



Board of Alderman Request for Action

MEETING DATE: 12/21/2021

DEPARTMENT: Public Works

AGENDA ITEM: Resolution 1006 – Adoption of Stormwater Management Plan

REQUESTED BOARD ACTION:

Motion to approve Resolution 1006, adopting the Stormwater Management Plan for the 2021-2026 MS4 Permit.

SUMMARY:

In April 2021, the City of Smithville was required to submit an application for the MOR04C Permit to Missouri Department of Natural Resources. The permit became effective November 1, 2021.

The MS4 Permit requires a Stormwater Management Plan (SWMP) to be implemented within a year of the permit becoming effective. The City must have a SWMP in place within ninety days of permit issuance.

The SWMP contains Minimum Control Measures (MCMs), which are the required focus areas in MS4 permits. The MCMs when implemented should result in a significant reduction in pollutants discharged into receiving waters, the six measures are outlined below:

1. Public Education and Outreach
2. Public Participation/Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Pollution Prevention/Good Housekeeping

These individual areas can overlap to make a successful Stormwater Management Program. These MCMs have been identified in the SWMP, and an action plan has been created to assist with the implementation of the best management practices.

The Community was invited to provide feedback on the materials from November 17 through December 17.

The SWMP uses adaptive management, so this plan will be evaluated annually and will have the opportunity to be revised to reflect the current needs of the city.

PREVIOUS ACTION:

The City first applied for the MS4 Permit in 2013. There was a public information meeting on the Permit Application on March 29, 2021 via Zoom.

POLICY ISSUE:

N/A

FINANCIAL CONSIDERATIONS:

N/A

ATTACHMENTS:

- | | |
|--|-----------------------------------|
| <input type="checkbox"/> Ordinance | <input type="checkbox"/> Contract |
| <input checked="" type="checkbox"/> Resolution | <input type="checkbox"/> Plans |
| <input type="checkbox"/> Staff Report | <input type="checkbox"/> Minutes |
| <input checked="" type="checkbox"/> Other: Stormwater Management Plan, Action Plan, Copy of Permit, Inspector Checklists | |

RESOLUTION 1006

A RESOLUTION ADOPTING THE STORMWATER MANAGEMENT PLAN FOR THE 2021-2026 MS4 PERMIT.

WHEREAS, the City of Smithville's MS4 Permit became effective on November 1, 2021, and

WHEREAS, staff has prepared a Stormwater Management Plan for implementation of the MOR04C037 Permit.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF ALDERMEN OF THE CITY OF SMITHVILLE, MISSOURI:

THAT, the Stormwater Management Plan 2021-2026 should be followed and implemented effective December 22, 2021.

PASSED AND ADOPTED by the Board of Aldermen and **APPROVED** by the Mayor of the City of Smithville, Missouri, this 21st day of December 2021.

Damien Boley, Mayor

ATTEST:

Linda Drummond, City Clerk



City of Smithville, MO
MS4
Stormwater Management Plan (SWMP)
(MO-R0401C037 / 2021 - 2026)

DRAFT

OUTLINE OF STORMWATER MANAGEMENT PLAN FOR SMITHVILLE, MO 2021-2026

4.1 MCM 1. Public Education and Outreach on Stormwater Impacts

4.1.A Target audiences: Residents, Local Government, and Developers.

4.1.B Target pollutants: Residents – grass clippings / yard waste, illegal disposal of household hazardous waste. Local government – vehicle washing. Developers – sediment runoff from construction / land disturbance, concrete waste / wash out.

4.1.C Outreach and Education BMPs

1. Stormwater quality information on the City website
2. Social media campaign based on residential stormwater quality information
3. Permanently embossed “No Dumping” message on inlets
4. Publish stormwater tip articles in City Quarterly Newsletter
5. Other BMPs as time and resources allow

4.1.D The City will create opportunities, or support activities that are coordinated by citizen groups, for residents and others to become involved with the Stormwater Management Program. The activities, will make an effort to impact stormwater runoff by improving water quality. The City has selected ongoing yard waste collection, household hazardous waste collection, a street sweeping program. The City will be developing a Stormwater Master Plan, and will encourage citizens to participate in the MS4 area wide stormwater survey.

4.1.E The City will create or support the involvement BMP(s) in Section 4.1.D.

4.1.F The City will review their Public Education and Outreach on Stormwater Impacts annually and update implementation procedures and/or BMPs as necessary.

4.2 MCM 2. Public Participation

4.2.A The City held a public meeting on March 29, 2021 to receive comment on the MS4 Permit Renewal application. The SWMP will be posted in November 2021 on the City’s Website for public comment, and reviewed at a Board of Aldermen Work Session.

4.2.B The City posted a Copy of the renewal application and program summary on the City website on November 17, 2021. Public comment was requested.

4.2.C A Public information meeting will be held on December 21, 2021 as part of a Board of Aldermen work session. The public notice for this meeting was posted on November 17, 2021.

4.2.D The City tracks public input related stormwater quality matters in an electronic log kept by the Public Works Management Analyst.

4.2.E The City does not have a Stormwater Quality Advisory Committee.

4.2.F Staff will provide an update to the Board of Alderman at least annually on the MS4

Stormwater Program status.

4.2.G/I Using adaptive management, the City will review their Public Participation Program annually to ensure it is in compliance with this permit and promoted to the community. The City will include any additional events and/or BMPs in the Stormwater Management Program annual report.

4.3 MCM 3. Illicit Discharge Detection and Elimination (IDDE)

4.3.A The City will develop in the first permit year, a storm sewer map showing: accurate location of all MS4 outfalls; names and locations of all receiving waters; and the boundary of the regulated MS4 area (City limits). Paper maps are attached to the permit. The existing outfall map will be revised in the first permit year to include the names and locations of all receiving waters of the state that receive discharges from the MS4 outfalls. This map will be readily available and used by field staff as needed.

4.3.B The City will develop this map based on existing records and field surveys. Whenever outfall locations are verified or surveyed, the date will be recorded. Newly added outfalls will include the date that they were added to the system.

4.3.C The City will establish an ordinance prohibiting non-stormwater discharges in the storm sewer system. The City will establish appropriate procedures and actions to enforce the ordinance.

4.3.D The City will conduct outfall field assessments during dry weather conditions to check for the presence of illicit discharges using an established checklist/form. A minimum of 60% of all outfalls will be screened during the permit cycle. Priority areas will be established in the first year and screened each year.

4.3.E The City will develop diagnostic monitoring procedures to detect and investigate unknown non-stormwater flows as part of the dry weather screening program. These procedures will test parameters as necessary to determine the nature of any illicit discharges discovered during dry weather field screening.

4.3.F The City will develop procedures for tracing the source of an illicit discharge. If initial screening indicates that a dry weather discharge contains pollutants, or if an illicit discharge is suspected from another reporting method, the source shall be traced. A variety of investigative tools may be used as appropriate for each situation.

4.3.G The City will develop procedures for removing the source of the discharge. After locating the source, the pollutant and source will be removed following these procedures. The City will work with the sources of the illicit discharge to remedy the situation with the implementation of source control or treatment BMPs to prevent reoccurrence of the violation as well as remediation or restoration of affected property.

4.3.H In order to prevent further illicit discharge, the City will identify priority areas such as: areas with evidence of ongoing illicit discharges. Annually, the City will evaluate this priority area list and/or map and update as necessary to reflect changing priorities.

4.3.I The City will maintain written procedures for implementing the IDDE Program, including those components described within this section, to ensure program continuity and consistency.

4.3.J The City will conduct investigations in response to field screening discoveries, spills, or in response to complaints from the public, municipal staff, or adjacent MS4s. This investigation will work to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

4.3.K The City will develop procedures for appropriate enforcement when the ordinance is developed.

4.3.L The City will track its dry weather field screenings, spills, incidents, and investigations in an excel spreadsheet. This data will be used to continuously evaluate the effectiveness of the IDDE program. The City will document all investigations and report annually on these investigations.

4.3.M The City will inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. The City will utilize the website, quarterly newsletters, and "drain to stream" decals to spread this message.

4.3.N/O The City will review their IDDE Program annually, update implementation procedures as necessary and evaluate their current program to ensure that it is in compliance with their permit.

4.3.Q The City will develop and implement a training program for all municipal field staff, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system.

4.3.R Using adaptive management the MS4 Operator shall review their IDDE Program, at minimum, annually and update implementation procedures as necessary.

4.4 MCM 4. Construction Site Stormwater Runoff Control

4.4.A The City has an ordinance to require construction site runoff control BMPs at construction/land disturbance sites greater than or equal to one (1) acre or less than one acre if the construction activity is part of a larger common plan or development or sale that would disturb one acre or more.

4.4.B The City will review pre-construction plans. These reviews will incorporate the consideration of potential water quality impacts. The plan reviewer will use a checklist to ensure consistency and completeness of each review.

4.4.C The MS4 Operator shall establish authority for site inspections and enforcement of control measures. They have implemented procedures for inspecting construction/land disturbance projects.

4.4.D The construction site runoff control program will include an established, escalating

enforcement policy that clearly describes the action to be taken for violations. The program will have written procedures to ensure compliance with the construction site runoff control program and will have at least two (2) enforcement actions.

4.4.E The City shall require the construction site operator to conduct inspections at minimum: Every fourteen (14) days, when construction is active and within 72 hours of any storm event, and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased. The City will verify that these inspections are being conducted by the construction site operator during City inspections.

4.4.F The City shall maintain an inventory of active public and private land disturbance sites.

4.4.G The City will track their oversight inspections. This will be done by retaining copies of records such as inspection checklists and email correspondence.

4.4.H The City will review the Stormwater Management Program including ordinances, permitting procedures, review procedures, inspection procedures and enforcement procedures to ensure compliance with these requirements.

4.4.I Not applicable for the City.

4.4.J The Stormwater Management Program includes procedures for the City to receive and consider information submitted by the public about land disturbance sites.

4.4.K The City shall provide, or support access to, construction site runoff control training for City inspectors and plan reviewers at minimum once during this permit cycle.

4.4.L The City will develop written procedures outlining the local inspection and enforcement procedures to their inspectors to ensure consistency among the inspections.

4.4.M Using adaptive management, the City will review their Construction Site Stormwater Runoff Control Program annually. The ordinances, review procedures, inspection procedures, enforcement procedures, receipt of public information procedures, and effectiveness of training procedures will be reviewed to ensure compliance with these requirements and determine if changes are needed.

4.5 MCM 5. Post-Construction Stormwater Management in New Development and Redevelopment

4.5.A The City maintains and utilizes an ordinance to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law for sites equal to or greater than one acre including projects less than one acre that are part of a larger common plan of development or sale. The City Code works to protect sensitive areas, minimizes the creation of stormwater pollution, utilizes BMPs that effectively remove stormwater pollution, and attempt to maintain predevelopment runoff conditions.

4.5.B The City will develop a strategy to minimize water quality impacts. This will include a combination of structural and/or non-structural controls (BMPs) appropriate for the community.

The ordinance for structural post-construction controls includes technical performance and design standards to control post-construction stormwater discharges. Non-structural controls include stream buffers, preservation of open spaces, tree preservation, impervious cover reduction, land use planning, and low impact development.

4.5.C Pre-construction plan review is conducted by the Public Works and Development Departments to assess site characteristics at the beginning of the construction site design phase to ensure adequate planning for stormwater program compliance. The structural or non-structural controls are chosen to protect sensitive areas, minimize the creation of stormwater pollution, and effectively reduce stormwater pollution.

4.5.D City shall develop an ordinance or similar enforcement mechanisms to ensure adequate long-term operation and maintenance (O&M) of the selected BMPs, including, as appropriate, agreements between the City and other parties such as post-development landowners or regional authorities.

4.5.E The City will inspect each water quality structural and non-structural post-construction stormwater BMP.

4.5.F The City will develop a plan designed to ensure compliance with the MS4's post-construction water quality regulatory mechanism. This plan shall include escalating enforcement mechanisms the City will use to ensure compliance. The City will have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance.

4.5.G Enforcement actions are timely in order to ensure the actions are effective. The City will begin enforcement actions within thirty (30) days of discovering a violation.

4.5.H The City will develop an inventory tracking the water quality post-construction BMPs in an excel spreadsheet.

4.5.I The City will track the post-construction BMP inspections in an excel spreadsheet.

4.5.J The City will evaluate the ordinances, permitting procedures, review procedures, inspection procedures and enforcement procedures to ensure compliance with these requirements and determine if changes are needed.

4.5.L The City will provide appropriate training for MS4 inspectors at minimum once every permit cycle.

4.5.M Using adaptive management, the City will annually review their Post-Construction Site Stormwater Management in New Development and Redevelopment Program and evaluate effectiveness of the overall program and determine if changes are needed.

4.6 MCM 6. Pollution Prevention / Good Housekeeping for Municipal Operations

4.6.A The City will maintain and utilize an employee training program for municipal operations staff. The training shall be given at minimum annually to all staff who work with material handling, at City owned or operated vehicle/equipment maintenance areas, storage yards, and

material storage facilities.

4.6.B Employee training will be used to prevent and reduce stormwater pollution. The training will cover the following topics/ activities: vehicle and equipment washing; fluid disposal and spills; fleet, equipment, and building maintenance; park and open space maintenance procedures (including fertilizer, herbicide, pesticide application); new construction, road maintenance, and land disturbances; stormwater system maintenance; MS4 operated salt and de-icing operations; fueling; solid waste disposal; street sweeper operations; and illicit discharges.

4.6.C The City maintains educational materials to use in the Good Housekeeping training program.

4.6.D The City will review and update their list of locations of all municipal operations and facilities.

4.6.E The City will maintain a list of industrial facilities the City owns or operates which are subject to NPDES permits for discharges of stormwater associated with industrial activity. The list shall include the permit number or a copy of the No Exposure Exemption Certification (if applicable) for each facility.

Facility: Wastewater Treatment Plant MDNR Permit No: MO-0055204.

4.6.F The City shall develop controls for reducing or eliminating the discharge of floatables and pollutants from municipal facilities listed in Section 4.6.D and 4.6.E

4.6.G The City will develop procedures for proper disposal of waste removed from the MS4 structures and areas of jurisdiction.

4.6.H The City maintains and utilized procedures for the washing of all municipal vehicles and equipment.

4.6.I The City will maintain written explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls. Annually, the City will evaluate the results, controls, and inspection procedures to ensure compliance.

4.6.J The City will maintain procedures to determine if there are impacts to water quality for new flood management projects.

4.6.K The City will evaluate the current Good Housekeeping program including training, inspection procedures, and other municipal operation procedures to ensure compliance with the permit.

4.6.L Not applicable to the City.

4.6.M Using adaptive management, the City will review their Municipal Operations Program annually and update implementation procedures as necessary.

Stormwater Management Plan (SWMP) Action Plan for MS4 Compliance

Existing permittees: Shall evaluate the current Stormwater Management Program including training, inspection procedures, and other municipal operation procedures to ensure compliance with these requirements.

I. MCM 1. Public Education and Outreach on Stormwater Impacts

- a. The MS4 Operator shall implement a public education program to distribute educational materials to the community and/or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.
- b. Smithville will need to be in compliance with this section in one year of the permit issuance.

We are currently in compliance in this section. Staff will strive to improve our communication methods on the website to add more information to educate the public about stormwater discharges.

II. MCM 2. Public Participation

- a. The permittee shall develop and implement a comprehensive public participation program that provides opportunities for public participation in the development and oversight of the permittee's Stormwater Program.
- b. This program must provide opportunities for public participation of the permittee's permit renewal and shall, at a minimum, comply with any state and local public notice requirements. Additionally, the program must provide opportunities for public participation in activities related to developing and implementing the Stormwater Management Program.
- c. Smithville will need to be in compliance with this section in 1 year of the permit issuance.

We are currently in compliance in this section. We will advertise for public participation when the stormwater management plan is brought to the Board of Aldermen. Staff will track the level of participation of these public participation events.

III. MCM 3. Illicit Discharge Detection and Elimination (IDDE)

- a. The MS4 Operator shall implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200 at 40 CFR 122.26(b)(2)) into the regulated MS4.
 - i. Illicit discharge detection and elimination. Discharges to MS4s of wastewater other than those consisting entirely of storm water are considered "illicit discharges" except for discharges permitted under other state operating permits or directly from firefighting activities.

A program to detect and eliminate such discharges must be developed.

- b. Smithville will need to be in compliance with this section in 1 year of the permit issuance.

In order to be in compliance, the following must be implemented:

1. The MS4 Operator must record the sources of information used for the map and track:
 - a. A number of naming system of all outfalls
 - b. Dates that the outfall locations were verified / last field survey
 - c. For newly added outfalls, the date it was added to the storm sewer system
2. The MS4 shall effectively prohibit non-stormwater discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions.
 - a. The City of Smithville does not currently have an ordinance prohibiting non-stormwater discharges, the enforcement procedures will need to be developed.
 - b. Develop checklist for Inspectors
3. Develop the following strategies:
 - a. Dry weather field screening strategy
 - i. Outfall field assessments will need to be done for 60% of all outfalls. The screening shall be conducted during dry weather conditions (a minimum of 72 hours after the last precipitation event) to check for the presence of a discharge.
 1. Identify any specific priority areas
 - ii. Develop checklist for Inspectors
 - iii. Diagnostic monitoring procedures to detect and investigate unknown non-stormwater flows as part of the dry weather screening program.
 - b. Maintain procedures for training the source of an illicit discharge.
 - i. Must include:
 1. Description of dry weather field screening strategy to detect and address non-stormwater discharges, including discharges from illegal dumping and spills, to the permittee's system.
 2. Description of how the discharge is evaluated and the possible parameters tested.
 3. If contracted to another entity, the contact information.

