for prioritizing owned streets, parking lots, and other impervious infrastructure for street sweeping based on the potential to discharge pollutants. Schoolcraft College evaluated each facility for the presence of the following factors:

- Potential for polluting activities to be conducted outside
- Proximity to water bodies
- Traffic volume
- Land use
- Absence of any factors

### **PROCEDURE**

Schoolcraft College will be proactive and undertake the following activities to reduce the potential to discharge pollutants to surface waters of the state from parking lots and other impervious infrastructures.

1. Conduct seasonal efforts to remove leaves. Leaves are blown off the roads and back into the lawn area for composting throughout fall on a weekly basis.
2. The contracted sweeping will not be completed when streets are wet, so dewatering of the collected debris will not be required.
3. Streets and parking lots are swept annually by a mechanical broom sweeper or a vacuum sweeper.
4. Waste disposal areas will be kept free of litter and debris.
5. Street debris is typically composed of food and beverage wrappers and containers, paper and plastic bags, leaves, and sand/soil.
6. Street sweeping activities are subject to the solid waste requirements. Solid waste must be managed under Part 115 requirements. The contractor hired to do the street sweeping is responsible for proper disposal of the waste material.

This prioritization will be updated as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant following routine inspections, or as traffic volume, land use or sediment and trash accumulation increases.

### **PRIORITIZATION LEVELS & SCHEDULE**

All low, medium and high prioritized parking lots and streets are inspected on the same schedule in an effort to reduce pollutants.



	Priority Level of Potential Discharge* (High, Med, Low)	Street Sweeping Schedule
<b>Schoolcraft College Main Campus</b>  <b>18600 Haggerty Road, Livonia Michigan 48152</b>	Medium	Annual Street Sweeping
<b>Public Safety Training Complex (PSTC) Academy Training Center (ATC)</b>  <b>31777 Industrial Road, Livonia, MI</b>	Low	Annual Street Sweeping
<b>Public Safety Training Complex (PSTC) Firearms Training Center (FTC)</b>  <b>31623 Industrial Road, Livonia, MI</b>	Low	Annual Street Sweeping
<b>Public Safety Training Complex (PSTC) Fire Training Site</b>  <b>32303 Glendale, Livonia, MI 48150</b>	Medium	Annual Street Sweeping
<b>Public Safety Training Complex (PSTC) Driving Course</b>  <b>32000 Glendale Street, Livonia, MI</b>	Low	Street Sweeping as Needed  Limited Street Debris as Not Open to the Public
<b>Radcliff Center</b>  <b>1751 Radcliff, Garden City, MI</b>	Low	Annual Street Sweeping
<b>STEM Building</b>  <b>13001 Merriman, Livonia, MI</b>	Low	Annual Street Sweeping



### **2.6.8 Managing Vegetated Properties**

Schoolcraft College has established this policy to prevent or reduce pollutant runoff from vegetated land:

1. Schoolcraft College requires all contracted personnel who participate in the application of pesticides, to be trained and licensed by the State of Michigan under the Commercial Pesticide Application Certification Program for relevant categories as applicable, to prevent or reduce pollutant runoff from vegetated land.
2. Whenever practicable, an integrated pest management technique will be implemented.

### **2.6.9 Contractor Requirements & Oversight**

Schoolcraft College requires contractors to comply with pollution prevention and good housekeeping BMPs. Schoolcraft College will perform all of the following activities for applicable contractors and projects to comply with all pollution prevention and good housekeeping BMPs as appropriate and comply with pollution as well as provide oversight to ensure compliance:

- Contractor Notification
- Contractor Training
- Pre-project Meeting/Review
- Periodic Inspections

Schoolcraft College shall utilize a “Stormwater Contractor Oversight Record” form to review stormwater compliance with contractors hired to perform municipal operation and maintenance activities and to obtain signatures. The “Stormwater Contractor Oversight Record” form is located in Appendix “F”.

### **2.6.10 Pollution Prevention/Good House Keeping Training**

A training program is an important component to effective pollution prevention. Pollution prevention/good housekeeping training is required for all employees whose job responsibilities involve municipal or maintenance activities. Training is conducted as part of Schoolcraft College employee risk management training. An example of the training sign in sheet is available in Appendix “F”.

Training will occur for existing staff once during the permit cycle and new hires within the first year of their hire date.



### 2.6.11 Pollution Prevention/Good Housekeeping Implementation BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.6.11.1</b>  <b>Structural Control Inventory</b>	Provide an up-to-date inventory of the number of stormwater structural controls for each facility's (i.e. catch basins, detention ponds). Update facilities potential to discharge pollutants (high, medium, low) following the update.	Initial update completed, further updated as needed within 30 days following the completion a new facility or reconstruction/redevelopment.  Ongoing Throughout Permit Cycle	100% of stormwater structural controls inventoried.	Maintain list of inventory and potential to discharge priority level. Submit updated list with progress report, noting if priority levels have changed.	Schoolcraft College
<b>BMP #2.6.11.2</b>  <b>SWPPP Development &amp; Implementation (SOP)</b>	Develop a "Stormwater Pollution Prevention Plan (SWPPP)" for maintenance, transportation, and storage facilities/Implement policies & procedures.	SWPPP/SOP Developed January 2020  Monthly Routine Inspections  6-Month Comprehensive Inspections	100% of monthly routine inspections conducted and 100% of 6-month comprehensive inspections conducted.	Copy of SWPPP and copy of inspections.	Schoolcraft College
<b>BMP #2.6.11.3</b>  <b>Stormwater Structural Control Inspections</b>	Visually inspect stormwater controls identified on facility maps.	Routine Inspections Throughout Permit Cycle	Routine schedule implemented and inspections reviewed by Stormwater Project Manager.	Maintain inspection forms/reports.	Schoolcraft College
<b>BMP #2.6.11.4</b>  <b>Cleaning &amp; Maintenance (Catch Basin/ Manhole Cleaning)</b>	Schoolcraft College will ensure that cleaning of the catch basins/manholes occur, and all waste materials generated during operation and maintenance of structural stormwater controls are properly characterized, transported, and disposed as required under State of Michigan PA 451 Part 111 (hazardous wastes), Part 121 (Liquid Industrial By-Products), and Part 115 (solid wastes).	Once per Permit Cycle or More Frequently if Required	Prioritized locations cleaned once per permit cycle. All waste disposed as required.	Copies of Waste Manifests.	Schoolcraft College



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.6.11.5</b> <b>Cold Weather Operations</b>	Proper salt storage management. Maintain storage bags and equipment in good working condition. Pollution Incident Prevention Plan Developed.	Ongoing Throughout Permit Cycle	Continue proper salt storage and management as previously implemented.	Copy of SWPPP comprehensive inspection report.	Schoolcraft College
<b>BMP #2.6.11.6</b> <b>Vehicle Washing</b>	All vehicle washing and maintenance is to be performed indoors where drains connecting to the sanitary system can receive all wastes.  Alternatively, vehicle washing can be performed at a commercial auto wash facility.	Ongoing Throughout Permit Cycle	100 % of applicable staff trained on were to wash vehicles.	Copy of sign-in sheets.	Schoolcraft College
<b>BMP #2.6.11.7</b> <b>Vehicle Maintenance</b>	All drains within maintenance garages will be dye tested to assure that no drains flow into the separate storm sewer system if diagrams are not available.	Diagrams of Floor Drains in the Facilities Building Obtained January 2020	100% of floor drains evaluated in the Facilities Building. All drains properly connected to the sanitary system.	Copy of dye tracing inspection or copy of diagrams.	Schoolcraft College
	Oil-water separators will be inspected routinely and serviced as necessary to maintain efficiency.	Annually Throughout Permit Cycle	Oil-water separators cleaned and functioning properly.	Copy of invoices or shipping papers.	
	Recycle used motor oil, diesel oil, other vehicle fluids, and vehicle parts whenever possible.	As needed Throughout Permit Cycle	Reduction in amount of disposed material and amount of material shipped for off-site disposal.	Copy of invoices or shipping papers.	



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.6.11.8</b> <b>Land Disturbance</b>	Place temporary stockpiled material away from storm drains, and berm or cover stockpiles to prevent material releases into the storm drain. Protect against sediment flowing into drains.	As needed Throughout Permit Cycle	100 % of applicable staff trained.	Copy of sign-in sheets.	Schoolcraft College
<b>BMP #2.6.11.9</b> <b>Fire Training Activities</b>	Firefighting training activities are performed in a manner that reduce the potential of harmful pollutants from entering our storm drains, ditches, inlets, or swales.	Training Exercise Once per Year Throughout Permit Cycle	<div>Training area must be sweep and cleaned prior to training to ensure debris does not enter stormwater structures.</div> <div>Ashes and partially burnt debris must be disposed of in dumpster.</div> <div>Use water only during training. Do not use foam chemicals.</div> <div>When cleaning trucks, fire apparatuses, hoses, and other equipment with detergents always use indoor facilities or facilities that are connected to the sanitary sewer system.</div>	Document staff receiving educational materials and information regarding fire training best management practices.	Schoolcraft College
<b>BMP #2.6.11.10</b> <b>Street Sweeping</b>	Street sweeping conducted by a professional sweeping company.	Annual Throughout Permit Cycle	Street sweeping conducted.	<div>Copy of work order or schedule.</div> <div>Copy of invoice or disposal documentation.</div>	Schoolcraft College



BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #2.6.11.11</b> <b>Vegetated Properties (Pesticides)</b>	Schoolcraft College requires all contracted personnel who participate in the application of pesticides will be trained and licensed by the State of Michigan under the Commercial Pesticide Application Certification Program for relevant categories as applicable, to prevent or reduce pollutant runoff from vegetated land.	Ongoing Throughout Permit Cycle	Application of pesticides will only be completed by trained and licensed applicators.	Documentation of in-house staff license or copy of contractor receipt.	Schoolcraft College
<b>BMP #2.6.11.12</b> <b>Contractor Oversight</b>	Schoolcraft College requires contractors to comply with pollution prevention and good housekeeping BMPs. Schoolcraft College will complete contractor notification, pre-project meeting and periodic inspections to provide oversight to ensure compliance.	As needed Throughout Permit Cycle	Contractors training and informed of pollution prevention and good housekeeping techniques.	Copy of sign-in sheets (Stormwater Contractor Oversight Record form), pre-project meeting notes or inspections.	Schoolcraft College & Contractors/ Vendors
<b>BMP #2.6.11.13</b> <b>Training</b>	Pollution prevention and good housekeeping training.	Once per Permit Cycle or During the 1 <sup>st</sup> year of Employment Throughout Permit Cycle	Goal of providing training to maintenance staff who work for Schoolcraft College.	Training is conducted as part of Schoolcraft College employee risk management training. Copy of sign-in sheets and Agenda (if available).	Schoolcraft College



## 3.0 Total Maximum Daily Load (TMDL) Restrictions

### 3.1 What are TMDLs

When a lake or stream fails to meet federal water quality standards, the Clean Water Act requires that a “Total Maximum Daily Load (TMDL)” limit be developed. Studies are completed to determine the sources impacting the water body and to develop goals so that the water body can meet the applicable standards.

A TMDL describes the process used to determine how much of a particular pollutant a lake or stream can assimilate and sets pollution reduction targets for the water body.

Schoolcraft College has entered into a collaborative agreement with the Alliance of the Rouge Communities (ARC) and is included as an Arc participating partner in the Rouge River Collaborative Total Maximum Daily Load (TMDL) Implementation Plan for Municipal Permittees. This Plan will address each of these parameters within the limits of the MS4 permit. As such, this should not be considered an implementation plan to address all sources, only those under the authority of the MS4 permit. A copy of the Rouge River Collaborative Total Maximum Daily Load (TMDL) Implementation Plan for Municipal Permittees is available in Appendix “E”.

### 3.2 ROUGE RIVER TMDL

The Rouge River was placed on Section 303(b) list for both **E. coli & biota (sedimentation/siltation)**. The rouge was placed on the list for biota due to poor macroinvertebrate and fish community levels. Surveys conducted indicated that lack of habitat along with siltation/sedimentation were the predominant issues. Additionally, the Rouge River was placed on the Section 303(d) list due to impairment of recreational uses as indicated by the presence of elevated levels of E. coli.



### 3.2.1 TMDL - BMP Table

BMP	Description of BMP	Timeframe	Measurable Goal	Measure of Assessment	Responsible Party
<b>BMP #3.2.2.1</b> <b>Webpage</b>	The ARC TMD Rouge River Collaborative Total Maximum Daily Load (TMDL) Implementation Plan for Municipal Permittees placed on Schoolcraft College webpage.	Ongoing Throughout Permit Cycle	Posters placed throughout Schoolcraft College facilities.	Maintain links on webpage. Maintain copies of webpage review.	Schoolcraft College
			Material available on webpages.		
<b>BMP #3.2.2.2</b> <b>Metric (D) for Evaluating Effectiveness</b>	Keep records of construction projects completed under the most recent standards.	Provide to Arc staff by April 30, 2020	100% completed under the most recent standards.	Copy of construction projects.	Schoolcraft College
<b>BMP #3.2.2.3</b> <b>Metric (F) for Evaluating Effectiveness</b>	Number of catch basins cleaned	Provide to Arc staff by April 30, 2020	Catch basins cleaned.	Number of catch basins cleaned.	Schoolcraft College
<b>BMP #3.2.2.4</b> <b>Metric (H) for Evaluating Effectiveness</b>	Number of stockpiles showing no impact to stormwater runoff.	Provide to Arc staff by April 30, 2020	Stockpiles reviewed during SWPPP inspections and documented.	Number of stockpiles.	Schoolcraft College



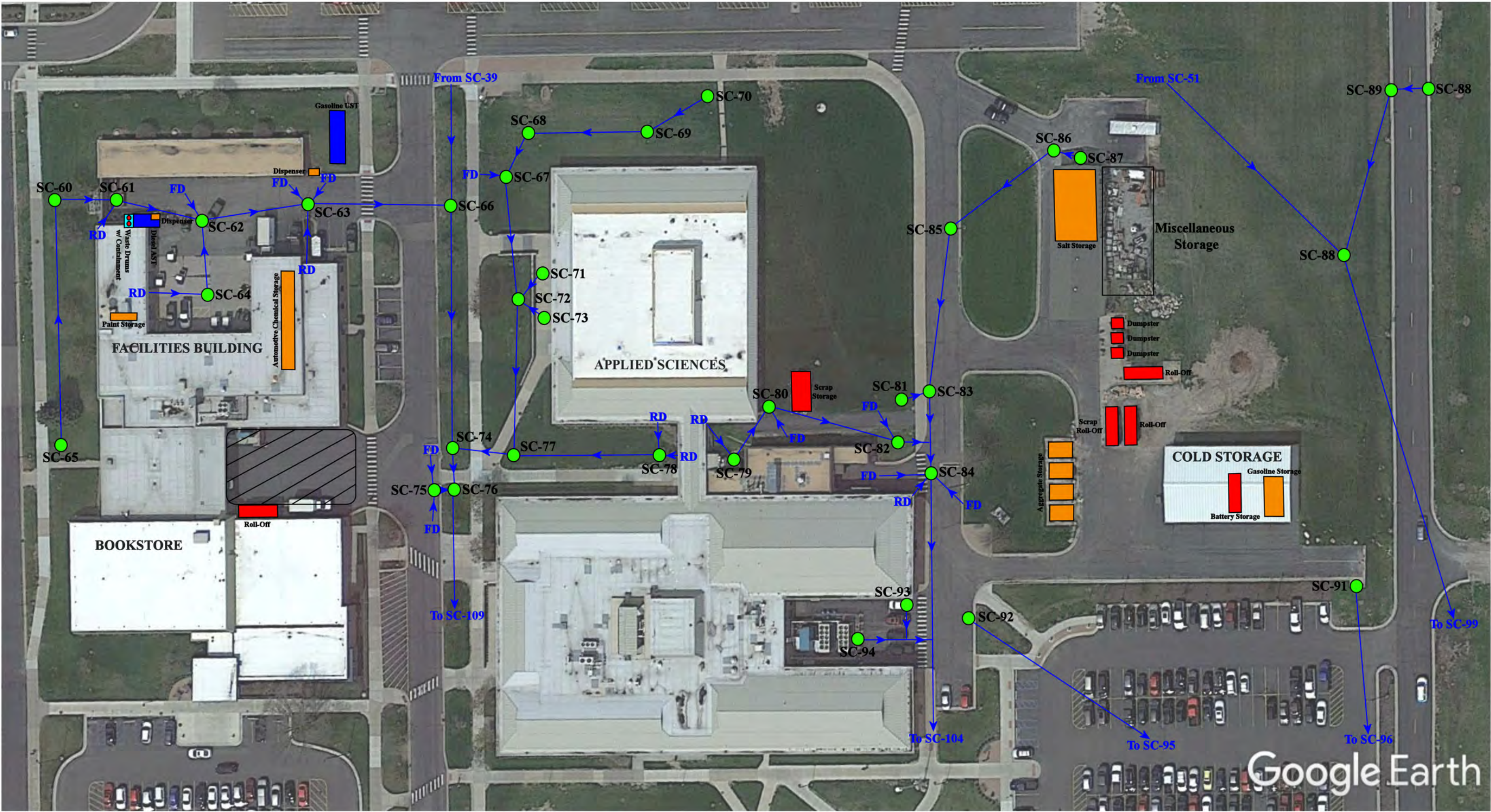
## Appendix “A”

### Outfall/Discharge Point Receiving Water Table & Site Stormwater Structure Maps

**Schoolcraft College  
Receiving Waters Table**

Facility	Outfall/Point of Discharge	Receiving Waters	MS4	Watershed
<b>Schoolcraft College Main Campus, Including Leased Areas 18600 Haggerty Road, Livonia Michigan 48152</b>	SC-01.DP	Bell Branch	City of Livonia	Rouge River
	SC-226.DP	Bell Branch	City of Livonia	Rouge River
	SC-251.OF *Leased Area	Bell Branch	Wolfrom Drain	Rouge River
	SC-252.OF *Leased Area	Bell Branch	Wolfrom Drain	Rouge River
	SC-413.OF	Bell Branch	Wolfrom Drain	Rouge River
	SC-414.OF	Bell Branch	Wolfrom Drain	Rouge River
	SC-442.OF *Leased Area	Bell Branch	Wolfrom Drain	Rouge River
<b>Public Safety Training Complex</b>  <b>Academy Training Center (ATC): 31777 Industrial Road, Livonia, MI</b> <b>Firearms Training Center (FTC): 31623 Industrial Road, Livonia, MI</b> <b>Fire Training Site: 32303 Glendale, Livonia, MI 48150</b> <b>Driving Course: 32000 Glendale Street, Livonia, MI</b>	PS-01.CB.DP	Bell Branch	City of Livonia	Rouge River
	PS-03.CB.DP	Bell Branch	City of Livonia	Rouge River
	PS-08.CB.DP	Bell Branch	City of Livonia	Rouge River
	PS-10.OP.DP *This discharge point location discharge is comingled with the City of Livonia pond water.	Bell Branch	City of Livonia	Rouge River
	PS-22.OP.DP	Bell Branch	City of Livonia	Rouge River
	PS-23.OP.DP	Bell Branch	City of Livonia	Rouge River
	PS-24.OP.DP	Bell Branch	City of Livonia	Rouge River
	FT-01.CB.DP	Bell Branch	City of Livonia	Rouge River
<b>Radcliff Center</b>  <b>1751 Radcliff, Garden City, MI</b>	RC-09.CB.DP	Middle Rouge River	Garden City Public Schools	Rouge River
	RC-23.CB.DP	Middle Rouge River	Garden City Public Schools	Rouge River
<b>STEM Building</b>  <b>13001 Merriman, Livonia, MI</b>	STEM-07.DP	Bell Branch	City of Livonia	Rouge River
	STEM-08.DP	Bell Branch	City of Livonia	Rouge River
	STEM-09.DP	Bell Branch	City of Livonia	Rouge River
	STEM-10.DP	Bell Branch	City of Livonia	Rouge River
	STEM-11.DP	Bell Branch	City of Livonia	Rouge River

\*Leased area outfalls/discharge points are maintained by the lessee.



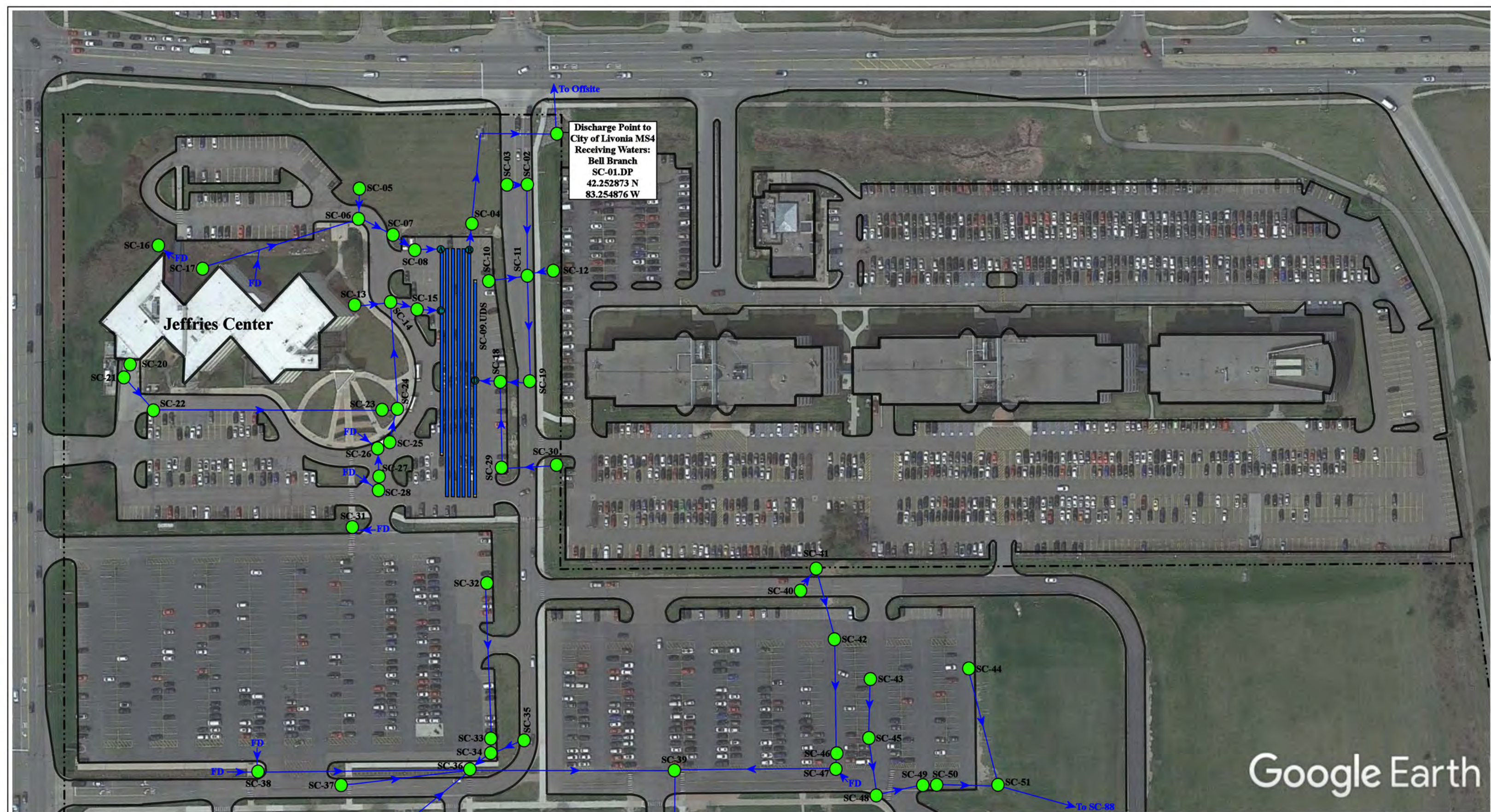
Google Earth

- = Catch Basin / Manhole
- FD = Field Drain
- RD = Roof Drain
- = Loading / Unloading Area
- = Significant Material Storage Area
- = Waste Disposal Area
- = Significant Materials Storage Tank
- = Secondary Containment

This diagram identifies the following requirements of the SWPPP: Structural Runoff Controls in High Risk Areas



186000 Haggerty Road, Livonia MI 48152		
Maintenance - Main Campus		
Schoolcraft college		
	Revision Date :	03/30/2020
	Drawn by:	AS
	Reviewed:	LE
	Page #:	1 of 1
		Scale: Not to Scale
37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305		



- = Catch Basin / Manhole
- = Underground Detention System  
(With Access Ports and Cleanouts)
- - - = Property Lines
- FD = Field Drain



18600 Haggerty Road, Livonia MI 48152

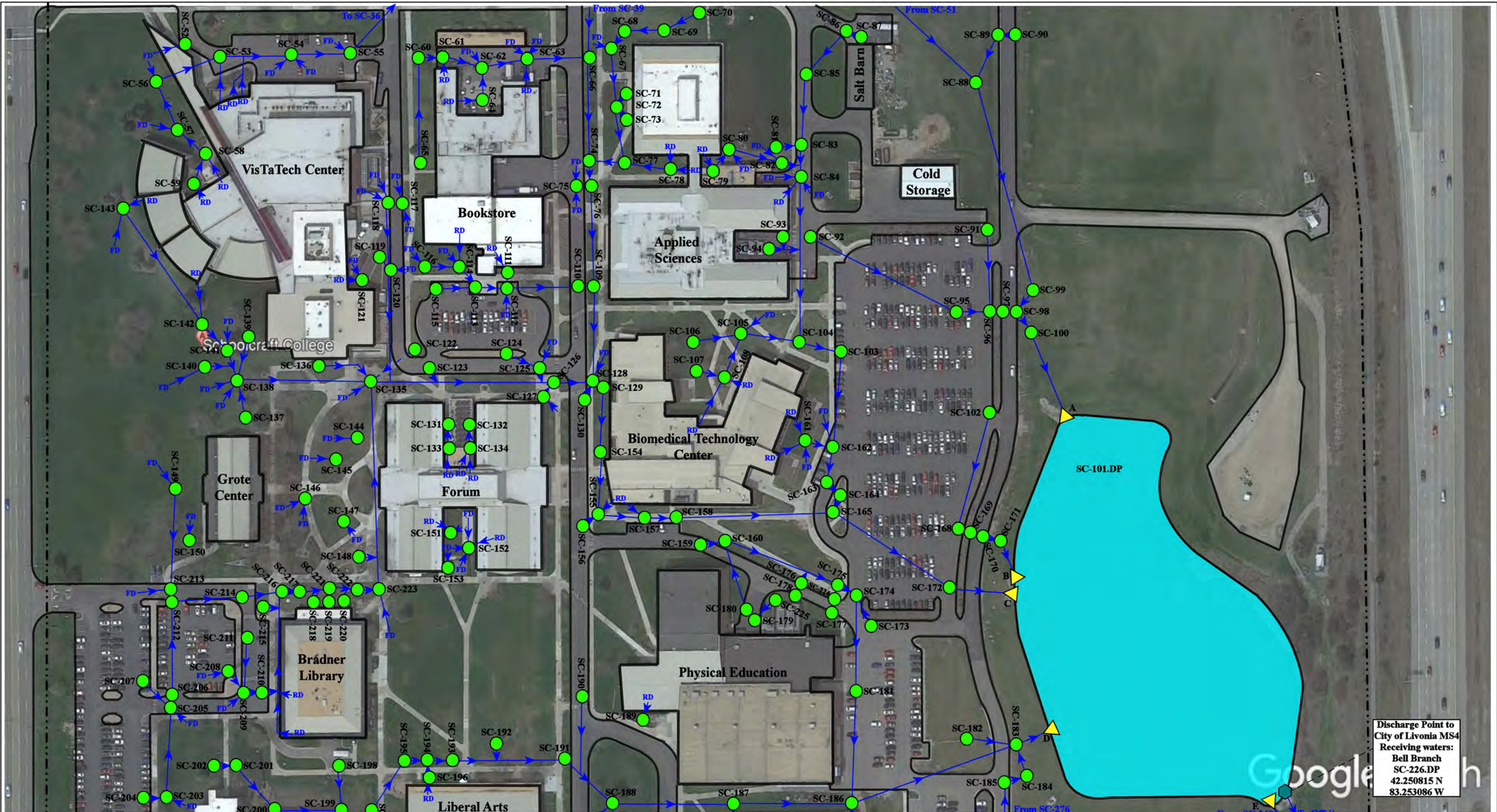
## Main Campus

Schoolcraft College



37720 Interchange Drive  
Farmington Hills, MI 48335  
Phone: 248-426-0165  
Fax: 248-427-0305

Revision Date :	03/30/2020
Drawn by:	AS
Reviewed:	JP
Page #:	1 of 4
Scale:	Not to Scale