4. Attach a copy of, or explain (or list) what parameters are sampled for and how the decision is made on what to sample for.
5. Attach a copy of, or explain procedures for tracing the source of an illicit discharge, and mechanisms to locate and follow stormwater infrastructure. A variety of investigative tools may be used as appropriate for each situation, such as, but not limited to;
 - Visually following the flow;
 - Storm sewer system sampling;
 - Full storm sewer map;
 - Closed circuit television;
 - Smoke or dye tracing; and
 - Tunnel entry.
- c. Develop procedures for removing the source of the discharge.
 - i. Include names and contacts for environmental cleaning companies
- d. Develop a prioritization for stormwater areas
 - i. Evaluate annually
- e. Develop a procedure for conducting investigations in response to field screening discoveries, spills, or in response to complaints from the public, municipal staff, or adjacent MS4s.
 - i. Develop timeline for responses.
- f. Develop procedures for appropriate enforcement to ensure the permittee's illicit discharge ordinance is being implemented.
- g. Develop a spreadsheet to track the dry weather field screenings, spills, incidents, and investigations.
- h. Develop an education campaign for City employees, businesses, and general public of the hazards associated with illegal discharges and improper disposal of waste.
- i. Develop and implement a training program for all municipal field staff who may come into contact or observe an illicit discharge or illicit connection to the storm sewer system.
 - i. Develop an evaluation sheet of the trainings

IV. MCM 4. Construction Site Stormwater Runoff Control

- a. The MS4 Operator shall develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to their MS4 from construction activities that result in land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre shall be included in the program if that

construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

- b. Smithville will need to be in compliance with this section in 1 year of the permit issuance.

In order to be in compliance, the following must be implemented:

1. Develop enforcement procedures for the 400.415(B)(12) ordinance.
2. Develop a review procedure of pre-construction plans
 - a. Evaluate threats to water quality
 - b. Checklist to ensure consistency
 - c. Develop requirements for construction site operators to select, install, implement, and maintain appropriate stormwater control measures.
 - d. Consider ways to maximize disturbed areas
 - i. Reflection parts of forms
 - e. Requirements for construction site operators to control construction-site waste that may cause adverse impacts to water quality (trash, concrete wash-out, etc.)
3. Identify priority sites for inspection based on nature of the construction activity, topography, disturbed area, and the characteristics of soils and sensitivity of, or proximity to, receiving water.
4. Develop two sanctions of an escalating enforcement policy that clearly describes the action to be taken for violations of construction site runoff control program.
5. Develop an inspection checklist for construction site operators.
 - a. Checklist for every 14 days when construction is active
 - b. Checklist for storm events (within 72 hours)
 - c. Create a standard operating procedure for how these forms will be submitted to the Public Works Department.
6. Develop an inventory of active public and private land disturbance sites, as defined in the Section 4.4 of the MS4 Permit.
 - a. Inventory will contain:
 - i. Relevant contact information for each project
 - ii. Size of the project / area of disturbance
 - iii. Level of priority
 - iv. Tracker of inspections, communication, and any correspondence
7. Require training for construction site runoff control training for inspectors and plan reviewers at least once during the new permit cycle.
 - a. Track training completion
8. Develop a standard operating procedure for inspections and enforcements to ensure consistency.

V. MCM 5. Post-Construction Stormwater Management in New Development and Redevelopment

- a. The MS4 Operator shall continue or develop, implement, and enforce a program to address the quality of long-term stormwater runoff from new development and redevelopment projects that disturb equal to and greater than one acre, including projects less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more and that discharge into the regulated MS4. The MS4's program shall ensure that controls are in place that have been designed and implemented to prevent or minimize water quality impacts
- b. The City of Smithville will need to be in compliance with this permit within the first 2 years of permit issuance.

In order to be in compliance, the following must be implemented:

1. Develop an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects.
 - a. Develop a strategy to minimize water quality impacts
 - i. Adopt or maintain local stormwater discharge design standards that consider parameters with the intent to minimize the impact of stormwater runoff on water quality.
 - ii. Structural and non-structural
 - b. Develop a checklist for Plan Review to ensure adequate planning for stormwater program compliances
 - i. Structural / non-structure controls
 - c. Develop enforcement mechanism to ensure long-term operation and maintenance (O&M) of the selected BMPs.
 - i. Develop an escalating enforcement policy to address non-compliance
 - ii. Sanctions must be within 30 days of discovering a violation
2. Develop an excel spreadsheet to track inventory of water quality post-construction BMPs
3. Provide training for MS4 inspectors once every permit cycle to explain the function of both structural and non-structural post-construction water quality BMPs.

VI. MCM 6. Pollution Prevention/ Good Housekeeping for Municipal Operations

- a. The permittee shall develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

- b. Smithville will need to be in compliance with this section in 1 year of the permit issuance.

In order to be in compliance, the following must be implemented:

1. Develop an employee training program for MS4 operations staff.
 - a. Training shall be used to prevent and reduce stormwater pollution
 - b. Maintain schedule and tracking system
2. The MS4 Operator shall develop or maintain controls for reducing or eliminating the discharge of floatables and pollutants from municipal facilities listed in Section 4.6.D and 4.6.E of MS4 Permit
3. Develop procedure schedule for proper disposal of waste removed from the MS4 structures and areas of jurisdiction
4. Develop procedures for washing of municipal vehicles and equipment

DRAFT



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Dru Buntin, Director

November 1, 2021

Charles Soules
City of Smithville
107 W Main St
Smithville, MO 64089

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing General State Operating Permit **MOR04C037** for **Smithville Phase II MS4**. This permit replaces **MOR040119**, which is hereby terminated.

This General Permit is both your federal discharge permit and your new state operating permit and replaces all previous state operating permits and letters of approval for the discharges described within. In all future correspondence regarding this permit, please refer to your new general permit number as shown on page one of your permit.

Please review the requirements of your permit. The permit requires you to develop and implement a Storm Water Management Plan (SWMP) under Part 3. The permit requires you to submit SWMP Reports annually by February 28, under Part 5.3. Please note the outfall(s) identified in this permit are representative outfall(s) to streamline the permitting process and are not all inclusive of the actual MS4 outfalls. You are responsible for mapping the location of all outfalls under Parts 4.3.A and 4.3.B.

The requirements found in this permit do not supersede nor relieve liability for compliance with other federal, state, county, or local statutes, regulations, or ordinances. In addition, any exemptions found in this permit do not imply an exemption from other permits from the Department. It is your responsibility to ensure that you have obtained all necessary permits for this facility.

If you were adversely affected by this decision, you may be entitled to an appeal before the administrative Hearing Commission (AHC) pursuant to Sections 644.051.6 and 621.250, RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any other method, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC is as follows: Administrative Hearing Commission, United States Post Office Building, Third Floor, 131 West High Street, Jefferson City, MO 65101 (Mailing address: PO Box 1557, Jefferson City, MO 65102-1557), Phone: 573-751-2422, Fax: 573-751-5018, Website: <http://ahc.mo.gov/>.

This permit may include requirements with which you may not be familiar. If you would like the Department to meet with you to discuss how to satisfy the permit requirements, please contact the Kansas City Regional Office to schedule a visit. These visits are called Compliance Assistance Visits (CAV) and focus on answering questions and explaining the requirements to the permit holder. If you have any questions concerning this permit, please do not hesitate to contact us at 500 Northeast Colbern Road, Lee's Summit, MO 64086-4710, by phone at 816-251-0700, or by email at KCRO@dnr.mo.gov. Thank you.

Sincerely,
KANSAS CITY REGIONAL OFFICE

Karen J. Rouse
Regional Director

KJR/rr

Enclosure



STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

General Operating Permit

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No: MOR04C037
Owner: City of Smithville
Address: 107 W Main St
Smithville, MO 64089

Continuing Authority: City of Smithville
107 W Main St
Smithville, MO 64089

Facility Name: Smithville Phase II MS4
Facility Address: 107 W Main St
Smithville, MO 64089

Legal Description: See Page 2
UTM Coordinates: See Page 2
Receiving Stream: See Page 2
First Classified Stream - ID#: See Page 2
USGS# and Sub Watershed#: See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein.

FACILITY DESCRIPTION All Outfalls SIC #9511
All Outfalls - Stormwater discharges from Regulated Phase II Municipal Separate Storm Sewer Systems.
Comprehensive permit

SIC 9511/NAICS 924110

This permit authorizes only wastewater, including storm water, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System, it does not apply to other regulated areas. This permit may be appealed in accordance with RSMo Section 644.051.6 and 621.250, 10 CSR 20-6.020, and 10 CSR 20-1.020.

November 01, 2021
Issue Date

September 30, 2026
Expiration Date



Karen J. Rouse, Regional Director
Kansas City Regional Office

Outfall Number: 001 – Annual Stormwater Program Report Limit Set A
Legal Description: Sec. 35, T54N, R33W, Clay County
UTM Coordinates: 365123.610/4367458.718
Receiving Stream: Tributary to Rock Branch
First Classified Stream - ID#: 100K Extent-Remaining Streams (C) 3960.00
USGS# and Sub Watershed#: 10240012 - 0707

Outfall Number: 002
Legal Description: Sec. 23, T53N, R33W, Clay County
UTM Coordinates: 364031.303/4361120.876
Receiving Stream: Little Platte River (P)
First Classified Stream - ID#: Little Platte River (P) 315.00
USGS# and Sub Watershed#: 10240012 - 0711

Outfall Number: 003
Legal Description: Sec. 22, T53N, R33W, Clay County
UTM Coordinates: 363355.555/4360840.946
Receiving Stream: Second Creek (C)
First Classified Stream - ID#: Second Creek (C) 317.00
USGS# and Sub Watershed#: 10240012 - 0709

Outfall Number: 004
Legal Description: Sec. 26, T53N, R33W, Clay County
UTM Coordinates: 364182.644/4359111.097
Receiving Stream: Tributary to Wilkerson Creek (C)
First Classified Stream - ID#: 100K Extent-Remaining Streams (C) 3960.00
USGS# and Sub Watershed#: 10240012 - 0708

Table of Contents

Part 1. Permit Coverage and Applicability

Part 2. Permit Restrictions and Exemptions

Part 3. Stormwater Management Program and Plan

Section 3.1 - Stormwater Management Program

Section 3.2 – Sharing Responsibility

Section 3.3 - Reviewing the Stormwater Management Program

Part 4. Minimum Control Measures (MCM)

Section 4.1 - MCM 1. Public Education and Outreach Program on Stormwater Impacts

Section 4.2 - MCM 2. Public Involvement and Participation

Section 4.3 - MCM 3. Illicit Discharge Detection and Elimination

Section 4.4 - MCM 4. Construction Site Stormwater Runoff Control

Section 4.5 - MCM 5. Post-Construction Stormwater Management in New Development and Redevelopment

Section 4.6 - MCM 6. Pollution Prevention/Good Housekeeping for Municipal Operations

Part 5. Monitoring, Recordkeeping, and Reporting

Section 5.1 - Monitoring

Section 5.2 - Recordkeeping

Section 5.3 - MS4 Stormwater Management Program Report

Part 6. Special Conditions for Total Maximum Daily Loads

Section 6.1 - MS4s Subject to Total Maximum Daily Loads (TMDL)

Part 7. Standard Permit Conditions

PART 1. PERMIT COVERAGE AND APPLICABILITY

This permit is for coverage under this Comprehensive General Permit for Phase II MS4s

1.1.A Permit Area: This Missouri State Operating Permit (permit) covers all areas served by a Municipal Separate Storm Sewer System (MS4) for which the applicant is identified as the Continuing Authority. The Permit Area may change based upon areas incorporated into or removed from the permittee’s jurisdictional area during the term of this permit, or expansion of the Urbanized Area. Areas added shall be covered under this permit and noted in the Stormwater Management Plan.

1.1.B Applicability: This permit authorizes discharges of stormwater from regulated MS4s, as defined in 10 CSR 20-6.200(D)24. This permit also authorizes the discharge of stormwater commingled with flows contributed by process wastewater, non-process wastewater, or stormwater associated with industrial activity provided such discharges are authorized under separate National Pollutant Discharge Elimination System (NPDES) permits or no exposure certification as defined in 10 CSR 20-6.200(C).

The permittee, or co-permittee, is authorized to discharge under the terms and conditions of this general permit if the permittee:

1. Owns or operates a regulated Small MS4 as defined in 10 CSR 20-6.200 (D)16;
2. Also is located in the Urbanized Area (UA) as defined by the most recent U.S. Census for which the applicant is identified as the Continuing Authority with a population of at least 1,000;
3. OR inside the municipal corporate limits of a jurisdiction with a population of at least ten thousand (10,000) and a population density of one thousand (1,000) people per square mile or greater;
4. OR is inside the service area of a publicly owned separate storm sewer system designated by the Department if it is determined that its discharges from the MS4 have caused, or have the potential to cause, an adverse impact on water quality.

1.1.C Categories of Regulated Small MS4s under this comprehensive permit. This comprehensive permit categorizes MS4s by the following categories, or Groups, based on the population served as determined by the most the recent Decennial Census at the time of permit issuance, the type of Regulated MS4, and the co-permittee situation.

Group A	Group B	Group C
Traditional Small MS4s (cities) that serve a population of less than 10,000 within a UA; OR	Traditional Small MS4s that serve a population of at least 10,000 but less than 40,000; OR	Traditional Small MS4s that serve a population of 40,001 or more; OR
Class 2 counties; Non-traditional such as Universities, Federal facilities.	Class 1 counties	Co-permit Small MS4s

This is the Comprehensive General Permit to cover Group A, B, and C MS4s.

The population of a Small MS4 may change during the permit term. However, the Group designation of a regulated MS4 will not change during the permit term based on population fluctuation.

1. The Group designation of a regulated MS4 is based on the most recent Decennial Census at the time of permit issuance. Results of the national Census held during a permit term will not affect the Group of an MS4 until the next permit renewal unless the permittee joins another MS4 as co-permittee.
2. For the purpose of this section “serve a population” means the residential population within the regulated portion of the Small MS4 based on the most recent Decennial Census.

1.1.D Authorized discharges: The following are types of discharges authorized by this permit:

1. *Stormwater discharges.* This permit authorizes stormwater discharges to waters of the state from the regulated MS4 identified in Section 2.1.A except as excluded in Section 2.1.F of this permit.
2. *Non-Stormwater discharges.* The permittee is authorized to discharge the following non-stormwater sources provided the permitting authority has not determined these sources to be substantial contributors of pollutants to the permittee’s MS4:
 - Water line flushing;
 - Landscape irrigation and lawn watering;
 - Diverted stream flows;
 - Rising ground waters and springs;
 - Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(b)(20));
 - Discharges from potable water sources;
 - Foundation or footing drains;
 - Air conditioning condensation;

- Irrigation water;
- Water from crawl space pumps;
- Individual residential car washing;
- Flows from riparian habitat and wetlands;
- Street and sidewalk wash water, water used to control dust, that does not use detergents;
- Dechlorinated and uncontaminated residential swimming pool discharges; and
- Discharges or flows from emergency firefighting activities. Fire-fighting activities do not include washing of trucks, run-off water from training activities, and similar activities.

1.1.E In the event the regulated MS4 has an oil water separator which is used to exclusively treat stormwater; this permit authorizes the operation of oil water separators solely for the treatment of stormwater. The oil water separators must be appropriately operated and sized per manufacturer's or engineering specifications. The specifications and operating records must be made accessible to Department staff upon request. Oil water separator sludge is considered used oil; sludge must be disposed of in accordance with 10 CSR 25-11.279.

PART 2. PERMIT RESTRICTIONS AND EXEMPTIONS

2.1.A Limitations on coverage: The permittee, shall prohibit non-stormwater discharges and stormwater discharges that combine with sources of non-stormwater into the MS4, except where:

1. Non-stormwater discharges are in compliance with a separate NPDES permit; and
2. Authorized by Section 1.1.D of this permit.

2.1.B This operating permit does not affect, remove, or replace any requirement of the Endangered Species Act; the National Historic Preservation Act; the Comprehensive Environmental Response, Compensation and Liability Act; or the Resource Conservation and Recovery Act. Determination of applicability to the above mentioned acts is the responsibility of the permittee. Additionally, this permit does not establish terms and conditions for runoff resulting from silvicultural activities listed in Section 402(l)(3)(a) of the Clean Water Act.

2.1.C Discharge Limitations

1. The permittee shall implement Best Management Practices (BMPs) via an iterative process to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP) into the MS4 for the goal of attainment with Missouri's Water Quality Standards.
2. The permittee shall implement and enforce a Stormwater Management Program per the requirements listed in this operating permit in accordance with section 402(p)(3)(B)(iii) of the CWA, corresponding NPDES regulations, 40 CFR 122.34, 40 CFR 122.28(d)(2), and in accordance with the Missouri Clean Water Law (MCWL) and its implementing regulations under 10 CSR 20-6.200.
3. The permittee shall comply with all provisions and requirements contained in this permit and with their individual Stormwater Management Program including plans, ordinances, and schedules developed in fulfillment of this permit.
4. If the Department determines a regulated MS4 is causing or contributing to instream excursions of Missouri's Water Quality Standards, then the Department may require corrective action(s) or require an application for a site-specific permit to ensure that BMPs are being implemented via an iterative process to reduce pollutants to the MEP.
5. Newly designated regulated MS4s applying for coverage under this general permit and discharging to waterbodies or watersheds subject to an existing EPA approved or established TMDL may be denied coverage under this general permit and required to apply for and obtain a site-specific operating permit for stormwater discharges from their regulated MS4.

2.2 Authorization to Discharge and Application Requirements

2.2.A Authorization to discharge stormwater from a regulated MS4 requires each permittee (existing and recently designated regulated MS4s) to submit a complete application for the MS4 general permit. The permittee shall submit their application on the latest version of the application form(s); either Form K, or Form L and Form M.

2.2.B The application shall be signed and dated by an authorized signatory.

1. All permit applications shall be signed and certified in accordance with 40 CFR 122.22 and 10 CSR 20-6.010(2) by either a principal executive officer or by an individual having overall responsibility for environmental matters for the permittee.
2. All reports required by this permit, and other information requested by the Department shall be signed by a person described in Section 2.2.B.1 of this permit, or by a duly authorized representative of that person. A person is a duly authorized representative only if the authorization is made in writing by a person designated in Section 2.2.B.1 of this permit.

- 2.2.C** Existing regulated permittees seeking renewal of their MS4 permit shall submit a renewal application within 180 days prior to the expiration date of this operating permit unless the permittee has been notified by the Department that an earlier application is required in accordance with 10 CSR 20-6.200 (1)(D)24.B.
- 2.2.D** Newly designated regulated MS4s shall submit their permit application within 180 days following notification by the Department that permit coverage is required.

PART 3. STORMWATER MANAGEMENT PROGRAM AND PLAN

3.1 Stormwater Management Program

3.1.A To the extent allowable under state and local law, a Stormwater Management Program must be developed, implemented, and enforced according to the requirements of this general permit. This permit includes specific terms and conditions, which are the requirements needed to meet the MS4 regulatory requirements.

1. **Existing permittees** shall assess program elements that were described in the previous permit, modify as necessary, and/or implement new elements, as necessary.
2. **Newly regulated permittees** shall have the program fully implemented within 5 years of issuance of their permit.

3.1.B As part of the Stormwater Management Program, the permittee shall update or develop a document, with appropriate appendices and supplemental attachments explaining the Stormwater Management Program. Permittees shall create and maintain this written Stormwater Management Plan (SWMP) describing schedules, procedures, contacts or other items listed under Part 4 of this permit. This document may be electronic.

1. The SWMP shall be maintained by the MS4 Operator to ensure consistency with the implementation, continuity of the Stormwater Management Program, and iterative reviews of programmatic BMPs and procedures.
2. The SWMP does not go through Department approval and is not incorporated into this permit.
3. The SWMP shall be updated or developed within 90 days after the renewal of the permit.

3.1.C The MS4 Operator may add supplemental items to the SWMP. These items include but are not limited to:

- Maps;
- Standard operating procedures (SOPs);
- Inspection forms;
- Sample data;
- Operations and Maintenance Manual;
- Website or social media account tracking;
- Stream Team Activity Reports;
- Tracking and evaluation documents; and
- Documentation of agreements for co-permittees and/or cooperative agreements.

3.1.D Permittees shall implement programmatic BMPs consistent with the provisions of this permit to achieve compliance with the standard of reducing pollutants to the maximum extent practicable per 40 CFR 122.34.

3.1.E The MS4 Operator may replace or modify ineffective BMPs with effective BMPs. If the name of a MS4 contact changes, that may be updated on the next Stormwater Management Program Report and/or via email to the Department at MS4@dnr.mo.gov.

3.2 Sharing Responsibility

3.2.A Co-permittees agreements.

1. Implementation of one or more of the minimum control measures may be shared with another governmental entity or the governmental entity can assume responsibility for the measure via the co-permittee option if:
 - a) The co-permittee has a MS4 located within or partially within an Urbanized Area (UA) as determined by the most recent Bureau of Census, which can include, but is not limited, to: municipalities, county, military bases, large hospitals, prison complexes, universities, sewer districts, and highway departments;
 - b) The co-permittee, in fact, implements the control measure(s);
 - c) The specific control measure, or component of a control measure, is at least as stringent as the corresponding permit requirements;
 - d) The co-permittee agrees to implement the control measure on the other permittee's behalf; and
 - e) Written acceptance of this obligation is required.
2. This co-permittee obligation and written acceptance, shall be described and maintained as part of the SWMP.

3. If the co-permittee agrees to report on the control measure, the co-permittee shall cooperate with the reporting requirements contained in Section 5.3 of this permit.
4. If one co-permittee fails to implement the control measures, then that co-permittee shall remain liable for any discharges due to that failure to implement. Additionally, the Department may require corrective actions(s), require an application for a site-specific permit, or require the co-permittee to apply and obtain their own Phase II MS4 general permit.

3.2.B Other agency agreements. Implementation of one or more of the minimum control measures or BMPs may be contracted out to another entity or organization, such as a non-profit organization or watershed organization. The MS4 Operator may grant responsibility for the MCM or BMP. The agreement must be described in the SWMP detailing which BMPs are being assumed by the other entity or organization. Written agreements between another entity or organization stipulating arrangements and responsibilities for meeting permit requirements shall be made available to the Department upon request. The permittee is responsible for oversight to ensure compliance with this permit.

3.3 Reviewing and Updating the Stormwater Management Program

3.3.A The MS4 Operator shall conduct an annual review of their Stormwater Management Program. This is recommended to be in conjunction with preparation of the MS4 Stormwater Management Program Report required under Section 5.

3.3.B Changes to the Stormwater Management Program requested by the Department must be made in writing, set forth a time schedule for the permittee to develop the changes, and offer the permittee opportunities to propose alternative program changes to meet the objective of the requested modification. All changes required by the Department will be made in accordance with 10 CSR 20-6.200. The Department may require changes to the Stormwater Management Program as needed to:

1. Address impacts on receiving water quality caused or affected by discharges from the MS4.
2. Include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; or
3. Include such other conditions deemed necessary by the Department to comply with the goals and requirements of the MCWL and the federal Clean Water Act (CWA).

3.3.C In the event of a transfer of ownership, change in Continuing Authority, or change in responsibility for Stormwater Management Program implementation; the permittee shall implement the Stormwater Management Program on all new areas added to the permittee's portion of the MS4 (or for which the permittee becomes responsible for implementations of stormwater quality controls) as expeditiously as practicable, but not later than one (1) year from the addition of the new areas.

PART 4. MINIMUM CONTROL MEASURES

Entities seeking coverage under this general permit shall develop and implement a Stormwater Program that includes the following six (6) Minimum Control Measures (MCMs).

1. All six MCMs apply to all traditional MS4s (cities and counties) regulated under this permit.
2. For non-traditional MS4s (universities, hospital complexes, prisons, and federal facilities) or MS4s in a co-permit that do not have responsibility over all MCMs. The permittee shall document in the SWMP and on each MS4 Stormwater Management Program Report which MCMs are not applicable. Contact the Department for any questions regarding applicability of MCMs.

4.1 MCM 1. Public Education and Outreach on Stormwater Impacts

The MS4 Operator shall implement a public education program to distribute educational materials to the community and/or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

The public education and outreach program shall, at a minimum include the following:

- 4.1.A** The MS4 Operator shall target specific audiences who are likely to have significant stormwater impacts.
1. Traditional MS4s (cities and counties) shall address the residents being served by the MS4;
 2. Non-traditional MS4s shall address the community served by the MS4 as listed below:
 - a) Universities shall target the faculty, other staff, and students;
 - b) Military bases shall target military personnel (and dependents), and employees (including contractors).
 - c) Prison complexes or other multi-building complexes shall target staff and applicable contractors.
 3. Additional audiences within the MS4 service area (such as, but not limited to, those listed in **Table I**) shall be addressed as listed below:

- Group A: No requirement for additional audiences**
- Group B: A minimum of one (1) additional audiences**
- Group C: A minimum of two (2) additional audiences**

The target audiences may remain the same for the entire permit cycle or may change if the tracking and adaptive management reviews show a new target may be better for the MS4. Any changes shall be stated and explained in the MS4 Stormwater Management Program Report.

Table I -Target Audiences

- | |
|---|
| <ul style="list-style-type: none"> • Schools, educational organizations, or youth service and youth groups; • Businesses, including commercial facilities, home-base and mobile businesses; • Institutions or formal organizations such as churches, hospitals, service organizations; • Developers or construction site operators; • Homeowner or neighborhood associations; • Industrial facilities; • Local government; • Contractors; • Visitors/ tourist; and • Other target group, noted in the MS4 Stormwater Management Program Report. |
|---|

4.1.B The MS4 Operator shall target specific pollutant(s) in the permittee’s education program (such as, but not limited to, those listed in **Table II**).

Each MS4 shall have a minimum of one target pollutant for each target audience from Section 4.1.A of this permit. The same pollutant may be used for more than one target audience, the target pollutant(s) may change annually as needed.

Table II- Pollutants/ sources

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|---|
| <ul style="list-style-type: none"> • Grass clippings & leaf litter; • Fertilizer & pesticides; • Litter, trash containment, balloon releases; • Dumping of solid waste; • Illegal disposal of household hazardous waste; • Pet waste; • Failing septic systems; • Swimming pool discharge, including salt water pools; • De-icing/ rock salt usage/ storage; • Oil, grease, fluids from vehicles; • Sediment runoff from construction/land disturbance; • Unauthorized discharge of restaurant waste; • Power washing; • Unauthorized discharge of industrial waste; • Vehicle washing; and • Wash water/ grey water. |
|---|

4.1.C The MS4 Operator must utilize appropriate educational resources to be used as BMPs (materials, events, activities, etc.) in conjunction with the selected pollutants for the selected target audiences.

The message delivered by these BMPs needs to be applicable to the target audience and relate to the target pollution. The distribution of the BMPs needs to be effective, and when possible associated with the target audience or pollutant (such as a swimming pool water disposal flyer when applying for a swimming pool permit). BMPs which are ongoing throughout the year or permit cycle may be counted as one annual BMP. The permittees SWMP shall explain how each BMP relates to the target pollutant and target audience. The MS4 Operator may change BMPs during the permit cycle if determined appropriate through tracking and adaptive management reviews show a different BMP may be more effective for the MS4. Any changes shall be reflected in the SWMP and explained in the MS4 Stormwater Management Program Report.

1. Using **Table III**, over the permit term the MS4 Operator shall implement a minimum of the following, including the tracking and adaptive management processes:

Group A: Each permit cycle; two (2) education and outreach BMPs from Table III.

Group B: Each permit cycle; four (4) education and outreach BMPs from Table III.

Group C: Each permit cycle; five (5) education and outreach BMPs from Table III.

Table III - Outreach and Education BMPs

BMPs:	Measurable goals (The quantity or frequency required to count as a full BMP)	Tracking & Adaptive Management
Information on the MS4 Operator’s website;	Maintain a webpage with up to date information, & working links. All links shall be checked, and the page shall be updated as necessary at minimum annually. Must be maintained the entire year.	The number of hits shall be tracked. The MS4 Operator shall use this to see which messages get reactions, and if certain messages may need more education.
Social Media posts, social media campaign;	Post a minimum of four (4) times a year, on a minimum of one social media platform. The messages shall address ways attendees can minimize or avoid adverse stormwater impacts or practices to improve the quality of stormwater runoff. The messages shall be seasonally appropriate. Must be continued for the full year.	The number of views, impressions, and other interactions shall be tracked. The MS4 Operator shall use this to see which messages get reactions, and if certain messages may need more education.
Maintain, or mark storm inlet with “No Dumping – Drains to Stream” or similar message. In addition to, or instead of, permanent wording cast into the structure of the inlet;	Placard, stencil, or paint, a minimum of 10% of all known stormwater inlets in the MS4 area per year.	Number of inlets, the location of the inlets and how they were marked shall be tracked. These areas shall be noted on MCM #3 dry weather screenings, and illicit discharge investigations as a method to determine if the markings are effective or if areas could benefit from the markings.
Require installation of permanent embossed, or precast inlets with “No Dumping-Drains to Stream” or similar message.	Requirement for all new inlets in the MS4 area.	Number of inlets, the location of the inlets shall be tracked. These areas shall be noted on MCM #3 dry weather screenings, and illicit discharge investigations as a method to determine if the markings are effective or if areas could benefit from the markings
Media/ advertising campaign: Billboard; Bus shelter/ bench; radio/ television/ movie theatre/ areas of high visibility.	Develop topics that address activities and/or pollutants of concern. Advertisement must be active for a minimum of three weeks; OR must have an estimated exposure for the duration of the campaign that is 2 times the most recent U.S. Census Bureau decennial population value for the permit area.	To the extent possible, evaluate the pollutant before the advertising campaign, and again after to see if there has been a change. The dates, time, and/or estimated media exposure for each spot broadcast shall be documented. Consider including a mechanism to track active response such as a QR Code, following the social media account(s) or a website to visit. Track those responses to determine if the advertisement was effective in reaching people.

<p>Publish articles in local newsletter, may be electronic;</p>	<p>Develop topics that are group specific and address activities and or pollutants of concern at a seasonally appropriate time. A minimum of two articles annually shall be published or emailed.</p>	<p>To the extent possible evaluate the pollutant before the article, and again after to see if there has been a change. Consider including a mechanism to track active response such as following the social media account or a website to visit. Track those responses to determine if the article was effective in reaching people.</p>
<p>Permanent Stormwater related signage;</p>	<p>Place signage in a location where the message is relevant, and highly-visible to target audience. Signage will count as an annual BMP for the year it was put in place and for each subsequent year of this permit cycle as long as each of those years tracking is taking place to message effectiveness and to ensure the signage is maintained.</p>	<p>Evaluate the pollutant before the signage, and again after to see if there has been a change. Consider including a mechanism to track active response such as following on social media, a QR Code, or a website to visit. Track those responses to determine if the signage was effective in reaching people.</p>
<p>Promote, host, or develop educational meetings, seminars, or trainings;</p>	<p>The events shall address ways attendees can minimize or avoid adverse stormwater impacts or practices to improve the quality of stormwater runoff. A minimum of two events shall be held, hosted or promoted annually. These events may address different pollutants/audiences.</p>	<p>Attendance, and any distributed education materials shall be tracked. This shall be used to gauge interest in the topic. Consider using a questionnaire or follow up survey to track if the attendees retained information or found the event beneficial.</p>
<p>Fact sheets/ brochures/ utility bill insert/ door hangers.</p>	<p>The sum of all fact sheets, brochures, bill inserts, handouts, or e-mails distributed in one year shall be at minimum equal to the most recent U.S. Census Bureau decennial housing units value for the permit area.</p>	<p>The applicable U.S. Census housing units value shall be recorded, and the amount of material shall be recorded. This may be a combination of materials, using a targeted approach to get the appropriate material to the applicable audience.</p>
<p>Paid membership in a regional or watershed group.</p>	<p>The organization must focus on stormwater runoff.</p>	<p>The group may enact BMPs on behalf of all members, the permittee must participate to ensure their MS4 has representation, and receives some of the educational BMPs.</p>
<p>Targeted education campaign, via mail, email, or in person.</p>	<p>Minimum of one annually OR with a specific event. (Examples: Sediment control with small building permit; leaf litter email during street sweeping season, or education brochure to all businesses conducting certain activity.)</p>	<p>Education material distributed, or amount of people contacted shall be tracked. Follow up on if noticeable behavior has changed.</p>

- 4.1.D** The MS4 Operator must create opportunities, or support activities that are coordinated by citizen groups, for residents and others to become involved with the Stormwater Management Program. The activities, (BMPs) must have an effort to impact stormwater runoff by improving water quality.
1. Using **Table IV**, the MS4 Operator shall implement a minimum of the follow including the tracking and adaptive management processes:

Group A: Each permit cycle; one (1) involvement BMP from Table IV.

Group B: Each permit cycle; two (2) involvement BMPs from Table IV.

Group C: Each permit cycle; three (3) involvement BMPs from Table IV.

Co-permittees: Each permit cycle; one (1) involvement BMP in the boundaries of each co-permit.

Table IV Involvement BMPs

BMPs	Measurable goals (The quantity or frequency required to count as a full BMP)	Tracking & Adaptive Management
Stream/lake or Watershed clean-up events; Litter clean-up events such as Missouri Stream Team, Adopt-A-Spot, Adopt-A-Street, Adopt-A-Stream;	To be considered an event, the land area cleaned must be at minimum 2 acres, or 400 yards of stream/ streambank/ watershed, or 2 miles of road side. (These may be combined such as 1 acre of land and 200 yards of stream.)	Track the area or distance cleaned (by acre, yard or lane miles), the amount of waste removed (by tonnage, cubic yard, or Stream Team bag count) and the attendance. Use the waste measurements to determine if there are priority areas for litter entering stormwater, or areas for illegal dumping.
Habitat improvement; Tree planting; Invasive vegetation removal; Stream restoration.	To be considered an event, the project must be a minimum of .5 acres or 25 yards. These may be a combination. This may take place in streams, parks, areas adjacent to public waterways, and/or other green space.	Track the location(s) along with the amount planted or remove, or miles improved or restored. Analyzing the areas improved upon, the MS4 Operator shall see if there are opportunities to join the improve areas, or work on a watershed basis.
Volunteer water quality monitoring;	To be considered an event, the monitoring must be conducted at minimum once a year.	Record the sites for the volunteers, what parameters were measured/monitored, and the dates of the monitoring.
Hold events to train residents, or work a project for homeowner associations (HOAs), or other public groups. The event or training must cover stormwater related topics such as: building rain barrels; Fertilizer application training; Rain garden/ bio retention creation or maintenance; How to recognize illicit discharge activities and communicate observations to appropriate MS4 staff.	Provide one project or training at minimum annually.	Record the attendance, the topic covered, and any training materials distributed. Use these numbers and interactions during the event to determine if the project or training covered a topic of interest and/or a topic that could be brought to a different or wider audience.
School, public event, etc. educational display/booth; Provide information or displays that work to improve public understanding of issues related to water quality.	Provide one booth or display at minimum annually. The booth or display must be staffed by staff of the MS4 at minimum 50% of the time the event is open to the public.	Record the number of interactions, the overall attendance, or the number of hours the event was staffed. Record the topic covered, and any educational materials distributed. Use these numbers and interactions during the event to determine if the project or training covered a topic of interest and/or a topic that could be brought to a different or wider audience.

Stormwater related speaker series;	Provide a minimum of two sessions a year. These may be different speakers and/or audiences.	Record the attendance, the topic covered, and any training materials distributed. Use these numbers and interactions during the event to determine if the project or training covered a topic of interest and/or a topic that could be brought to a different or wider audience.
Ongoing yard waste collection, designated yard waste collection area, household hazardous waste collection, or street sweeping program.	Provide the service as an annual occurrence or at readily accessible location. For street sweeping, this shall be conducted at minimum twice a year.	Track the amount collected. If educational information is being used in conjunction with this activity track for changes due to the education. Tracking can be used with illicit discharge tracking, to determine if the rate of this type of discharges or dumping were reduced.
MS4 area wide stormwater survey.	A series of public survey to establish a baseline in the first year of the permit and then a minimum of annually throughout the permit cycle.	Use the same or similar questions to evaluate BMPs and/or full program effectiveness. Surveys can be done with utility bills, online, social media, or a combination. All participation should be tracked.

4.1.E The MS4 Operator shall create or support the involvement BMP(s) in Section 4.1.D. To be considered support given to the coordinating groups the MS4 Operator shall at minimum conduct the following or similar:

- Plan, or assist with planning, the event or activity;
- Contribute supplies, materials, tools, or equipment;
- Provide assistance from MS4 staff during the activity;
- Provide assistance with recruiting volunteers for events;
- Make a space available for projects, meetings, or events;
- Advertisement for the events;
- Supply disposal services;
- Arrange land or stream access;
- Financial support; and
- In-kind donations such as food.