Discharge Point to  
City of Livonia MS4  
Receiving waters:  
Bell Branch  
SC-226.DP  
42.250815 N  
83.253086 W

- = Catch Basin / Manhole
- ▲ = Open Pipe Outlet
- ◆ = Stabilized Outlet
- - - = Property Lines

- = Retention Pond
- FD = Field Drain
- RD = Roof Drain



18600 Haggerty Road, Livonia MI 48152

## Main Campus

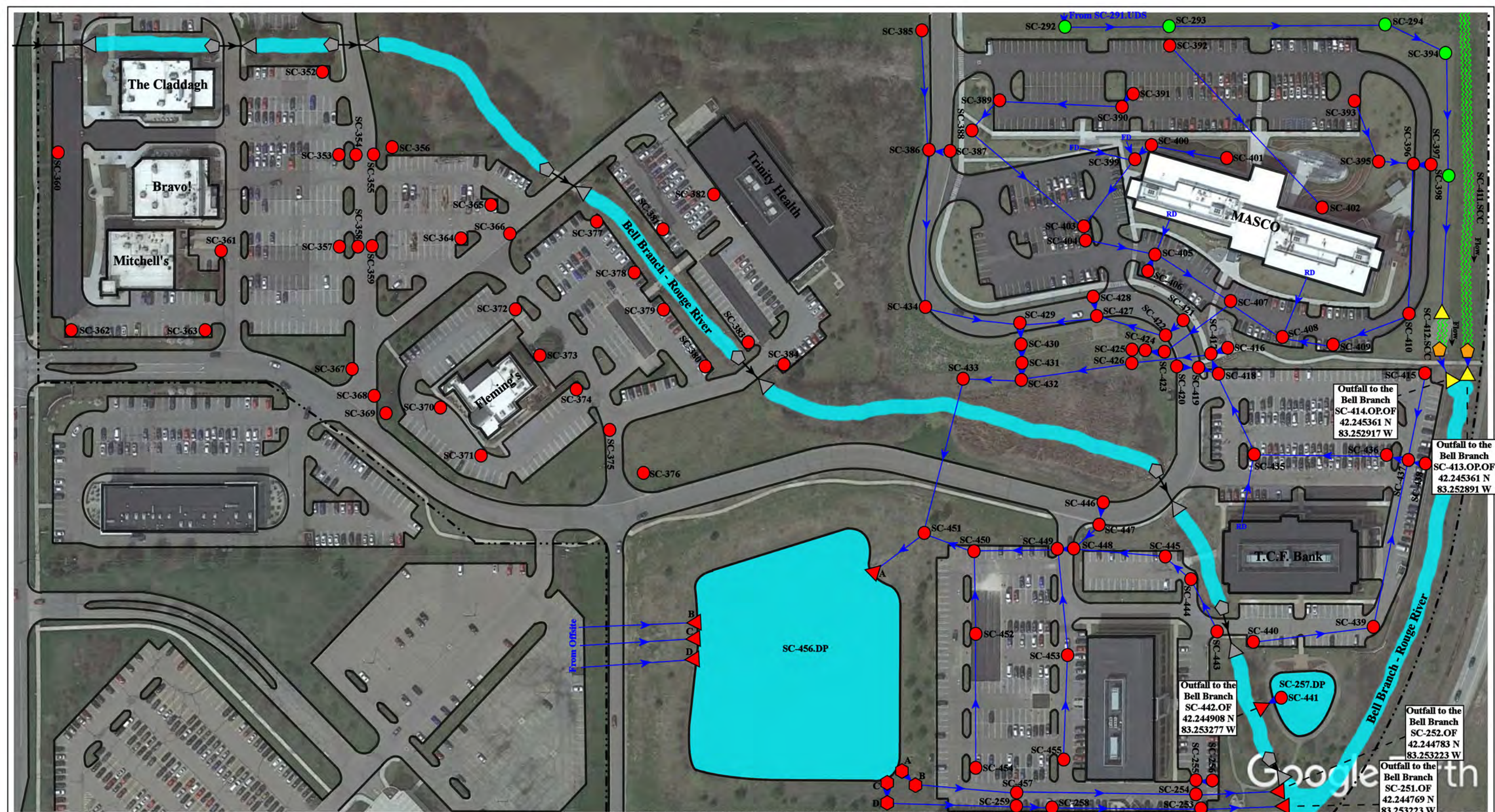
Schoolcraft College



37720 Interchange Drive  
Farmington Hills, MI 48335  
Phone: 248-426-0165  
Fax: 248-427-0305

Revision Date :	03/30/2020
Drawn by:	AS
Reviewed:	JP
Page #:	2 of 4
Scale:	Not to Scale





- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"><li>● = Catch Basin / Manhole</li><li>▲ = Open Pipe Outlet</li><li>◆ = Drainage Receptor</li></ul> | <ul style="list-style-type: none"><li>◆ = Leased Stabilized Outlet</li><li>● = Leased Catch Basin / Manhole</li><li>◆ = Leased Drainage Receptor</li><li>▲ = Leased Open Pipe Outlet</li></ul> | <ul style="list-style-type: none"><li>~~~~~ = Stormwater Conveyance Channel</li><li>■ = Detention Pond / Surface Waters</li><li>FD = Field Drain</li><li>RD = Roof Drain</li><li>- - - = Property Lines</li></ul> |
|--|--|---|



18600 Haggerty Road, Livonia MI 48152

## Main Campus

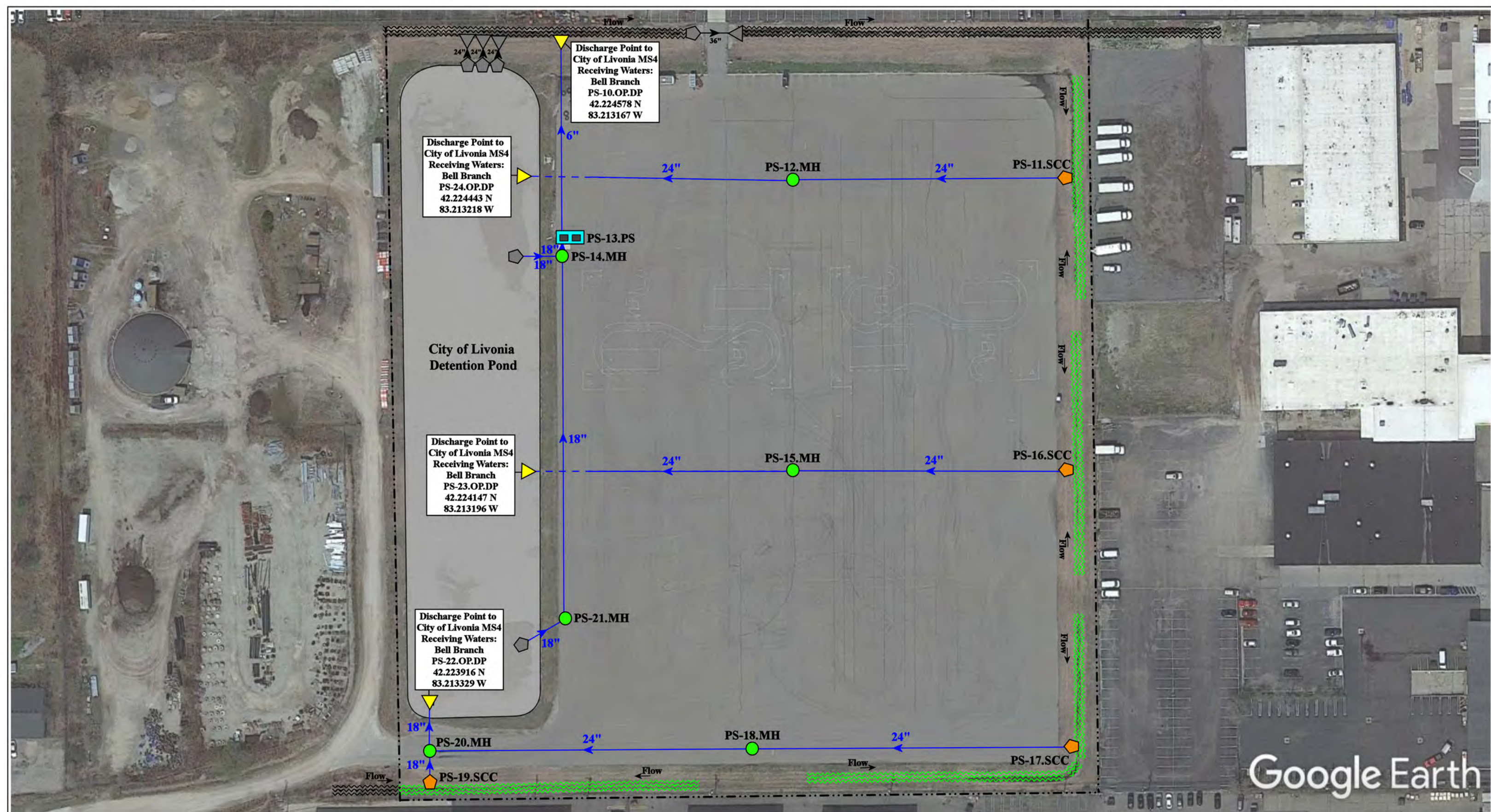
Schoolcraft College



37720 Interchange Drive  
Farmington Hills, MI 48335  
Phone: 248-426-0165  
Fax: 248-427-0305

Revision Date :	03/30/2020
Drawn by:	AS
Reviewed:	JP
Page #:	4 of 4
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- = Manhole
- ◆ = Drainage Receptor
- ▲ = Open Pipe Outlet
- = Pump Station

- ≡ = Stormwater Conveyance Channel
- - - = Property Lines

**\*LEASED FROM CITY OF LIVONIA\***



31777 & 31623 Industrial Road, Livonia MI 48150

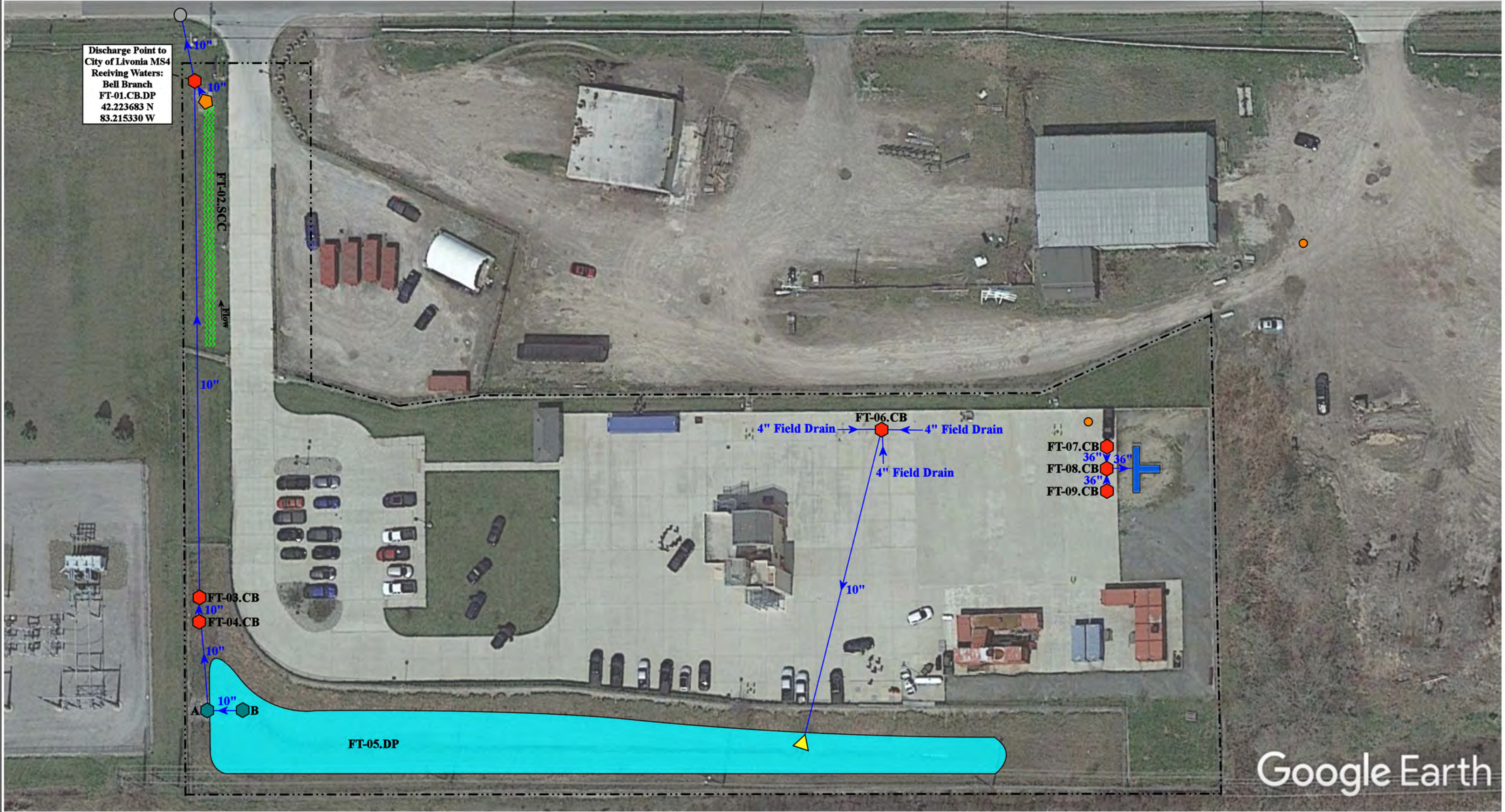
Public Safety Training Complex - Driving Course

Schoolcraft College



37720 Interchange Drive  
Farmington Hills, MI 48335  
Phone: 248-426-0165  
Fax: 248-427-0305

Revision Date :	01/16/2020
Drawn by:	AS
Reviewed:	JP
Page #:	2 of 3
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Discharge Point to  
City of Livonia MS4  
Receiving Waters:  
Bell Branch  
FT-01.CB.DP  
42.223683 N  
83.215330 W

FT-02.SCC

Flow

10"

10"

10"

10"

A

B

FT-05.DP

4" Field Drain

FT-06.CB

4" Field Drain

4" Field Drain

FT-07.CB

36"

FT-08.CB

36"


FT-09.CB

Google Earth

- = Catch Basin
- ▲ = Open Pipe Outlet
- ◆ = Drainage Receptor
- ◼ = Stabilized Outlet
- = Sanitary Sewer

- ~~~~~ = Stormwater Conveyance Channel
- = Detention Pond
- = Sump Pit
- - - = Property Lines
- = Offsite MS4



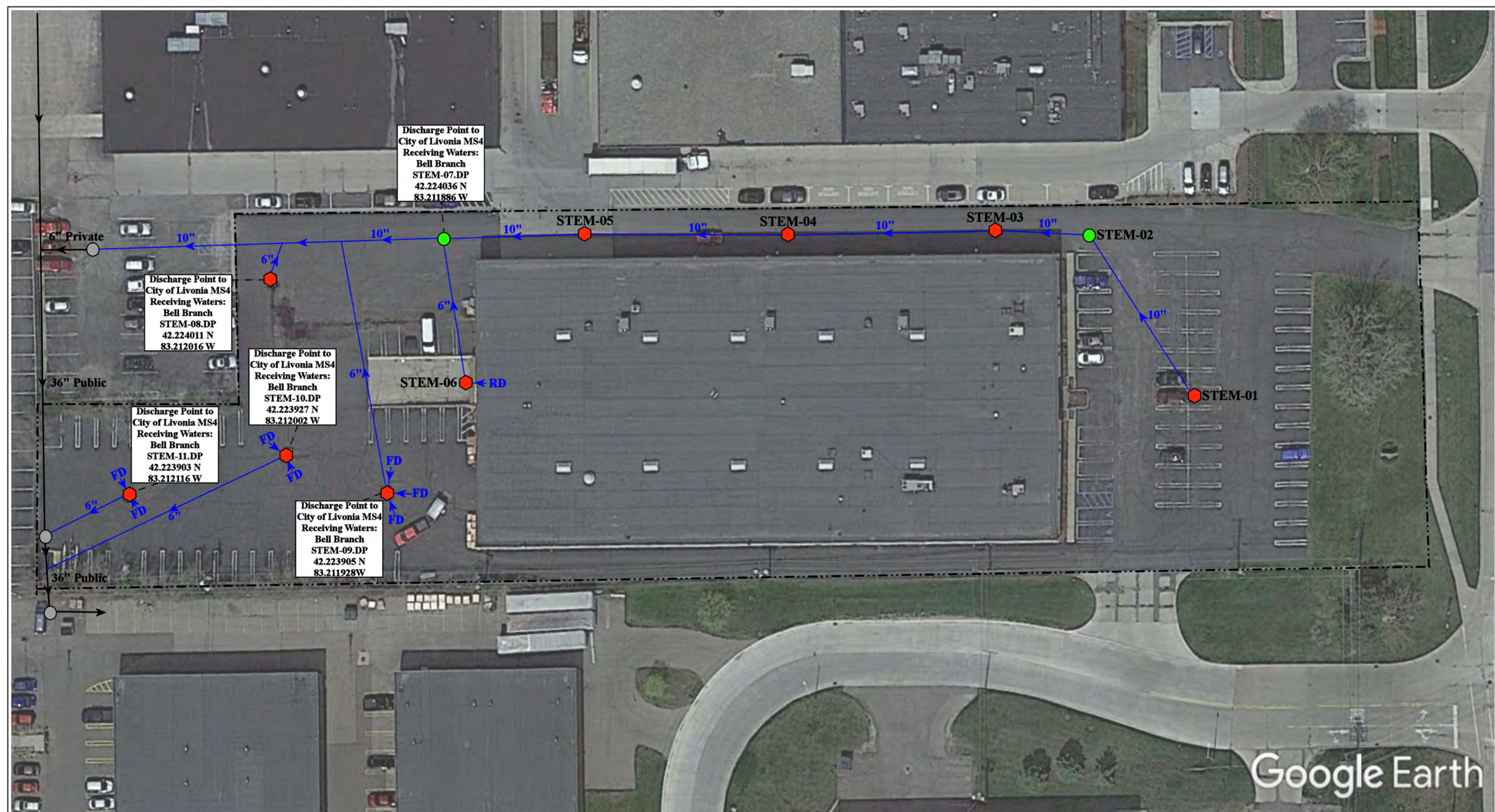
32303 Glendale Street, Livonia MI 48150		
Public Safety Training Complex - Fire Training Site	Revision Date :	01/07/2020
	Drawn by:	AS
Schoolcraft College		Reviewed: JP
	Page #:	3 of 3
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37720 Interchange Drive Farmington Hills, MI 48335 Phone: 248-426-0165 Fax: 248-427-0305		



North



Revision Date :	12/5/2019
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Page #:	1 of 1
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- 🔴 = Catch Basin
- 🟢 = Manhole
- FD = Field Drain
- RD = Roof Drain
- = Property Lines



13001 Merriman Road, Livonia MI 48152

**STEM Building**

Schoolcraft College



37720 Interchange Drive  
Farmington Hills, MI 48335  
Phone: 248-426-0165  
Fax: 248-427-0305

Revision Date :	12/20/2019
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Page #:	1 of 1
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## **Appendix “B”**

**Enforcement Policies  
&  
Municipal Separate Storm Sewer System Noncompliance Enforcement Tracking Sheet**

## Stormwater Management – Illicit Discharge Regulatory Policy

Issue date: January 31, 2020

This illicit discharge policy was developed as a regulatory policy for prevention of pollution from storm water runoff and to protect the quality of the waters of the State of Michigan through the regulation of non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This regulatory mechanism establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit through the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The objectives of the regulatory mechanism are:

1. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.
2. To prohibit illicit connections and discharges into the MS4.
3. To establish authority to investigate, inspect, and monitor suspected illicit discharges.

Schoolcraft properties include but are not limited to, the Main Campus, Public Safety Training Complex, Radcliff Center and STEM Building.

---

**Illicit Discharge** means any discharge to, or seepage into the separate stormwater drainage system that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit.

**Illicit Connection** means a physical connection to the MS4 separate stormwater system that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4 separate storm sewer system; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

### Prohibitions of Illicit Discharges

---

1. Prohibition of Illicit Discharges:
  - a. Schoolcraft College prohibits the discharge of non-stormwater discharges into the storm drain system, including but not limited to pollutants or waters containing any pollutants.
  - b. No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than stormwater.
2. The following discharge is **not prohibited**:
  - a. This policy excludes prohibitions from the discharge or flows from firefighting activities to the Schoolcraft College MS4. Discharge or flows from firefighting activities will be

addressed only if they are identified as significant sources of pollutants to surface waters of the state.

- b. The following activities are **not prohibited** under this policy unless they are determined to be significant sources of pollutants to surface waters of the state:
- Water line flushing and discharges from potable water sources.
  - Landscape irrigation runoff, lawn water runoff, and irrigation waters.
  - Diverted stream flows and flows from riparian habitats and wetlands.
  - Rising groundwater and springs.
  - Uncontaminated groundwater infiltration and seepage.
  - Uncontaminated pumped groundwater, except groundwater cleanups specifically authorized by NPDES permits.
  - Air conditioning condensation.

### Prohibition of Illicit Connections

---

1. The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.
2. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
3. A person is considered to be in violation of this regulatory mechanism if the person connects a line conveying sewage to the MS4 or allows such a connection to continue.
4. Improper connections in violation of this regulatory mechanism must be disconnected and redirected.
5. Illicit discharge and connections will be eliminated immediately.

### Enforcement

---

The Schoolcraft Stormwater Program Manager will administer and enforce the stormwater management program, including investigate, inspect, and monitor suspected illicit discharges or illicit connections.

**If you witness or think a discharge is taking place, please contact the Schoolcraft College Police at 734-462-4424 or notify via the Take Action link located on the Schoolcraft College Police Department webpage. <https://www.schoolcraft.edu/scaware/sc-aware>**

## **Stormwater Management - Post-Construction Policy & Procedure**

Issue date: January 31, 2020

**Applies To:** As required by the National Pollutant Discharge Elimination System (NPDES) permit for Schoolcraft College, the scope of this Guideline includes all development and redevelopment projects on Schoolcraft properties that involve either:

- a. earth disturbance of one (1) acre or greater,  
**OR**
  - b. earth disturbance of less than one (1) acre, but which are part of a larger common plan of development or sale that would disturb one (1) acre or more.
- 

### **Post-Construction Requirements Policy Statement**

---

Schoolcraft College construction and redevelopment projects on Schoolcraft property are regulated under and must comply with the Schoolcraft College NPDES permit for stormwater discharges, as issued by the Michigan Department of Environment, Great Lakes and Energy (EGLE). The Stormwater Management Post-Construction Requirements Guideline has been developed to provide guidance regarding responsibilities and actions to meet the NPDES permit conditions for construction and renovation projects on Schoolcraft properties, which include but are not limited to, the Main Campus, Public Safety Training Complex, Radcliff Center and STEM Building.

### **Post-Construction Plan for Stormwater Management**

---

The post-construction plan for stormwater management on regulated sites **must** include:

- A minimum treatment volume standard to address water quality impacts.
- Channel protection criteria to address resource impairment resulting from flow volumes and rates.
- Review sites with known soil and/or groundwater contamination, including potential "hot spots" and evaluate the use of infiltration BMPs to meet water quality treatment and channel protection criteria to ensure that infiltration BMPs do not exacerbate existing conditions. Hot spots include areas with the potential for significant pollutant loading such as vehicle service and maintenance facilities, vehicle equipment cleaning facilities, fleet storage areas for buses, and outdoor liquid container storage.
- Drawings showing the location of stormwater control measures and the storm system.
- Details on the proposed stormwater control measures.
- Operation & Maintenance (O&M) requirements.
- Supporting information

- Calculations used for designing all components of the stormwater management systems.
- Total suspended Solids (TSS) design removal rates and supporting manufacturer documentation, if applicable.
- Geotechnical report including soil boring and infiltration test data.

The project team [Architecture, Engineering & Construction, Other Project Manager, Project Developer and/or Contractors] shall develop the post-construction stormwater management plan in accordance with this guideline and the NPDES permit.

### ***Water Quality Treatment Volume Standard***

The minimum treatment volume standard **must** be either:

- a. One (1) inch of runoff the area of new construction or redevelopment.
- OR**
- b. Treat the runoff generated from ninety percent (90%) of all runoff-producing storms for the project site, as summarized in MDEQ's memo dated March 24, 2006  
[https://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent\\_557709\\_7.pdf](https://www.michigan.gov/documents/deq/wrd-hsu-ninety-percent_557709_7.pdf)

### **Total Suspended Solids**

The treatment methods must be designed on a site-specific basis to achieve the following:

- a. A minimum of eighty percent (80%) removal of total suspended solids (TSS), as compared with uncontrolled runoff.
- OR**
- b. Discharge concentrations of TSS not to exceed 80 milligrams per liter (80mg/L).

A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80mg/L.

### ***Channel Protection Criteria***

The channel protection criteria must maintain post-development site runoff volume and peak flow rate at or below existing levels for all storms up to the 2-year, 24-hour event. "Existing levels" means the runoff volume and peak flow rate for the last land use prior to the planned new development or redevelopment. More restrictive channel protection criteria may be utilized on a case-by-case basis, as appropriate.

### ***Operations & Maintenance Plans***

All structural and vegetative stormwater control measures installed as a requirement under this section of the permit shall include a plan for maintaining maximum design performance through long-term operation and maintenance.

## **Enforcement**

---

The Schoolcraft Stormwater Program Manager will administer and enforce the stormwater management program, including maintaining procedures, guidance, information, etc. to aid Schoolcraft staff and contractors in complying with the post-construction requirements for stormwater management.



Municipal Separate Storm Sewer System Noncompliance Enforcement Tracking  
Schoolcraft College

Report Number	Name	Date	Location of Violation	Business/ Organization	Description of Violation	Description of Enforcement Response	Compliance Schedule Date	Date Violation Resolved
1								
2								
3								
4								
5								
6								
7								
8								
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## Appendix “C”

**Inspection Field Worksheets & Stormwater Sampling  
&  
Analysis Protocol for School District MS4 Clients (SOP-101)**



## Schoolcraft College Storm Sewer Inspection Form

<b>Permittee: Schoolcraft College</b>					<b>Date of Inspection:</b>		
<b>Inspector:</b>					<b>Facility:</b>		
Structure ID #	Cover Condition	Interior Condition	Odor	Water Clarity	Debris/Pollution	Sediment	Corrective Action Needed and Notes
	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Other	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque	<input type="checkbox"/> None <input type="checkbox"/> Trash <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Paint <input type="checkbox"/> Other	<input type="checkbox"/> Less than 30% <input type="checkbox"/> 30%-50% Full <input type="checkbox"/> <b>Greater than 50%/Clean</b> <input type="checkbox"/> Plugged	
	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Other	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque	<input type="checkbox"/> None <input type="checkbox"/> Trash <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Paint <input type="checkbox"/> Other	<input type="checkbox"/> Less than 30% <input type="checkbox"/> 30%-50% Full <input type="checkbox"/> <b>Greater than 50%/Clean</b> <input type="checkbox"/> Plugged	
	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Other	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque	<input type="checkbox"/> None <input type="checkbox"/> Trash <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Paint <input type="checkbox"/> Other	<input type="checkbox"/> Less than 30% <input type="checkbox"/> 30%-50% Full <input type="checkbox"/> <b>Greater than 50%/Clean</b> <input type="checkbox"/> Plugged	
	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Other	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque	<input type="checkbox"/> None <input type="checkbox"/> Trash <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Paint <input type="checkbox"/> Other	<input type="checkbox"/> Less than 30% <input type="checkbox"/> 30%-50% Full <input type="checkbox"/> <b>Greater than 50%/Clean</b> <input type="checkbox"/> Plugged	
	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Other	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque	<input type="checkbox"/> None <input type="checkbox"/> Trash <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Paint <input type="checkbox"/> Other	<input type="checkbox"/> Less than 30% <input type="checkbox"/> 30%-50% Full <input type="checkbox"/> <b>Greater than 50%/Clean</b> <input type="checkbox"/> Plugged	
	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor	<input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Other	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque	<input type="checkbox"/> None <input type="checkbox"/> Trash <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Paint <input type="checkbox"/> Other	<input type="checkbox"/> Less than 30% <input type="checkbox"/> 30%-50% Full <input type="checkbox"/> <b>Greater than 50%/Clean</b> <input type="checkbox"/> Plugged	



## Detention BMP Inspection Checklist\*

Project Location: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Inspector: \_\_\_\_\_

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
<b>Inlet/Outlet Pipes</b>			
Structural integrity of inlet/outlet (Are any inlet pipes broken, crumbling, separated?)  List Inlet Pipes Approximate Diameter and Type of Material  Inlet Pipe 1 _____ Inlet Pipe 2 _____ Inlet Pipe 3 _____ Outlet Pipe Size/Type _____		A	
Riprap at inlet pipe (Is the riprap still present? Is it visible and not covered with sediment?)		A	
Stone around outlet pipe (Is the stone clogged with debris and/or sediment?)		A	
Trash or debris blocking inlet/outlet (Inspect to ensure no major obstructions hindering general functionality)		M	
Inspect/clean catch basin upstream of the BMP if accessible.		A	
Inspect inlets and outlet for erosion (Are there eroded areas around the pipes?)		A	
Inspect overflow spillway for signs of erosion.		A	
<b>Pretreatment (if applicable) (Might include sediment forebay, upstream catch basin, bioswale, rain garden, swirl concentrator)</b>			
Device functioning to trap/collect sediment		A	
Remove accumulated sediment as appropriate for the pretreatment device. forebay		A	
Detention Pond		A	

Inspection frequency key — A = Annual, M = Monthly, S = After major storm

\*It is recommended to review and inspect the basin with the engineering as-built plans.



Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Inspect side slopes, berms and emergency overflow for erosion		A	
Reestablish permanent native vegetation on eroded slopes		As needed	
Inspect for excess sediment accumulation in pond if not pretreatment device is present		A	
<b>Overall functionality</b>			
Ensure pond is functioning properly (Professional Civil Engineer is recommended)		A	
Ensure the outlet is functioning properly (Professional Civil Engineer is recommended)		A	
<b>Optional/Enhancements</b>			
Maintain 15-20 feet “no mow and chemical free” zone		A	
Mow (or burn) the “no mow” zone		A	
Inspect basin and “no mow” zone for invasive species.		A	
Professional applicator selectively herbicide invasive species		A	
Increase plant diversity by planting additional vegetation in and around pond.		A	
Complaints from residents (note on back)		S	
Encroachment on pond/no- mow zone.		A	
Unauthorized plantings		A	
Aesthetics (e.g., graffiti, unkept maintenance)		A	

Inspection frequency key — A = Annual, M = Monthly, S = After major storm

\*It is recommended to review and inspect the basin with the engineering as-built plans.

## Summary

Inspector's remarks: \_\_\_\_\_  
\_\_\_\_\_

Overall condition of facility (acceptable or unacceptable): \_\_\_\_\_

Dates any maintenance must be completed by: \_\_\_\_\_

Inspection frequency key — A = Annual, M = Monthly, S = After major storm

\*It is recommended to review and inspect the basin with the engineering as-built plans.



## Screening Inspection Log

<b>Building:</b>			<b>Permittee</b>	Schoolcraft College	
<b>Inspectors:</b>			<b>Date</b>		
			<b>Inspection Type:</b>		

<b>Structure Information:</b>					
ID Number:		Structure Type		Lat:	
Type:		Location:			
Outfall Dimensions:					

<b>Observations:</b>					
<u>Standing Water Characteristics</u>		<u>Flow Characteristics</u>		<u>Maintenance</u>	
Standing Water:		Flow Observed:		Cleaning:	
Color:		Source of Flow:		Blockages:	
Odor:		Velocity of Flow:		Structural Issues:	
Suds:		Color of Flow:		Structural Trend:	
Staining:		Flow Odor:		Stenciling:	
Oil Sheen:		<u>Additional Comments:</u>			
Sewage:					
Bacterial Sheen:					
Algae:					
Slimes:					
Abnormal Growth:					

<b>Sample ID And Information</b>		<b>Field Analysis:</b>	<b>Results:</b>	<b>Units:</b>	<b>Initials:</b>	<b>Photo ID:</b>
Sample Collected?		pH:		pH units		
Round:		Temperature:		Celsius		
Last Rain Event:		Surfactants:		mg/L		
Current Weather:		Ammonia:		mg/L		
Screening Location Type:		Chlorine:		mg/L		
Other Screening Activities Conducted:		Turbidity:		NTU		
Outfall Characterization:		Conductivity:		uohm/cm		
Sample sent to Lab:		<b>Equipment Calibration:</b>				
		Date:	Cal. By:			

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## ARCH ENVIRONMENTAL GROUP, INC.

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# STORMWATER SAMPLING AND ANALYSIS PROTOCOL FOR SCHOOL DISTRICT MS4 CLIENTS (SOP-101)

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Updated By:

Ms. Christine Caddick,  
cleanWATER Division  
Certified Industrial Site Stormwater Operator No. I-11934  
Arch Environmental Group, Inc.  
37720 Interchange Drive  
Farmington Hills, Michigan 48335



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## 1.0 Summary Statement

Arch Environmental Group, Inc. (AEG) has developed and implemented this protocol (i.e., Standard Operating Procedure – “SOP-101”) which includes quality provisions for completing stormwater sampling for School District Municipal Separate Storm Sewer System (MS4) clients in Michigan.

## 2.0 Background

Public school districts in urbanized areas are required under the federal National Pollution Discharge Elimination System (NPDES) “Phase II” regulations, implemented in Michigan by the Michigan Department of Environmental Quality (MDEQ), to obtain permit coverage for storm water discharges. The permit coverage is based on the individual district client circumstances. In some cases, permit coverage for a school district may be authorized or “nested” under a local government (city, village, township or county) MS4. In either case, specific requirements must be followed. The requirements are based on the specific NPDES MS4 permits and the associated Certificate of Coverage (COC) issued to the school district by the MDEQ. The school district may be covered under a NPDES permit which includes a Stormwater Management Program plan (SWMP) or a Stormwater Pollution Prevention Initiative plan (SWPPI). The plan defines the method and programs the permittee shall follow to ensure permit compliance, including storm water sampling requirements. The specific COC may also define additional requirements (i.e., Total Maximum Daily Loads – “TMDL’s”) for the school district based on the geographic location of the school district’s facilities and the receiving surface waters of the State.

The NPDES MS4 permit and COC conditions covered in the SWMP or the SWPPI plans may require sampling during dry weather screening (DWS) and wet weather monitoring (WWM) activities at applicable discharge points/outfalls at individual school district properties. Dry weather sampling as defined by the MDEQ is sampling at least 48 hours after a precipitation event, including snow melt. Typically, no water flow would be present at a discharge point/outfall after this period of time following a precipitation event. Water flow in dry weather may indicate that a substance other than stormwater is present in the stormwater system. DWS activities include sampling of any observed dry weather flows at every discharge point/outfall throughout the school district, primarily in effort to identify potential illicit discharges. Depending on the results of the DWS sampling, AEG and the school district may be required to perform additional and follow up illicit discharge investigations. Wet weather monitoring (WWM) sampling is required to demonstrate compliance with district assigned TMDL’s and post-construction run-off requirements for total suspended solids (TSS). The specific sampling and analytical test methods utilized for DWS and WWM are described in Sections 5.0 and 6.0 respectively.

## 3.0 Objectives and Needs

AEG developed and implemented the standardized protocol (SOP-101) for completing the required DWS and WWM stormwater sampling for school district MS4 clients in Michigan. AEG utilizes similar

protocols for other stormwater clients, with minor modifications based on applicable permit requirements, TMDL's and sampling parameters. The principal objective of this protocol is to provide quality data to demonstrate stormwater permit compliance as outlined in the SWMP or SWPPI for the school district MS4 clients in a timely and cost-effective manner. Sampling methods and target indicator parameters for this protocol have been optimized for school district clients. The results of the sampling are used by the client for: 1) identifying and remediating illicit discharges and connections (part of the permit's Illicit Discharge Elimination Program – "IDEP"); 2) demonstrating compliance with TMDL's, post-construction TSS limit, and other surface water quality standards; and 3) for developing improvements in facility operations and stormwater structural controls (BMP's).

This AEG protocol is based on the specific NPDES MS4 permit requirements, MDEQ recommendations, and industry-accepted stormwater sampling and analytical procedures. This protocol also incorporates key elements of quality systems for environmental monitoring projects utilized by the United States Environmental Protection Agency (EPA), MDEQ, and other governmental and non-governmental organizations. This protocol was developed to ensure that the sample collected and analyzed, the management of the data, and the report provided to the clients, are of sufficient quality to meet the identified current project objective and needs.

#### 4.0 Quality Considerations

In order to ensure the data is of sufficient quality for the project objective and needs, AEG first investigated the requirements for the National Pollutant Discharge Elimination System Permit. The following requirements were identified:

- 1) Samples and measurements shall be representative of the volume and nature of the monitored discharge or water body.
- 2) Analytical procedures shall conform to 40 CFR 136, unless otherwise specified in the permit, or an alternate test procedure (ATP) is approved by the MDEQ.
- 3) The laboratory analyzing the samples shall periodically calibrate and perform maintenance on instrumentation at regular intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the laboratory's quality assurance (QA) / quality control (QC) program.
- 4) Use of commercially available field test kits and similar equipment (portable electronic sensors) is allowed for screening and analysis of dry-weather flow, provided the calibration and maintenance provisions in 3) are followed.

The MDEQ has provided limited recommendations regarding qualitative considerations when performing MS4 stormwater sampling and analysis. Refer to the DWS and WWM sampling and analysis sections for further discussion of MDEQ recommendations.

Next, AEG investigated the quality systems required for environmental monitoring projects performed for and funded by the EPA and the MDEQ. The EPA requires that recipients of EPA funding for work involving environmental data shall comply with American National Standards Institute (ANSI) ASQC E4-1994 “Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs”.<sup>1</sup> To demonstrate conformance to the standard, the EPA requires two forms of documentation:

- 1) Documentation of the organization’s quality system (referred to as a Quality Management Plan “QMP”), and
- 2) Documentation of the application of QA/QC activities to a project-specific effort (referred to as a Quality Assurance Project Plan “QAPP”).<sup>2</sup>

For small grants and contracts, the EPA may allow the QMP & QAPP to be combined into a single document. Further, the EPA allows a “graded approach”, which means the level of effort and detail expended to develop and document quality measures shall be based on the nature of the work being performed and the intended use of the data.

In recognizing the value that volunteer organizations can offer in collecting environmental data, as well as potential problems involving data credibility from these organizations, the EPA published “The Volunteer Monitor’s Guide to Quality Assurance Project Plans”, EPA 841-B-96-003, September 1996.<sup>3</sup> This document recommends that volunteer organizations performing environmental monitoring develop a QAPP, especially if the data might be used by state, federal, or local resource managers.

Similar to the EPA program, the MDEQ requires that MDEQ staff and recipients of MDEQ funding for work involving environmental data shall comply with Water Bureau Policy and Procedures # WB-008, “Quality Assurance Planning for Environmental Data Collection”, May 2007. This policy, which essentially duplicates the EPA quality requirements identified above, requires the formation and approval of a QAPP prior to the start of environmental data collection for MDEQ funded projects.

In June, 2010, the MDEQ published “Wet Weather Pollution in Michigan”, Report No. MI/DNRE/WB-10/020, that includes in *Appendix A*, TMDL sampling guidance for MS4’s and which states that, although not required, preparation of a QAPP “...is always a good idea prior to sample collection...”<sup>4</sup> However, the MDEQ also states that “this guidance may present logistic and budgetary challenges if fully implemented”, and “it is recognized that a final monitoring program will have to balance the need for accurate and representative data with available resources, and that reduced efforts may be necessary.”

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<sup>1</sup> <http://www.epa.gov/QUALITY/faq9.html>

<sup>2</sup> <http://www.epa.gov/QUALITY/faq6.html>

<sup>3</sup> <http://water.epa.gov/type/rsl/monitoring/qappcovr.cfm>

<sup>4</sup> [http://michigan.gov/documents/deq/wb-spotlight-wetweather\\_323733\\_7.pdf](http://michigan.gov/documents/deq/wb-spotlight-wetweather_323733_7.pdf)

At a minimum, this MDEQ guidance recommends that MS4's develop and follow QA/QC procedures to ensure stormwater samples are collected, preserved, and analyzed properly.