4.1.F Using adaptive management as required in parts 4.1.A.3.d and 4.1.B.1.c, all MS4 Operators shall review their Public Education and Outreach on Stormwater Impacts Program, at minimum, annually and update implementation procedures and/or BMPs as necessary within the requirements of this permit.
This may be conducted when preparing the MS4 Stormwater Management Program Report for submittal to the Department.

4.2 MCM 2. Public Participation

The permittee shall develop and implement a comprehensive public participation program that provides opportunities for public participation in the development and oversight of the permittee’s Stormwater Program.

This program must provide opportunities for public participation of the permittee’s permit renewal and shall, at a minimum, comply with any state and local public notice requirements. Additionally, the program must provide opportunities for public participation in activities related to developing and implementing the Stormwater Management Program.

The public participation program shall, at a minimum include the following:

- 4.2.A** The MS4 Operator shall hold a public notice period for a minimum of thirty (30) days to allow the public to review the draft permit, and description of the MS4s Stormwater Management Program (this may be the SWMP) prior to the submission of the renewal application to the Department.
- 4.2.B** As part of the public notice, if the MS4 Operator has a public website, the required items shall be posted on their website with a way to submit comments, along with the standard public notice methods for the MS4.
1. The permittee shall respond to comments received during the comment period.
 2. The MS4 Operator shall retain copies of any public comments and records of information submitted by the public received as part of the public notice process. These comments and responses shall be made available to the public or the Department upon request.
- 4.2.C** The MS4 Operator shall hold a public information meeting to provide information on, or describe the contents of, the proposed Stormwater Management Program. This meeting shall be advertised at least thirty (30) days prior to the public meeting.
1. As part of the notice of public meeting, if the MS4 Operator has a public website, the MS4 Operator shall post on that site, along with the standard public notice methods for the MS4. The notice of the public informational meeting, including the date, time and location.
 2. The meeting must be held within the service area of the MS4. Co-permittees shall hold the meeting within the boundaries of each co-permittee.
- 4.2.D** The MS4 Operator shall have a publicly available method to accept public inquiries, or concerns, and to take information provided by the public about stormwater and stormwater related topics.
1. This method, or a combination of method, shall encompass all MCMs of this permit. This method may be a phone number, website comment form, voicemail box, an email address, social media platform, or a combination of these.
 2. All reports shall be tracked, recording the topic, location, and concern. This information can help identify pollutants of concern, priority areas, pollutant sources, educational needs, and other information the MS4 Operator may use to evaluate the Stormwater Management Program.
- 4.2.E** If the MS4 Operator utilizes a stormwater management panel or committee, the MS4 Operator shall provide opportunities for citizen representatives on the panel or committee. The attendance of the meeting shall be recorded.
- 4.2.F** If the permittee has a governing board such as; County Council, City Council, or Board of Curators, a representative of the MS4 Operator, who is familiar with the MS4 Stormwater Program, shall provide an update to the governing board. This shall be conducted at minimum, annually with the status of, or updates on, the Stormwater Management Program, and compliance with the Stormwater Management Program.
- 4.2.G** **Existing permittees:** Shall evaluate their current program to ensure it is in compliance with this permit and promoted to the community. Existing permittees shall modify their program as necessary, and develop and implement elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the maximum extent practicable, following the requirements of Section 4.2 of this permit.
- 4.2.H** **Newly regulated permittees:** Shall develop a stormwater Public Participation program. The Permittees shall have the program fully implemented by the end of this permit term.
- 4.2.I** Tracking mechanisms shall be used for tracking attendance, inquiries or concerns per the requirements of Section 4.2 of this permit. Using adaptive management, all MS4 Operators shall review their Public Participation Program, at minimum, annually and update implementation procedures as necessary within the requirements of this permit. This shall be used to review how to best reach the public, the effectiveness of the mechanisms, the effectiveness of reaching the public and the MS4 Governing board and if the community and MS4 government are working together for water quality. Any additional events and/or BMPs shall be acknowledged in the Stormwater Management Program report.
- 4.3** **MCM 3. Illicit Discharge Detection and Elimination (IDDE)**

The MS4 Operator shall implement, and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200 at 40 CFR 122.26(b)(2)) into the regulated MS4.

The illicit discharge detection and elimination program shall at minimum, include the following:

4.3.A A current storm sewer system map that shall be updated as needed to include features which are added, removed, or changed. This map may be paper or electronic.

This storm sewer map, must show at a minimum:

1. The location of all MS4 outfalls. The map shall be detailed enough that the outfalls can be accurately located;
2. The names and locations of all receiving waters of the state that receive discharges from the MS4 outfalls;
3. The boundary of the regulated MS4 area;
4. The map shall be readily available and used by field staff as needed; and
5. The map and any accompanying necessary information shall be made available to the Department upon request.

4.3.B The MS4 Operator must record the sources of information used for the map and track, at minimum:

1. A numbering or naming system of all outfalls;
2. Dates that the outfall locations were verified/ or last field survey; and
3. For newly added outfalls, the date that it was added to the storm sewer system.

4.3.C The MS4 shall effectively prohibit non-stormwater discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions.

This prohibition shall be through ordinance or other regulatory mechanism, to the extent allowable under state or local law. This may be accomplished by more than one ordinance or mechanism.

This may be done through a "nuisance code" however it must be certain that non-stormwater discharges are covered in this code. Such non-stormwater discharges may include, but are not limited to:

- Litter;
- Household hazardous waste disposal;
- Leaf disposal;
- Use of soaps & detergents with discharge to stormsewer;
- Illegal dumping of solid waste;
- Vehicle fluid disposal;
- Grass clippings;
- Pet waste; and
- Sewage.

4.3.D A dry weather field screening strategy.

1. The MS4 Operator shall conduct (or have conducted on their behalf) outfall field assessments. The screening shall be conducted during dry weather conditions (a minimum of 72 hours after the last precipitation event) to check for the presence of a discharge.

Existing permittees:

- a) A minimum of 60% of all outfalls shall be screened during the permit cycle.
- b) Priority areas, such as those listed in 4.3.H, shall be screened each year.

Newly regulated permittees:

- a) All outfalls shall be located and screened during the 5 year permit cycle.
- b) Priority areas shall be established.

2. This screening shall include a checklist or other tracking device to; ensure a complete inspection of each outfall, enhance consistency, and to track the field screening. This shall be used regardless of the presence of dry weather flow.

When discharge is present, the checklist or tracking device shall note the following general observations and physical characteristics at a minimum:

- Date and time;
- Weather conditions and temperature (air & water);
- Color of discharge;

- Estimate of flow rate (this may be noted qualitatively);
- Odor;
- Surface scum, algal bloom, floatables or oil sheen present;
- Deposits or stains (note the color);
- Turbidity (may be noted qualitatively);
- Stream impact including vegetation, fish, wildlife;
- Length of impacted stream; and
- Notes of an obvious source of flow (such as lawn irrigation, etc.)

4.3.E The MS4 Operator shall maintain diagnostic monitoring procedures to detect and investigate unknown non-stormwater flows as part of the dry weather screening program.

These procedures are for possible illicit discharges, and may be collected, and analyzed by a contracted lab, or similar agreement with another entity who is equipped and experienced in sample collect and analysis.

1. This diagnostic monitoring shall include sampling unknown discharge from MS4 outfalls that are found to be flowing or ponding more than 72 hours after the last precipitation event and considered to be an illicit discharge.
2. The samples shall be analyzed for relevant parameters to determine if a pollutant is involved.
 - a) Relevant parameters will need to be determined on a case by case basis depending on the nature of the discharge and what the potential sources may be.
 - b) The MS4 Operator shall have the ability to sample for and analyze the samples. This may be done through a contract lab or similar agreement.
 - c) Possible parameters sampled for and analyzed when deemed applicable include but are not limited to:
 - pH;
 - Oil and grease;
 - *E.Coli* or fecal coliform;
 - Surfactants or fluorescence concentration;
 - Specific conductivity;
 - Ammonia;
 - Chlorine;
 - Dissolved oxygen; and
 - Fluoride/ hardness.

4.3.F The MS4 Operator shall maintain procedures for tracing the source of an illicit discharge.

If initial screening indicates that a dry weather discharge contains pollutants, or if an illicit discharge is suspected from another reporting method, the source shall be traced. These procedures shall include mechanisms to locate and follow stormwater infrastructure. A variety of investigative tools may be used as appropriate for each situation, such as, but not limited to;

- Visually following the flow;
- Storm sewer system sampling;
- Full storm sewer map;
- Closed circuit television;
- Smoke or dye tracing; and
- Tunnel entry.

4.3.G The MS4 Operator shall maintain procedures for removing the source of the discharge.

After locating the source, the pollutant and source must be removed. While the exact procedure will depend on the source and the circumstances, The MS4 Operator must maintain any necessary contacts with appropriate entities that may be needed for these procedures (such as an environmental cleaning company). This information shall be made available to the responsible staff.

The MS4 Operator is encouraged to work with the source of the illicit discharge to remedy the situation. Possible remedies shall include:

1. Implement source control or treatment BMPs to prevent reoccurrence of the violation;
2. Remediation or restoration of affected property.

4.3.H In order to prevent further illicit discharge, the MS4 Operator shall identify priority areas such as, but not limited to:

- Areas with evidence of ongoing illicit discharges;
- Areas with a past history of illicit discharges;
- Certain land use influencing stormsewer/ proximity of potential pollutant sources;
- Areas of higher population density;
- Neighborhoods with onsite sewage systems;
- Areas with known litter or dumping issues;
- Areas with large or increased number of citizen complaints; and
- Industrial areas

Annually, the MS4 Operators shall evaluate this priority area list and/or map and update as necessary to reflect changing priorities.

If a co-permittee, each co-permittee shall identify priority areas within their boundaries.

4.3.I The MS4 Operator shall maintain written procedures for implementing the IDDE Program, including those components described within this section, to ensure program continuity and consistency.

1. This shall include a description of this dry weather field screening strategy and implementation schedule to detect and address non-stormwater discharges, including discharges from illegal dumping and spills, to the permittee's system.
2. This shall include a description of how the discharge is evaluated and the possible parameters that are tested.
3. If contracted to another entity, the contact information shall be listed.

4.3.J The MS4 Operator must conduct investigations in response to field screening discoveries, spills, or in response to complaints from the public, municipal staff, or adjacent MS4s.

The investigation must work to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

Responses shall meet the following investigation timelines:

1. Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment.
2. Investigate (or refer to the appropriate agency with the authority to act) within five (5) business days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge which does not constitute a threat to human health, welfare or the environment.
3. If illicit connections or illicit discharges are observed related to, discharging to, or discharging from, an adjacent MS4 Operator's municipal storm sewer system, the MS4 Operator must notify the other MS4's Operator within 24 hours of discovery or as soon as practicable.

4.3.K The MS4 Operator shall have procedures for appropriate enforcement, this may include fines, the ability to collect cleanup and abatement costs, and actions to ensure that the permittee's illicit discharge ordinance (or other regulatory mechanism) is being implemented.

1. The MS4 Operator shall maintain a written description of the enforcement procedure. This shall include a copy of or link to the ordinance and/or other regulatory mechanism that the MS4 Operator will use to enforce the prohibition of illicit discharges into the MS4.

4.3.L The MS4 Operator shall maintain a database, or other centralized system, to track dry weather field screenings, spills, incidents, and investigations.

1. Tracking mechanisms shall be used for incidents, investigations, enforcement and follow up. This data shall be used to continuously evaluate the effectiveness of the IDDE program. This data shall be reviewed to determine if there is a new priority area.

The MS4 Operator shall record annually at a minimum:

- a) Number of outfalls screened;
- b) Number of complaints received and investigated; and
- c) Number of illicit discharges removed.

2. The MS4 Operator shall document all investigations to track at a minimum:

- a) The date(s) the illicit discharge was observed and investigated;
- b) Summary of procedures used to investigate the illicit discharge;
- c) The outcome of the investigation including sample results and findings;
- d) Any follow-up of the investigation including cleanup, enforcement actions, visits to confirm the illicit discharges have been removed; and
- e) The date the investigation or issue was closed or resolved.

- 4.3.M** The MS4 Operator shall inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste, this may work with part 4.1 and part 4.6 of this permit (MCM #1 and MCM #6).
- 4.3.N** All MS4 Operators shall review their IDDE Program, at minimum, annually and update implementation procedures as necessary.
- 4.3.O Existing permittees:** Shall evaluate their current program to ensure that it is in compliance with this permit.
1. Any revisions to the ordinance or regulatory mechanism shall be complete in the first year of the permit cycle.
 2. Maintain an updated map with the items listed above. Items not included in the current map must be added within the first 2 years of the permit cycle.
- 4.3.P Newly regulated permittees:** Shall develop an IDDE Program. Newly regulated permittees shall describe the IDDE program in their SWMP. The MS4 Operator shall have the program fully implemented within five (5) years of permit issuance.
1. If the MS4 Operator needs to develop the regulatory mechanism, the ordinance or regulatory mechanism must be adopted within the first 3 years of permit coverage.
 2. Develop or update a map in accordance with Section 4.3.A of this Permit. The MS4 Operator must develop or update a map with the items listed above. All outfalls shall be dry weather field screened within the first five (5) years of permit issuance.
- 4.3.Q** The MS4 Operator must develop and implement or maintain a training program for all municipal field staff, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system.
- This shall include staff who may handle materials which may become an illicit discharge. This shall include discharges through spills, improper disposal, mismanagement, improper vehicle or equipment washing or rinsing. This training may be conducted with resources online and may be focused for what topics are relevant to their position.
1. Each staff shall take this training at minimum within one year of a new employee being hired.
 2. The applicable staff may include the following; (unless the MS4 Operator does not have the listed department under their jurisdiction). Additional staff or departments shall be included if appropriate;
 - Fleet maintenance staff;
 - Staff at facilities with fuel, chemicals, washing of vehicles or equipment;
 - Road maintenance staff;
 - Road salt/de-icing staff; and
 - Parks, swimming pool, or golf course staff who encounter spills, equipment or vehicle washing, fueling, chemicals, etc.
 3. The training dates, topics and the attendance shall be recorded.
 4. Reviews of the training effectiveness shall be considered after municipal site inspections or after an incident occurs. If a certain department or facility did not perform the way they were trained, or if an issue arises that was not handled properly, the MS4 Operator should consider if the training is enough or is ineffective. The MS4 Operator shall consider ways to survey or test staff to see if the training is effective.
- 4.3.R** Using adaptive management the MS4 Operator shall review their IDDE Program, at minimum, annually and update implementation procedures as necessary. This data shall be used to continuously evaluate the effectiveness of each BMP and the implementation of each BMP.
- Any additional BMPs shall be acknowledged in the Stormwater Management Program report.

4.4 **MCM 4. Construction Site Stormwater Runoff Control**

The MS4 Operator shall develop, implement and enforce a program to reduce pollutants in any stormwater runoff to their MS4 from construction activities that result in land disturbance of greater than or equal to one acre. Reduction of stormwater

discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

4.4.A The MS4 Operator shall have a law, ordinance and/or other regulatory mechanism to require construction site runoff control BMPs at construction/land disturbance sites greater than or equal to one (1) acre or less than one acre if the construction activity is part of a larger common plan or development or sale that would disturb one acre or more. The mechanism shall include sanctions which are designed to ensure compliance, to the extent allowable under State, or local law.

4.4.B The MS4 Operator shall review pre-construction plans. These reviews at a minimum shall:

1. Incorporate the consideration of potential water quality impacts through procedures for site plan review. The site plan review procedures shall evaluate threats to water quality shall by considering, at minimum, the following factors:
 - a) Soil erosion potential;
 - b) Site slope;
 - c) Project size and type;
 - d) Sensitivity of receiving waterbodies;
 - e) Discharge flow type (pipe or sheet flow);
 - f) Location of discharge point in relation to receiving water;
 - g) Proximity of the site to receiving waterbodies; and
 - h) Other factors relevant to the MS4 service area.
2. Use a checklist, or other listed criteria, to ensure consistency and completeness.
3. Include requirements for construction site operators to select, install, implement, and maintain appropriate stormwater control measures.
 - a) This includes; temporary BMPs throughout the life of the land disturbance, and permanent BMPs which remain on site as required by local codes and ordinances.
4. Consider ways to minimize disturbed areas through actions such as, phased construction requirements, temporary seeding or sodding, or erosion mats to exposed areas.
5. Include requirements for construction site operators to control construction-site waste that may cause adverse impacts to water quality.

This shall include at a minimum:

 - a) Discarded building materials;
 - b) Concrete truck, and mortar mix washout;
 - c) Chemicals (such as fertilizer, paint, oils, herbicides, pesticides);
 - d) Litter; and
 - e) Sanitary waste.

4.4.C The MS4 Operator shall establish authority for site inspections and enforcement of control measures. To the extent allowable by state, federal, and local law, all MS4 Operators shall implement procedures for inspecting construction/land disturbance projects.

The construction site runoff control program shall implement at a minimum:

1. Identify priority sites for inspection based on nature of the construction activity, topography, disturbed area, and the characteristics of soils and sensitivity of, or proximity to, receiving water;
2. Construction site inspections shall include assessment of compliance with the MS4 Operator's construction site stormwater runoff control ordinance or regulatory mechanism, and other applicable ordinances;
3. The inspections shall evaluate any structure that functions to prevent pollution of stormwater or to remove pollutants from stormwater and use enforcement polices to require BMPs are implemented and effective;
4. Final inspection, upon completion of the land disturbance and prior to final approval of construction project. Ensure all disturbed areas have been stabilized, that all temporary erosion and sediment control measures are removed.
5. The inspections conducted by the MS4 Operator shall be documented with a checklist. The checklist must include structural BMPs and check on the self-inspection which are conducted by the construction site operator. These MS4 Operator checklists may be electronic.

4.4.D The construction site runoff control program shall include an established, escalating enforcement policy that clearly describes the action to be taken for violations.

The program shall have written procedures to ensure compliance with the MS4 Operator's construction site runoff control regulatory mechanism. This shall include the sanctions and enforcement mechanisms the permittee will use to ensure compliance and procedures for when certain penalties, injunctions or other measures will be used.