AEG believes that this protocol (SOP-100) developed for stormwater sampling and analysis for school district MS4 clients, while not required to comply with the EPA and MDEQ quality provisions identified above, is consistent with the EPA and MDEQ approach. This protocol incorporates key elements and recommendations of the EPA and MDEQ programs to ensure that the storm water monitoring data is representative of the discharges and of sufficient quality to meet the identified current project objective and needs. Additional QA/QC steps included in this protocol are listed in a later section.

## 5.0 Dry Weather Screening (DWS) Sampling and Analytical Methods

In accordance with the IDEP requirements of the NPDES MS4 permits, MS4's shall conduct DWS at a minimum of once every five years activities at each discharge point/outfall. Additional sampling may be necessary to investigate potential illicit discharges up to and including upstream of the discharge point/outfall, and confirming or investigating suspect results. AEG collects and maintains records and sample data of all discharge points/outfalls for each school district MS4 client for individual school buildings located on a common district property. Each discharge point and outfall is assigned a unique identifying description (ex: MES-02.OP.OF) based on the site map of the stormwater drainage system completed for each specific school district facility. DWS screening and sampling will only be conducted at upstream locations if dry weather flow is identified at the district property discharge point/outfall. Use of tracer dyes and other aspects of the IDEP investigations are not addressed in this sampling and analysis protocol.

The methods developed to conduct the DWS sampling and analysis of observed flows are based on the NPDES MS4 general permit requirements, and incorporate industry-accepted procedures from the following external reference sources. Field staff shall refer to these cited reference documents for questions related to: where samples should be collected; how to collect representative samples; avoiding stagnant water and touching the sides/bottom of structures, and unique methods such as constructing temporary weirs for sampling shallow flows.

- 1) "Michigan Municipal Separate Storm Sewer System (MS4) Permit – Illicit Discharge Elimination Plan/Program", Water Bureau Compliance Assistance document, MDNRE, rev. August 2010.
- 2) Brown, E., Caraco, D., and Pitt, R. 2004. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessment*, Center for Watershed Protection and University of Alabama. EPA X-82907801-0. EPA Office of Wastewater Management, Washington, D.C.
- 3) "NPDES Stormwater Sampling Guidance Document", EPA 833-B-92-001, July 1992;
- 4) "Industrial Stormwater Monitoring and Sampling Guide – Final Draft", EPA 832-B-09-003, March 2009;

- 5) "How to do Stormwater Sampling – A guide for industrial facilities", Washington State Department of Ecology, Publication #02-10-071, rev. March 2010;
- 6) "Guidance Manual: Stormwater Quality Monitoring Protocols", CTSW-RT-03-109.51.42, California Department of Transportation, July 2000;
- 7) "Illicit Discharge Elimination Program (IDEP) Compliance Assistance Document", Michigan Department of Environmental Quality, Water Resources Division, September 2014.

AEG field staff use local weather reports or data from internet weather websites (i.e., NOAA, etc.) to confirm that no precipitation event (including snow melt and other similar factors) has occurred within a minimum of 48 hours prior to starting any DWS investigations or collecting any DWS samples. Weather data is recorded on the standardized field inspection forms. Unless otherwise approved by management, DWS and sampling is conducted with two field personnel for safety, logistical, and quality reasons. Field staff shall follow the company Health and Safety Plan (HASP) for all activities. For sampling, staff is required to use standard Level D protective wear, powder-free nitrile gloves, and safety glasses.

All sampling equipment is prepared and/or assembled in the shop. Portable electronic sensors (probes for field screening analyses) are calibrated according to internal QA/QC procedures. In accordance with published guidelines and manufactures recommendation, at a minimum, pH, turbidity, and conductivity probes are calibrated monthly during periods of use to ensure accurate and consistent results.<sup>5</sup> For special investigations requiring additionally documentation of meter accuracy, AEG may confirm calibration of the pH probes in the shop twice each sampling day (once in the morning prior to use and once in the evening at the end of sampling). Refer to section 7.0 Additional QA/QC Methods for additional information. A checklist is utilized to make sure all necessary items are ready for each sampling event, including sampling equipment, sample bottles, safety equipment, and test kit components. The use of a checklist minimizes unproductive return trips to the shop.

Based on the test procedures selected, AEG receives pre-assembled kits in plastic zip-lock bags of the required sample bottles, complete with preservatives, from an external third party laboratory. For quality purposes, pre-assembled kits are ordered on a just-in-time basis. In no case are sample bottles with preservatives stored for greater than six (6) months. All sample bottles are new and clean for each event. Sample bottles for bacteria (total coliform and E. coli) analyses are provided by the laboratory in a sterilized and sealed condition. A cooler with ice and thermometer ensures that samples are preserved in the prescribed manner for delivery to the external laboratory.

Appendix A contains a table which identifies the test method, container, preservative, hold time, and minimum reporting limits for each test procedure utilized. Sample information and requested analytical tests are recorded on a standardized chain of custody form, which ensures samples are delivered to and

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<sup>5</sup> <http://stormwaterbook.safl.umn.edu/content/situ-site-and-grab-and-automatic-sampling>

received by the laboratory within required specifications. Where required and/or safe to do so, sample bottles are completely filled (i.e., convex meniscus) leaving no head space to minimize potential degradation of the sample prior to testing. Where required, and as a general rule, sample containers are kept on ice in the cooler at ~4°C for delivery to the laboratory. Appendix B contains instructions for field staff in filling the sample bottles and completing the Chain of Custody form. Appendix C contains the laboratory acceptance criteria to ensure that the stormwater samples are received in a manner consistent with the specified test methods and as part of the laboratory's internal QA/QC program. Samples are either qualified or rejected by the laboratory if they do not meet the identified acceptance criteria.

For observed dry weather flows at stormwater outfalls or discharge points, Protocol SOP-101 includes field screening in addition to visual inspection. Refer to Figure 1 for the DWS decision-making flowchart.

In accordance with the NPDES MS4 permit conditions, discharge points/outfalls are visually inspected for: presence or absence of water flow, unusual vegetative growth, staining, undocumented connections, and structural integrity. If standing or flowing water is present, the flow is inspected for: water clarity, color, and odor; the presence of suds, oil sheens, sewage, floatable materials, bacterial sheens, algae, and slimes; staining and unusual vegetative growth. All field observations are recorded on a standardized inspection form, and a photograph is taken of the outfall/discharge point as well as the observed flow (if present).

If water flow is observed, an onsite source investigation shall be conducted to determine the origin of the flow. The initial source investigation includes visual and olfactory observations upstream from the outfall/discharge point. If necessary, relevant indicator field screening, video camera inspection and/or dye tracing will be conducted.

If dry weather flow is observed and the source is not identified during the source investigation; a grab sample is collected for indicator field screening analysis. The grab sample is collected for analysis in accordance with permit requirements. All grab samples are collected using industry-standard equipment and using the methods and techniques described in the cited reference documents (see pages 4-5). Samples are collected only from the center of flow discharges and not from stagnant water. Careful attention is placed on not contacting or disturbing the sides and/or bottoms of structures while collecting the sample. The field staff uses a clean-hands/dirty-hands approach, such as the person handling the sample containers maintains clean hands, while the other team member performs operations such as opening manhole lids.

Next a field screening process is performed to assess the dry weather flow. The field screening includes seven (7) indicator parameters. The selected indicator parameters are:

- 1) temperature;

- 2) pH;
- 3) detergents (i.e., surfactants);
- 4) chlorine;
- 5) ammonia (NH<sub>3</sub>-N);
- 6) turbidity; or
- 7) conductivity.

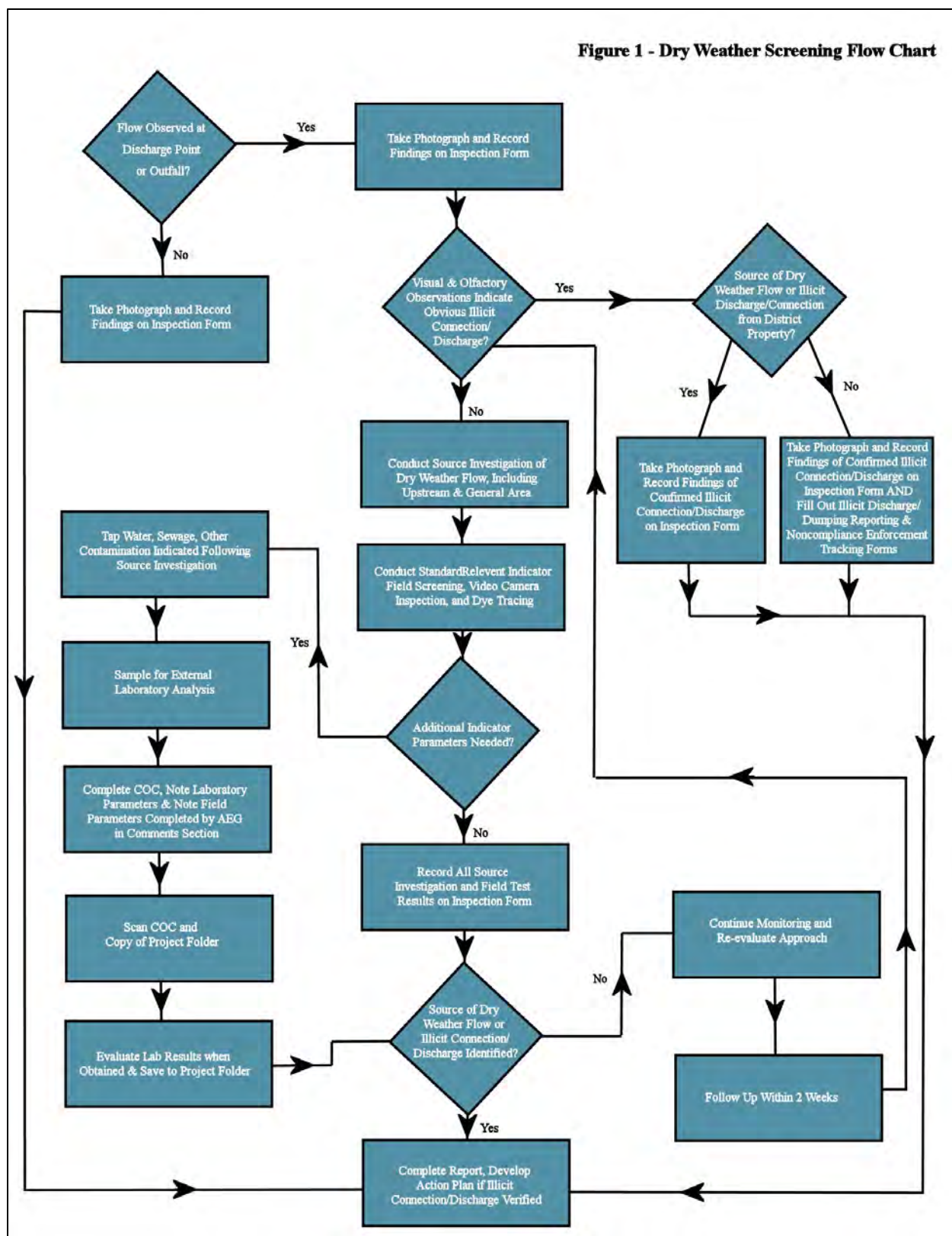
Indicator parameters used to assess the dry weather flow shall be determined by the visual and olfactory observations and source investigation. The pH and temperature measurements are made in-situ or as soon as possible after collecting the grab sample. If the pH and temperature measurements cannot be made within 15 minutes, another grab samples shall be collected. Sample collection instruments and test probes are rinsed with distilled water and triple rinsed with the water flow to be sampled prior to collection at each location. In accordance with published guidelines and manufactures recommendation, at a minimum, pH probes are calibrated monthly during periods of use to ensure accurate and consistent results.<sup>6</sup> For special investigations requiring additional documentation of meter accuracy, AEG may confirm calibration of the pH probes in the shop twice each sampling day (once in the morning prior to use and once in the evening at the end of sampling). The latest meter calibration date is documented on the field inspection forms, along with the results obtained for the seven (7) indicator parameters. Grab samples collected for analysis by field test kits are also noted on the Chain of Custody form without requesting external laboratory analysis. Refer to Appendix B. After use, the field test kits and portable meters are stored in accordance with the manufacturer's instructions.

Additional grab samples will be collected and delivered for external laboratory analysis only if additional test parameters are required for the source investigation. The laboratory analysis parameters for grab samples are determined by the type of contamination suspected at the time of the source investigation. Refer to Figure 1 for a DWS decision-making flowchart.

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<sup>6</sup> <http://stormwaterbook.safl.umn.edu/content/situ-site-and-grab-and-automatic-sampling>

**Figure 1 - Dry Weather Screening Flow Chart**



Laboratory indicator parameters are based on MDEQ guidance and as specified in the reference sources identified above. The selected laboratory parameters are:

- 1) Fluoride;
- 2) Coliform;
- 3) E-coli;
- 4) Potassium;
- 5) Color; and
- 6) Ammonia.

The grab samples are transferred from the sampling device into the pre-prepared sample bottles in conformance with the cited reference sources and instructions in Appendices A-C for delivery to the external laboratory within allotted hold times and conditions. The laboratory records the temperature of the samples on the chain of custody form upon receipt. As noted above, the table in Appendix A lists sample containers, preservatives, hold times, test methods, and minimum reporting limits utilized as part of this protocol.

Once the laboratory analysis results are received, the results are interpreted using the Flow Chart Method described in reference source # 2 listed on Page 4. The Flow Chart Method is based on evaluating different indicator parameters in an effort to identify the potential source(s) of flow in dry weather.

The results from the DWS field tests and external laboratory analyses are recorded in a table “SW Outfall Sampling Log” maintained on behalf of the client by AEG. The table identifies the school district MS4, building, and unique outfall identifier descriptions. If any of the indicator parameters are outside of permit levels or published benchmark standards for stormwater, then AEG initiates further source investigation. The investigations typically involve additional DWS sampling at stormwater structures and/or outfalls upstream of the original discharge point/outfall.

If an illicit connection or discharge is identified during the source investigation, originating from non-district personnel or property, AEG will notify the appropriate district staff and note source information on the “SW Outfall Sampling Log”. Additionally, AEG shall complete the following documentation:

- District Illicit Discharge Dumping and Reporting Form (if available)
- District Noncompliance Enforcement Tracking Form (if available)

If the illicit connection/discharge is identified to be originating from district personnel or property, AEG will notify the appropriate district staff and note source information on the “SW Outfall Sampling Log”.

## 6.0 Wet Weather Monitoring (WWM) Sampling and Analytical Methods

The methods utilized for WWM sampling and analyses are similar to those described above for DWS investigations. The primary difference is that the activity is done during wet weather events to collect grab samples of “representative” flows. The primary purpose of WWM is to demonstrate compliance with applicable TMDL’s or post-construction run-off requirements for TSS. For WWM, field screening tests are performed only for temperature and pH. Additional grab samples are collected by AEG field staff, at the same time as the field screening grab samples, for field analysis and by the external laboratory. The grab sample is analyzed using a field test kit and portable electronic probes for seven (7) indicator parameters: temperature, pH, detergents (i.e., surfactants), chlorine, ammonia (NH<sub>3</sub>-N), turbidity and conductivity. Additional indicator parameters are analyzed for fluoride, coliform, E-coli, potassium, color and ammonia by the external laboratory, along with the regulated TMDL parameter(s) and/or TSS, as applicable. The applicable TMDL parameters are identified in the COC and are based on the MS4 receiving surface waters. TMDL’s for the MS4 as currently identified are as follows: Dissolved Oxygen, E. coli, Phosphorus, and Sedimentation/Biota.

### TMDL Sampling

For TMDL compliance, at least one “representative” sample of a stormwater discharge is required from at least 50% of the discharge points. Sampling at other outfalls/discharge points may also be performed as defined in the SWMP or SWPPI plans. The purpose of the sampling is to demonstrate the effectiveness of structural and non-structural controls (i.e., Best Management Practices – “BMP’s”) and for compliance with applicable permit limits (i.e., TMDL’s).

Sampling at discharge points:

- 1) The sample will be from the stormwater, at or before the discharge point, not ambient waters after the discharge mixes with the water body.
- 2) The focus area is within, or contributing to, the listed TMDL reach. The municipality’s jurisdiction may include land and discharge points upstream of this area. In this case, sampling of discharge points upstream of the TMDL reach should be included.

What constitutes a “representative” WWM sample is not defined in the permits. However, MDEQ and other guidance documents recommend that:

- 1) There be between 0.25” – 1.5” of rain within a twenty-four (24) hour period;
- 2) Sampling be conducted as soon as possible following the start of discharge to capture a sample of the “first flush”;
- 3) Sampling be completed within the first 12 hours of the stormwater discharge event; and
- 4) WWM sampling should only occur following a dry period of 72 hours or more.<sup>7 8</sup>

<sup>7</sup> [http://michigan.gov/documents/deq/wb-sw-ms4-TMDL\\_sampling\\_305960\\_7.pdf](http://michigan.gov/documents/deq/wb-sw-ms4-TMDL_sampling_305960_7.pdf)

For TMDL compliance, sample of a stormwater discharge should be conducted:

- 1) Between May 1 and October 31 due to the difficulties with cold-weather sampling.
- 2) Sampling wet weather should occur only after it has been dry for at least 72 hours.
- 3) Very small storm events may not generate significant runoff. Therefore, sampling should not occur until there has been at least ¼ inch of rain within a 24 hour period. There will be times when a suitable event has been forecast, causing monitoring efforts to begin, only to have to cancel due to insufficient precipitation.
- 4) Sampling should be conducted as soon as possible following the start of discharge from targeted discharge points to capture a sample of the 'first flush'. First flush is defined as the runoff discharge at the beginning of a storm event and is assumed to consist of a significant amount of pollutants.
- 5) Synchronized sampling should be done as often as possible. Synchronized sampling is when several discharge points are sampled at or near the same time. If enough trained staff are available, all sites should be sampled during the same time period.

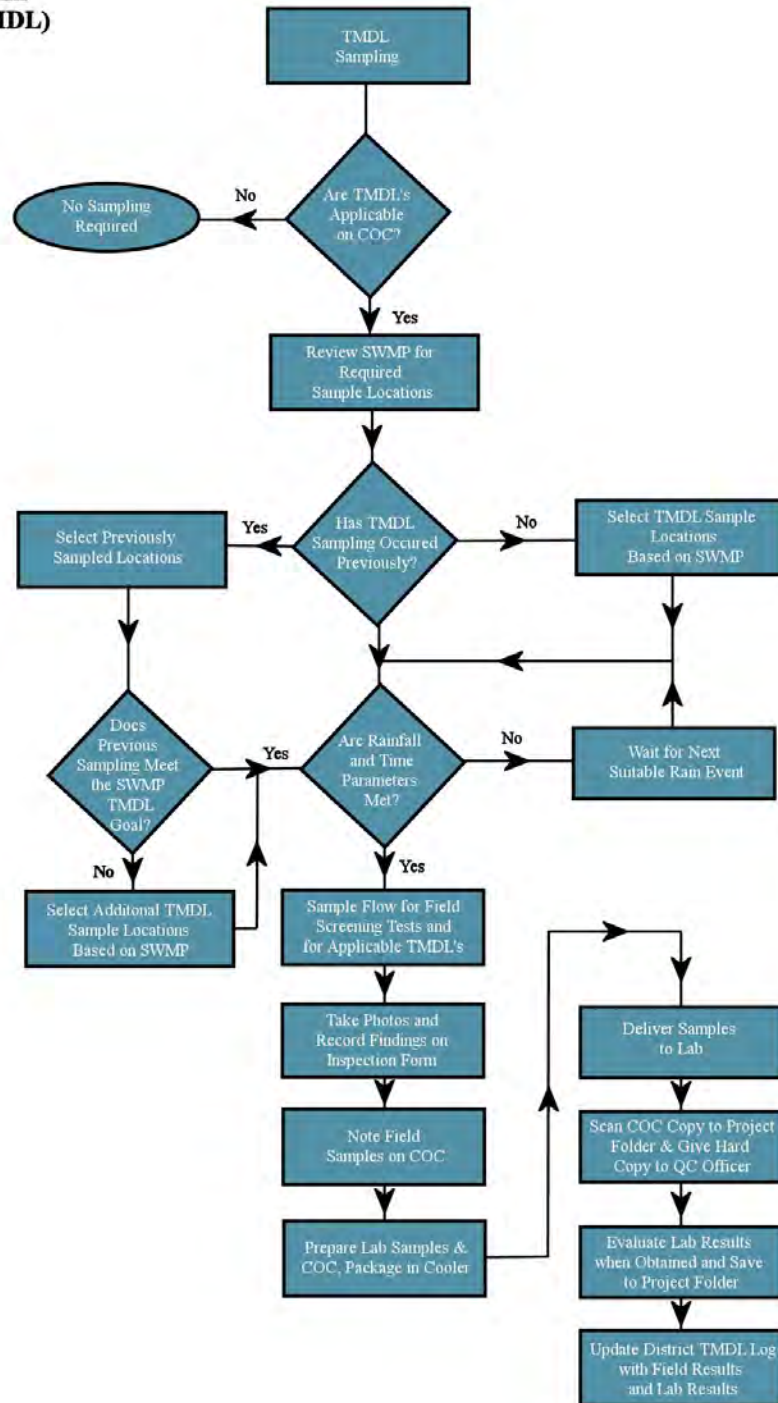
The results from the WWM field tests and external laboratory analyses are entered into the Excel spreadsheet for the MS4 in the same manner as done for DWS results. Further sampling is performed only if initial results are elevated or otherwise suspect.

In addition to the general quality provisions identified in the above sections, this protocol (SOP-101) for stormwater sampling and analysis includes the following QA/QC steps to ensure that the stormwater monitoring data is representative of the discharges and of sufficient quality to meet the identified current project objective and needs:

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<sup>8</sup> <http://www.ecy.wa.gov/pubs/0210071.pdf>

**Total Maximum  
Daily Load (TMDL)**



**Figure 2 - Wet Weather Monitoring Flowchart**

### Construction & Post Construction Sampling

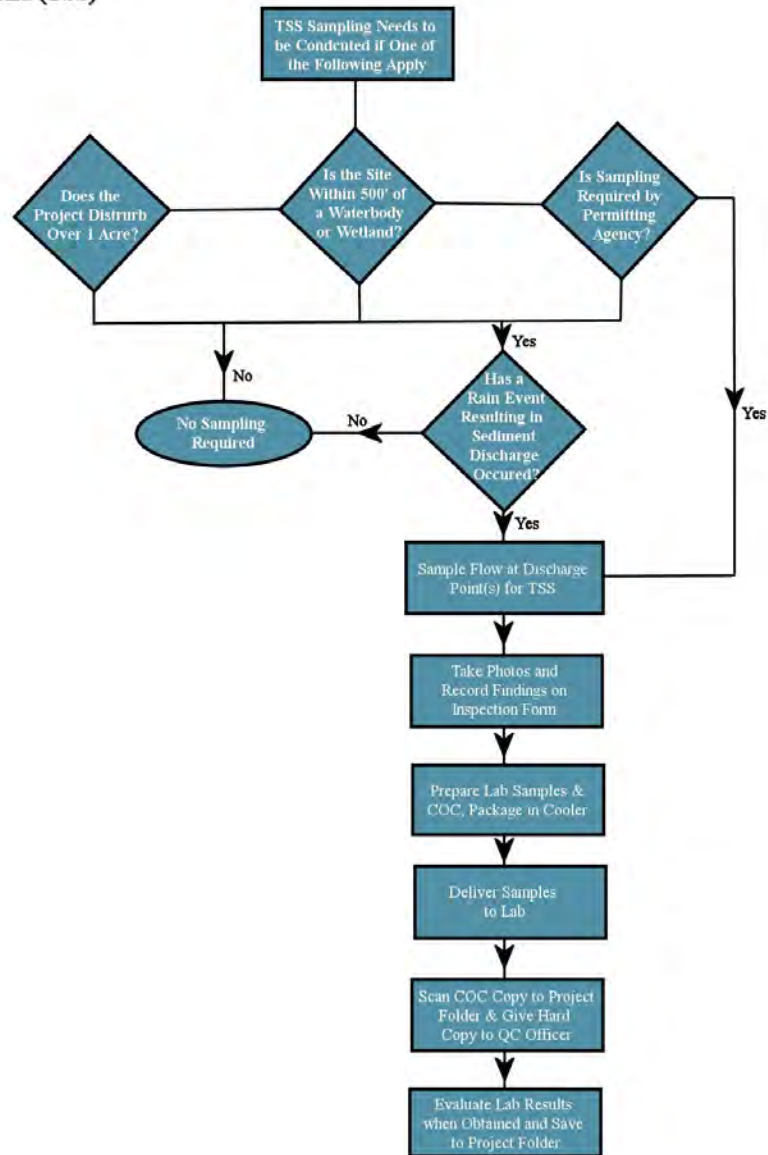
As noted above, sampling during wet weather may also be required to demonstrate compliance with the post-construction stormwater runoff requirements for total suspended solids (TSS). Post-construction sampling is only required for new and redeveloped projects that disturb one (1) acre or more (ex: a new parking lot).

WWM Construction & Post Construction sampling for total suspended solids shall be conducted for the following:

- 1) A rain event results in a sediment discharge from a construction site that meets the following:
  - a. Greater than 1 acre in size;
  - b. Within five hundred (500) feet of an EPA/MDEQ identified waterbody or wetland, and/or;
- 2) A construction site that is required by the permitting agency to monitor and regulate stormwater discharges.

In addition to the sampling, a Soil Erosion and Sediment Control inspection shall be conducted by a state certified SESC inspector. The inspection shall include corrections and recommendations as required by the SESC regulations.

### Total Suspended Solid (TSS)



**Figure 3 - Construction & Post Construction Sampling**

## 7.0 Additional QA/QC Methods:

In addition to the general quality provisions identified in the above sections, this protocol (SOP-101) for stormwater sampling and analysis includes the following QA/QC steps to ensure that the stormwater monitoring data is representative of the discharges and of sufficient quality to meet the identified current project objective and needs:

### Quality Assurance:

- Training
  - Field staff shall be stormwater operators certified by the MDEQ.
  - Field staff shall receive annual refresher training on this protocol, including:
    - proper stormwater sampling techniques and sample handling;
    - proper equipment operation, calibration, maintenance, cleaning & storage;
    - proper handling & storage of test kit reagents, DI water, & calibration fluids; and
    - identified quality assurance and quality control procedures.
  - Field staff shall receive annual HAZWOPER refresher training to ensure that all activities are performed in a safe manner (refer to HASP), including:
    - working in teams of two, unless authorized by management;
    - wearing proper personal protective equipment (PPE);
    - NOT entering confined spaces;
    - ensuring that all waste materials are properly managed, and
    - knowing what to do in case of an accident or emergency situation.
      - Management shall maintain staff training records, and make available upon request by clients and/or applicable government agencies (i.e., MDEQ).
- Equipment management, calibration, frequency, and documentation
  - Field staff shall inspect, maintain, and clean sample equipment and store items in a manner to prevent damage and contamination in accordance with the manufacturer's instructions and EPA guidance.<sup>9,10</sup>
  - Field staff shall calibrate pH meters (and other electronic probes, as applicable), monthly during periods of use, and report any problems to the QC Officer.<sup>11</sup> Staff shall follow written calibration procedures. Calibration dates and staff initials shall be recorded in a log maintained with the instrument or in a designated file cabinet.
  - Prior to sampling, field staff shall verify that the pH meter has been calibrated within the prior month and then enter the latest calibration date on the field inspection forms.

<sup>9</sup> [http://www.epa.gov/epawaste/hazard/testmethods/faq/faqs\\_sampl.htm](http://www.epa.gov/epawaste/hazard/testmethods/faq/faqs_sampl.htm)

<sup>10</sup> <http://www.epa.gov/region4/sesd/fbgstp/Field-Equipment-Cleaning-and-Decontamination.pdf>

<sup>11</sup> <http://stormwaterbook.safl.umn.edu/content/situ-site-and-grab-and-automatic-sampling>

- Sample bottles shall be new and provided by the contracted laboratory in kits (sealed in zip-lock plastic bags) based on the tests to be performed, including any required preservatives. The date of receipt shall be noted on the plastic bag. Sample kits with bottles containing preservatives shall not be used if over six (6) months old.
- Sample kits with bottles containing preservatives, DI water, calibration solutions, and field test kit reagents shall be dated and stored in a manner to prevent deterioration (i.e., lids securely closed, dry location, and room temperature).
- DI water shall be replenished as needed, but in no case shall be used after being opened and stored for over six (6) months.
- Chemical solutions and chemical reagents for field test kits shall be replaced on an as needed basis, and replaced at least annually once containers have been opened and used.
- Sample collection and analysis
  - All stormwater sampling shall be done in teams of two for safety reasons and to cross-check work, unless an exception is authorized by management. A clean-hands/dirty-hands technique shall be used by the field team to prevent contamination of samples.
  - Field staff shall properly complete the Chain of Custody form, in accordance with the procedures in Appendix B, for all collected samples (both analyzed by field test kits and delivered to the external laboratory).
  - Field staff shall identify on the Chain of Custody form any issues or exceptions that occurred when collecting samples.

#### Quality Control:

- Internal Quality Control
  - Equipment Quality Control
    - Field staff shall inspect equipment prior to use in order to ensure it is clean, in working order, and not damaged.
    - Field staff shall clean and inspect all equipment after use.
    - Field staff shall check the dates on all sample bottle kits, field test kit reagents, calibration fluids, and DI water containers prior to use to verify they are within the acceptable time limits as noted above.
  - Field Procedures Quality Control
    - Field staff shall check all Chain of Custody forms for proper completion before submitting with samples to the external laboratory
  - Data Analysis Quality Control
    - Staff shall check all manual calculations twice.
    - For automatic calculations (ex: iPad tables, Excel files, etc.), staff shall confirm all program formulas are correct prior to use.
    - For field data entry and management using electronic devices (ex: iPad), approximately 10% of entered data shall be double-checked by the field team partner for accuracy.

- Prior to finalization, staff shall inspect all documents containing data for errors by comparing to original field notes, laboratory reports, etc.
  - The QC Officer or designee shall review all internal QC sample results on a quarterly basis, and provide management with a summary of findings.
  - All reports containing monitoring data and/or recommendations to be sent to the client or outside organizations shall first receive a quality review by the QC Office or Project Manager.
- External Quality Control
  - Laboratory Sample Quality Control
  - The contracted laboratory shall comply with the identified requirements of the NPDES MS4 general permits. Refer to Section 4.0 on Page 2, and Appendix A.
  - Follow an internal QA/QC program
    - Maintain and calibrate equipment to ensure accuracy
    - Use the EPA test procedures in 40 CFR 136 or approved alternate procedure.
    - The laboratory shall notify the client in writing of any test results which do not conform by the QC Officer.
  - Staff shall examine the completed Chain of Custody form returned from the laboratory with each sample result to check for any noted discrepancies. Discrepancies shall be reviewed with management prior to utilizing or reporting the analytical data.
  - QC Officer or designee shall review the external laboratory's QA/QC program every three years for conformance with internal procedures and test method specifications, and provided management with a summary of findings.

## APPENDIX A

**APPENDIX A****STORMWATER TEST METHOD SPECIFICATIONS**

Field Screening Tests DWS/IDEP (Grab Sample)											
Parameter	Methodology	EPA 30 CFR, 136 Approved Method [a]	Current or Alternate Procedure [b]	Container Type & Size [c]	Chemical Preservative	Holding Temperature °C	Holding Time [d]	Approx. Reporting Range [e]	Approx. Resolution or LRL	Units	Approx. Accuracy
pH	electrometric; ion-selective electrode	SM 4500-H+B	EPA 150.1; [f]	P, FP, G; 50 mL	none; no headspace	4°C if transported; test is time / temperature sensitive	ASAP; <15 min	0-14	1	pH	+/- 0.1
Temperature	thermometric	SM 2550.B	[f]	P, FP, G; 50 mL	none	at test temperature	ASAP	0-40 °C	0.1	°C	+/- 0.2
Surfactants (aka Detergents)	colorimetric; Hach Test Kit (Toluidine Blue-O)	SM 5540.C	EPA 425.1; [f]	P, FP, G; 100 mL	none; no headspace	4°C if transported	ASAP; <48 hrs	0-1.3 mg/L	0.05	mg/L	+/- 0.1
Ammonia (NH <sub>3</sub> -N)	colorimetric; Hach Test Kit (Salicylate)	SM 4500-NH3.C	EPA 350.3; [f]	P, FP, G; 500 mL	no headspace, H <sub>2</sub> SO <sub>4</sub> pH<2 [g]	4°C	ASAP; <28 days [g]	0-5 mg/L	0.1	mg/L	+/- 0.1
Chlorine	Hach Test Kit	SM 4500-Cl.F	EPA 330.1; [f]	P, G; 200 mL	none; no headspace	4°C	ASAP; <15 min	0-3.5 mg/L	0.1	mg/L	+/- 0.1
Conductivity	specific conductance by conductivity meter	EPA 120.1	EPA 120.1; [f]	P, FP, G; 50 mL	none; no headspace	4°C	ASAP; <24 hrs	0-2500 est.	1	µohm/cm	+/- 1
Turbidity	nephelometric	EPA180.1	EPA 180.1; [f]	A/P; 100 mL (amber bottle)	none; no headspace; store in dark	4°C	ASAP; <48 hrs	0-40	0.05	NTU	+/- 0.1

APPENDIX ASTORMWATER TEST METHOD SPECIFICATIONS

Laboratory Analytical Tests - Standard Indicator Parameters DWS/IDEP/WWM (Grab Sample)											
Parameter	Methodology	EPA 40 CFR 136 Approved Method (a)	Current or Alternate Procedure (b)	Container Type & Size (c)	Chemical Preservative	Holding Temperature (°C)	Holding Time (d)	Approx. Reporting Range (e)	Approx. Resolution or LRL	Units	Approx. Accuracy
Surfactants	colorimetric (MBAS)	SM 5540 C	EPA 425.1	P, FP, G; 100 mL	none; no headspace	4°C	</= 48 hrs	0.1-100	0.1	mg/L	+/- 0.05
Fluoride (total)	potentiometric, ion selective electrode	SM 4500-FB	EPA 340.2	P; 100 mL	none	none required	</= 28 days	0.1-1000	0.5	mg/L	+/- 0.1
Coliform (total)	Most Probable Number (MPN); Membrane Filter (MF)	SM 9221 B (MPN); SM 9222 B (MF)	SM 4500	PA, G; 50 mL	none or 0.0008% Na2S2O3	4°C	</= 6 hrs	1-2400	1	CFU/100 mL	+/- 1
E. Coli	Most Probable Number (MPN); Membrane Filter (MF)	SM 9223 B or Colilert (MPN); EPA 1603 or mColiBlue-24 (MF); [EPA 1103.1 (MF) MDEQ]	SM 4500	PA, G; 50 mL	none or 0.0008% Na2S2O3	4°C	</= 6 hrs	1-2400	1	CFU/100 mL	+/- 1
Potassium (total)	direct aspiration, flame atomic absorption	SM 3111 B	EPA 258.1	P, FP, G; 100 mL	not specified	4°C	</= 6 mos	1-20 w/dilution	1	mg/L	+/- 0.1
Color	spectrophotometric	SM 2120 C	EPA 110.3	P, FP, G; 50 mL	none	4°C	</= 48 hrs	1-100	N/A	color units	+/- 1
Ammonia (NH <sub>3</sub> -N)	potentiometric, ion selective electrode	SM 4500-NH3 D or E	EPA 350.3	P, FP, G; 500 mL	H2SO4 to pH<2	4°C	</= 28 days	0.5-1400	0.5	mg/L	+/- 0.04

APPENDIX ASTORMWATER TEST METHOD SPECIFICATIONS

Laboratory Analytical Tests - WWM/TMDL's/Post-Construction TSS (Grab Sample)											
Parameter	Methodology	EPA 40 CFR 136 Approved Method [a]	Current or Alternate Procedure [b]	Container Type & Size [c]	Chemical Preservative	Storing Temperature °C	Holding Time [d]	Approx. Reporting Range [e]	Approx. Resolution or URL	Units	Approx. Accuracy
E. Coli	Most Probable Number (MPN); Membrane Filter (MF)	SM 9223 B or Colilert (MPN); EPA 1603 or mColiBlue-24 (MF); [EPA 1103.1 (MF) MDEQ]	SM 4500	PA, G; 50 mL	none or 0.0008% Na2S2O3	4°C	≤/ = 6 hrs	1-2400	1	CFU/100 mL	±/ - 1
Phosphorous	colorimetric, ascorbic acid	EPA 365.3	EPA 365.3	P, G; 500 mL	H2SO4 to pH<2	4°C	≤/ = 28 days	0.1-1.2	0.1	mg/L	±/ - 0.1
Sedimentation/Biota	REFER TO TSS BELOW										
Dissolved Oxygen	electrode	SM 4500 O.G.	EPA 360.1	A/G; 50 mL (amber bottle)	none; no headspace; store in dark	4°C if transported; test is time / temperature sensitive	ASAP; <15 min	0-20	0.1	mg/L	±/ - 0.05
Total Suspended Solids (TSS)	gravimetric, dried at 103-105°C	EPA 160.2	EPA 160.2	P, G; 200 mL	none	4°C	≤/ = 7 days	4-20,000	4	mg/L	±/ - 2

**Notes:**

[a] EPA 40 CFR 136 approved method, including listed EPA method, Standard Method, and/or ASTM method. Or, other MDEQ specified method.

[b] EPA procedure noted as approved for NPDES, but not listed in current 40 CFR 136, and/or laboratory identified equivalent alternative.

[c] P=polyethylene (generally HDPE); FP=fluoropolymer (not normally used due to cost); G=glass; A=amber; PA=autoclavable plastic, polypropylene; Q=quartz.

[d] Holding time specified in EPA guidance or referenced in Standard Method or literature for equivalent method.

[e] Dilution of sample may allow ability to analyze more concentrated samples, refer to test procedures.

[f] "Test Kits", including portable electronic sensors are allowed by MDEQ as noted in NPDES MS4 general permits.

[g] Preservative required only if sample is to be held for later analysis and not analyzed immediately (<15 min) with field test kit.

## APPENDIX B

## APPENDIX B

### INSTRUCTIONS FOR COMPLETING CHAIN OF CUSTODY FORM

Proper information and completion of the Chain of Custody (COC) form is the responsibility of the person(s) conducting the sampling. At the time sample bottles are obtained, field staff shall also obtain a COC form. This form is a legally defensible document that ensures that the sample taken at a specific site is the same sample that is received in the laboratory. It also provides information on the sample condition and integrity as received by the laboratory. The form shall be filled out as neatly, accurately and completely as possible.

Use a separate Chain of Custody form for each individual facility. Multiple stormwater samples collected from the facility on the same day may be listed on one form. Identify grab samples collected for analysis by field test kits on the COC, but do not request laboratory analysis. Results from the field test kits shall be reported on the field inspection form only, not on the Chain of Custody form. Keep COC form in a separate sealed plastic bag to protect it from the elements.

#### 1. Client information:

Include Client Name, Site Address, Phone Number, Project Number, Project Name, Client Contact, and Sampler's name. After the samples have been collected, the sampler shall neatly sign his/her name at the bottom right section of the form. Refer to section 6 below for signatures required when relinquishing samples.

- a) Client: Arch Environmental Group
- b) Address: 37720 Interchange Drive, Farmington Hills, MI 48335
- c) Project Number: Refer to school district project number
- d) Project Name: School District Name-School Site Name
- e) Phone Number: (248) 426-0165 Office Phone or (248) 427-0305 Office FAX
- f) Client Contact: All laboratory stormwater test results shall be addressed to Project Coordinator and sent by e-mail to [labs@archenvgroup.com](mailto:labs@archenvgroup.com)
- g) Sampler: Printed full name of the person who collected the sample(s)

#### 2. Sample Information:

In the middle section of the form, information about each sample should be contained on a separate line item.

- a) Sample number: Use the abbreviated outfall code description, following in parenthesis by the type of sample "AAA-XXX (CCC)". Where "AAA" is the 3 letter code for the specific

school building site ID, “XXX” is the 2 or 3 digit code for structure number, and “CCC” is the 2 or 3 letter code for the type of sample. The type of samples are:

- DWS = dry weather screening. Example: NHS-05 (DWS)
  - WWM = wet weather monitoring. Example: NHS-05 (WWM)
  - RS = resample (where there was a problem with the original samples submitted to the lab or the initial results are suspected. Example: NHS-05 (RS)
  - QC = quality control sample. Example: NHS-05 (QC)
  - FT = field test sample. Example: NHS-05 (FT)
- b) Date: Carefully print the date in the following format MM/DD/YYYY. Example 05/10/2014
- c) Matrix: Print “H2O”.
- d) Comp: Leave blank unless the stormwater sample is a composite sample.
- e) Grab: Put an “X” in this box for all grab samples.
- f) Sample Description: Use the full outfall/discharge point code description, preceded by the type of sample “CCC @ AAA-XXX-BBB.OF”. Where “BBB” is the 2 or 3 letter code for type of structure. Refer to sample codes about, and the following examples:
- Put “DWS @ AAA-XXX.BBB.OF” if the outfall/discharge point sample is from dry weather screening, followed by the round of sampling in parenthesis after description. Example: “DWS @ NHS-05.CB.OF (2<sup>nd</sup> Round)”
  - Put “WWM @ AAA-XXX.BBB.OF” if outfall sample is from wet weather monitoring, followed in parenthesis by sampling purpose. Examples: “WWM @ NHS-05.CB.OF (TMDL) or “WWM @ NHS-05.CB.OF (TSS)
  - Put “RS @ AAA-XXX.BBB.OF” if this is a recent re-sample from the same outfall. Example: “RS @ NHS-05.CB.OF”. Describe the purpose for the re-sample in the “REMARKS” box. Example: “Resample of DWS @ NHS-05.CB.OF due to expired hold time on original samples”.
  - Put “QC @ AAA-XXX.BBB.OF” if this is a quality control sample. The QC Officer will notify the field team separately of what type of sample should be submitted to the lab or performed in the field (blank, split, etc.)
  - Put “FT @ AAA-XXX.BBB.OF” for grab samples analyzed with field test kits, and on the line below write which parameters were analyzed. For example, “(pH, Temperature, Ammonia, Surfactant)”.
- g) Number of Containers: Put “X”, where X is the number of sample bottles submitted for the analyses described in the next section. The specific number of bottles required for the tests are prepared and provided by the laboratory. For example, the standard dry weather screening (DWS) kit contains 7 bottles. Some of the sample bottles may contain approximately 1 or 2 mL of sulfuric or nitric acid, so extra care should be taken when opening and filling these bottles. Bottles with acid preservatives are marked by the laboratory. Refer to Appendix A for a description of the standard stormwater test procedures, containers, preservatives, and hold times. In order to reduce the number of containers and field sampling time, the laboratory may perform more than one type of test

per sample bottle, provided the type of bottle, preservative, sample quantity and other quality considerations are met for each test specification. Refer to section 3 below.

### 3. **Analyses Desired (Indicate Separate Containers):**

Bottles should not be rinsed prior to sampling. Bottles with preservatives should not be overfilled. Fill bottles to about the neck level with the exception of the VOA vial. The VOA vial should be filled to the top without headspace. See notes below. Sample bottle lids should be securely closed. Sample bottles should be labeled with the Project Name, Sample Number, and date of collection. Once labeled, the sample bottles should be immediately put on ice in the cooler. The laboratory will issue a unique number to each sample at the time it is logged into the laboratory and any issues with identification, limited sample volume, improper preservation, etc. will be flagged, and the client will be notified as detailed in Appendix C.

- a) As noted in 2(g) above, sample bottles are provided from the laboratory with each standard DWS kit. For each container put an “X” on the line and above the “X” write the specific analyses in angled box, as follows:

- i. “SURFACTANTS / FLUORIDE” (amber 1 L glass bottle, no preservatives)
- ii. “AMMONIA” (clear white 500 mL HDPE bottle, labeled “Sulfuric Acid”, do not rinse or overfill)
- iii. “E. COLI / COLIFORM” (sterilized and sealed, clear 100 mL polystyrene IDEXX bottle, may contain  $\text{Na}_2\text{S}_2\text{O}_3$  powder)



**DO NOT SET THE CAP DOWN OR TOUCH THE INSIDE OF THE CAP OR BOTTLE. FILL THE SAMPLE BOTTLE TO THE MARKED LINE ON SHOULDER WITHOUT RINSING OR OVERFILLING.**

- iv. “POTASSIUM” (clear white 100 mL HDPE bottle, labeled “Nitric Acid”, do not rinse or overfill)
- v. “COLOR” (clear white 500 mL HDPE bottle, no preservatives)

**4. Turnaround time:**

Indicate the turnaround time needed. The standard is 10 working days – “2 WEEK TAT”. More rapid turnaround time may be subject to surcharges. Refer to laboratory contract for current surcharge factors. If turnaround time is critical, and approved by management, then it’s important to emphasize that fact to the laboratory person accepting the sample(s). Do not fill in the column marked “LAB #”. This is for laboratory use.

**5. Remarks:**

In this section, write “Send results to [labs@archenvgroup.com](mailto:labs@archenvgroup.com)”. This section should also be used for:

- a) Any special instructions from the sampler to the laboratory, or problems during sampling. Sampler shall put his/her initials next to comment.
- b) Upon receiving the cooler with the collected samples, the laboratory shall note the temperature at which the samples were received. Laboratory staff shall put his/her initials next to comment.

**6. Relinquishing Samples and Verifying Chain of Custody:**

Refer to the bottom left portion of the Chain of Custody form. It is necessary to maintain an unbroken, verifiable chain of custody for every sample in the event that analytical results for that sample are questioned. Each time the sample changes hands, the person relinquishing the sample shall note the item number and neatly sign his/her name and company affiliation in the column “Transfers Relinquished by” and record the date and time the sample was transferred. The person receiving the sample shall neatly sign his/her name and company affiliation in the column “Transfers Accepted by”. When samples are shipped in a cooler, the shipper should be indicated on the Chain of Custody form and the form should be sealed inside the cooler (inside sealed zip-lock bag, taped to inside lid). The samples must remain cool and be returned to the laboratory as soon as possible (preferably Monday through Thursday). In no case shall samples be delivered to the laboratory later than 24 hours after the samples were collected. As noted above, the laboratory employee receiving the samples shall record the temperature of the samples in the Remarks box.

Samples collected for analysis of the 7 indicator parameters using field test kits should be analyzed ASAP in the field. At a minimum, pH and Temperature must be analyzed immediately in the field. Should field conditions prevent analyzing for Surfactants, Ammonia, Turbidity, and Conductivity then these sample bottles may be transported back to the shop in the cooler and maintained at 4°C for analysis with the field test kits within 24 hours. Sample results (and date) shall be recorded on the field inspection forms.

## APPENDIX C

## APPENDIX C

### LABORATORY SAMPLE ACCEPTANCE POLICY

1.0 Chain of Custody. Laboratory shall provide the client with a standard Chain of Custody form. A client may submit his or her own COC subject to approval. All COC's will be deemed acceptable if the following information is completed and legible:

- 1.0.1 Company name address phone # and fax #
- 1.0.2 Contact name
- 1.0.3 Sampler's or collector's name
- 1.0.4 Project identify and/or location
- 1.0.5 Date and time of sample collection
- 1.0.6 Sample identification, description or location
- 1.0.7 Matrix Type
- 1.0.8 Bottle(s) submitted (type and quantity)
- 1.0.9 If the sample is suspected of containing a dangerous substance
- 1.0.10 Any preservation (Nitric Acid, Hydrochloric Acid et.) which the sample has been treated with
- 1.0.11 Analysis requested
- 1.0.12 For any Bacteria Analysis, Residual Chlorine must be done in the field and noted on the chain of custody, if required
- 1.0.13 Requested Turn Around Time
- 1.0.14 Signatures of the persons involved in the chain of possession including the collector
- 1.0.15 Comments or special instructions
- 1.0.16 Any field notes

1.1 The Laboratory Manager shall review and document the following:

- 1.1.1 Answer the following questions (Refer to Appendix B for instructions on completing the COC)
  - 1.1.1.1 Are the samples submitted with a chain of custody?
  - 1.1.1.2 Is the number of samples the same as stated on the chain of custody?
  - 1.1.1.3 Are the bottle caps tight and in place?
  - 1.1.1.4 Were all the containers intact when received?
  - 1.1.1.5 Were the samples submitted in an ice chest?
  - 1.1.1.6 Were the samples received cold at 4°C?
  - 1.1.1.7 Were the samples within the holding time for the requested analysis?
  - 1.1.1.8 Is the volume of sample submitted sufficient for the requested analysis?
  - 1.1.1.9 Are all samples for air sensitive parameters free of headspace?
- 1.1.2 Ensure the Chain of Custody is completed correctly
- 1.1.3 Note the condition of the sample shipper and bottles upon receipt
- 1.1.4 Preservation type (if any )
- 1.1.5 Ensure that Residual Chlorine was done in the field, if required

- 1.1.6 For all Liquid Samples, the pH and temperature will be taken and recorded
- 1.1.7 Temperature of the sample or blank shall be noted on the COC
  - 1.1.7.1 All samples must be received chilled at 4°C (+/- 2°C) with the exception of where chilling would compromise the consistency of the sample. This is determined under the discretion of management.
  - 1.1.7.2 If samples are received above 4°C (>6°C)
    - 1.1.7.2.1 It will be noted on paperwork
    - 1.1.7.2.2 Data qualified
    - 1.1.7.2.3 Client shall be notified to verify that they want the samples run with the qualifier
- 1.1.8 Date and time of sample receipt
- 1.1.9 Signatures of persons involved in the Chain of Custody
- 1.1.10 Samples are accepted when all the conditions are met and the sample(s) deemed acceptable
  - 1.1.10.1 Samples which do not meet all the criteria, but are still deemed acceptable will be data qualified
  - 1.1.10.2 Samples will be deemed acceptable and data qualified upon client's approval.
- 1.2 For any other questions related to sample acceptance, the Laboratory Manager shall contact the client to resolve any potential issue prior to accepting and/or analyzing the samples.



## Appendix “D”

**Illicit Discharge Illegal Spill Reporting Form**

**&**

**Annual Evaluation Form**



District Illicit Discharge/Illegal Dumping Reporting Form  
Schoolcraft College

Date: \_\_\_\_\_ Time \_\_\_\_\_

Inspectors: \_\_\_\_\_

**I. ORIGIN OF REPORT**

**1. Describe the reason for conducting the investigation.**

- |   |   |
|---|---|
| <input type="checkbox"/> Illicit Discharge Inspection (Routine) | <input type="checkbox"/> Facility Staff |
| <input type="checkbox"/> Citizen Complaint                      |   |
| <input type="checkbox"/> Other _____                            |   |

**II. SOURCE**

**1. Describe location of source of discharge (company name, address, cross streets, physical features, etc.)**

\_\_\_\_\_  
\_\_\_\_\_

**2. Describe the Source:**

- |  |  |
|--|--|
| <input type="checkbox"/> Residential       | <input type="checkbox"/> Transportation Facility |
| <input type="checkbox"/> Construction Site | <input type="checkbox"/> Custodial               |
| <input type="checkbox"/> Other _____       |  |

**3. Facility of the Source:** \_\_\_\_\_

\_\_\_\_\_

**III. TYPE**

**1. Describe the type of material discharged:**

- |  |   |
|--|---|
| <input type="checkbox"/> Sanitary Leak/Spill         | <input type="checkbox"/> Paint Discharge            |
| <input type="checkbox"/> Dumpster Discharge          | <input type="checkbox"/> Cleaning Discharge         |
| <input type="checkbox"/> Unhardened Cement Discharge | <input type="checkbox"/> Paint Discharge            |
| <input type="checkbox"/> Vehicle Repair              | <input type="checkbox"/> Vehicle Washing            |
| <input type="checkbox"/> Grey Water Discharge        | <input type="checkbox"/> Landscape Material Dumping |
| <input type="checkbox"/> Cooling Water Discharge     | <input type="checkbox"/> Allowable Discharge        |
| <input type="checkbox"/> Other _____                 |   |

Provide Additional Information: \_\_\_\_\_

\_\_\_\_\_

**2. Other Sources:**

- |   |
|---|
| <input type="checkbox"/> Illicit Connection |
| <input type="checkbox"/> Construction Site  |
| <input type="checkbox"/> Other _____        |

**IV. FOLLOW-UP AND ENFORCEMENT ACTIVITIES**

**1. Describe Corrective Actions:** \_\_\_\_\_

\_\_\_\_\_

**2. Describe Enforcement Action:**

- |   |   |
|---|---|
| <input type="checkbox"/> None/Incident Resolved | <input type="checkbox"/> Verbal Notice      |
| <input type="checkbox"/> Administrative Action  | <input type="checkbox"/> Cleaning Discharge |

**3. Date Resolved:** \_\_\_\_\_

**4. Responsible Party**

Signature: \_\_\_\_\_



## Schoolcraft College Stormwater Management Program Annual IDEP Effectiveness Evaluation

### Illicit Discharge Elimination Program Effectiveness

The effectiveness of the IDEP program can be measured by summarizing compliance with the prohibition of illicit discharges into Waters of the State. This will be measured by the number of suspected illicit discharges that are confirmed and then removed.

Schoolcraft College shall evaluate and maintain records of its IDEP screening program and any illicit discharges that are identified. The records will include:

- Number of outfalls/discharge points screened.
- Number of illicit connections found.
- Number of illicit connections eliminated.
- Details of the methods used to eliminate the discharge and follow up investigations to assure that the discharge has been permanently removed.
- Number and type of discharges that are investigated.
- Actions conducted to follow-up discharges that are identified or reported.
- Number of scheduled clean-outs and routine maintenance work conducted.
- 

Review performance measures to evaluate the effectiveness of the IDEP program	Response	Records Available
Number of outfalls/discharge points screened.		
Number of illicit connections found.		



Review performance measures to evaluate the effectiveness of the IDEP program	Response	Records Available
Number of illicit connections eliminated.		
Details of the methods used to eliminate the discharge and follow up investigations to assure that the discharge has been permanently removed.		
Number and type of discharges that are investigated.		
Actions conducted to follow-up discharges that are identified or reported.		
Number of scheduled clean-outs and routine maintenance work conducted.		

Date of Review: \_\_\_\_\_

Name of Reviewer: \_\_\_\_\_



## Appendix “E”

### Alliance of the Rouge Communities Collaborative Plans

# ROUGE RIVER COLLABORATIVE PUBLIC PARTICIPATION/INVOLVEMENT PROGRAM (PPP)



*Prepared by:*



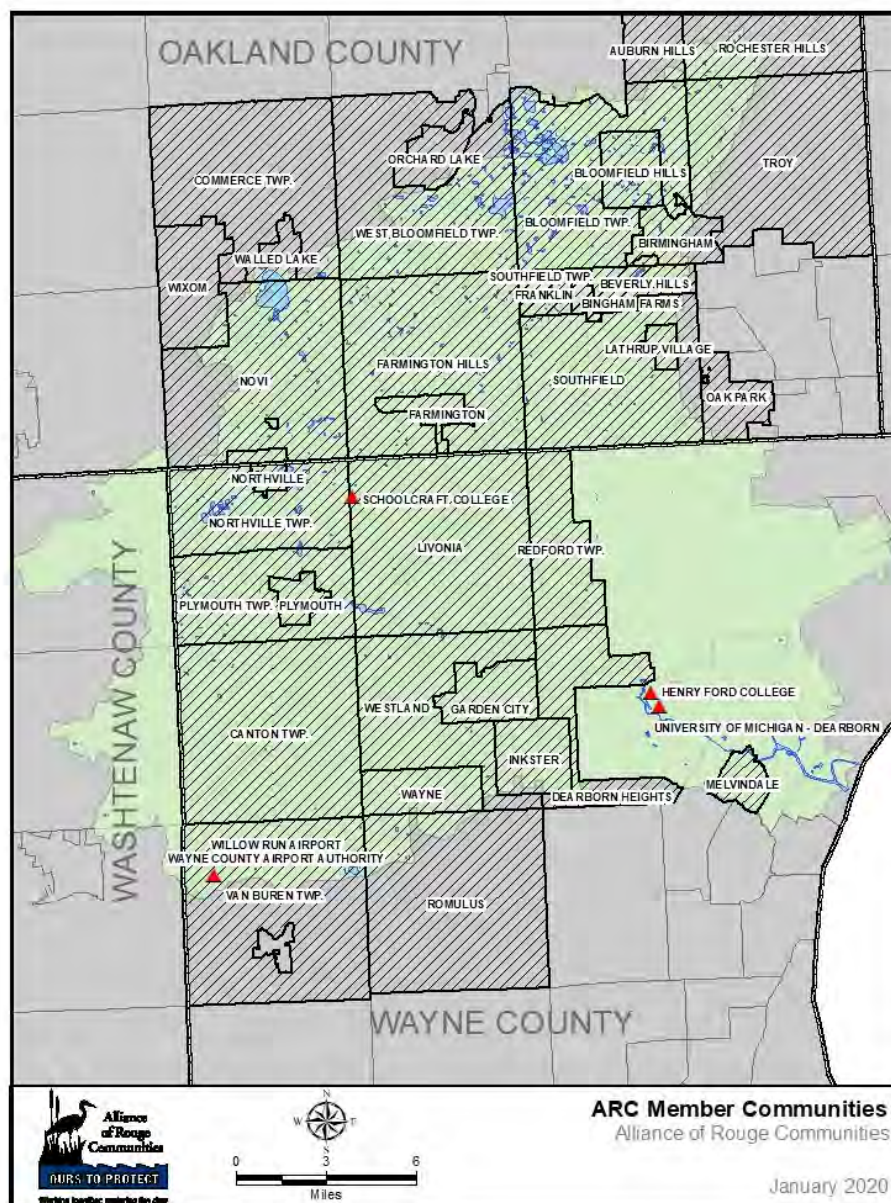
46036 Michigan Ave., Suite 126  
Canton, Michigan 48188  
[www.allianceofrougecommunities.com](http://www.allianceofrougecommunities.com)

January, 2017  
Revised January, 2020

## INTRODUCTION

The Alliance of Rouge Communities (ARC), a 501(c)(3) organization, is a voluntary public watershed entity currently comprised of municipal governments, counties, schools, and cooperating partners (see Figure 1) as authorized by Part 312 (Watershed Alliances) of the Michigan Natural Resources and Environmental Protection Act (MCL 324.101 to 324.90106) as amended by Act No. 517, Public Acts of 2004. The purpose of the ARC is to provide an institutional mechanism to encourage watershed-wide cooperation and mutual support to meet water quality permit requirements and to restore beneficial uses of the Rouge River to the area residents.

**Figure 1: ARC Members**



The two primary goals of the Rouge River Watershed Management Plan (RRWMP) are Protect Public Health and Reduce Stormwater Runoff Impacts. Bacteria is one of the priority pollutants identified in the RRWMP. The ARC's collaborative program presents a watershed-wide plan that is being implemented to effectively and efficiently address *E. coli* levels in the Rouge River watershed caused by stormwater runoff. This plan consists of existing and planned activities and strategies that members of the Alliance of Rouge Communities (ARC) are individually and collectively implementing.

This plan was developed by the ARC through its Public Involvement and Education Committee (PIE) in coordination with the ARC Technical Committee in response to the findings and recommendations of the RRWMP as well as the Michigan Department of Environmental Quality's (MDEQ) Total Maximum Daily Load (TMDL) assessment for *E. coli* in the Rouge River Watershed. This plan is intended to meet the Public Participation/Involvement Program (PPP) element required by ARC members' NPDES permits for stormwater discharges from municipal separate storm sewer systems (MS4s). Those entities that are submitting a separate NPDES permit application, in lieu of this collaborative document, will continue to promote and participate in the activities identified in this plan as a member of the ARC.

This plan will be implemented collaboratively by the ARC participating communities and partners through September 30, 2022, which is the end of the permit cycle for the Rouge River watershed. The list of permittees participating in this Plan include:

Beverly Hills, Village of	Inkster	Troy
Bingham Farms, Village of	Lathrup Village	Walled Lake
Birmingham	Livonia	Wayne
Bloomfield Hills	Melvindale	Westland
Bloomfield Twp.	Northville	West Bloomfield Twp.
Canton Twp.	Northville Twp.	Oakland County*
Dearborn Heights	Novi	Washtenaw County*
Farmington	Oak Park	Wayne County
Farmington Hills	Plymouth	<i>*Participating but this plan is</i>
Franklin, Village of	Plymouth Twp.	<i>not part of their pending</i>
Garden City	Redford Twp.	<i>permit application.</i>
Henry Ford College	Schoolcraft College	
	Southfield	

The Rouge River Watershed communities have long realized that the public must be engaged in order to have successful restoration activities in the Rouge River watershed. Public involvement and education has been the foundation of Rouge River restoration activities since the inception of the Rouge River National Wet Weather Demonstration Project in 1992 and continues today through the ARC and its members.

## **SECTION A – PURPOSE**

This plan is to establish procedures for the ARC's Public Participation/Involvement Program (PPP) as required in the Application. The procedure includes a description of the opportunities for the public to participate, comment, and become involved with the implementation of the Stormwater Management Plan.

## **SECTION B – PROCEDURE FOR PUBLIC INSPECTION AND COMMENT**

As required, the approved Stormwater Management Program (SWMP) will be made available to the public via the ARC website and links on each community's websites throughout the permit cycle. Friends of the Rouge (FOTR) will inform its membership of the link to review the SWMP. The public will also be informed through the ARC's and community's social media that the plan is available for inspection and comment. The ARC will be identified as the point of contact to receive public comments. The ARC will survey its members regarding any local public notice requirements and will meet them as appropriate.