1. The MS4 Operator must have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance.
2. Enforcement responses to violations must consider the following criteria at minimum:
 - a) Degree and duration of the violation;
 - b) Effect the violation has on the receiving water;
3. Enforcement actions shall be timely in order to ensure the actions are effective. These procedures and actions must be written and available for MS4 staff for consistency and training purposes.
4. The MS4 Operator must have a minimum of two (2) enforcement actions they are able to use.

Possible enforcement actions include, but are not limited to:

- a) Stop Work orders;
- b) Verbal education or educational materials given to the construction site operator;
- c) Written warnings or notice of violation;
- d) Bonding or escrow requirements;
- e) Fines/ penalties; and
- f) Denials for previous non-compliance or current non-compliance at other sites.

4.4.E The MS4 Operator shall require the construction site operator to conduct inspections at minimum:

1. Every fourteen (14) days, when construction is active.
2. Within 72 hours of any storm event, and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased.

Checklists used for these inspections conducted by construction site operators shall either be submitted to the MS4 Operator, or the MS4 Operator shall verify that these inspections are being conducted by the construction site operator checklists during MS4 Operator inspections.

4.4.F The MS4 Operator shall maintain an inventory of active public and private land disturbance sites, as defined in Section 4.4 of this permit. This may be supplemented with records such as a plan review checklist and email correspondence.

The inventory must contain:

1. Relevant contact information for each project (e.g., tracking number, name, address, phone, etc.);
2. Size of the project/ area of disturbance;
3. If the site is a priority site/ how high of priority;

4.4.G The MS4 Operator shall track their oversight inspections. This may be done by retaining copies of records such as inspection checklists and email correspondence. The MS4 Operator must make these inventories available to the Department upon request.

The tracking must contain at a minimum:

1. Inspection dates and time;
2. Inspector name;
3. Inspection findings; and,
4. Follow up actions and dates, including corrective actions and enforcement actions.

4.4.H Existing permittees: Review the Stormwater Management Program including ordinances, permitting procedures, review procedures, inspection procedures and enforcement procedures to ensure compliance with these requirements. Any changes necessary to be in compliance with this permit shall be completed within the first year of this permit issuance.

The inventory of active sites must be updated as new projects are reviewed and projects are completed. If the MS4 Operator needs to develop this inventory, it shall be completed within one (1) year of this permit issuance.

4.4.I Newly regulated permittees: If the MS4 Operator needs to develop this construction site runoff program, the SWMP shall describe the construction site stormwater plan and scheduled implementation. Development of this program shall be

completed within the first three (3) years of the permit issuance. If the MS4 Operator's ordinance or regulatory mechanism is already developed, the permittee shall include a copy of the relevant sections with the SWMP.

For new permittees, the inventory must be completed with one (1) year of permit issuance and then updated as new projects are permitted.

- 4.4.J** The Stormwater Management Program must include procedures for the MS4 Operator to receive and consider information submitted by the public about land disturbance sites. This may be in combination with 4.2.D of this permit.
- 4.4.K** The MS4 Operator shall provide, or support access to, construction site runoff control training for MS4 inspectors and plan reviewers at minimum once during this permit cycle. This education shall be tracked or documented.
- 4.4.L** The MS4 Operator must provide written procedures outlining the local inspection and enforcement procedures to their inspectors to ensure consistency among the inspections.
- 4.4.M** Using adaptive management, all MS4 Operators shall review, at minimum annually, their Construction Site Stormwater Runoff Control Program and evaluate the ordinances, review procedures, inspection procedures, enforcement procedures, receipt of public information procedures, and effectiveness of training procedures to ensure compliance with these requirements and determine if changes are needed. This annual review may include but is not limited to:
1. Evaluating the most common violations, how the violations are handled, how many are escalated;
 2. If the education program can assist in reducing violations;
 3. Determining if the site plans match the sites when violations arise or if additional items need to be evaluated at plan review;
 4. Assessing public complaints being addressed in a timely manner; and
 5. Evaluating if the inspections thorough and consistent across different sites.

Any additional BMPs shall be acknowledged in the SWMP.

4.5 **MCM 5. Post-Construction Stormwater Management in New Development and Redevelopment**

The MS4 Operator shall continue or develop, implement, and enforce a program to address the quality of long-term stormwater runoff from new development and redevelopment projects that disturb equal to and greater than one acre, including projects less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more and that discharge into the regulated MS4.

The MS4's program shall ensure that controls are in place that have been designed and implemented to prevent or minimize water quality impacts

- 4.5.A** The MS4 Operator shall maintain and utilize an ordinance(s) or other regulatory mechanism(s) to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law for sites equal to or greater than one acre including projects less than one acre that are part of a larger common plan of development or sale. The goal of this approach is to arrive at designs that protect sensitive areas, minimize the creation of stormwater pollution, utilize BMPs that effectively remove stormwater pollution, and attempt to maintain predevelopment runoff conditions.

The MS4's program shall ensure that controls are in place that have been designed and implemented to prevent or minimize water quality impacts from stormwater, after construction.

1. If adopting a set of standards from another MS4 or other established standards, the MS4's ordinance may incorporate by reference, therefore the MS4 does not need to incorporate the entire guidance into their codes.
2. This program may be accomplished through one or multiple ordinances or regulatory mechanisms.

- 4.5.B** The MS4 Operator shall continue or develop a strategy to minimize water quality impacts. This shall include a combination of structural and/or non-structural controls (BMPs) appropriate for the permittee's community.

1. Structural controls include but are not limited to; extended detention basins, grass swales, bio-retention, permeable surfaces, sand filter basins, stormwater planters, proprietary BMPs.

The ordinance or regulatory mechanism for structural post-construction controls, or water quality facilities, shall include:

- a) Adoption or development of numeric or technical performance and/or design standards to control post-construction stormwater discharges.

These post-construction stormwater standards are for designing, installing, implementing, and maintaining stormwater control measures which may include, but are not limited to BMPs that; infiltrate, evapo-transpire, harvest, detain, retain, and/or reuse stormwater.

The MS4 Operator must adopt or maintain local stormwater discharge design standards that consider parameters such as; site discharge volume, rate, duration, and frequency for new development and redevelopment sites with the intent to minimize the impact of stormwater runoff on water quality.

2. Non-structural controls include but are not limited to; stream buffers, no mow zones, preservation of open spaces, tree preservation, impervious cover reduction, land use planning, and low impact development.

The ordinance(s) or regulatory mechanism(s) for non-structural post-construction controls, shall include:

- a) Adoption or development of preventative actions that involve management and source controls such as, but not limited to:

- Policies and ordinances that provide requirements and standards to direct development to identified areas;
- Protection of sensitive areas such as wetlands and riparian areas;
- Maintain and/or increase open space (which may include a dedicated funding source for open space acquisition);
- Maintain requirements for buffer zones along water bodies;
- Require minimizing impervious surfaces;
- Require minimizing disturbance of soils and vegetation;
- Policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure;
- Programs which incentivize the use of green infrastructure;
- Requirements for minimization of directly connected impervious areas; and
- Tree preservation ordinances.

- 4.5.C** Pre-construction plan review shall be conducted by the MS4 Operator to assess site characteristics at the beginning of the construction site design phase to ensure adequate planning for stormwater program compliance.

The structural or non-structural controls chosen shall; protect sensitive areas, minimize the creation of stormwater pollution, and effectively reduce stormwater pollution. This can be achieved by reasonably mimicking pre-construction runoff conditions on all affected new development projects, or the permittee may achieve this goal through a method more appropriate for its community.

1. The plan review process shall use a checklist. This may be part of the same plan review in MCM 4.
2. The plan review process shall evaluate non-structural BMP selection first, such as comprehensive plans, zoning ordinances, buffer strips, and/or maximization/preservation of open space. Non-structural BMPs primarily prevent stormwater runoff from a site, which could influence the options for structural BMPs which help mitigate the stormwater related impacts after they have occurred.

- 4.5.D** The MS4 Operator shall have ordinances or similar enforcement mechanisms to ensure adequate long-term operation and maintenance (O&M) of the selected BMPs, including, as appropriate, agreements between the MS4 Operator and other parties such as post-development landowners or regional authorities.

1. Long term O&M shall be addressed during the plan review and approval process.
2. Copies of O&M manuals shall be retained by the party responsible for the post-construction BMP, and with the MS4 Operator. This may be done electronically.

- 4.5.E** The MS4 Operator shall inspect, or require inspection of, each water quality structural and non-structural water post-construction BMP according to the following at minimum:

1. A minimum of one (1) inspection shall be conducted during construction, and one (1) inspection before the site is finalized, to verify water quality facilities are built as designed and any applicable boundaries or practices for non-structural BMPs are being observed. This may be conducted in combination with MCM 4 inspections.
 - a) The MS4 inspector shall have access to the approved plans to ensure proper installation.
2. A minimum of once in the first three years after the installation by, the MS4 Operator.

3. Annually by the owner or operator of the post-construction BMP, or by the MS4 Operator. If completed by the BMP owner or operator, this inspection report shall be submitted to the MS4 Operator for evaluation and review.
4. The MS4 Operator shall inspect a minimum of 60% of all water quality post-construction BMPs within the five year permit cycle. This must include installations with ongoing or open enforcement issues.

- 4.5.F** The MS4 Operator must maintain a plan designed to ensure compliance with the MS4's post-construction water quality regulatory mechanism. This plan shall include escalating enforcement mechanisms the MS4 Operator will use to ensure compliance.
- The MS4 Operator must have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance.
1. Enforcement responses to violations must consider at minimum:
 - a) Degree and duration of the violation;
 - b) Effect the violation has on the receiving water;
 - c) Compliance history of the post-construction BMP owner or operator; and
 - d) Cooperation of the owner or operator with compliance efforts.
- 4.5.G** Enforcement actions shall be timely in order to ensure the actions are effective. The MS4 Operator shall begin enforcement actions within thirty (30) days of discovering a violation.
- The MS4 Operator shall maintain a minimum of two possible sanctions. These include, but are not limited to:
1. Education regarding the BMP and verbal warnings;
 2. Written warnings or notice of violation (this includes email notification);
 3. Property lien; and
 4. Fines.
- 4.5.H** The MS4 Operator shall maintain an inventory tracking the water quality post-construction BMPs. This inventory must contain, at a minimum:
1. Relevant contact information for the responsible person(s) or entity (e.g., tracking number, name, address, phone, etc.);
 2. The type of post-construction BMP;
 3. Applicable operations and maintenance documents;
 4. Date the MS4 Operator approved the construction site plan; and,
 5. If the water quality facility is owned or operated by the MS4, the tracking shall also include any maintenance, such as sediment clean-out or replanting.
- 4.5.I** The MS4 Operator shall also track the post-construction BMP inspections. This may be done by retaining copies of records such as inspection checklists and email correspondence. The MS4 Operator must make these inventories available to the Department upon request.
- The MS4 Operator shall track at a minimum:
1. Inspection dates/ times;
 2. Inspector name(s);
 3. Inspection findings; and,
 4. Follow up actions including all enforcement actions.
- 4.5.J** **Existing permittees:** Evaluate the ordinances, permitting procedures, review procedures, inspection procedures and enforcement procedures to ensure compliance with these requirements and determine if changes are needed. Any changes necessary to be in compliance with this permit shall be completed within the first two (2) years of permit issuance. The inventory of water quality facilities must be updated as new facilities are added and projects are completed. If the MS4 Operator needs to develop this inventory, it shall be completed within two (2) years of this permit issuance.
- 4.5.K** **Newly regulated permittees:** Shall develop the ordinance or regulatory mechanism. Development of this program shall be completed within the first five (5) years of the permit issuance.
- For new permittees, the inventories of public and private post-construction water quality BMPs must be completed within two (2) years of permit issuance and then updated as new projects are permitted and projects are completed.

- 4.5.L** The MS4 Operator shall provide appropriate training for MS4 inspectors at minimum once every permit cycle. This may include Green Infrastructure training, or specific operation of proprietary post-construction BMPs. The MS4 shall provide overall training to explain the function of both structural and non-structural post-construction water quality BMPs.
- 4.5.M** Using adaptive management, all MS4 Operators shall review, at minimum annually, their Post-Construction Site Stormwater Management in New Development and Redevelopment Program and evaluate effectiveness of the overall program and determine if changes are needed. This annual review may include but is not limited to:
1. Reviewing the number and types of developments;
 2. How many BMPs were installed/inspected;
 3. The amount of watershed area being treated;
 4. The types of violations found and how frequently; and
 5. How education could improve the effectiveness of the program.

Any additional programmatic BMPs shall be acknowledged in the Stormwater Management Program Report.

4.6. MCM 6. Pollution Prevention/Good Housekeeping for Municipal Operations

The permittee shall develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

- 4.6.A** The MS4 Operator shall maintain and utilize an employee training program for MS4 municipal operations staff. The training shall be given at minimum annually to all MS4 staff who work with material handling, at MS4 owned or operated vehicle/equipment maintenance areas, storage yards, and material storage facilities. This may be broken up into staff units, or by applicable topics.

- 4.6.B** The training shall be used to prevent and reduce stormwater pollution.
The training shall cover a minimum of the following topics/ activities (if applicable to the MS4):

1. Vehicle and equipment washing;
2. Fluid disposal and spills;
3. Fleet, equipment, and building maintenance;
4. Park and open space maintenance procedures (including fertilizer, herbicide, pesticide application);
5. New construction, road maintenance, and land disturbances;
6. Stormwater system maintenance;
7. MS4 operated salt and de-icing operations;
8. Fueling;
9. Solid waste disposal;
10. Street sweeper operations; and
11. Illicit Discharges.

- 4.6.C** The MS4 Operator shall:

1. Maintain material to use in the training program, such as those available from the EPA, the state, or other organizations.
2. Maintain written procedures for the training program. Include a description of how this training will coordinate with all other minimum control measures (such as Illicit Discharge), monitoring and TMDL implementations where applicable.
3. Maintain a written schedule to offer topic specific training when it is appropriate. Such as, swimming pool discharges in the summer, leaf disposal in the fall, proper salt clean-up and usage in the winter.

- 4.6.D** The MS4 Operator shall maintain a list of all municipal operations/facilities that are impacted by this operation and maintenance program.

This shall include a minimum of the following if owned and operated by the MS4 and if applicable to the MS4:

1. Maintenance yards;
2. Fleet or maintenance shops, including parks department;
3. Storage yards;
4. Parks, golf courses, swimming pools, and splash pads;
5. Municipal parking lots;

6. Salt/sand storage locations;
7. Snow disposal areas; and
8. Other locations expected to contribute floatables and/or pollutants.

4.6.E The MS4 Operator shall maintain a list of industrial facilities the MS4 Operator owns or operates which are subject to NPDES permits for discharges of stormwater associated with industrial activity. The list shall include the permit number or a copy of the No Exposure Exemption Certification (if applicable) for each facility. This includes; municipal projects with a land disturbance permit, wastewater facilities, airports, etc. NPDES permitted facilities not owned or operated by the permittee are not required to be part of the list; however, the MS4 Operator should be familiar with all such facilities in their MS4 service area as they may signify a priority area for the IDDE program.

4.6.F The MS4 Operator shall develop or maintain controls for reducing or eliminating the discharge of floatables and pollutants from municipal facilities listed in Section 4.6.D and 4.6.E.

These controls shall include at a minimum, where applicable:

1. A list of potential pollutant sources at each facility, such as materials used and stored on site;
2. A minimum of annual inspections of all municipally owned or operated facilities for stormwater issues;
 - a) Records shall be kept for inspections and follow up. This may be a checklist, and may be electronic;
3. Use of structural controls/BMPs to reduce or prevent pollutants from entering waters of the state or into another MS4 where needed.
 - a) A map with descriptions of these BMPs shall be maintained for each facility;
4. All paints, solvents, petroleum products, and petroleum waste products (except fuels) under the control of the permittee shall be stored so these materials are not exposed to stormwater;
5. Sufficient practices of spill prevention, control, and/or management shall be provided to prevent any spill of these pollutants from entering waters of the state;
 - a) This shall include spill kits when liquid product is stored at a facility; and
 - b) Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
6. Tracking of rock salt/brine or other deicer usage;
7. Maintaining municipal salt storage area(s) after use of rock salt, at minimum:
 - a) Sweep and/or shovel spillage in loading area and storage area, and
 - b) Unload salt hoppers or keep under cover when salt is in the hopper.

4.6.G The MS4 Operator shall have procedures for proper disposal of waste removed from the MS4 structures and areas of jurisdiction.

This waste, shall include at minimum, if applicable to the permittee:

1. Street sweeper spoils and washout;
2. Accumulated sediment;
3. Dredged materials;
4. Floatables, trash and litter;
5. Leaves, other organic matter; and
6. Other debris.

4.6.H The MS4 Operator shall maintain and utilize the following procedures, at minimum, for the washing of all municipal vehicles and equipment (if applicable to the MS4):

1. Use of any soap or detergent shall only be where there is connection to sanitary sewer or equivalent treatment; and
2. Any wash or rinse water that contains pollutants such as salt, oils, grease, sediment, grass clippings, lawn chemicals, or pesticides shall not be discharged to waters of the state or the MS4 system without appropriate treatment.
3. Any washing or rinsing activities shall be conducted in an appropriate area so the water is treated. This area(s) shall be marked on the map of the facility.

4.6.I The MS4 Operator shall maintain written explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls. Tracking may be done by retaining inspection reports or checklists.

Individual Stormwater Pollution Prevention Plans or one overarching Operations and Maintenance Manual for all applicable MS4 facilities may be used to comply with this requirement. If a unified document is used, each individual site shall be familiar with the document, and a copy shall be present on each site referenced in the document or available electronically. Annually, the MS4 Operator shall evaluate the results, controls, and inspection procedures to ensure compliance with these requirements and determine if changes are needed. This evaluation may also aid in finding priority areas or pollutants in relation to MCM 3, or adding more education in relation to MCM 1.

- 4.6.J** The MS4 Operator shall maintain procedures to determine if there are impacts to water quality for new flood management projects, if applicable. Any flood management projects shall require the protection of water quality in the standards that are used to plan, design, build, and maintain stormwater infrastructure. Flood management projects are those projects developed or designed to reduce flooding.
- 4.6.K Existing permittees:** Shall evaluate the current Stormwater Management Program including training, inspection procedures, and other municipal operation procedures to ensure compliance with these requirements. Any changes necessary to be in compliance with this permit shall be completed within one (1) year of this permit issuance.
- 4.6.L Newly regulated permittees:** Shall develop this program. The SWMP shall describe the pollution prevention/ good housekeeping plan and scheduled implementation. Development of this program shall be completed within the first five (5) years of the permit issuance.
- 4.6.M** Using adaptive management, all MS4 Operators shall review their Municipal Operations Program, at minimum, annually and update implementation procedures as necessary within the permit requirement. Any additional BMPs shall be acknowledged in the Stormwater Management Program Report.

PART 5. MONITORING, RECORDKEEPING, AND REPORTING

5.1 Monitoring

- 5.1.A** The MS4 Operator shall retain records of any monitoring information used to complete the application for this operating permit, implementation of any part of this operating permit, and implementation for any part of the permittee's Stormwater Management Program for a period of at least three (3) years from the date of the sample, measurement, or analysis. This period may be extended by official written request by the Department at any time. These records may be maintained electronically.

Monitoring data shall include, if applicable, the below information:

1. All calibrations and maintenance records of sample or analytical equipment;
2. All original strip chart recordings for continuous monitoring instrumentation;
3. The date, location, and time of sampling or measurement;
4. Name of the individual(s) who performed the sampling or measurements;
5. The date(s) analyses were performed;
6. Name of the individual(s) who performed the analyses;
7. The analytical techniques or methods used; and
8. The results of such analyses.

- 5.1.B** Any monitoring conducted for the purpose of implementation of any part of this permit shall be conducted in accordance to test procedures approved under 40 CFR Part 136 unless another method is required under 40 CFR subchapters N or O.

5.2 Recordkeeping

All records required by this permit may be maintained electronically, as long as they are accessible upon request by the Department. If a non-electronic version is kept, the permittee shall retain the most recent versions of the records and shall be accessible to the Department upon request.

- 5.2.A** The permittee shall retain records of all activities requiring recordkeeping by the Stormwater Management Program, a copy of the NPDES permit, a copy of all ordinances, policies, and formal procedures for all six (6) MCMs and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the report or application. This period may be extended by official request of the Department at any time.

- 5.2.B** The permittee shall retain the most recent version of their SWMP at a reasonable location accessible to the Department, this may be done as a publicly available website.
- 5.2.C** If requested in writing by the public, the permittee shall submit the items required under Part 5 of this permit, including a copy of the permit, SWMP, or application.
- 5.2.D** The permittee shall submit the items contained in Part 5 of this permit to the Department upon request.

5.3 MS4 Stormwater Management Program Report

5.3.A A report to the Department on the status of the MS4's program is due annually on or before February 28th. This report shall cover the previous year from January 1st to December 31st. The report shall be submitted on the Department approved, MS4 Stormwater Management Program Report form. If approved by the Department, permittees may submit the MS4 Stormwater Management Program Report using an alternative report format. The MS4 Operator shall submit the MS4 Stormwater Management Program Report containing, at a minimum:

1. Information regarding progress toward achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable;
2. The status of the MS4's compliance with permit conditions;
3. Assessment(s) of the appropriateness of identified BMPs and corresponding measurable goals for each MCM;
4. A summary of results of information collected and analyzed during the reporting period, including monitoring data or quantifiable values per the MS4's measurable goals;
5. A summary of the TMDL Assumptions and Requirement Attainment Plan (ARAP), if applicable, containing the implementation status of BMPs and measurable goals specific to the TMDL ARAP or progress toward implementing the schedule for implementation of the TMDL ARAP. The summary shall also include any changes to BMPs and corresponding measurable goals;
6. If the permittee is utilizing integrated planning, the permittee shall provide a summary of the status of the integrated plan; and
7. A statement if the permittee is relying on another entity to satisfy some of the permittee's permit obligations. If applicable, the permittee shall supply the name of the entity, the name of the entity's primary contact person, and other relevant contact information.

5.3.B Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit), shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. **Please report the number 0 and attach the report in the eDMR system.**

PART 6. SPECIAL CONDITIONS FOR TOTAL MAXIMUM DAILY LOADS

6.1 MS4s Subject to Total Maximum Daily Loads (TMDL)

- 6.1.A** Any regulated MS4 identified in an EPA approved or established TMDL with an applicable Wasteload Allocation (WLA) shall implement steps toward the attainment of applicable WLAs in accordance with 40 CFR 122.44(k)(2) and (3).
- 6.1.B** The MS4 Operator shall develop a TMDL ARAP to address the TMDL's assumptions and requirements where applicable.
- 6.1.C** The TMDL ARAP shall be incorporated into the Stormwater Management Program and include, at a minimum:
1. A plan to identify potential sources of the pollutants(s);
 2. A plan to implement BMPs to address the sources within the MS4 service area; and
 3. A schedule, including beginning and ending milestones, which are expressed as month and year to implement planned BMPs.

The schedule for the implementation of the TMDL ARAP shall be completed as soon as practicable, but is not limited to the five year term of this operating permit as attainment can take years or even multiple permit terms.

- 6.1.D** BMPs shall be developed or designed with a purpose of reducing the pollutant(s) of concern. The ARAP shall list each BMP and shall contain a description of the BMP, the purpose of the BMP, and the expected result of the BMP.
- 6.1.E** Measurable goals shall be established for each BMP or in conjunction with multiple BMPs.
1. Each measurable goal shall contain a statement clearly indicating how it will be established to determine the appropriateness of identified BMPs and progress toward the expected results of the BMP.
 2. Measurable goals shall be quantifiable; however, if it is not feasible to utilize a measurable goal that is quantifiable, then the permittee shall provide justification indicating why the measurable goal cannot be quantifiable.
 3. If applicable, measurable goals shall also utilize interim and completion milestone dates, and a periodic frequency of measurement to document progress. Interim and final milestone dates shall be established with a format of month and year, or as 1st, 2nd, 3rd, 4th, and 5th year of the operating permit cycle.
- 6.1.F** An iterative process shall be utilized by the permittee documenting how each BMP is evaluated and subject to replacement or modification. The permittee shall apply reasonable further progress by replacing or modifying ineffective BMPs with effective BMPs.
- 6.1.G** If the permittee is subject to an approved or established TMDL, the permittee shall draft and submit their TMDL ARAP to the Department as soon as practicable but no later than 30 months after the date the EPA approves or establishes the TMDL or the effective date of their operating permit, whichever is later.
The initial TMDL ARAP is to be submitted to the Department's Water Protection Program, MS4 Team for review and approval at MS4@dnr.mo.gov or Water Protection Program, MS4 Team, P.O. Box 176, Jefferson City, MO 65102. The deadline for the TMDL ARAP may be extended through written request by the permittee and written approval by the Department.
- 6.1.H** The MS4 Operator shall submit annual TMDL ARAP status reports to the Department on February 28th of each year until the TMDL ARAP has been submitted.
The annual status report shall provide a brief update on the status of completion of the TMDL ARAP to be submitted to the Department. The deadline for the TMDL ARAP status report may be extended through written request by the permittee and with written approval by the Department. The annual status report shall be submitted to the Department's Water Protection Program, MS4 Team at MS4@dnr.mo.gov or Water Protection Program, MS4 Team, P.O. Box 176, Jefferson City, MO 65102.
- 6.1.I** If the Department approves the TMDL ARAP, it will be presumed that the TMDL ARAP is affordable by the permittee. If the Department disapproves a submitted TMDL ARAP and requires any additional or different controls or expenses, the Department will conduct an affordability analysis in support of the disapproval unless waived by the permittee. In addition to the disapproval, the Department shall provide an itemized list of recommendations, discrepancies, and plan corrective action(s) to the permittee in written correspondence, which will also provide deadlines for any corrective action(s).
- 6.1.J** If the TMDL ARAP has been submitted to the Department but has not received approval, the MS4 Operator is not required to implement any actions listed in their TMDL ARAP and shall notify the Department of this in their MS4 Stormwater Management Program Report.
- 6.1.K** If the TMDL ARAP has received Department approval, the permittee shall implement their TMDL ARAP in accordance to schedules established in the TMDL ARAP.
Implementation of all TMDL ARAP control measures shall be documented and retained by the permittee, and made available to the Department or the EPA upon request.
- 6.1.L** If the MS4 Operator has an approved TMDL ARAP, the permittee shall provide a summary listing the BMPs and the status of the measurable goals in the MS4 Stormwater Management Program Report.

- 6.1.M** If the MS4 Operator is subject to a TMDL, the MS4 Operator may demonstrate no additional controls are needed beyond the successful implementation of the six Minimum Control Measures (MCMs), which includes modifications to the BMPs or measurable goals, for the attainment with the TMDL's assumptions and requirements. The demonstration is subject to Department approval. The MS4 Operator shall contact the Water Protection Program's MS4 Team to begin the process.
- 6.1.N** If the permittee has already developed an integrated plan, a separate ARAP is not be required provided the integrated plan meets the requirements outlined in section 6.1 of this permit. Review and rating of an integrated plan is subject to the same requirements of section 6.1 of this permit. The MS4 Operator shall contact the Water Protection Program's MS4 Team to begin the process.
- 6.1.O** Permittees subject to existing TMDL Assumptions and Requirements shall submit their plan and status of implementation to the Department with the MS4 Stormwater Management Program Report required by this permit. Existing plans shall be subject to the same conditions listed in items 6.1.
- 6.1.P** If the EPA approved or established TMDL indicates that the permittee does not cause or contribute to the impairment, the permittee is not required to develop and implement any action contained in Part 6 of this permit.

PART 7. STANDARD PERMIT CONDITIONS

- 7.1.A** Duty to Comply. The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and the Federal Clean Water Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal.
- 7.1.B** Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
- 7.1.C** Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance may also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems installed by a permittee only when necessary to achieve compliance with the conditions of the permit.
- 7.1.D** Inspection and Entry. The permittee shall allow the Department or an authorized representative (including an authorized contractor acting as a representative of the Department), upon the presentation of credentials and other documents as may be required by law to:
1. Enter the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit.
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, and have the authority to request records be provided electronically in absentia.
 3. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.
 4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substance or parameters at any location.
- 7.1.E** Monitoring Methods. See Part 5.1 of this operating permit.
- 7.1.F** Need to Halt or Reduce Activity Not an Excuse. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- 7.1.G** Permit Actions. This permit may be modified, revoked, reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- 7.1.H** Duty to Reapply.

1. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
2. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. A permittees with currently effective general permit shall submit an application for renewal at least 180 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.) Continuation of expiring permits are in accordance with 10 CSR 20-6.010(10)(C) and subsequent amendments.

- 7.1.I** Administrative Continuation of the Permit. If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 10 CSR 20-6.010(10)(C) and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date, and who has applied for renewal at least 180 days prior to the expiration date, will automatically remain covered by the continued permit until the earlier of:
1. Reissuance or replacement of this permit, at which time the permittee shall comply with the application conditions of the new permit to maintain authorization to discharge;
 2. Notice of termination;
 3. Issuance of a site-specific permit or alternative general permit for MS4 discharges; or
 4. A permit decision by the Director not to reissue this general permit, at which time the permittee shall seek coverage under an alternative general permit or a site-specific permit.
- 7.1.J** Permit Transfers. Subject to 10 CSR 20-6.010(11), an operating permit may be transferred upon submission to the Department. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the MCWL or the CWA. (See 40 CFR 122.61. In some cases, modification or revocation and reissuance is mandatory.)
- 7.1.K** Procedures for Modification or Revocation. If at any time the Department determines that the quality of waters of the state may be better protected by reopening this permit, or revoking this permit and requiring the owner/operator of the permitted site to apply for a site-specific (individual) permit or alternative general permit, the Department may revoke a general permit and require any person to obtain such an operating permit as authorized by 10 CSR 20-6.010(13), 10 CSR 20-6.200(1)(B) or 10 CSR 20-6.200(6).
- 7.1.L** If this permit is reopened, modified, or revoked pursuant to this section, the permittee retains all rights under Chapters 536 and 644 Revised Statutes of Missouri upon the Department's reissuance of the permit as well as all other forms of administrative, judicial, and equitable relief available under law.
- 7.1.M** The Department may require the permittee to apply for and obtain a site-specific or alternative general permit if:
1. The permittee is not in compliance with the conditions of this general permit.
 2. The discharge no longer qualifies for this general permit due to changed site conditions and regulations.
 3. The permittee will be notified in writing of the need to apply for a site-specific permit or an alternative general permit. When a site-specific permit or alternative general permit is issued to the authorized permittee, the applicability of this general permit to the permittee will be terminated upon the effective date of the site-specific or alternative general permit, whichever the case may be.
- 7.1.N** Site-Specific Permit or Alternative General Permit. The permittee may apply for a site-specific permit or alternative general permit in lieu of coverage under this general permit. In such cases, the permittee shall submit an application for the alternate permit in accordance with the requirements of 10 CSR 20-6.200 with reasons supporting the request. The request may be granted by issuance of any site-specific permit or an alternative general permit.
- 7.1.O** Property Rights. This permit does not convey any property rights of any sort, or any exclusive privilege.
- 7.1.P** Duty to Provide Information. The permittee shall furnish to the Department, within a reasonable amount of time, any information which the Department may request to determine whether cause exists for modifying, revoking, and reissuing, or

terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

- 7.1.Q** Falsification Penalties. Any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six months, or by both. Second and successive convictions for violations under this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two years, or both;
- 7.1.R** Reopener Clause. Nothing in this permit shall prevent the Department from re-opening, modifying, or revoking this permit as authorized by law.
- 7.1.S** Signatory Requirements.
1. All permit applications shall be signed and certified in accordance with 40 CFR 122.22 and 10 CSR 20-6.010(2)(B) by either a principal executive officer or by an individual having overall responsibility for environmental matters for the permittee.
 2. All reports required by this permit, and other information requested by the Department shall be signed by a person described in section 2.2.B of this permit, or by a duly authorized representative of that person. A person is a duly authorized representative if:
 - a) The authorization is made in writing by a person designated in Section 2 of this permit;
 - b) The authorization specifies an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of stormwater manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the permittee. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
 - c) The written authorization is submitted to the Director; and
 - d) If an authorization under section 2.2.B is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new, written authorization satisfying the requirements of this paragraph must be submitted to the Director prior to, or together, with any reports, information, or applications signed by an authorized representative.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
PHASE II SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
MO-R04C000
MASTER GENERAL PERMIT

The Federal Water Pollution Control Act [Clean Water Act (CWA)] Section 402 of Public Law 92-500 (as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the CWA). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Missouri Department of Natural Resources (Department) under an approved program, operated in accordance with federal and state laws (Federal CWA and Missouri Clean Water Law Section 644 as amended). Permits are issued for a period of five (5) years unless otherwise specified.

Per 40 CFR 124.56, 40 CFR 124.8, and 10 CSR 20-6.020(1)(A)2., a Fact Sheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the permit. A Fact Sheet is not an enforceable part of an MSOP.

This Fact Sheet is for a Master General Permit.

Part I – Facility Information

Facility Type:	Industrial; Stormwater
Facility SIC Code(s):	#9511
Facility NAICS Code:	#924110
Facility Description:	Urban Stormwater Runoff. The permittee's MS4 collects and routes stormwater from industrial, commercial, roadways, and residential areas located within the permittee's municipal boundary and discharges the stormwater to waters of the state.

This Permit establishes Stormwater Management Program and Stormwater Management Plan (SWMP) requirements for all permit holders under this permit.

Clarification:

Coverage under this general permit may be issued to Public entities located inside the service area of a publicly owned separate storm sewer system designated by the Department if it is determined that its discharges from the MS4 have caused, or have the potential to cause, an adverse impact on water quality. Extension of such coverage shall be at the discretion of the Department.

Significant Changes to this permit include:

- ✓ Establishment of terms and conditions of the permit necessary to meet the MS4 permit standard in clear, specific and measurable terms per 40 CFR 122.34.
- ✓ Establishment of public notice, public comment and public hearing process necessary to meet the permit standard per 40 CFR 124.10.

DEFINITIONS

The definitions in this section shall apply to this permit only, and do not supersede or replace the definitions contained in Section 644.016, RSMo, 10 CSR 20-2.010, and 10 CSR 20-6.200(1)(D), which are all incorporated herein by reference. To aid understanding of some key terms, explanations of several statutory and regulatory definitions are provided. However, in the event of any inconsistencies, the statutory and regulatory definitions are controlling.

Adaptive management: A repetitive or cyclical process of decision making that requires monitoring activities to adjust behavior, decisions, and actions and to incorporate new knowledge and actual changes.

Adaptive management enables MS4 permittees to continually improve their stormwater control strategies and practices as they implement their programs and learn from experience to better control pollutant discharges. The process starts with the evaluation of a

BMP with its designated measurable goal. If the BMP is found effective, then the MS4 Operator continues with this BMP until the next round of evaluation. If the BMP is found to be ineffective, then the MS4 Operator is required to conduct analysis to determine what can be altered or modified or if the BMP needs to be replaced.

Best Management Practices (BMPs): “Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.” 10 CSR 20-6.200(1)(D)1.

- BMPs can be temporary or permanent, and include structural items or non-structural practices or activities including schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants.
- BMPs encompass both the enforceable terms and conditions of this permit as well as particular activities and practices selected by the permittee that will be undertaken to meet the permit requirements but that are not themselves enforceable.

Clear, specific, and measurable terms: This permit is written to contain clear, specific, and measurable terms, using plain language to clearly establish permit requirements and the standards that will be used to assess compliance. “Such terms and conditions may include narrative, numeric, or other types of requirements (*e.g.*, implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions).” 40 C.F.R. § 122.34(a)

Common Plan of Development or Sale: An area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. This plan may consist of many small construction projects that collectively add up to one or more acres of total disturbed land. For example, an original common plan of development of a residential subdivision might identify the streets, house lots, and areas for parks, schools and commercial development that the developer plans to build or sell to others for development. All these areas would remain part of the common plan of development or sale until the intended construction is completed.

Construction activities: Clearing, grading, and excavating that result in land disturbance of equal to or greater than one (1) acre. Construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) acre. *See* 10 CSR 20-6.200(1)(D)28.