## **SECTION C – MEASURABLES**

The ARC staff will compile and track comments from the public by documenting the commenter's name, date, and synopsis of the comment. ARC staff will document SWMP posting dates on both the ARC and community's websites along with recording links to the SWMP documents and collaborative plans. ARC staff will document dates that the public was invited to participate in implementation and review of the SWMP.

## **SECTION D – PROCEDURE FOR PUBLIC PARTICIPATION IN IMPLEMENTATION AND REVIEW**

Links to the SWMP and the collaborative plans will be available on both the community's website and the ARC's website and will be available for public comment throughout the permit cycle. Specifically, the ARC and its members will invite the public to participate in the implementation and periodic review of the SWMP at least 2 times during the permit cycle. This will be advertised on the ARC website and links on the community's websites. The ARC will also use social media to promote the public's involvement and will periodically request FOTR to invite its members to participate in the implementation and periodic review of the SWMP during the permit cycle.

# ROUGE RIVER COLLABORATIVE PUBLIC EDUCATION PROGRAM (PEP)



*Prepared by:*



46036 Michigan Ave., Suite 126  
Canton, Michigan 48188  
[www.allianceofrougecommunities.com](http://www.allianceofrougecommunities.com)

March, 2017  
Revised January, 2020

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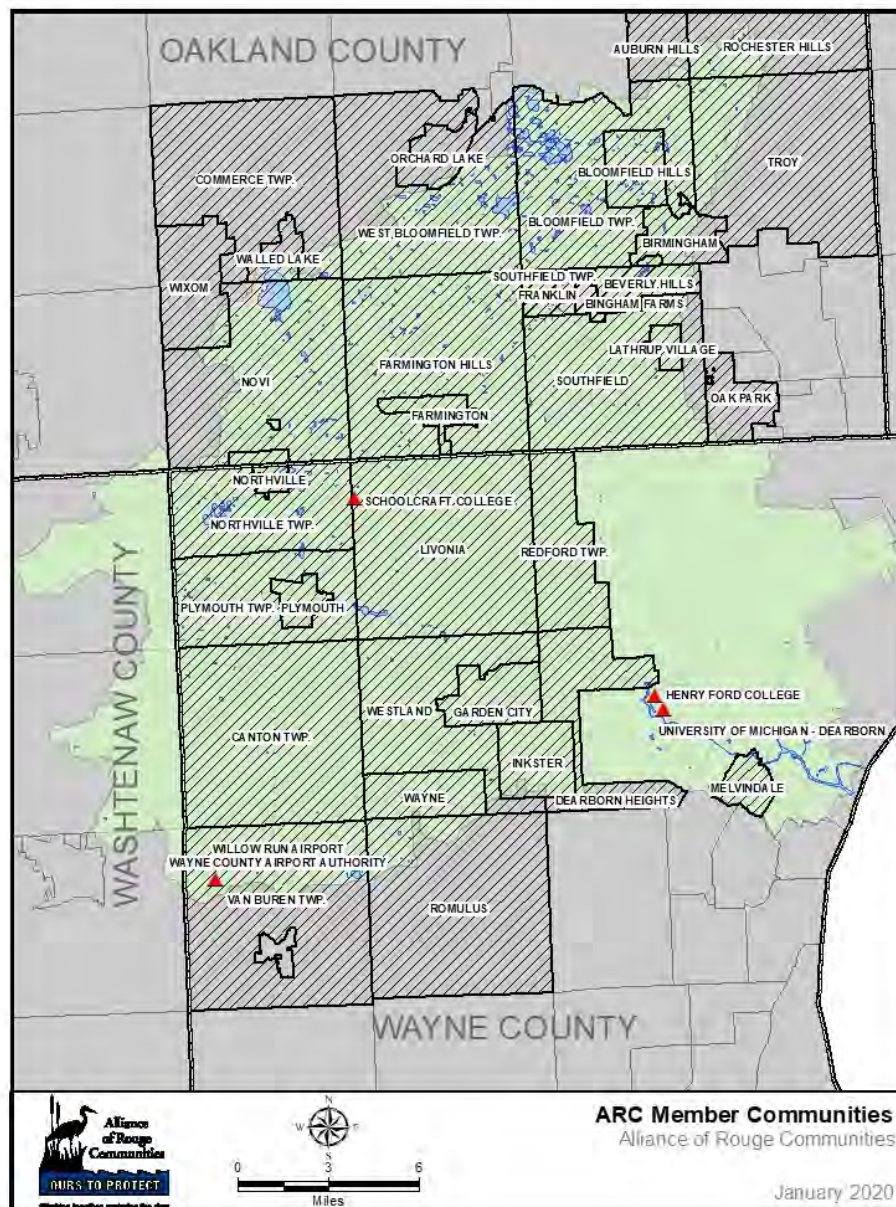
## List of Appendices

Attachment A: Responsible Communities

## INTRODUCTION

The Alliance of Rouge Communities (ARC), a 501(c)(3) organization, is a voluntary public watershed entity currently comprised of municipal governments, counties, schools, and cooperating partners (see Figure 1) as authorized by Part 312 (Watershed Alliances) of the Michigan Natural Resources and Environmental Protection Act (MCL 324.101 to 324.90106) as amended by Act No. 517, Public Acts of 2004. The purpose of the ARC is to provide an institutional mechanism to encourage watershed-wide cooperation and mutual support to meet water quality permit requirements and to restore beneficial uses of the Rouge River to the area residents.

**Figure 1: ARC Members**



The two primary goals of the Rouge River Watershed Management Plan (RRWMP) are Protect Public Health and Reduce Stormwater Runoff Impacts. Bacteria is one of the priority pollutants identified in the RRWMP. The ARC's collaborative program presents a watershed-wide plan that is being implemented to effectively and efficiently address *E. coli* levels in the Rouge River watershed caused by discharges from MS4s. This plan consists of existing and planned activities and strategies that members of the Alliance of Rouge Communities (ARC) are individually and collectively implementing.

This plan was developed by the ARC through its Public Involvement and Education Committee (PIE) in coordination with the ARC Technical Committee in response to the findings and recommendations of the RRWMP as well as the Michigan Department of Environmental Quality's (MDEQ) Total Maximum Daily Load (TMDL) assessment for *E. coli* in the Rouge River Watershed. This plan is intended to meet the Public Education Program (PEP) element required by ARC members' NPDES permits for stormwater discharges from municipal separate storm sewer systems (MS4s). Those entities that are submitting a separate NPDES permit application, in lieu of this collaborative document, will continue to promote and participate in the activities identified in this plan as a member of the ARC.

ARC members and ARC staff continue to participate and collaborate with partners throughout the region, state and nation in an effort to coordinate stormwater permit related public education and other stormwater related initiatives when possible.

This plan will be implemented collaboratively by the ARC participating communities and partners through September 30, 2022 which is the end of the permit cycle for the Rouge River watershed. The list of permittees participating in this Plan can be found in Attachment A.

## **SECTION A – PROCEDURE FOR HIGH-PRIORITY, COMMUNITY-WIDE AND TARGETED ISSUES**

The Rouge River Watershed communities have regularly conducted public opinion surveys to gauge the public's knowledge of watershed-related issues and concerns. Surveys were conducted in 1992 and 1999 by the Rouge River National Wet Weather Demonstration Project and in 2004 by SEMCOG. In 2008, the ARC conducted a survey to assess the public's opinion about the goals for the RRWMP. The survey asked the public:

- To rank the goals in order of importance
- To rank issues, such as flooding, streambank erosion and water quality in order of importance, and
- To discuss any concerns about the river

Using these past surveys, this plan outlines the priority, community-wide and targeted issues that are of most significance to the ARC communities. By focusing on those elements, the ARC will have the greatest impact on public education of watershed issues and will in turn have the greatest behavioral changes to reduce their effects in the Rouge River watershed.

In addition to public awareness, the PEP topics were prioritized based on known targeted issues within the watershed. Table 1 shows the applicable PEP Topics and their priority ranking for the ARC. Table 2 beginning on page 17 summarizes the PEP BMPs.

**Table 1: PEP Topics and Priority**

PEP TOPICS FROM SW DISCHARGE PERMIT APPLICATION	PRIORITY RANKING
A. Promote public responsibility and stewardship in the Rouge River watershed	High
B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the State	High
C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4	High
D. Promote preferred cleaning materials and procedures for car, pavement, and power washing	Medium
E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers	High
F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4	High
G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids	High
H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure	High
I. Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development	High
J. Identify and educate commercial, industrial, educational and institutional entities likely to contribute pollutants to stormwater runoff	Medium

## SECTION B – ACTION STRATEGY

The ARC’s overall action strategy is to protect and maintain what is healthy, identify and restore what is degraded, and keep working together to continuously improve environmental conditions. The ARC will look to use cost-effective outreach methods and maintain the efficiency of activities by using currently available resources when possible and collaborating with other potential partners.

These activities are consistent with and help realize the goals of the RRWMP and address the *E. coli* and biota TMDLs within the Rouge River watershed.

## SECTION C – COLLABORATIVE PEP BMP ACTIVITIES

Each PEP topic from the Stormwater Discharge Permit Application is addressed with various BMP activities and will be implemented collaboratively and parallel to the Collaborative IDEP. These action items are described below and include the target audience, key message, delivery mechanism, year and

frequency implemented, and responsible party (or parties), measurable goal and measures of assessment.

**BMP Identifier:** 1

**BMP Descriptor:** Distribute pollution prevention literature on various topics through brochures, educational materials, and other media

Addresses PEP Topic:

A, B, C, D, E, F, G, H, I, J

Target Audience:

Public

Key Message:

The key message is to educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have and the importance of pollution prevention and watershed restoration and stewardship. It may also educate the public on reporting illicit discharges and improper disposal of materials into the Rouge River Watershed, promoting proper disposal practices, identify and promote facilities for collection or disposal of household hazardous wastes (including travel trailer sanitary wastes, chemicals and motor vehicle fluids). Items may also include information on septic system maintenance and how to recognize system failure and may promote preferred cleaning materials and procedures for car, pavement, and power washing. In addition materials may inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers and the proper disposal practices for grass clippings, leaf litter and animal waste that may enter the Rouge River. Materials may also include the benefits of green infrastructure and Low Impact Development and methods for managing riparian lands to protect water quality. It may also include educating commercial, industrial, educational, and institutional entities likely to contribute pollutants to stormwater runoff.

Delivery Mechanism:

ARC members will be provided copies of materials to be displayed at their facilities or used at community events or will be provided electronic material to use on their community website. With ARC oversight, Wayne County and ARC staff will facilitate the selection, procurement and distribution of various watershed restoration and pollution prevention public education materials to support ARC member public education permit compliance. Other or additional copies of some handout materials are available at cost through the Wayne County Publication Clearinghouse. Materials will also be available to view on the ARC's website. The ARC will also promote its message using electronic media outlets which could include cable TV, social media and billboards.

Year/Frequency BMP Implemented:

Current brochures and materials will be provided to ARC members throughout the permit cycle.

Responsible Party:

- ARC Staff will design/distribute materials and make available on the ARC website and develop ARC facebook posts
- Wayne County will assist with material content when appropriate
- Oakland County will assist with material content when appropriate
- Washtenaw County will assist with material content when appropriate
- ARC members listed in Attachment A will assist with material content when appropriate, distribute materials, link to the ARC's website and promote ARC facebook posts

Measurable Goal:

ARC staff, with input from Wayne, Oakland, and Washtenaw County and ARC members, will create at least two (2) new brochures/materials during the permit cycle. The topic of one of the new brochures/material will educate commercial, industrial, educational and institutional entities likely to contribute pollutants to stormwater runoff. ARC staff will develop at least 24 posts annually during the permit cycle on the ARC Facebook page. ARC Communities will make existing and new brochures and materials available for public events and at facilities such as city/township halls, libraries, etc., and provide a link to the ARC's website on their website.

Measures of Assessment:

- Number of materials distributed, topic, location of distribution and event name annually by the ARC and member communities.
- Number of posts/views on the ARC's website and Facebook.
- Viewer numbers will be requested from electronic media companies when used.

**BMP Identifier:** 2

**BMP Descriptor:** Coordinate and distribute community articles and ad graphics on pollution prevention and watershed restoration and stewardship

Addresses PEP Topic:

A, B, C, D, E, F, G, H, I, J

Target Audience:

Public and businesses

Key Message:

Articles and ad graphics may include the following topics: The connection of the MS4 to area waterbodies and the potential impacts discharges could have. The importance of pollution prevention and watershed restoration and stewardship. Reporting illicit discharges and improper disposal of materials into the Rouge River Watershed, promoting proper disposal practices, identify and promote facilities for collection or disposal of household hazardous wastes (including travel trailer sanitary

wastes, chemicals and motor vehicle fluids). Septic system maintenance and how to recognize system failure and preferred cleaning materials and procedures for car, pavement, and power washing. Proper application and disposal of pesticides, herbicides, and fertilizers and the proper disposal practices for grass clippings, leaf litter and animal waste that may enter the Rouge River. Benefits of green infrastructure and Low Impact Development and methods for managing riparian lands to protect water quality. It may also include educating commercial, industrial, educational, and institutional entities likely to contribute pollutants to stormwater runoff.

#### Delivery Mechanism:

With ARC oversight, ARC staff will facilitate the selection (based on an annual theme) and distribution of various articles and/or ad graphics that support watershed restoration and pollution prevention public education themes. Other existing articles or ad graphics will be made available upon request by ARC members. Articles and ad graphics will also be posted on the ARC's website and through social media. ARC members will repost articles and ad graphics to their own social media outlets.

#### Year/Frequency BMP Implemented:

Five articles will be written during the permit cycle to be promoted on the ARC's website, member websites, social media outlets, and at facilities. Five ad graphics will be created during the permit cycle to be promoted through the ARC's website, member websites, social media outlets, and other means.

#### Responsible Party:

- ARC Staff will coordinate existing material and develop new materials
- Wayne County will assist with material content and coordination when appropriate
- Oakland County will assist with material content and coordination when appropriate
- Washtenaw County will assist with material content and coordination when appropriate
- ARC members listed in Attachment A will assist with material content when appropriate, distribute materials, link to the ARC's website, and promote ARC facebook posts

#### Measurable Goal:

ARC Staff, Wayne, Oakland, and Washtenaw County and ARC member communities will coordinate and distribute existing articles and ad graphics and will develop one (1) new article (total of five (5) during the permit cycle) and one (1) new ad graphic (total of five (5) during the permit cycle) per year that will be distributed by the ARC Staff and ARC member communities through avenues such as newsletters and/or other publications, websites, and social media. The ARC website and facebook page shall show an increase in views annually.

#### Measures of Assessment:

- List of articles/ad graphics with title, topic and date distributed by ARC members listed in Attachment A
- List of articles/ad graphics promoted on the ARC's website and Facebook page
- Number of views on the ARC's website and Facebook page

**BMP Identifier:** 3

**BMP Descriptor:** Provide static displays and posters on pollution prevention and watershed restoration and stewardship

Addresses PEP Topics:

A, B, C, D, E, F, G, H, I

Target Audience:

Public

Key Message:

Displays and posters may include the following topics: The connection of the MS4 to area waterbodies and the potential impacts discharges could have. The importance of pollution prevention and watershed restoration and stewardship. Reporting illicit discharges and improper disposal of materials into the Rouge River Watershed, promoting proper disposal practices, identify and promote facilities for collection or disposal of household hazardous wastes (including travel trailer sanitary wastes, chemicals and motor vehicle fluids). Septic system maintenance and how to recognize system failure and preferred cleaning materials and procedures for car, pavement, and power washing. Proper application and disposal of pesticides, herbicides, and fertilizers and the proper disposal practices for grass clippings, leaf litter and animal waste that may enter the Rouge River. Benefits of green infrastructure, Low Impact Development, and methods for managing riparian lands to protect water quality.

Delivery Mechanism:

Wayne County has various pollution prevention and/or watershed awareness displays available for loan to ARC members. The ARC plans to update existing and/or create new static displays during the permit cycle. The ARC may create new static displays using SEMCOGs "What You Can Do . . ." series or other topic that will be made available for loan to ARC member communities to use at their facilities or community events in each of the subwatersheds. ARC staff may also be requested to staff displays at community events. The ARC Staff may create new displays if a particular topic is deemed necessary. The ARC is also creating seasonal posters covering a variety of the PEP Topics which will be provided to ARC members for display in their facilities.

Year/Frequency BMP Implemented:

Four (4) seasonal posters will be distributed beginning in 2016 to be displayed at ARC member facilities. Static displays will be created upon permit approval. ARC Staff will promote the use of displays at community events and facilities throughout each subwatershed during the permit cycle.

Responsible Party:

- ARC Staff will create posters and update/create static displays

- Wayne County will assist with material content and coordination when appropriate
- Oakland County will assist with material content and coordination when appropriate
- Washtenaw County will assist with material content and coordination when appropriate
- ARC members listed in Attachment A will assist with material content when appropriate and display posters at facilities and promote static displays at watershed events.

Measurable Goal:

ARC staff will make available four (4) distinct seasonal posters (winter, spring, summer and fall) which will be distributed to ARC member communities to post and rotate during each season. ARC member will post and rotate these posters a minimum of three (3) out of the five (5) years during the permit cycle at highly visible locations such as city/township buildings, libraries, etc. ARC staff will review and update as necessary at least three (3) static displays to be displayed at a minimum of 3-4 ARC member community events per year during the permit cycle. The static displays will be rotated at a minimum of two (2) events in each of the seven (7) subwatersheds during the permit cycle.

Measures of Assessment:

- Name of display, date, location and title of events that static displays were used at annually
- Number of posters distributed, location displayed annually by ARC member communities
- Number of static displays created annually during the permit cycle

**BMP Identifier:** 4

**BMP Descriptor:** Promote environmental hotlines to educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4

Addresses PEP Topic:

A, B, C, E, G, J

Target Audience:

Public, municipal employees and businesses

Key Message:

The message will educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have and the importance of pollution prevention and watershed restoration and stewardship. Promote awareness of environmental contaminants and encourage the reporting of observed and/or suspected pollutant sources. It will also include informing the public of collection/disposal sites of household hazardous waste, travel trailer sanitary wastes, chemicals and motor vehicle fluids along with proper disposal practices for grass clippings, leaf litter, and animal wastes.

Delivery Mechanism:

The environmental hotline numbers and collection/disposal information will be advertised by ARC members through available outlets such as the ARC website, county and local community websites, social media, through hotline brochure distribution, as well as being displayed on other topical brochures, distributed at display events and training sessions, electronic media, and other outlets.

Year/Frequency BMP Implemented:

Continuously promoted and distributed annually.

Responsible Party:

- ARC Staff will provide materials promoting hotline and promote hotline on ARC website and facebook page
- Wayne County will distribute materials promoting hotline and link to the ARC's website
- Oakland County will distribute materials promoting hotline and link to the ARC's website
- ARC members listed in Attachment A will distribute materials promoting hotline, link to the ARC's website and promote ARC facebook posts

Measurable Goal:

ARC Staff, Wayne, Oakland, and Washtenaw County, and ARC member communities will distribute materials annually with hotline numbers referenced and promote hotlines on the ARC and ARC member community websites and social media.

Measures of Assessment:

- Number of materials distributed annually with hotline number referenced.
- Number of views on ARC website and Facebook.

**BMP Identifier:** 5

**BMP Descriptor:** Distribution of "homeowner" materials to promote the importance of pollution prevention and watershed restoration and stewardship

Addresses PEP Topics:

A, B, C, D, E, F, G, H, I

Target Audience:

Public

Key Message:

The ARC will distribute an educational brochure for homeowners which will include topics regarding the connection of the MS4 to area waterbodies and the potential impacts discharges could have. The importance of pollution prevention and watershed restoration and stewardship. Reporting illicit

discharges and improper disposal of materials into the Rouge River Watershed, promoting proper disposal practices, identify and promote facilities for collection or disposal of household hazardous wastes (including travel trailer sanitary wastes, chemicals and motor vehicle fluids). Septic system maintenance and how to recognize system failure and preferred cleaning materials and procedures for car, pavement, and power washing. Proper application and disposal of pesticides, herbicides, and fertilizers and the proper disposal practices for grass clippings, leaf litter and animal waste that may enter the Rouge River. Benefits of green infrastructure and Low Impact Development and methods for managing riparian lands to protect water quality.

Delivery Mechanism:

The educational materials will be available to ARC members and the public through the ARC website and the ARC's Facebook. A homeowner educational brochure will be distributed and made available to ARC members to use as part of their welcome to the community new resident packets.

Year/Frequency BMP Implemented:

Homeowner brochure will be distributed annually during the permit cycle.

Responsible Party:

- ARC Staff will develop and distribute materials to ARC member communities
- Wayne County will assist with material content and coordination when appropriate
- Oakland County will assist with material content and coordination when appropriate
- Washtenaw County will assist with material content and coordination when appropriate
- ARC members listed in Attachment A will assist with material content when appropriate, distribute materials, link to the ARC's website, and promote ARC Facebook posts

Measurable Goal:

ARC Staff, Wayne and Oakland County, and ARC member communities will develop homeowner materials, including a homeowners brochure within 1 year of permit approval to be included in ARC member community new resident welcome packets.

Measures of Assessment:

- Completion of brochure
- Number of materials distributed annually to ARC member communities
- Number of materials distributed to new home owners by ARC member communities
- Number of views on ARC website and Facebook

**BMP Identifier:** 6

**BMP Descriptor:** Develop and promote educational workshops and presentations

Addresses PEP Topic:

A, B, C, D, E, F, G, H, I, J

Target Audience:

Public and businesses

Key Message:

The key message of the workshops and presentations could include the connection of the MS4 to area waterbodies and the potential impacts discharges could have. The importance of pollution prevention and watershed restoration and stewardship. Reporting illicit discharges and improper disposal of materials into the Rouge River Watershed, promoting proper disposal practices, identify and promote facilities for collection or disposal of household hazardous wastes (including travel trailer sanitary wastes, chemicals and motor vehicle fluids). Septic system maintenance and how to recognize system failure and preferred cleaning materials and procedures for car, pavement, and power washing. Proper application and disposal of pesticides, herbicides, and fertilizers and the proper disposal practices for grass clippings, leaf litter and animal waste that may enter the Rouge River. Benefits of green infrastructure and Low Impact Development and methods for managing riparian lands to protect water quality. It may also include educating commercial, industrial, and educational institutional entities likely to contribute pollutants to stormwater runoff.

Delivery Mechanism:

With ARC oversight, Friends of the Rouge (FOTR) and ARC staff will determine the topics, coordinate content, and present 6 workshops during the permit cycle. Workshop topics will vary based on annual education themes and/or needs as determined by the ARC . Workshops and presentations to business associations, chamber of commerce, business organizations, and focus groups could also be included. ARC members may host and participate in these workshops and presentations.

Year/Frequency BMP Implemented:

Six (6) workshops and presentations will be hosted during the permit cycle by ARC members.

Responsible Party:

- ARC staff will plan, coordinate and staff workshops and presentations when appropriate. Promote events on the ARC website and Facebook page
- Wayne County will assist in planning and coordinating and promote workshops and presentations when appropriate
- Oakland County will assist in planning and coordinating and promote workshops and presentations when appropriate

- Washtenaw County will assist in planning and coordinating and promote workshops and presentations when appropriate
- Friends of the Rouge will plan, coordinate, promote and staff workshops and presentations
- ARC members listed in Attachment A will assist in planning and coordinating workshops and presentations when appropriate and promote and/or host workshops and presentations

Measurable Goal:

ARC Staff, Wayne, Oakland and Washtenaw County, and FOTR will conduct six (6) workshops and presentations during the permit cycle; one (1) or more per year; and, at least one (1) per sub-watershed. Each workshop and presentation shall average at least 15 participants. ARC member communities will actively promote the events through various means such as their website calendars and social media and/or host the workshops and presentations. One or more workshops will target businesses.

Measures of Assessment:

- Sign-in sheets documenting number of attendees and communities or type of businesses represented at workshops/presentations.
- Number of materials handed out and documentation of topics presented.
- Results of surveys conducted at the end of workshop and presentation.