Construction Site Operator: The entity or entities with operational control over construction plans and specifications including the ability to make modifications to those plans and specifications; or with day-to-day operational control of those activities at a project that are necessary to ensure compliance with a Stormwater Pollution Prevention Plan (SWPPP) for the site or other permit conditions. Typically this is the owner of the site or the general contractor of the project.

Control Measure: Any BMP or other method used to prevent or reduce the discharge of pollutants to waters of the state.

Conveyance: Curbs, gutters, artificial channels, swales, ditches, drains, pipes, catch basins, paved or unpaved channels, storm drains, or other constructed or natural features designed or utilized for routing of stormwater.

Co-permittee: “A permittee to a state operating permit that is responsible only for permit conditions relating to the discharge for which it is owner or operator, or both.” 10 CSR 20-6.200(1)(D)4.

An operator of a regulated municipal separate storm sewer system (MS4) that applies jointly with one or more other applicants for coverage under a single municipal stormwater permit. Applicants within one urbanized area, or within a common watershed, or in an area served in common by one service provider may apply as co-applicants to share the administrative responsibilities of the application process and to become co-permittees under an issued permit.

A co-permittee must comply with the conditions of the permit relating to discharges from the MS4 the co-permittee owns or operates. Co-permittees will need to cooperate with each other to develop, implement, and report on their programs.

Discharge: “[T]he causing or permitting of one or more water contaminants to enter the waters of the state.” Section 644.016(6) RSMo

The water contaminant authorized to be discharged by this permit is urban stormwater runoff.

Illicit Discharge: “Any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to a state operating permit, other than storm water discharge permits and discharges from fire fighting activities.” 10 CSR 20-6.200(1)(D)7.

Infill development: The building of homes, businesses and public facilities on unused and underutilized lands within existing urban areas. Infill development is the use of land in established neighborhoods for new development or redevelopment.

Iterative process: A documented process consisting of action items and analysis conducted by the MS4 Operator to ensure that BMPs are effective. This includes evaluating results and adjusting actions on the basis of what has been learned, as a part of adaptive management.

Maximum Extent Practicable (MEP): An adaptive management approach whereby the permittee will implement management measures, including structural and non-structural BMPs. MEP is a permittee-specific determination guided by factors such as: community financial capability and the need for reasonable rate or funding increases, weighing program-wide priorities compared to site-specific MS4 improvements, MS4 impacts to receiving waters, local priorities, watershed planning, integrated planning, MS4 size, climate, implementation schedules, hydrology, topography, geology, and the MS4’s capacity to perform additional operation and maintenance.

Minimum Control Measure (MCM): The Phase II Rule defines a small MS4 stormwater management program as comprised of six areas of management, known as Minimum Control Measures. When administered properly and collectively, they are expected to result in reduction of the discharge of pollutants into receiving water bodies.

Modification: A revision to the MS4’s Stormwater Management Program during the life of this permit. All modifications require written notification by the MS4 operator to the Department of Natural Resources (Department). Modifications may include:

- a. Addition of new components, controls, or requirements to the Stormwater Management Program;
- b. Replacing or modifying ineffective or unfeasible BMPs in accordance with adaptive management and the permittee’s iterative process;
- c. Modifying the iterative process or adaptive management procedures;
- d. Replacing or modifying time schedules that are not explicitly required by this permit;
- e. The addition or removal of jurisdictional areas;
- f. Contact names for the Stormwater Management Program; and
- g. Other changes as determined appropriate by the MS4 Operator.

Major vs. Minor Modifications:

A **minor modification** does not need to be submitted to the Department for review and approval or to be public noticed.

A **major modification** requires submittal to the Department for review and approval and requires public notice.

MS4 Operator: “The owner, or an agent of the owner, of a separate storm sewer with responsibility for operating and maintaining the effectiveness of the system.” 10 CSR 20-6.200(1)(D)17.

Municipal Separate Storm Sewer (MS4): “A municipal separate storm sewer system” 10 CSR 20-6.200(1)(D)11.

“Municipal separate storm sewer means a conveyance or system of conveyances including roads and highways with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, paved or unpaved channels, or storm drains designated and utilized for routing of storm water which—

- A. Does not include any waters of the state as defined in section 644.016, RSMo.
- B. Is owned and operated by the state, city, town, village, county, district, association, or other public body created by or pursuant to the laws of Missouri having jurisdiction over disposal of sewage, industrial waste, storm water, or other liquid wastes;
- C. Is not a part or portion of a combined sewer system;
- D. Is not a part of a publicly owned treatment works as defined in 40 CFR 122.2.” 10 CSR 20-6.200(1)(D)16.

Non-Structural Controls: Pollution prevention practices that focus on management by limiting or eliminating pollutants before they mix with stormwater. Non-structural controls may include but are not limited to; site and land use planning, vegetated filters, stream buffers, low impact development (LID), open space preservation, and impervious cover restrictions.

Outfall: “A point source as defined by 10 CSR 20-2.010 at the point where a municipal separate storm sewer discharges and does not include open conveyances connecting two (2) municipal separate storm sewers, pipes, tunnels, or other conveyances which connect segments of waters of the state and are used to convey waters of the state.” 10 CSR 20-6.200(1)(D)18.

Outfalls are the point of discharge from the MS4 to waters of the state. Outfalls include discharges from pipes, ditches, swales, and other points of concentrated flow. An outfall is not where a stream or waters of the state leave the municipal boundary.

Owner: “A person who owns and controls the use, operation, and maintenance of a separate storm sewer.” 10 CSR 20-6.200(1)(D)20. “Person” is defined by Section 644.016(15) RSMo as “any individual, partnership, copartnership, firm, company, public or private corporation, association, joint stock company, trust, estate, political subdivision, or any agency, board, department, or bureau of the state or federal government, or any other legal entity whatever which is recognized by law as the subject of rights and duties.”

Permittee: Refers to the MS4 Operator, or the entities identified as the owner and continuing authority of this general permit.

Stormwater: “[S]torm water runoff, snowmelt runoff and surface runoff, and drainage.” 10 CSR 20-6.200(1)(D)31.

Stormwater Management Program: A comprehensive and documented program to manage the quality of stormwater discharges from the MS4.

Stormwater Management Plan (SWMP): The document explaining the MS4’s Stormwater Program. It should be a comprehensive document that explains BMPs and the ongoing evaluation of the BMPs, as well as tracking, methods of documentation, and other procedures for each requirement of this permit. The MS4 Operator must utilize the procedures and other supplemental documents contained with or referenced in the SWMP during the activities performed to attain permit compliance.

In this comprehensive general permit, the SWMP details the specific BMPs, time schedules, and other details for the individual MS4 and community, and does not need to be reviewed for approval by the Department during the application process.

Structural Controls: Pollution prevention practices that require the construction, or use of a device, to capture or prevent pollution in stormwater runoff. Structural controls may include but are not limited to: extended detention basins, bio-retention, infiltration basins, stormwater wetlands, bio-swales, vegetative lined ditches, subsurface drains, permeable pavement or concrete, sand filter basins, stormwater planters, proprietary BMPs, storage tanks, and hydrodynamic separators.

Urbanized Area (UA): An area of densely developed territory as defined and used by the U.S. Census Bureau, that may include multiple MS4s. The Census Bureau delineates urbanized areas after each decennial census.

Waters of the State: “[A]ll waters within the jurisdiction of this state, including all rivers, streams, lakes and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased or otherwise controlled by a single person or two or more persons jointly or as tenants in common.” Section 644.016(27) RSMo.

The definition of Waters of the State takes precedence when applying state regulations.

Part II – Receiving Stream Information

Municipal Stormwater Outfalls:

Applications for MS4 operating permit (renewal or new) require the MS4 to provide information regarding the location of outfalls from the regulated MS4. The NPDES MS4 operating permit covers all discharges from the permittee's stormwater system into waters of the state.

Outfalls listed under the Facility Description in the operating permit only include representative stormwater outfalls. Representative outfalls are outfalls that discharge to the primary stem of principal watercourses in separate sub-regional watersheds and are representative of various land uses. Representative outfalls are listed in the permit as a subset of ALL of the MS4’s outfalls. Listing all MS4 stormwater outfalls could add several extra pages to the permit and would require the operating permit to be modified if any outfall changes were made. However, the permittee is required by the operating permit to maintain a map as part of their Stormwater Management Program of all stormwater outfalls that discharge to waters of the state.

Applications for renewal or to receive (i.e., new permit) of the MS4 general permit require the permittee to provide the legal description, outfall number and receiving stream. In addition, the application for both co-permittees and individual MS4 permittees require a United States Geological Survey map showing the locations of the municipality/area in relation to the local road system and to indicate on the map the municipal/area boundary, receiving stream(s), and the map section, township, and range.

From this information, Department permit writers will establish a full description of these permitted features on the permit's certification page with the following:

Permitted Feature ID (e.g., Outfall #001)

Legal Description: ¼, ¼, Section, Township, Range, Direction

UTM Coordinates: X=000000.0, Y=0000000.0 (Easting, Northing respectively)

Receiving Stream: Name & Classification

First Classified Stream and ID: Name, Class, Waterbody ID – currently provided by the department

USGS Basin & Sub-watershed No.: (# – #) [12 digit USGS Hydrologic Unit Code (HUC)]

Applicable Designations of Waters of the State:

Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. This permit applies to facilities discharging to the following water body categories:

- Missouri or Mississippi River [10 CSR 20-7.015(2)]
- Lakes or Reservoirs [10 CSR 20-7.015(3)]
- Losing Streams [10 CSR 20-7.015(4)]
- Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- Special Streams [10 CSR 20-7.015(6)]
- All Other Waters [10 CSR 20-7.015(8)]

Missouri Water Quality Standards (10 CSR 20-7.031) defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses shall be maintained in accordance with 10 CSR 20-7.031(4). A general permit does not take into consideration site-specific conditions.

The Permit Area may change based upon areas incorporated into or removed from the permittee's jurisdictional area during the term of this permit, or expansion of the Urbanized Area (UA). Areas added shall be covered under this permit and reflected in the Stormwater Management Program. For Permittees that are designated due to population density in a UA, which has areas that are not in the UA, the regulated MS4 is the portion which is inside of the UA.

The Department may require the regulated MS4 to submit an application for an alternate or additional general permit. Such as if the permittee is conducting regulated activities that are not covered under this permit but are addressed in a separate Master General Permit.

If the Department disapproves the application or SWMP and requires additional controls which add expenses, then the Department will conduct an affordability analysis in support of the disapproval for the application or SWMP. However, permittees may waive the requirement of the Department to conduct an affordability analysis at any time. If the permittee waives the affordability analysis, the Department shall assume all additional required controls are affordable.

Part III – Stormwater Management Program and Plan:

Stormwater Management Program

This permit, in accordance with 10 CSR 20-6.200 and 40 CFR Part 122, requires the permittee to develop and implement a Stormwater Management Program. The Stormwater Management Program shall address the six minimum control measures; public education and outreach, public involvement/participation process, illicit discharge detection and elimination, construction site stormwater runoff control, post-construction stormwater management and pollution prevention/good housekeeping for municipal operations. In addition, the Stormwater Management Program addresses TMDL implementation plan components, if applicable.

The Stormwater Management Program also includes, but is not limited to, specific BMPs, relevant local regulations, policies, procedures, interim milestones, measurable goals, measures of success, designation of responsible persons/positions for each of the

measurable goals, and any applicable TMDL assumptions and requirements.

Stormwater Management Plan (SWMP)

The SWMP is a documented implementation plan describing a schedule of MS4 program activities including prohibitions of practices, implementation of required practices, development of standards for urban growth, maintenance procedures, education, trainings, inspections, and other management practices to prevent or reduce the pollution of waters of the state.

For this comprehensive permit, a SWMP is required, it does not need to be submitted to the Department as part of the application. The SWMP shall lay out standard procedures and details of the Stormwater Management Program. This document will help ensure consistency and continuity in the Stormwater Management Program.

SWMP Public Notice Procedure:

The MS4 Remand Rule became effective on January 9, 2017 and requires public participation in the permitting process. The comprehensive permit lays out the requirements of the Stormwater Management Program, using the specific SWMP may make an effective method of explaining the Stormwater Management Program.

Stormwater Management Program Ordinances:

To the extent allowable under state or local law, ordinances (or other regulatory mechanisms if a non-traditional MS4) are required to be developed, implemented and enforced within five years of initial permit issuance under the following sections, in accordance with 40 CFR 122.34(b):

Illicit discharge detection and elimination; to prohibit non-stormwater discharges into the storm sewer system, and implement appropriate enforcement procedures and actions;

Construction site stormwater runoff control; to require erosion and sediment controls at construction sites, as well as sanctions designed to ensure compliance; and

Post-construction; to address post-construction runoff from new development and redevelopment projects, and sanctions designed to ensure compliance. The “Missouri Guide to Green Infrastructure: Integrating Water Quality into Municipal Stormwater Management” (May 2012) was written specifically to aid MS4s in developing and implementing the post-construction runoff program. The guide can be viewed at <https://dnr.mo.gov/document-search/missouri-guide-green-infrastructure-pub2446>. The EPA and the Department and certain MS4s have developed compliant model ordinances that may be adapted for use by other interested MS4s.

Stormwater Management Program Reporting Frequency:

The previous version of this operating permit required biennial reporting of the Stormwater Management Program for existing regulated MS4s; however, annual reporting will now be required for existing regulated MS4 permittees in accordance with 40 CFR 122.34(d)(3).

The annual reporting ensures the annual review of the MCMs and overall stormwater management program is being conducted as required in this permit. The annual requirement also ensures there is no further confusion regarding which year the biennial report was due. The annual submittal of the Stormwater Management Program Report is also consistent with the MS4 Operators who are subject to TMDLs that must submit annual water quality schedules.

The reports shall be reported electronically by the owner, operator, or the duly authorized representative of the MS4 to the Department via the eDMR system. This annual Stormwater Management Program Report can be used by the Department and the public to evaluate the quality and compliance of a MS4’s program. A MS4 Operator may consider including additional information with the annual report to show the quality and comprehensiveness of the MS4 program. The report can be used to showcase an outstanding program.

Date	Item	Report submitted to Department
January 1, 2022	Updates to Stormwater Management Plan complete	No (unless requested by Department staff)
February 28, 2022	Annual Stormwater Management Program Report	yes
February 28, 2023	Annual Stormwater Management Program Report	yes
February 28, 2024	Annual Stormwater Management Program Report	yes

February 28, 2025	Annual Stormwater Management Program Report	yes
February 28, 2026	Annual Stormwater Management Program Report	yes

Part IV - Rationale and Derivation of Effluent Limitations & Permit Conditions

Professional Best Judgement:

The permit writer used professional best judgement as a high quality technical opinion developed by a permit writer after considerations of all reasonably available and pertinent data or information that forms the basis for the terms and conditions of a NPDES permit.

Previous versions of the MS4 Master General Permit followed federal regulations for the BMPs applicable to Phase II MS4s via the Minimum Control Measures (MCMs) under 40 CFR 122.34(b). BMPs are Technology-based Effluent Limits (TBELs), which then subjects the BMPs to case- by-case determinations using professional best judgement.

The Remand Rule was a non-substantive rule, requiring the permitting authority (the Department) to ensure permit requirements include narrative, numeric, or other types of requirements. Permit requirements that simply copy the language of the federal Phase II regulations without providing further detail on the level of effort required or that do not include the minimum actions that must be carried out during the permit term do not provide clear, specific, and measurable requirements. The permit writer used professional best judgement in deciding the clear, specific and measurable requirements for this permit.

Comprehensive Category Grouping

MS4 designation is based primarily off of population size. Because there is such diversity, even in Phase II MS4s the permit writer wanted to offer differing levels to help in areas where the population of the regulated MS4 impacts the BMPs the most. These groups are used to offer assistance to the smallest MS4s while ensuring the more populated MS4s are targeting the appropriate amount of target audiences and pollutants.

The designated groups only vary in MCM 1 BMPs in areas where target audiences and target pollutants are concerned. In researching audit reports and compliance assistance visits throughout the state certain challenges were seen facing the MS4s with the smallest populations. One noticeable challenge was the lack of variety in target audiences, this was similar to non-traditional MS4 that also have a limited population.

The number of MCM 1 BMPs were the lowest for these in Group A to reflect the lower amount of possible target audiences, the lower population to participate in events, and even the ability of their population to participate in events or behaviors targeted. Class 2 counties were also included in the Group A to reflect the smaller population size those counties. The MS4s in this group may not have industries in their boundaries. There are often no schools, or religious organizations.

The Group B MS4s have a larger population, which will reflect in the number of potential target audiences. The population size ranges from 10,000 to reflect the designation of population of 10,000 for a municipality outside urbanized areas. The MS4s in this group are also joined by Class 1 counties, which have larger populations. These Group B MS4 will have more sub-groups in their population to target. MS4s of this size will have industries, educational institutions, and other potential target audiences.

The Group C MS4s are the largest of the Phase II MS4s. The Census Bureau identifies an Urbanized Area (UA) as an area meeting the minimum population density requirement, with a population of over 50,000. Missouri has three large UAs; Kansas City, St. Louis, and Springfield. Additionally, as of the 2010 census, there are four other UAs in Missouri. Each of those individual municipalities has a high enough population to have the name designation of an UA. So while the area in that population density must meet 50,000 population as a whole, the main municipality will carry the majority of that population. The population of 40,000 was established as the bottom level for Group C to capture the larger municipalities in these UAs. MS4s of this size will have a variety of industries, educational institutions, and residents to draw from. They will also have a variety of potential pollutants or sources of pollution to target.

Integrated Planning

As noted in the June 5, 2012 EPA memorandum, “*Integrated Municipal Stormwater and Wastewater Planning Approach Framework*” EPA has increasingly embraced integrated planning approaches to municipal wastewater and stormwater management. EPA further committed to work with states and communities to implement and utilize these approaches in its October 27, 2011 memorandum

“Achieving Water Quality through Municipal Stormwater and Wastewater Plans.”

Integrated planning assist MS4 communities on their critical paths to achieving the human health and water quality objectives of the Clean Water Act by identifying efficiencies in implementing requirements that arise from distinct wastewater and stormwater programs, including how best to prioritize capital investments. Integrated planning can also facilitate the use of sustainable and comprehensive solutions, including green infrastructure, that protect human health, improve water quality, manage stormwater as a resource, and support other economic benefits and quality of life attributes that enhance the vitality of communities.