- Report of ARC member communities that hosted and promoted workshops/presentations.

**BMP Identifier:** 7

**BMP Descriptor:** Promote and support volunteer activities

Addresses PEP Topic:

A, B, C, D, E, F, G, H, I, J

Target Audience:

Public, businesses and schools

Key Message:

Promoting the importance of volunteer activities in the Rouge River Watershed such as River Day, Rouge Rescue, workdays, water festivals, and green schools programs will encourage public responsibility and stewardship in the Rouge River.

Delivery Mechanism:

The ARC members, Wayne, Oakland and Washtenaw County, FOTR and other partners will promote and implement Rouge River awareness and restoration projects such as Rouge Rescue, River Day, workdays, water festivals and green schools programs through websites, social media, distribution of materials and presentations. In addition, four (4) workdays may be organized and coordinated to implement watershed restoration stewardship activities at new or existing green infrastructure project sites during

the permit cycle. ARC members are encouraged to promote FOTR's Rouge Rescue and workdays that are held throughout the watershed.

Year/Frequency BMP Implemented:

ARC members will promote volunteer activities annually. The ARC may host up to 4 workdays during the permit cycle. Communities are encouraged to promote FOTR events in their communities annually.

Responsible Party:

- ARC staff will assist in planning and coordinating volunteer activities when appropriate and promote activities on the ARC website and Facebook page
- Wayne County will assist in planning and coordinating and promote volunteer activities when appropriate
- Oakland County will assist in planning and coordinating and promote volunteer activities when appropriate
- Washtenaw County will assist in planning and coordinating and promote volunteer activities when appropriate
- Friends of the Rouge will plan, coordinate, promote and staff volunteer activities
- ARC members listed in Attachment A will assist in planning and coordinating volunteer activities when appropriate and promote and/or host volunteer activities

Measurable Goal:

ARC Staff, Wayne County and FOTR will coordinate four (4) work days at GI sites during the permit cycle. ARC member communities will promote volunteer and other watershed events. ARC member communities will host, participate or promote volunteer/watershed events.

Measures of Assessment:

- Number of views on ARC website and Facebook annually
- Sign-in sheets showing number of volunteers attending the various events
- Results of surveys conducted at the end of activities
- Report of ARC member communities that hosted/participated/promoted events

**BMP Identifier:** 8

**BMP Descriptor:** Promotion of and support for volunteer monitoring activities within the Rouge River Watershed

Addresses PEP Topics:

A, B, C, I, J

Target Audience:

Public and businesses

Key Message:

Promote the importance of pollution prevention and watershed restoration and stewardship through volunteer monitoring. This monitoring may include general macroinvertebrates, stoneflies, and frogs and toads, and/or fish. Volunteer monitoring will provide education, build stewardship, and provided valuable data for the protection and restoration of the Rouge River.

Delivery Mechanism:

The ARC and Oakland and Washtenaw County will promote and support Wayne County and the Friends of the Rouge to implement a watershed-wide volunteer monitoring program through websites, social media, distribution of materials, and presentations. ARC members will actively promote public and business participation and lend support to FOTR as appropriate. ARC members will host monitoring activities at their facilities when appropriate.

Year/Frequency BMP Implemented:

Annually with one (1) Winter Stonefly Search in the winter and one (1) Bug Hunt in the spring or other like programs, and two (2) other volunteer monitoring training exercises and/or workshops. This monitoring may occur on a rotating basis.

Responsible Party:

- ARC staff will assist with planning and coordinating volunteer monitoring activities and promote on the ARC website and Facebook page
- Wayne County will plan, coordinate, promote and staff monitoring activities
- Oakland County will assist in planning and coordinating and promote monitoring activities when appropriate
- Washtenaw County will assist in planning and coordinating and promote monitoring activities when appropriate
- Friends of the Rouge will plan, coordinate, promote, and staff monitoring activities
- ARC members listed in Attachment A will assist in planning and coordinating monitoring activities when appropriate and promote and/or host monitoring activities

Measurable Goal:

FOTR will annually conduct one (1) Winter Stonefly Search, one (1) Bug Hunt and two (2) other volunteer monitoring training exercises. ARC member communities will host, participate or promote volunteer monitoring/training exercises.

Measures of Assessment:

- Number of views on ARC website and Facebook annually
- Sign-in sheets showing number of volunteers attending the various events
- Results of surveys conducted at the end of activities
- Report showing ARC member communities that hosted/participated/promoted events

**BMP Identifier:** 9

**BMP Descriptor:** Rouge River Watershed signage

Addresses PEP Topic:

A, B, F, I

Target Audience:

Public

Key Message:

Watershed signage will continue to be made available to ARC members including *River/Road Crossing* signs, *Don't Feed the Geese/Waterfowl* signs, and *Grow Zone* signs. ARC Staff will create one new sign and/or sticker for community use during the permit cycle regarding disposal practices of animal waste or other pollution prevention topic. This activity helps to educate and increase public awareness about the interconnectedness of the watershed and the storm sewer system.

Delivery Mechanism:

Passing vehicles, people biking, walking or running will view the signs and stickers when in the watershed.

Year/Frequency BMP Implemented:

Signage will be offered annually. One new sign and/or sticker or other item will be created during the permit cycle and will be provided to ARC members.

Responsible Party:

- ARC Staff will develop new sign/sticker or other item. Survey signage in watershed, create map and recommendations
- Wayne County will assist in development of new sign/sticker or other item and survey of watershed when appropriate
- Oakland County will assist in development of new sign/sticker or other item and survey of watershed when appropriate
- ARC members listed in Attachment A will assist in development of new sign/sticker or other item and survey of watershed when appropriate. Begin implementing high priority maintenance needs and new signage where appropriate

Measurable Goal:

ARC Staff will develop at least one (1) new sign or sticker during the permit cycle. During 2017 and 2018 ARC Staff, with assistance from Wayne County, Oakland County and ARC member communities, will survey the watershed to 1) document current signage to determine if maintenance is needed, and 2) document where future signage placement would be beneficial. A map will be created during the first permit cycle to document type of sign, location, and condition of signs in the watershed. During the first

permit cycle, ARC Staff, Wayne County, Oakland County, and ARC member communities will implement maintenance needs and/or new signage at high-priority locations, consistent with the findings of the survey.

Measures of Assessment:

- Completion of new sticker/sign or other item
- Number of signs/stickers or other item distributed annually
- Survey results, map and recommendations
- Number of signs maintained and new signage installed

## **SECTION D – PROCEDURE FOR EVALUATING AND DETERMINING EFFECTIVENESS**

The ARC will conduct a public awareness survey during the permit cycle and compare it to the previous survey results to evaluate changes in public awareness/behavior. After comparing the results from the surveys, the ARC PIE Committee will determine if any modifications should be made to the PEP to address ineffective implementation.

In addition to analyzing the survey results, the ARC will use the evaluations that are done at all workshops, presentations, workdays, water festivals and other activities hosted by ARC member communities and partners. This will allow the ARC to make any necessary adjustments to the information presented at the ARC supported workshops and presentations during the permit cycle.

Lastly, continued participation in regional partnership activities will allow the ARC Staff to make recommendations if these partnerships provide avenues to assist with implementing and improving the PEP.

# STORM WATER DISCHARGE PERMIT APPLICATION

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

PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal & Measure of Assessment
A B C D E F G H I J	1	Distribute pollution prevention literature on various topics through brochures, educational materials and other media	ARC member communities, counties and cooperative partners	General public, businesses	Educating on public connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing.	Brochures, educational materials and electronic media	Ongoing	Current and new items annually	ARC Staff Wayne County Oakland County Washtenaw County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Create at least 2 brochures/materials during permit cycle including one to educate commercial/industrial/educational &amp; institutional entities</li> <li>Develop at least 24 Facebook posts</li> <li>Materials available at ARC member facilities</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Number of materials distributed/topic/location/event name</li> <li>Number of posts/views on ARC Facebook</li> <li>Viewer numbers from electronic media when used</li> </ul>
A B C D E F G H I J	2	Coordinate and distribute community articles and ad graphics on pollution prevention and watershed restoration and stewardship	ARC member communities, counties and cooperative partners	General public, businesses	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing and educate commercial, industrial and educational institutional	Articles and ad graphics	Ongoing	Current items annually; five new articles and/or ad graphics during the permit cycle	ARC Staff Wayne County Oakland County Washtenaw County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Coordinate/distribute existing articles/ad graphics</li> <li>Develop 1 new article/1 new ad graphic per year (total of 5 during permit cycle)</li> <li>Increase in ARC website traffic and Facebook views</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>List of articles/ad graphics with title, topic and date</li> <li>List of articles/ad graphics promoted on ARC website/Facebook</li> <li>Number of views on ARC website/Facebook</li> </ul>

PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal & Measure of Assessment
					entities about pollution prevention.					
A B C D E F G H I	3	Provide static displays and posters on pollution prevention and watershed restoration and stewardship	ARC member communities, counties and cooperative partners	General public	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing.	Static displays and posters in each subwatershed	Current displays – ongoing; new posters in 2016 and new displays during the permit cycle	Current displays annually; up to 4 new posters in 2016 and then annually; new static displays annually upon completion	ARC Staff Wayne County Oakland County Washtenaw County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Distribute 4 seasonal posters, post &amp; rotate seasonally at least 3 out of 5 years during permit cycle.</li> <li>Update/create at least 3 static displays and used at 3-4 ARC member community events per year during the permit cycle with a minimum of 2 events in each of the 7 subwatersheds during the permit cycle.</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Report of display/date/location and title of events where displays were used</li> <li>Number of posters distributed and location</li> <li>Number of static displays created annually</li> </ul>
A B C E G J	4	Promote environmental hotlines to educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4	ARC member communities, Wayne County, Oakland County, Washtenaw County, State of Michigan	General public, municipal employees and businesses	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, public responsibility and stewardship in the Rouge River watershed, proper disposal of pesticides, herbicides and fertilizers, promote HHHW including trailer, motor vehicle and chemical waste, educate commercial, industrial and educational institutional entities about pollution prevention.	Websites, social media, brochures, electronic media, at events and trainings	Ongoing	Annually	ARC Staff Wayne County Oakland County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Distribute materials annually with hotline referenced</li> <li>Promote on ARC and ARC member community website and Facebook</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Number of materials distributed annually</li> <li>Number of views on ARC website and Facebook</li> </ul>
A B C D E F G H I	5	Development of “homeowner s” materials to promote the importance of pollution prevention and watershed	ARC member communities, counties and cooperative partners	General public	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and	Brochure	During the permit cycle	Annually	ARC Staff Wayne County Oakland County Washtenaw County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Develop homeowner materials within 1 year of permit approval</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Completion of brochure</li> <li>Number of materials distributed annually</li> <li>Number of materials distributed to new home</li> </ul>

PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal & Measure of Assessment
		restoration and stewardship			animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, and cleaning materials and proper car, pavement and power washing					owners by ARC member communities <ul style="list-style-type: none"> <li>Number of views on ARC website and Facebook</li> </ul>
A B C D E F G H I J	6	Develop and promote educational workshops and presentations	ARC member communities, Friends of the Rouge and counties and cooperative partners	General public, businesses	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing and educate commercial, industrial and educational institutional entities about pollution prevention.	Workshops and presentations	Ongoing	6 during the permit cycle	ARC Staff Friends of the Rouge Wayne County Oakland County Washtenaw County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Conduct six workshops/presentations during the permit cycle, 1 or more per year and at least 1 per sub-watershed.</li> <li>Each event will average at least 15 participants.</li> <li>ARC member communities will promote and/or host events</li> <li>One or more will target businesses</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Sign-in sheets with number of attendees and type</li> <li>Number and topics of materials handed out and presented</li> <li>Survey results</li> <li>Report of ARC member communities promoting/hosting events</li> </ul>
A B C D E F G H I J	7	Promote and support volunteer activities	ARC member communities, Wayne County, Oakland County, Washtenaw County, Friends of the Rouge, Cranbrook Institute of Science, University of Michigan - Dearborn	General public, businesses and schools	Promoting the importance of volunteer activities in the Rouge River Watershed such as River Day, Rouge Rescue, workdays, water festivals and green schools programs will encourage public responsibility and stewardship in the Rouge River.	Website/social media, materials distributed and presentations and workdays	Ongoing	Promotion of activities will be annually and up to 4 workdays may be hosted during the permit cycle	ARC Staff Friends of the Rouge Wayne County Oakland County Washtenaw County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Coordinate 4 work days during permit cycle</li> <li>ARC member communities will promote, participate or host volunteer and other watershed events</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Number of views on ARC website and Facebook annually</li> <li>Sign-in sheets documenting volunteer attendance</li> <li>Survey results</li> <li>Report of ARC member communities that hosted, participated or promoted events</li> </ul>

PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal & Measure of Assessment
A B C I J	8	Promotion and support volunteer monitoring activities within the Rouge River Watershed	ARC member communities, Wayne County, Oakland County, Washtenaw County, Friends of the Rouge	General public and businesses	Promote the importance of pollution prevention and watershed restoration and stewardship through volunteer monitoring. This monitoring may include general macroinvertebrates, stoneflies, and frogs and toads and/or fish. Volunteer monitoring will provide education, build stewardship and provided valuable data for the protection and restoration of the Rouge River.	Website/social media, materials distributed and presentations	Ongoing	1 Winter Stonefly Search and 1 Bug Hunt or other like programs, and 2 other volunteer monitoring training exercises and/or workshops annually	ARC Staff Friends of the Rouge Wayne County Oakland County Washtenaw County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Conduct 1 winter stonefly search, 1 bug hunt and 2 other volunteer monitoring training exercises annually</li> <li>ARC member communities will promote, participate or host volunteer events</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Number of views on ARC website and Facebook</li> <li>Sign-in sheets showing number of volunteers</li> <li>Survey results</li> <li>Report of ARC member communities that hosted, participated or promoted events</li> </ul>
A B F I	9	Rouge River Watershed signage	ARC member communities, Wayne County, Oakland County, and Washtenaw County	General public	River/Road Crossing signs, Don't Feed the Geese/Waterfowl signs, and Grow Zone signs and disposal practices of animal waste or other pollution prevention topic. This activity helps to educate and increase public awareness about the interconnectedness of the watershed and the storm sewer system.	Signs and sticker	Ongoing and one new sign and/or bumper sticker during the permit cycle	Annually	ARC Staff Wayne County Oakland County ARC members listed in Attachment A	<u>Goals:</u> <ul style="list-style-type: none"> <li>Develop at least 1 new sign or sticker during permit cycle</li> <li>During first 2 years survey watershed signage for maintenance and future sign needs</li> <li>Create map during permit cycle documenting survey results</li> <li>Implement maintenance and/or new signage at high-priority locations during the first permit cycle</li> </ul> <u>Assessment:</u> <ul style="list-style-type: none"> <li>Complete at least 1 new sign/sticker or other item</li> <li>Number of signs/stickers or other items distributed annually</li> <li>Survey results, map and recommendations</li> <li>Number of signs maintained and new signage installed</li> </ul>

## **ATTACHMENT A**

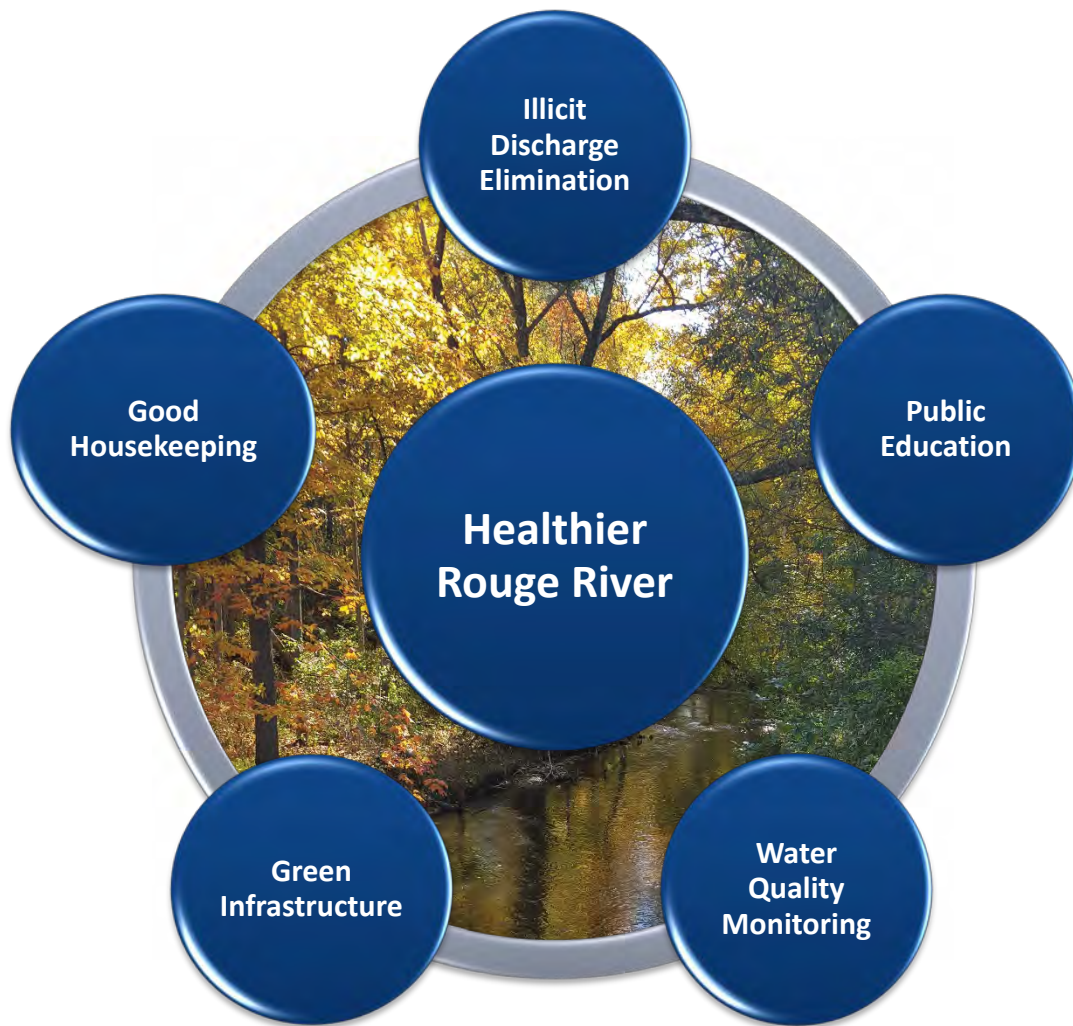
## ATTACHMENT A: Responsible Communities and Partners

This Collaborative PEP is submitted on behalf of the below listed MS4 permit holders with support from the ARC Staff and its cooperating partners that participate in the Storm Water Education Program facilitated by the Alliance of Rouge Communities (ARC).

RESPONSIBLE PARTY	SPECIFIC BMP IDENTIFIER
<b>ARC Staff (under contract to the ARC)</b>	1, 2, 3, 4, 5, 6, 7, 8, 9
<b>Friends of the Rouge (under contract to the ARC)</b>	6, 7, 8
<b>Communities</b>	
Beverly Hills, Village of	1, 2, 3, 4, 5, 6, 7, 8, 9
Bingham Farms, Village of	1, 2, 3, 4, 5, 6, 7, 8, 9
Birmingham	1, 2, 3, 4, 5, 6, 7, 8, 9
Bloomfield Hills	1, 2, 3, 4, 5, 6, 7, 8, 9
Bloomfield Twp.	1, 2, 3, 4, 5, 6, 7, 8, 9
Canton Twp.	1, 2, 3, 4, 5, 6, 7, 8, 9
Dearborn Heights	1, 2, 3, 4, 5, 6, 7, 8, 9
Farmington	1, 2, 3, 4, 5, 6, 7, 8, 9
Farmington Hills	1, 2, 3, 4, 5, 6, 7, 8, 9
Franklin, Village of	1, 2, 3, 4, 5, 6, 7, 8, 9
Garden City	1, 2, 3, 4, 5, 6, 7, 8, 9
Inkster	1, 2, 3, 4, 5, 6, 7, 8, 9
Lathrup Village	1, 2, 3, 4, 5, 6, 7, 8, 9
Livonia	1, 2, 3, 4, 5, 6, 7, 8, 9
Melvindale	1, 2, 3, 4, 5, 6, 7, 8, 9
Northville	1, 2, 3, 4, 5, 6, 7, 8, 9
Northville Twp.	1, 2, 3, 4, 5, 6, 7, 8, 9
Novi	1, 2, 3, 4, 5, 6, 7, 8, 9
Oak Park	1, 2, 3, 4, 5, 6, 7, 8, 9
Plymouth	1, 2, 3, 4, 5, 6, 7, 8, 9
Plymouth Twp.	1, 2, 3, 4, 5, 6, 7, 8, 9
Redford Twp.	1, 2, 3, 4, 5, 6, 7, 8, 9
Southfield	1, 2, 3, 4, 5, 6, 7, 8, 9
Troy	1, 2, 3, 4, 5, 6, 7, 8, 9
Walled Lake	1, 2, 3, 4, 5, 6, 7, 8, 9
Wayne	1, 2, 3, 4, 5, 6, 7, 8, 9
Westland	1, 2, 3, 4, 5, 6, 7, 8, 9
West Bloomfield Twp.	1, 2, 3, 4, 5, 6, 7, 8, 9
<b>Counties</b>	
Wayne County	1, 2, 3, 4, 5, 6, 7, 8, 9
Oakland County*	1, 2, 3, 4, 5, 6, 7, 8, 9
Washtenaw County*	1, 2, 3, 5, 6, 7, 8
<b>Schools</b>	
Henry Ford College	1, 2, 3, 4, 5, 6, 7, 8, 9
Schoolcraft College	1, 2, 3, 4, 5, 6, 7, 8, 9
<b>Other</b>	
Wayne County Airport Authority – Willow Run Airport	2, 4, 7, 8, 9

\*Participating but this plan is not part of their pending permit application

# ROUGE RIVER COLLABORATIVE TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION PLAN FOR MUNICIPAL STORMWATER PERMITTEES



*Prepared by:*

46036 Michigan Ave., Suite 126  
Canton, Michigan 48188  
[www.allianceofcommunities.com](http://www.allianceofcommunities.com)

September 5, 2019  
Revised January 14, 2020

**From:** [Hendges, Martin \(EGLE\)](#)  
**To:** [Annette DeMaria](#)  
**Cc:** [Alexander, Christine \(EGLE\)](#); [Alwin, Christe \(EGLE\)](#)  
**Subject:** RE: Rouge TMDL Plan update  
**Date:** Monday, September 09, 2019 7:33:32 AM

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Annette,

This version of the Rouge TMDL Plan dated September 5, 2019 satisfies our remaining comments and is hereby approved.

Please inform the Rouge TMDL Plan participating MS4 permittees that they can go ahead and upload this approved version to their MiWaters sites and remove any draft versions. I am also going to inform some other permittees since this was the last remaining item that was holding up their permit reissuance.

Thank you for your work on developing and revising the plan.

Martin Hendges  
Senior Environmental Quality Analyst  
Water Resources Division/Warren District Office  
Michigan Department of Environment, Great Lakes, and Energy  
586-342-0939 | [hendgesm@Michigan.gov](mailto:hendgesm@Michigan.gov)  
[Follow Us](#) | [Michigan.gov/EGLE](http://Michigan.gov/EGLE)



---

**From:** Annette DeMaria <ademaria@ectinc.com>  
**Sent:** Thursday, September 5, 2019 12:23 PM  
**To:** Alexander, Christine (EGLE) <ALEXANDERC2@michigan.gov>; Hendges, Martin (EGLE) <HENDGESM@michigan.gov>  
**Subject:** RE: Rouge TMDL Plan update

Marty and Chris, on behalf of the Alliance of Rouge Communities, I am forwarding the revised TMDL plan for EGLE review and approval. I have included 1) a redline version so you can easily see what has been modified from the previous version and 2) a clean pdf version in the hopes that we are at the finish line.

Please me know if you have any questions.

Annette DeMaria, P.E., PMP  
Executive Director  
**Alliance of Rouge Communities**  
248-765-4085 (cell) | [ademaria@ectinc.com](mailto:ademaria@ectinc.com)  
[www.allianceofrougecommunities.com](http://www.allianceofrougecommunities.com)

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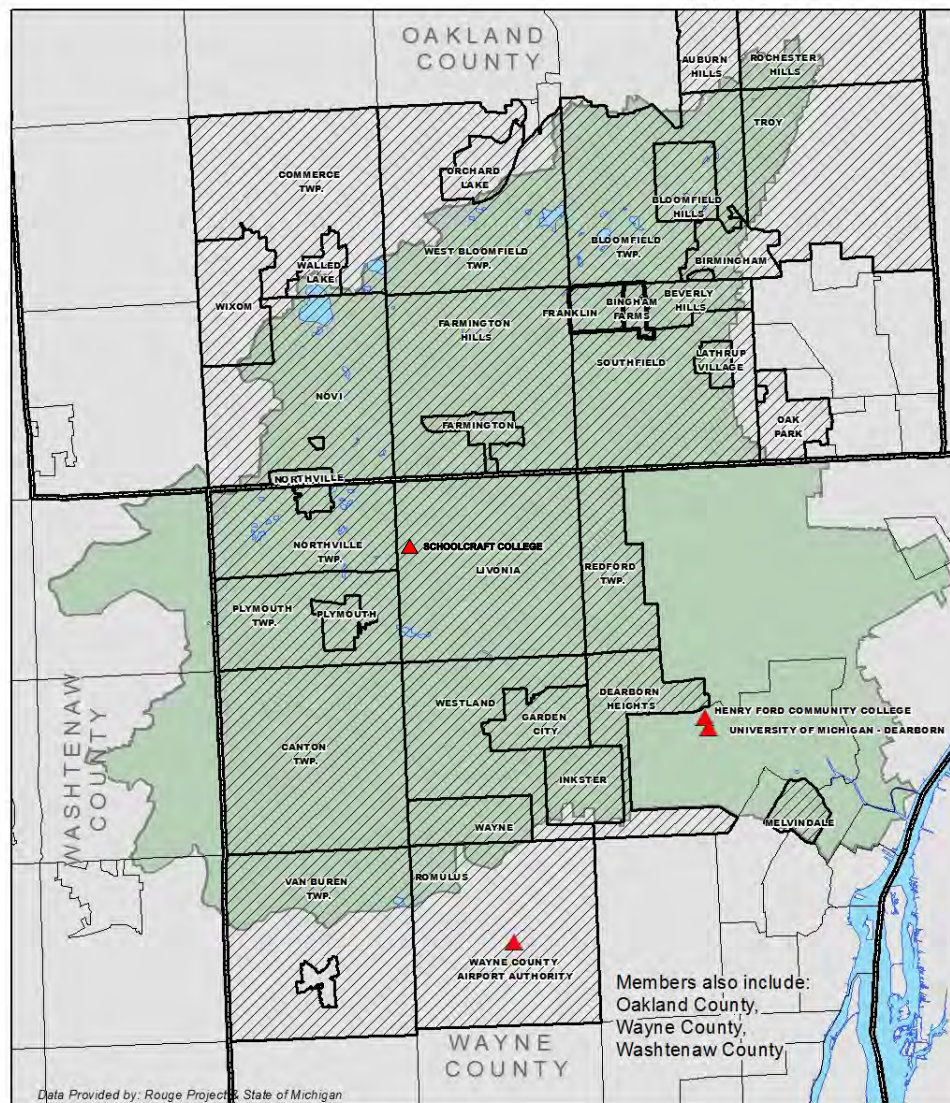
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Attachment A	List of Participating Members
Attachment B	BMP Selection Criteria and Ranking

## A. Introduction

The Alliance of Rouge Communities (ARC), a 501(c)(3) organization, is a voluntary public watershed entity currently comprised of municipal governments, counties, schools, and cooperating partners as authorized by Part 312 (Watershed Alliances) of the Michigan Natural Resources and Environmental Protection Act (MCL 324.101 to 324.90106) as amended by Act No. 517, Public Acts of 2004. The purpose of the ARC is to provide an institutional mechanism to encourage watershed-wide cooperation and mutual support to meet water quality permit requirements and to restore beneficial uses of the Rouge River to the area residents.



### ARC Member Communities

February 2017

This Collaborative Plan (Plan) presents the watershed-wide approach to effectively and efficiently address the pollutants contained within approved Total Maximum Daily Load (TMDL) Assessments for the Rouge River watershed. This Plan was developed by the Technical Committee of the Alliance of Rouge Communities (ARC) in response to the requirements under the State of Michigan’s Permit Application for Discharges of Storm Water to Surface Waters of the State from a Municipal Separate Storm Sewer System (MS4), revised October 2015.

This Plan is intended to meet the TMDL elements of the permit application: questions 85 – 88. These requirements are as follows:

- Provide a procedure for identifying and prioritizing BMPs to reduce the TMDL pollutants,
- Provide a list of BMPs that will be implemented to reduce the TMDL pollutants, and
- Provide a monitoring plan to assess the effectiveness of the BMPs.

The U.S. Environmental Protection Agency (EPA) requires a TMDL Assessment for waterbodies identified on the state’s impaired waters list. EPA has approved three TMDL Assessments within the Rouge River watershed as listed below. The *E. coli* and biota assessments apply to the entire watershed, while the dissolved oxygen (DO) assessment only applies to the City of Northville, Northville Township and the City of Novi.

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

This Plan will address each of these parameters within the limits of the MS4 permit. **As such, this should not be considered an implementation plan to address all sources, only those under the authority of the MS4 permit.**

This Plan will be implemented by the participating communities through the end of the permit cycle for the Rouge River watershed. The list of permittees participating in this Plan can be found in **Attachment A**.

## B. Background

Within the TMDL Assessments, the MDEQ established primary and secondary targets for municipal stormwater permittees as shown in **Table 1**<sup>1</sup>. When the primary target is met, the waterbody has achieved the goals of the TMDL and the waterbody would be eligible for removal from the state’s impaired waters list. The secondary target parameters can be thought of as surrogates that will be useful in determining the success of the selected best management practices that are needed to reduce pollutant loads. In all three assessments, the MDEQ opted to assign collective targets to the MS4 permittees rather than individual targets. This would seem to indicate that the MDEQ recognizes that demonstration of progress can be shown on a watershed-basis rather than within jurisdictional

<sup>1</sup> For ease of understanding, this document refers to concentration-based, rather than load-based targets. The pollutant load targets listed in the TMDLs are based on these concentrations.

boundaries. It should be noted that the *E. coli* target is equivalent to the state's full body contact standards for recreational waters which will be very difficult to achieve in urban stormwater runoff.

**Table 1 – TMDL Targets for Municipal Stormwater Permittees**

Parameter	TMDL Targets for MS4 Permittees Primary (1°) and Secondary (2°)	Notes
<i>E. coli</i>	1°: 300 cfu/100 ml and 130 cfu/100 ml	Daily geometric mean value 30 day geometric mean value
Biota	1°: Procedure 51 scores ≥ Acceptable 2°: Suspended solids ≤ 80 mg/l	For 2 successive years Annual average during wet weather
Dissolved Oxygen	1°: 7 mg/L 2°: Suspended solids ≤ 80 mg/l*	Johnson Creek is considered a cold water stream, thus has a target of 7 mg/L; all other reaches of the Rouge River have a target of 5 mg/L.

\*This concentration is presumed for the purposes of this document, but it was not explicitly listed in the DO TMDL.

### B.1. *E. coli* Conditions

Between May and October 2005, the MDEQ evaluated *E. coli* conditions on a routine basis during a range of weather conditions at approximately 70 locations across the watershed. Issues were found during both dry and wet weather conditions at most sites as indicated in **Table 2**. MDEQ also determined that human sources of *E. coli* were likely present at a few sites based on DNA analyses. However, only a few samples with elevated *E. coli* levels were evaluated for the presence of human DNA (MDEQ, 2007a).

**Table 2 – Summary of *E. coli* Data from the *E. coli* TMDL**

River Branch	Range of Exceedances by Site (% of samples above the standard)		
	Above the Monthly Standard of 130 cfu/100 ml	Above the Daily Standard of 300 cfu/100 ml	Above the Partial Body Contact Standard of 1,000 cfu/100 ml
Lower	89 – 100%*	41 – 100%	9 – 83%
Main	59 – 100%	40 – 100%	0 – 71%
Middle	89 – 100%	39 – 100%	9 – 91%
Upper	100%	90 – 100%	48 – 86%

\*Table interpretation note: at least one site had 89% of samples exceed the monthly standard and at least one site had all (100%) samples exceed the monthly standard. The remaining sites fell within this range.

### B.2. Suspended Solids Conditions

For the Biota TMDL, the MDEQ calculated the mean suspended solids concentration of each major river branch using data collected by the Rouge Project between 1994 and 2001 (**Table 3**). Data was considered wet weather if the sample was taken after a dry period (generally three days minimum) followed by a precipitation event (generally greater than 0.25 inches) that caused the river to respond significantly (Hufnagel 1996). In addition, an annual sediment load of 33,800 tons/year was calculated using the Simple Method model based on 33 inches of annual rainfall, 2003 land use data and event mean concentrations developed by Cave, et al for various land uses. Based on the secondary target of 80 mg/l during wet weather, a suspended solids loading target of approximately 29,000 tons/year was established. This would require a 15% reduction in sediment loads from stormwater permittees (MDEQ, 2007b).

**Table 3. Suspended Solids Concentrations by River Branch**

River Branch	Mean Suspended Solids Concentration (mg/l)	
	Wet Weather*	Dry Weather
Lower	191	37
Main	114	27

River Branch	Mean Suspended Solids Concentration (mg/l)	
	Wet Weather*	Dry Weather
Middle	95	19
Upper	152	30
Watershed-wide	138	28

\*The secondary TMDL target is 80 mg/l as an annual average during wet weather.

### B.3. Dissolved Oxygen Conditions

For dissolved oxygen, the MDEQ determined that 3% of samples collected within the TMDL reach of Johnson Creek (a cold water stream) were below the target of 7 mg/l. This result was primarily based on 43,000 hourly DO values collected at 7 Mile Road by the Rouge Project between 1994 and 1996. The instances of low DO occurred primarily during low flow (non-runoff) conditions and high flows often resulted in higher levels of DO. Based on available data of other suspect pollutants, the MDEQ determined sediment oxygen demand was the primary factor affecting the low DO levels in Johnson Creek. They also noted that low base flow conditions were also contributing to the low DO levels. It is noted that data used in this assessment was at least 10 years old which may not reflect conditions at the time the assessment was written.

Based on modeling, the MDEQ estimated that the existing suspended sediment load from MS4s was 650 tons/year and that an 85% reduction was needed to meet the target of 96 tons/year. This should result in Johnson Creek meeting the 7 mg/l DO target for cold water streams during low flow conditions (MDEQ, 2007c). Note that the MDEQ did not explicitly state the concentration of suspended sediment needed to meet the target, only the load.

### B.4. Pollutant Sources

The Alliance of Rouge Communities (ARC) determined the suspected sources and causes associated with each of the TMDL parameters as shown in Tables 4 and 5. Only those sources regulated under the MS4 permit are included in these tables.

**Table 4 – Sources and Causes of *E. coli***

Suspected Sources*	Suspected Causes
Failing Septic Systems (OSDS)	<ul style="list-style-type: none"> <li>Historical lack of septic system maintenance, education, inspection and correction.</li> <li>Undetected or uncorrected illicit discharges.</li> </ul>
Illicit Sanitary Connections to a Storm System	<ul style="list-style-type: none"> <li>Undetected or uncorrected illicit discharges.</li> </ul>
Pet Waste/Urban Animal Waste	<ul style="list-style-type: none"> <li>Little knowledge of the importance of pet waste /urban animal waste management.</li> <li>Loss of pervious areas via urban development.</li> </ul>
Re-suspended Sediment	<ul style="list-style-type: none"> <li>Excessive peak discharges</li> <li>Unsatisfactory infrastructure maintenance.</li> </ul>

\*Additional sources not regulated under the MS4 permit but contributing to the pollutant are uncontrolled combined sewer overflows, sanitary sewer overflows, sanitary sewer maintenance, wastewater treatment plant flows, and runoff impacted by animal waste from agricultural lands.

**Table 5 – Sources and Causes of Sediment**

Suspected Sources*	Suspected Causes
Roads/Highways/Bridges and Related Infrastructure on Municipal Properties	<ul style="list-style-type: none"> <li>Loss of pervious areas via urban development.</li> <li>Insufficient stormwater infrastructure maintenance.</li> </ul>
Infrastructure on commercial & industrial properties	<ul style="list-style-type: none"> <li>Poor housekeeping.</li> <li>Insufficient stormwater infrastructure maintenance.</li> </ul>

\*Additional pollutant sources not regulated under the MS4 permit but likely contributing to the pollutant are eroding streambanks, and runoff from agricultural lands and communities not regulated to discharge stormwater.

## B.5. Summary

Based on the information discussed above, addressing the indicator pollutants/parameters shown in **Table 6** will make progress toward addressing the impairments identified in the TMDLs.

**Table 6. Indicators to be Addressed in this Plan**

Indicators	Associated TMDLs
<i>E. coli</i>	<i>E. coli</i>
Suspended Solids	Biota Dissolved Oxygen <i>E. coli</i>
Stream flow	Biota Dissolved Oxygen <i>E. coli</i>

## C. BMP Prioritization Procedure

Several criteria were used to prioritize the best management practices (BMPs) that should be implemented to address the impairments. These criteria are as follows:

- 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 impact the concentrations of *E. coli* and suspended solids in the river and/or reduce peak stream flows.
  - Low, moderate, high
- C. Ability of the BMP to impact multiple TMDL parameters
  - Low, moderate, high
- D. Anticipated level of impact of the BMP as compared to added cost to implement it.
  - Low, moderate, high
- E. Legal authority to implement the BMP.
  - Yes or no
- F. Are there prerequisite projects that need to be completed before the BMP can be implemented?
  - Yes or no.

This process will be reviewed and updated, if necessary, by the ARC within 90 days of the end of the permit term. The review will be based on the results of monitoring data and other measurables provided in Section E.

## D. Selected BMPs

Using the criteria listed above, several BMPs were evaluated for implementation as shown in Attachment B. Those BMPs with the highest scores are listed in **Table 7** along with the associated TMDL pollutant. These BMPs will be implemented by ARC members on an ongoing basis or according to the frequencies/schedules listed in the collaborative plans and stormwater management plans (SWMP).

**Table 7 – Best Management Practices to be Implemented**

Best Management Practice	Associated TMDL Parameter
TMDL #1: Activities listed in the Rouge River Watershed Collaborative Illicit Discharge Elimination Plan and Wayne County's SWMP	<i>E. coli</i>
TMDL #2: Review and approval of developer stormwater plans following the new Post-Construction Stormwater Standards	SS and Stream Flow
TMDL #3: Construction of stormwater management measures for permittee-owned projects on public property following the new Post-Construction Stormwater Standards	SS and Stream Flow
TMDL #4: Construction of stormwater management measures on privately owned sites following new Post-Construction Stormwater Standards	SS and Stream Flow
TMDL #5: Activities listed in the Rouge River Watershed Collaborative Public Education Plan including education on septic system maintenance, the impacts of improperly disposed of pet waste, the impacts of feeding waterfowl, and the pollution complaint line	<i>E. coli</i> and SS
TMDL #6: Conduct catch basin cleaning as listed in each permittee's SWMP	SS and <i>E. coli</i>
TMDL #7: Conduct street sweeping as listed in each permittee's SWMP	SS and <i>E. coli</i>
TMDL #8: Proper management of materials stockpiles as listed in each permittee's SWMP	SS

Note: SS=Suspended solids

## E. Evaluating Effectiveness

### E.1. Evaluation Metrics and Milestones

The effectiveness of this Plan will be measured using the tracking metrics indicated in **Table 8**. The milestones included below are based on each permittee's commitment in their SWMP. This information will be included in the permittees' biennial report to the MDEQ.

**Table 8 – Tracking Metrics for Evaluating Effectiveness**

Metric	Milestone	BMP*
A. Success of Collaborative IDEP Plan Success of Wayne County IDEP Plan	See plans	TMDL #1
B. Status of adoption of Post-Construction Stormwater Standards by Permittee	100% of permittees adopt new standards	TMDL #2, #3
C. Number of stormwater plans reviewed for private sites under new standards vs previous standards	100%	TMDL #2
D. Percentage of permittee projects constructed under new standards vs previous standards; and Percentage of private projects constructed under new standards vs previous standards	100%	TMDL #3, #4
E. Success of Collaborative PEP Plan	See plan	TMDL #5
F. Number of catch basins cleaned	100%	TMDL #6
G. Miles of streets swept	100%	TMDL #7
H. Number of stockpiles showing no impact to stormwater runoff	100%	TMDL #8

\*As described in Table 7.

Effectiveness will also be determined by monitoring results as described below and outlined in **Table 9**. The dates below assume that some of the Rouge permittees will be issued their permits by the end of 2019.

**Table 9. Monitoring Plan**

Parameter	Anticipated Monitoring Sites	Frequency	Schedule
Dissolved oxygen	Event 1 and 2: Johnson Creek at 7 Mile east of Sheldon Road	Event 1: 5 months Event 2: 2 months	Event 1: May – Oct 2017 Event 2: May – Oct 2022, if needed
<i>E. coli</i>	Event 1: A) Communities: Terminus of initial priority areas and Priority outfalls with discharge B) Wayne County: Priority area outfalls with discharge  Event 2: Communities and Wayne County: Terminus of initial priority areas and Priority outfalls that required advanced investigations (Category A and B outfalls) plus select Category C outfalls for a minimum of 100 sites	Event 1: A) 1 time  B) 1 time  Event 2: 1 time	Event 1: A) 2018  B) 2017-2018  Event 2: May – Oct 2022
Suspended solids	Event 1: 90 sites (Figure 1)  Event 2: Sites with average wet weather TSS > 80 mg/l and with single samples > 120 mg/L from Event 1.	Event 1: 5 times  Event 2: 1 time	Event 1: May – Oct 2017  Event 2: May – Oct 2022

For *E. coli*, Event 1 sampling will take place at the terminus of the initial priority areas and priority outfalls that are being screened as part of the Collaborative IDEP Plan. At these sites, one dry weather sample will be collected. The initial priority areas are identified on **Figures 1 and 2** and the priority outfalls will be determined in 2018. In addition, Event 1 sampling will take place at the Wayne County-owned outfalls in 2017 and 2018. These outfalls are in the ARC's initial priority areas. This sampling is part of the county's outfall dry-weather screening process. Approximately, 500 outfalls (400 community-owned and 150 county-owned) will be screened during this process. We estimate that 175 samples will be collected based on the assumption that 40% of the community and 10% of the county outfalls will have discharge.

For Event 2, *E. coli* sampling will take place during dry weather at the terminus of the initial priority areas and at priority outfalls that had *E. coli* concentrations > 5,000 cfu/100 mL (Category A and B outfalls per the Collaborative IDEP Plan) during Event 1. In addition, outfalls with *E. coli* between 1,000 and 5,000 cfu/100 mL (Category C outfalls per the Collaborative IDEP Plan) during Event 1 will be sampled so that a minimum of 100 locations are sampled during Event 2. The Event 1 samples will be compared to the Event 2 samples to determine the effectiveness of reducing *E. coli* levels.

DO levels in Johnson Creek were evaluated in 2017 as shown in **Figure 3**. This will be the Event 1 data. Although the data is still provisional, it is expected that the water quality standard of 7 mg/L will be met more than 90% of the time. As a result, the creek is expected to be removed from the impaired waters list in the 2020 Integrated Report. However, if the creek is not removed from the impaired waters list, Johnson Creek will be re-monitored at the same location (7 Mile and Sheldon roads) for Event 2. This monitoring will consist of continuous readings for a period of two months during the summer. This data will be compared to the 2017 results collected during the same period.

Suspended sediment levels were measured at 90 sites across the watershed in 2017 as shown in **Figure 4** for Event 1. Samples were collected on a routine basis to include both dry and wet weather conditions.

The monitoring sites were selected to catch tributaries prior to the confluence with the larger branches of the River. This was done to better identify pollutant sources. Sites were also located throughout the main branches of the Rouge to capture water quality from those stormwater outfalls discharging directly to the main branches. Effort was made to include monitoring sites in all MS4 permittee's jurisdictions that have open streams that drain to the Rouge. For Event 2, suspended sediment sampling will be repeated during wet weather at sites where the average wet weather TSS values exceeded 80 mg/l and where single sample values exceeded 120 mg/L in 2017. This sampling will occur one time during wet weather. The Event 1 and Event 2 data will be compared to the values included in **Table 3** (from the Biota TMDL Assessment) to determine if progress has been made in achieving the wet weather suspended sediment target of 80 mg/L.

Two reports will be prepared as part of this plan. First a metric summary report will be developed following the submittal of the permittees second progress report. This report will describe the progress toward meeting the milestones provided in **Table 8**. In addition, a TMDL effectiveness report will be prepared that summarizes the monitoring data outlined in **Table 9**. This report will compare the most recent data to the previously collected data to determine if the permittees are making progress toward meeting the pollutant reduction goals established in the *E. coli*, Biota and DO TMDL Assessment reports.

Schedule:           Metric Summary Report: Due March 30, 2023  
                          TMDL Monitoring Report: Due March 30, 2023

ARC Member Responsibilities:

- ARC (as contracted by the permittees)
  - Conduct instream monitoring for DO and TSS.
  - Collect *E. coli* samples at priority outfalls and at terminus of initial priority areas as part of the Collaborative IDEP Plan by October 30, 2022.
  - Collect tracking metrics data from permittees.
  - Evaluate Metrics A and E.
  - Prepare the Metric Summary and TMDL Monitoring reports.
- Counties (WCDPS)
  - Collect *E. coli* samples at priority outfalls in years 2017 and 2018 and resample priority outfalls in 2022. Provide raw data to ARC staff by October 30, 2022.
  - Keep records of Metrics B, C, D, F, G and H as listed in **Table 8** and provide the data to ARC staff by April 30, 2022.
- Cities and Villages
  - Keep records of Metrics B, C, D, F, G and H as listed in **Table 8** and provide the data to ARC staff by April 30, 2022.
- Townships
  - Keep records of Metrics C, D, F and H as listed in **Table 8** and provide the data to ARC staff by April 30, 2022.
- Schools and Other Permittees
  - Keep records of Metrics D, F and H as listed in **Table 8** and provide the data to ARC staff by April 30, 2022.

**Figure 1 – Initial *E. coli* Priority Areas in Wayne County**

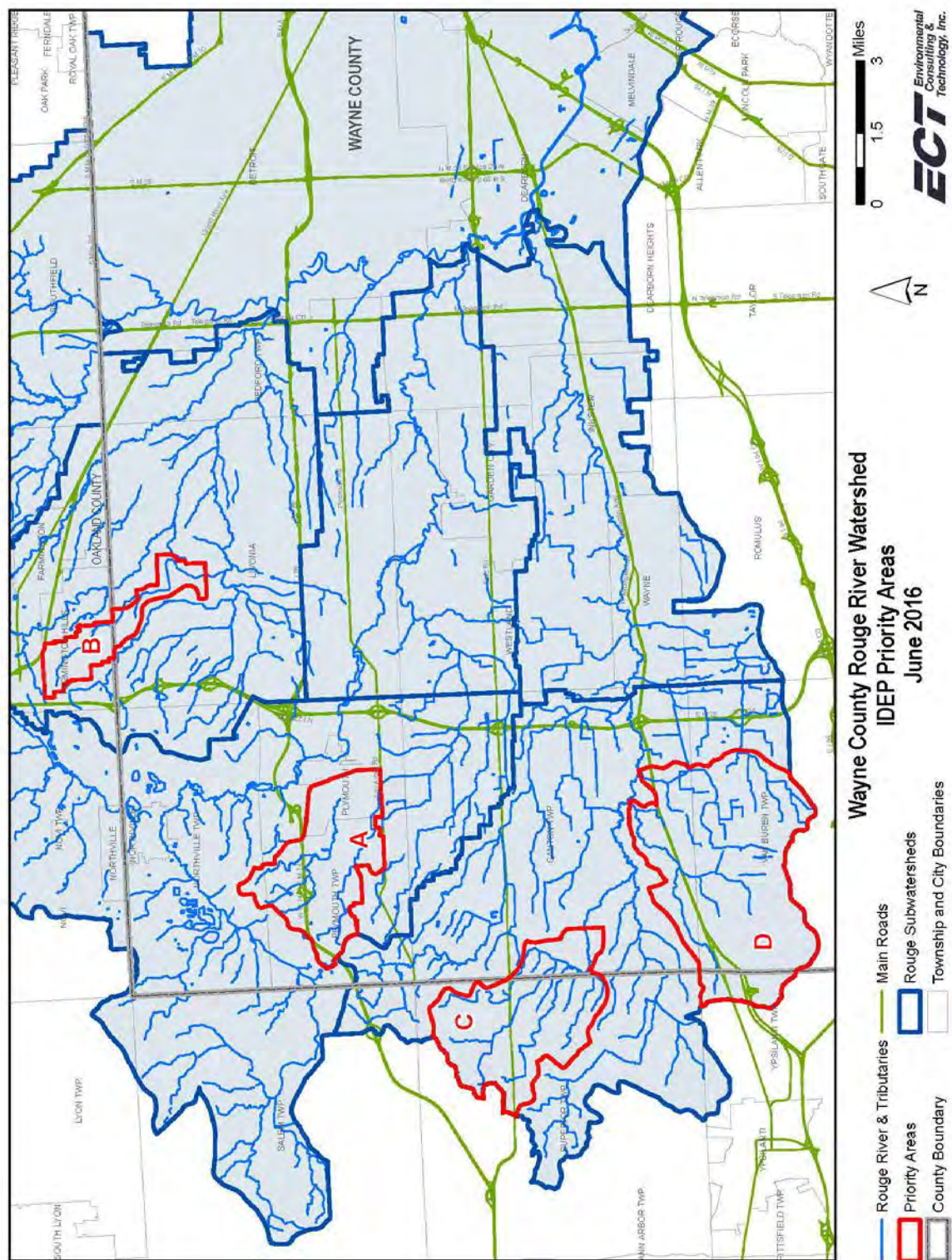
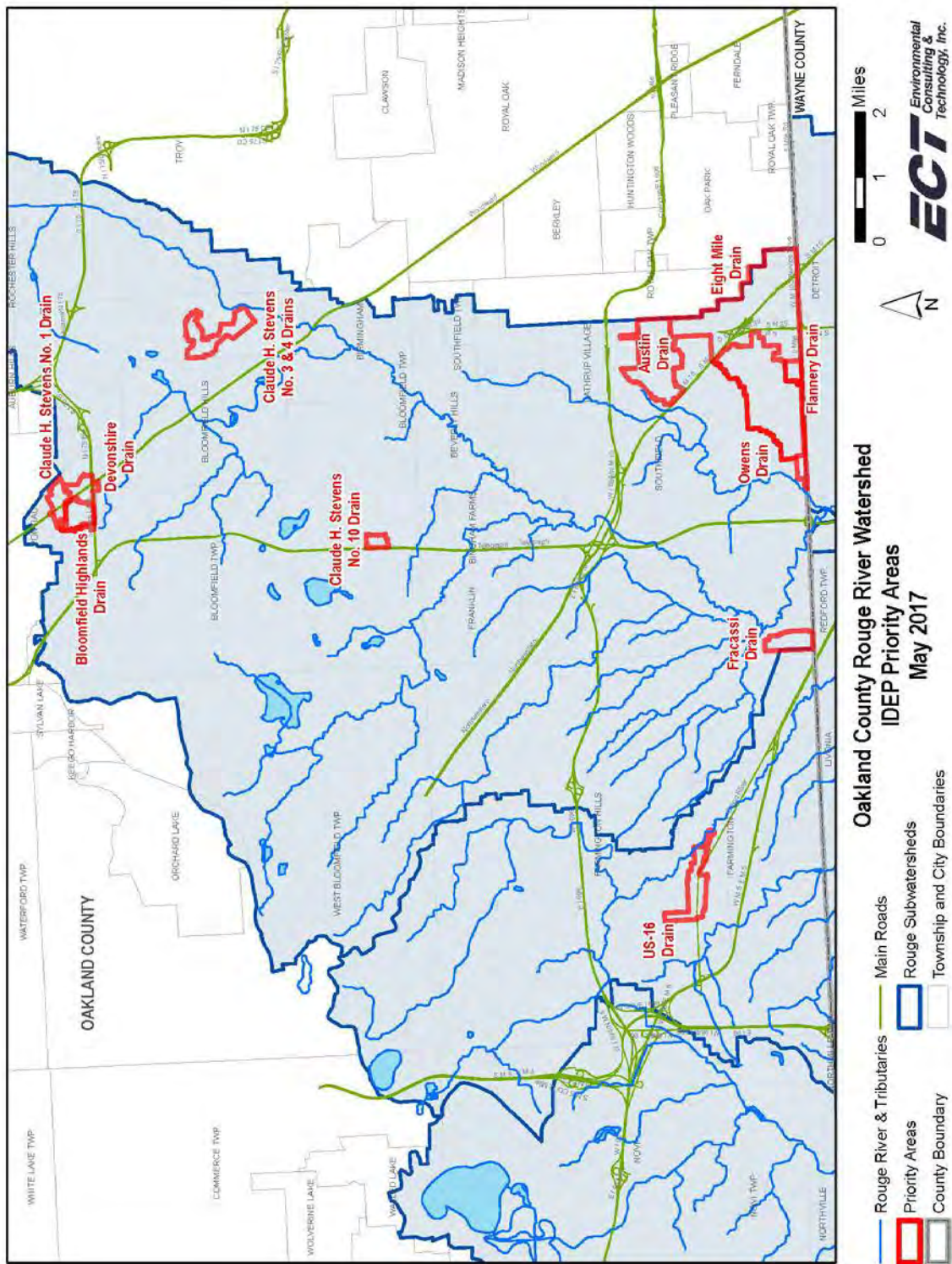
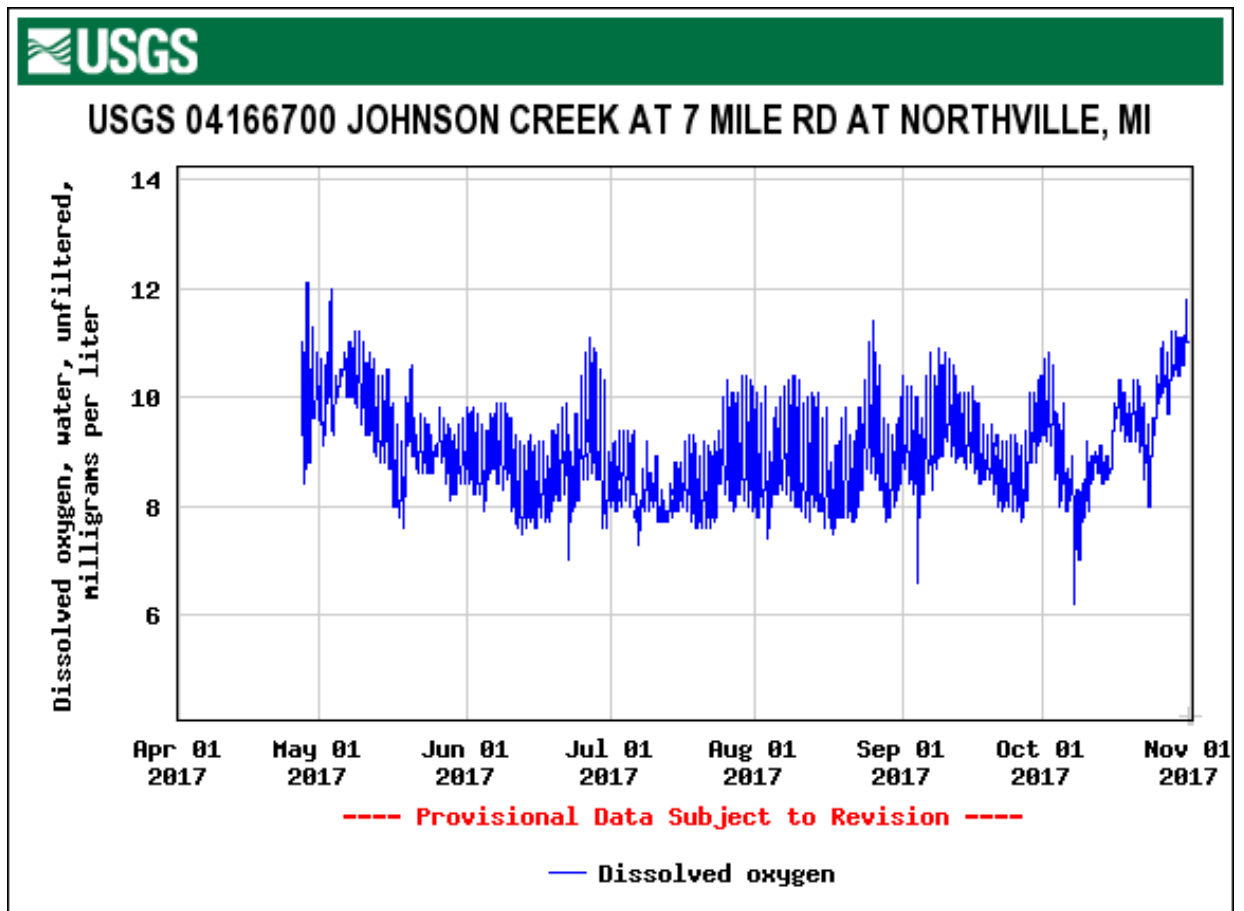


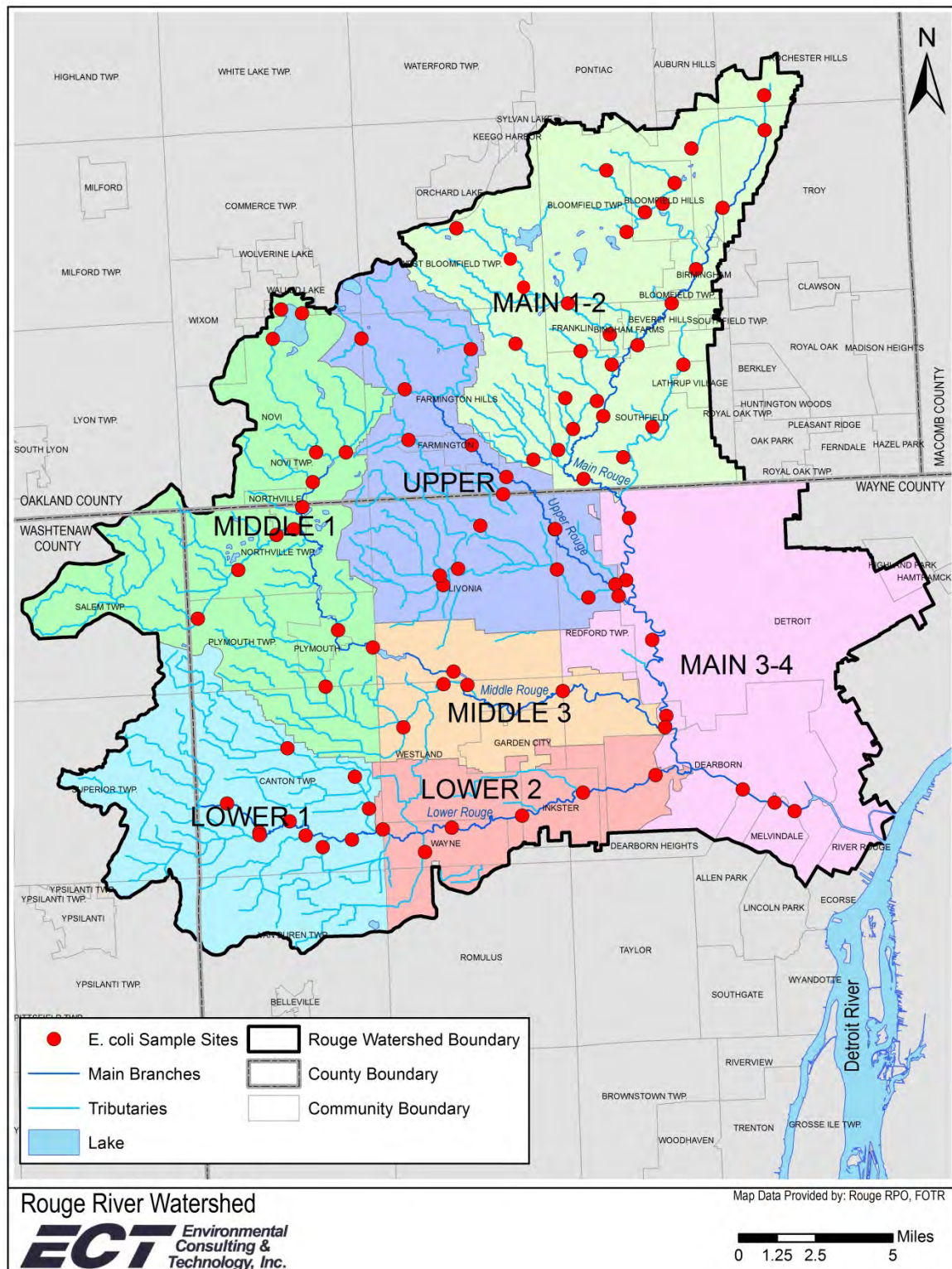
Figure 2 – Initial E. coli Priority Areas in Oakland County



**Figure 3. Dissolved Oxygen Levels for Johnson Creek at 7 Mile Road – provisional data**



**Figure 4 – 2017 (Event 1) TSS Monitoring Locations**



## E.2. Delisting Criteria

Certain conditions must be met in order to remove the Rouge River from Categories 4a and 5 of the impaired waters list<sup>2</sup>. Conditions that may apply to the Rouge watershed and would justify delisting or recategorization of a waterbody include (MDEQ 2017, Chapter 4.13):

- The source of impairment for the initial designated use support determination was an untreated combined sewer overflow (CSO) and updated information reveals that it has been eliminated or control plan elements have been implemented but data are not yet available to document restoration (recategorized to 4b);
- Reassessment of the waterbody using updated monitoring data or information, techniques, or water quality standards, indicates that the waterbody now supports the designated use (move to Category 1 or 2), or that additional monitoring or information is needed to determine whether the designated use is supported (move to Category 3);
- Reexamination of the monitoring data or information used to make the initial designated use support determination reveals that the decision was either incorrect or inconsistent with the current assessment methodology; and
- Reassessment of a waterbody indicates that the cause of impairment is not a pollutant (recategorized to 4c).

Sampling data must be collected that are at least as rigorous as was originally used to list the waterbody. The sampling requirements and other criteria needed to delist or recategorize waterbodies for an impairment are described below.

**E. coli** – To be delisted, any known raw sewage discharges must be eliminated (such as untreated CSOs or sanitary sewer overflows (SSOs) and monitoring must prove attainment of water quality standards. This monitoring must be conducted a minimum of 5 weeks with a minimum of 3 samples collected at each location. A 10% exceedance threshold exists for the standards - meaning that up to 10% of the samples can exceed the standard but still meet water quality standards. Both partial and total body contact standards must be met in order for the waterbody to be removed. Additionally, weather conditions must be similar to those used in the original assessment (MDEQ 2017, Chapter 4.7.1.1).

**Biota** – To be delisted per the Biota TMDL, fish and macroinvertebrate communities must be reestablished so that they receive an ‘acceptable’ or ‘excellent’ rating based on a minimum of two Procedure 51 biological assessments conducted in successive years (MDEQ 2007b). However, the 2016 Integrated Report states that one bioassessment result is generally considered sufficient to make this determination (MDEQ 2017, Chapter 4.6.2.1).

**Dissolved Oxygen** – To be delisted, time-series samples need to be collected over a period of time that represent wet and dry weather conditions so as to capture environmental variability. As with *E. coli*, a 10% exceedance threshold is applied (MDEQ 2017, Chapter 4.5.1.1).

For any impairment, once a data set is collected that demonstrates that the river is attaining water quality standards, the final decision for delisting is made by MDEQ.

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<sup>2</sup> Waterbodies in Categories 4a and 5 are impaired, but TMDL assessments are complete on 4a waterbodies while TMDL assessment are still needed on Category 5 waterbodies. Once a TMDL assessment is approved by EPA, the impairment is addressed in the next issuance of a MS4's stormwater permit.

## F. References

Alliance of Rouge Communities (ARC). *Rouge River Watershed Management Plan* June 21, 2012.

Hufnagel, C. *1993-1994 Sampling Program Overview*. Rouge River National Wet Weather Demonstration Project Technical Memorandum RPO-SAM-TM43.

Michigan Department of Environmental Quality. *Total Maximum Daily Load for E. coli in the Rouge River, Wayne and Oakland Counties, Michigan*. August 2007a.

Michigan Department of Environmental Quality). *Total Maximum Daily Load for Biota in the Rouge River Watershed including Bishop and Tonquish Creeks, Washtenaw, Wayne and Oakland Counties, Michigan*. August 2007b.

Michigan Department of Environmental Quality. *Total Maximum Daily Load for Dissolved Oxygen in Johnson Creek, Wayne and Washtenaw Counties, Michigan*. June 2007c.

Michigan Department of Environmental Quality. *Water Quality and Pollution Control in Michigan 2016 Sections 303(d), 305(b), and 314 Integrated Report*. January 2017.

## Attachment A

### Participating ARC Members

<b>Permittee (listed alphabetically)</b>	
<b>Communities</b>	
Beverly Hills, Village of	Northville, City of
Bingham Farms, Village of	Northville Township
Birmingham, City of	Novi, City of
Bloomfield Hills, City of	Oak Park, City of
Bloomfield Township	Plymouth, City of
Canton Township	Plymouth Township
Dearborn Heights, City of	Redford Township
Farmington, City of	Southfield, City of
Farmington Hills, City of	Troy, City of
Franklin, Village of	Walled Lake, City of
Garden City, City of	Wayne, City of
Inkster, City of	Westland, City of
Lathrup Village, City of	West Bloomfield Township
Livonia, City of	
Melvindale, City of	
<b>Counties</b>	
Oakland County*	
Wayne County	
<b>Schools</b>	
Henry Ford College	Schoolcraft College
<b>Other Permittees</b>	
Wayne County Airport Authority – Willow Run Airport	

\*Participating but this plan is not part of their pending permit application.

## **Attachment B**

### **BMP Selection Criteria and Ranking**





## Appendix “F”

### Contractor Oversight & Employee Training Documentation



## SCHOOLCRAFT COLLEGE STORMWATER CONTRACTOR OVERSIGHT RECORD

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Schoolcraft College (SC) shall implement the procedure requiring contractors hired by the SC to perform municipal operation and maintenance activities that comply with the SC pollution prevention and good housekeeping program and contractor oversight to ensure compliance with the SC National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Storm Water Discharge Permit, Section A. Limitations and Monitoring Requirements, #7 Contractor Requirements and Oversight.

1. Identify the potential pollutant-generating activities and pollutants expected to be exposed to stormwater.
2. Describe the location where the potential pollutant-generating activities will occur.
3. Identify the person responsible for implementing the pollution prevention practice or practices for each pollutant-generating activity.

Please initial each line of the procedure.

\_\_\_\_\_ Prevent and respond to leaks, spills and other releases;

\_\_\_\_\_ Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities;

\_\_\_\_\_ Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including the clean-up of stucco, paint, form release oils, and curing compounds. Collection and proper disposal in a manner to prevent contact with stormwater and prevent discharge of these pollutants.

\_\_\_\_\_ Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water and other types of washing (e.g., locating activities away from surface waters and stormwater inlets or conveyance and directing wash waters to sediment basins or traps, using filtration devices such as filter bags or sand filters or using similarly effective controls);

\_\_\_\_\_ Direct concrete wash water into a leak-proof container or leak-proof settling basin. The container or basin shall be designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Liquid concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters;

\_\_\_\_\_ Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials and wastes including (i) building products such as asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures; (ii) pesticides, herbicides, insecticides, fertilizers, and landscape materials; and (iii) construction and domestic wastes such as packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete, and other trash or building materials;

\_\_\_\_\_ Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, and sanitary wastes.

\_\_\_\_\_ Report any other discharge from the potential pollutant-generating activities not addressed above to Schoolcraft College.

\_\_\_\_\_  
Name of Business

\_\_\_\_\_  
Business Representative

\_\_\_\_\_  
Date



**Pollution Prevention & Good Housekeeping:** Training on BMPs that are important such as good housekeeping, spill response, materials storage and handling, landscape maintenance, street maintenance, fleet maintenance, and garages.