For more information regarding integrated planning please review both of the memorandums cited above or contact the Department’s MS4 Team.

Maximum Extent Practicable (MEP)

Prior to 1987, municipal stormwater was subject to the same controls as other point sources like industrial and domestic discharges, which was section 301(b) of the CWA. However, in 1987, “Congress retained the existing, stricter controls for industrial stormwater discharges but prescribed new controls for municipal stormwater discharges,” *NRDC v. EPA*, 966 f.2d 1292, 9th Cir. 1992 (*NRDC v. EPA*). This “new control” was established in section 402(p)(3)(B)(iii) of the CWA, which states, “*Permits for discharges from municipal storm sewers – shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, designs and engineering methods, and such other provisions as the Administrator or State determines appropriate for the controls of such pollutants.*”

The argument for “new controls” contained in the case of *NRDC v. EPA* was subsequently supported in the case of *Defenders of Wildlife v. Browner*, in which it was concluded that section 402(p)(3)(B) of the CWA “replaces” the requirements of 301(b) of the CWA with the MEP standard for MS4 discharges, and that it creates a “lesser standard” than section 301(b) of the CWA establishes on other types of discharges. Thus, MEP is a technology-based standard established by Congress in Section 402(p)(3)(B)(iii) of the CWA. As established in the *1999 National Pollution Discharge Elimination System Regulations for Revisions of Water Pollution Control Program Addressing Storm Water Discharges* (64 FR No. 235), MEP is, “...*the statutory standard that establishes the level of pollutant reduction that operators of regulated MS4s must achieve,*” (i.e., not water quality standards).

In addition to indicating that MEP is the statutory requirement, the EPA also clearly stated that MEP is applicable to the six (6) minimum controls measures in 64 FR No. 235, which states, “*The first component, reduction to the MEP, would be realized through implementation of the six minimum measures.*” The description of MEP continues in 64 FR No. 235, with “*EPA envisions application of the MEP standard as an iterative process. MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards.*” The iterative process, mentioned is also defined in 644 FR. No 235 with the following, “...*implement an iterative process of using BMPs, assessment, and refocused BMPs, leading toward the attainment of water quality standards.*”

Ninth Circuit court ruling in *EDC v. EPA* (2003) found that the Phase II rule requirements for small MS4 General Permits violated the CWA. The court ruling found a lack of permitting authority review and lack of public participation in permit process. The MS4 Remand Rule was promulgated December 9, 2016 and became effective on January 9, 2017 as a result of this ruling. The Remand Rule requires more stringent public notice requirements and authorization requirements, including SWMP review, approval, and incorporation for two-step general permits. There is not review, approval or incorporation for this Comprehensive permit.

The Remand Rule ensures permit requirements include narrative, numeric, or other types of requirements such as:

- Implementation of specific tasks or best management practices (BMPs)
- BMP design requirements, performance requirements
- Adaptive management requirements
- Schedules for implementation and maintenance
- Frequency of actions.

All requirements in this permit must be expressed in clear, specific, and measurable terms. This applies to any part of the permit addressing the six MCMs, TMDLs, and Stormwater Management Program Reports. MCMs were not intended to serve as stand-alone permit requirements, but rather areas of stormwater management that must be addressed in the permit through clear, specific, and measurable terms and conditions that meet the MS4 permit standard. Verbatim adoption of the MCMs from the Federal regulations will not satisfy this requirement.

Measurable Goals

Measurable goals are designed objectives or goals that quantify the progress of program implementation and performance of BMPs. They are objective markers or milestones that the permittee uses to track the progress and effectiveness of BMPs in reducing pollutants to the MEP. At a minimum, measurable goal should contain descriptions of actions that will be taken to implement each BMP, what is anticipated to be achieved by each goal, and the frequency and dates for such actions to be taken. BMPs and measurable goals are the mechanisms used to establish a clear and specific baseline against which future progress at reducing pollutants to the MEP can be measured.

There are a number of different ways the permittee can establish measurable goals. Examples of potential measurable goals include the following:

- **Tracking implementation over time** - Where a BMP is continually implemented over the permit term, a measurable goal can be developed to track how often, or where, this BMP is implemented.
- **Measuring progress in implementing the BMP** - Some BMPs are developed over time; a measurable goal can be used to track this progress until the BMP implementation is completed.
- **Tracking total numbers of BMPs implemented** - Measurable goals can be used to track BMP implementation numerically (e.g., the number of wet detention basins in place or the number of people changing their behavior due to the receipt of educational materials).
- **Tracking program/BMP effectiveness** - Measurable goals can be developed to evaluate BMP effectiveness, for example, by evaluating a structural BMP's effectiveness at reducing pollutant loading, or evaluating a public education campaign's effectiveness at reaching and informing the target audience to determine whether it reduces pollutants to the MEP. A measurable goal can also be a BMP design objective or performance standard.
- **Tracking environmental improvement** - The ultimate goal of the NPDES stormwater program is environmental improvement, which can be a measurable goal. Achievement of environmental improvement can be assessed and documented by ascertaining whether state water quality standards are being attained, or by tracking trends or improvements in water quality (chemical, physical, and biological) and other indicators, such as the hydraulics or habitat condition of the waterbody or watershed.

Because of changes due to the MS4 Remand Rule, measurable goals are specifically laid out in this permit. The MS4 Remand Rule emphasizes that permit requirements must be expressed in “clear, specific, and measurable” terms, which may include narrative, numeric, or other types of requirements (e.g., implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions). These rule modifications do not alter the existing, substantive requirements of the six minimum control measures in 40 CFR 122.34(b).

Examples of measurable goals in this MOR04C (this is not a complete chart of all measurable goals in this permit):

MCM	Requirement	Group A	Group B	Group C	Co-permittee adjustment	Newly designated differences	Reference
1	Target audiences	Residents	Residents; plus 1 throughout permit cycle	Residents; plus 2 throughout permit cycle			Table I 4.1.A
1	Target pollutants	1 per audience	1 per audience	1 per audience			Table II 4.1.B
1	BMPs (outreach material or action)	2 per permit cycle	4 per permit cycle	5 per permit cycle			Table III 4.1.C
1	Participation	1 per permit cycle	2 per permit cycle	3 per permit cycle	1 in boundary of each co-permittee		Table IV 4.1.D
2	Public Notice	30 days	30 days	30 days			4.2.A
2	Public Meeting	30 day advertised	30 day advertised	30 day advertised			4.2.C
2	Update governing board	1 time annually	1 time annually	1 time annually			4.2.F

3	Outfall map	All outfalls, receiving water, boundary or MS4	All outfalls, receiving water, boundary or MS4	All outfalls, receiving water, boundary or MS4		Complete by end of first 5 years	4.3.A
3	Dry weather outfall screening	60% per permit cycle	60% per permit cycle	60% per permit cycle		Locate & screen all in first 5 years	4.3.D
3	Identify priority areas	Identify and evaluate annually	Identify and evaluate annually	Identify and evaluate annually	Each shall identify areas		4.3.H
4	Pre Construction plan reviews	Each land disturbance site	Each land disturbance site	Each land disturbance site			4.4.B
4	Inspection program	Each land disturbance site	Each land disturbance site	Each land disturbance site			4.4.C
4	Construction site operator inspection requirements	Each land disturbance site	Each land disturbance site	Each land disturbance site			4.4.E
5	Water Quality post-construction BMP standards	Standards for structural controls and non-structural controls	Standards for structural controls and non-structural controls	Standards for structural controls and non-structural controls			4.5.B
5	Pre Construction plan reviews	Each land disturbance site	Each land disturbance site	Each land disturbance site			4.5.C
5	Long term operations and maintenance agreements	All new post-construction water quality BMPs	All new post-construction water quality BMPs	All new post-construction water quality BMPs			4.5.D
5	Water Quality post-construction BMP inspection	60% per permit cycle	60% per permit cycle	60% per permit cycle			4.5.E
6	Training	1 time annually	1 time annually	1 time annually			4.6.A - 4.6.C
6	List of MS4 owned/operated NPDES facilities	Continuous, update annually	Continuous, update annually	Continuous, update annually			4.6.D
6	On site pollutant controls	Continuous, update annually	Continuous, update annually	Continuous, update annually			4.6.F
6	Washing (vehicles and equipment) procedures	Continuous	Continuous, update annually	Continuous, update annually			4.6.H

Modifications

Minor modifications to BMPs or implementation may be allowed under this Comprehensive General Permit, if the changes do not alter the permit requirements.

As an example, the MS4 permit requires tracking for construction sites including plan reviews, inspections, and enforcement actions. The MS4 Operator used a central excel sheet, but now has the ability to purchase software that will store checklists for each step. This is considered an alteration in a BMP and is not a major modification as the permit requirement is still in effect.

Minimum Control Measures (MCMs)

The NPDES Permitting authority must include permit terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions that satisfy the requirements of this section must be expressed in clear, specific, and measurable terms. Such terms and conditions may include narrative, numeric, or other types of requirements (e.g., implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions) per 40 CFR 122.34(a).

In general, the Phase II MCMs as described in the federal regulation are not intended to serve as permit requirements, but rather areas of stormwater management that must be addressed in the permit through clear, specific, and measurable terms and conditions. Relying on the literal adoption of the MCMs from the federal regulations will not meet the requirement to establish clear, specific, and measurable permit requirements under the MS4 remand rule.

MCM 1 Public Education and Outreach on Stormwater Impacts

Terms and conditions related to this MCM are in accordance with 40 CFR 122.34(b)(1).

Public education and outreach is vital, as an informed and knowledgeable community is central to the success of a stormwater management program. Everyone has a part to play in both contributing to stormwater runoff and protecting water quality.

The MS4 Operator has the flexibility to choose which target audiences make sense for their MS4. The MS4 Operator can choose the audience, the medium, and the specific message. By educating the residents, the MS4 can help ensure greater support for stormwater management measures, and the public gains a greater understanding of the reasons why stormwater management programs are necessary and important. Public support is extremely beneficial for MS4 operators to institute new funding initiatives for the stormwater program or in seeking support or volunteers to help implement the program.

Education to schools or youth will reach the next generation of residents, and they can bring their lessons home. Businesses of all types have potential to impact urban stormwater. Retail, restaurants, manufacturing, even home based businesses bring their own potential issues. Plastic bags, litter, grease disposal, open garbage containers, and improper disposal methods should be evaluated and be seen as educational opportunities. Formal organizations such as Rotary Clubs, Lions, Churches, sports teams, or college organizations, can support the messages and provide audiences ready to listen, learn, and even help. In MS4s where development is happening, or being encouraged, educating developers is a great way to get in front of issues, and improve compliance with MCM #4.

The MS4 can target the education provided to specific groups. In educating Homeowner Associations (HOAs), for example, pollutants specific to them, such as fertilizer usage, car washing practices, stream buffers, and proper disposal of organic and household hazardous waste can be reviewed and specific BMPs and guidance provided to the HOAs to manage these pollutant sources. This audience can also be informed on maintenance of post-construction water quality facilities or ways they as homeowners can improve the quality of stormwater runoff. Another specific group that may be addressed is industrial facilities. Industrial facilities will bring potential new issues with the products or the production processes. Looking at each facility, and offering education based on the stormwater concerns, can reduce the pollutants in the runoff and diminish larger issues in the future.

Some MS4s may have a valid reason to include another target audience to their education program. If an area has a high level of tourist this may be a good target. If the area is retrofitting basins, the neighboring homeowners may be a target audience. It is part of the Missouri Nutrient Loss Reduction Strategy to enhance public involvement and education of nutrients in urban stormwater runoff. Residents can learn practical ways to decrease nutrients into the stormwater. Educating people on ways they can make an impact on a bigger picture can cause small changes which will add up. Focusing on trash is a way to show MS4 audiences the problem with a very visible media. By seeing how litter travels in the stormwater, it is easier to understand how smaller pollutants, such as oils, heavy metals, nutrients, or bacteria travel through the stormwater.

Tracking is important to ensure the target audiences are getting the information about the targeted pollutants. Many MS4 programs will see cycles of when education for certain topics is needed more than other topics. Learning through tracking and adaptive management will help the MS4 get effective education to the audiences.

Encouraging multiple stakeholder groups to become involved in the Stormwater Management Program will help foster a greater understanding of urban stormwater runoff and the potential impacts that can come from daily life in an urban setting. Because impacts are made in stormwater at businesses, and at home, it is vital to reach as many different groups as possible. Making the topic of stormwater management a relatable issue will help to get the message across, and give the recipients more reason to make changes.

When people participate in an activity, the underlying message becomes more tangible, and their personal impact has a stronger tie to the message. There are many ways to get people involved, and these ways will ideally reach different groups. Communities may already have philanthropic organizations willing to assist the permittee with activities. The Missouri Stream Team program is available state wide and engages in most of the activities listed in Part 4.2 of this permit. Learn more at mostreamteam.org or contact StreamTeam@mdc.mo.gov.

The MS4 Operator shall offer support of their own in conjunction with or to organizations helping with participation activities. There are a variety ways to offer support to groups who plan or organize events. By engaging with the groups or individuals creating these participation opportunities, the MS4 Operator can find ways to help in a manner which fits them, and really impacts the activities positively.

Co-permittees may gain a lot by sharing resources for much of the Stormwater Management Program. However, a part of the participation element is having the connection between behavior and action. It is important to have events located in the area of each

MS4 in a co-permit to gain ownership and accountability in the local stormwater management program. A visible activity in a physical or geographic area will impact those in that same area, which is a large part of what makes this MCM work.

In working to establish a specific minimum of BMPs, the permit writer used professional best judgment. In looking at a calendar year, there are three seasons which are conducive to outdoor activities. Likewise the calendar could be seen as quarters, or as a traditional school year plus summer break. Tracking is important to ensure the target audiences are getting the information about the targeted pollutants. Many MS4 programs will see cycles when education is more needed for certain topics, such as seasonal changes, or a re-education on a topic after a few years to remind the audience. Learning through tracking and adaptive management will help the MS4 get effective education to the audiences.

Recording elements such as the number of participants, the amount of litter collected, trees planted, or audience attending will help the MS4 Operator understand if the activity was useful or not. Attendance sheets, receipts, Stream Team Activity Reports, or a spreadsheet can be used to keep track of events and results. Sometimes events may be less attended than anticipated, but the MS4 Operator should consider that even a small impact is still an impact. When using adaptive management properly, adjustments can be made and the activity can be repeated.

MCM 2 Public Participation

This MCM is required in accordance with 40 CFR 122.34(b)(2).

The Stormwater Management Program shall use the same procedure as the Master General Permit because the Management Program is the part that is specific to the MS4 it was created for. Following the public notice processes laid out in Part 4.2 of this permit will give the public the opportunity to comment on or learn about the Stormwater Management Program.

The MS4 Operator does not need to create a stormwater management panel or committee. Having such a panel or committee will give the MS4 Operator a more immediate way of getting public representation involved and getting feedback from the public. A board with a diverse membership can enhance a stormwater management program by getting multiple viewpoints. Involving so much feedback and input will help gain backing from the residents and this understanding of the program will garner support when needed.

Giving updates on the Stormwater Management Program to the governing body or board can help the decision makers understand the reasons behind the processes and the benefit a healthy stormwater management can have on the economic value to their area. This update can be an opportunity to show successes in the program, and may be in done in conjunction with preparing the Stormwater Management Program Report. These updates may be given as an in person presentation, as a written document, or via another method that will get the message effectively to the board.

MCM 3 Illicit Discharge Detection and Elimination (IDDE)

This MCM is required in accordance with 40 CFR 122.34(b)(3).

An outfall is any point where a separate storm sewer system discharges to waters of the state, which is owned or operated by the permittee. Outfalls include discharges from stormwater conveyances such as pipes, ditches, swales, gutters, and other points of concentrated flow.

An outfall does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances that connect segments of the same stream or other waters of the state and are used to convey waters of the state (such as culverts). If waters of the state flow through a channelized area, this remains waters of the state, not an open conveyance.

Outfalls are not where streams leave the municipal boundaries of an MS4. Outfalls are not limited by size, as illicit discharge can travel through any size outfalls, even those that are small. While larger outfalls may collect more drainage from a larger area, small outfalls were also constructed to convey stormwater and are equally likely to have illicit discharges. Overland flows, or areas of non-concentrated or sheet flow, are not considered to be outfalls. Therefore they are not required to be mapped. Where a conveyance ends and discharges to a BMP, such as a vegetated area, and there is no conveyance to waters of the state, the conveyance end is not an outfall if the discharge does not reach waters of the state.

Mapping all MS4 outfalls is vital to a functioning illicit discharge program. Outfalls mapping gives the MS4 Operator a starting point to trace back to the source. Knowing the locations of outfalls and receiving waters are necessary to be able to conduct dry weather field screening for non-stormwater flows and to respond to illicit discharge reports from the public. Outfalls must be mapped no matter their size.

Mapping the storm sewer system which leads to those outfalls will further assist in illicit discharge tracing. Once an illicit discharge is detected at an outfall, it will be necessary to trace the discharge through that portion of the storm sewer system leading to the outfall in order to locate the source.

Because privately owned storm sewers and conveyances were authorized by a municipality or the county to become connected with the municipal system, the municipality or county with the MS4 permit does have responsibility for that stormwater. Facilities owned by homeowners associations, for example, are subject to local codes, ordinances, and enforcement. The municipalities are responsible, therefore, for discharges of wastes from private stormwater conveyance systems. Therefore enforcement actions shall take place if an illicit discharge is detected from a private outfall. So while the outfalls from such private stormwater conveyances and outfall are not required for mapping, it is recommended to do so in order to assist with illicit discharge investigations and enforcement.

Ongoing dry weather field screening for non-stormwater flows is a strong tool for detecting illicit discharges. This process will verify outfall locations by walking, wading or even using a boat in the streams or along the streambanks and shorelines. Evidence of past non-stormwater flows, trash, improper yard waste disposal, along with the structural integrity of the storm sewer system can be found.

The field screenings are important in relation to priority areas. The field screening may identify new priority areas (problems areas) or the MS4 Operator may conduct more frequent screenings in the priority areas. When considering where priority areas are, look at land use on the watershed. Priority areas may be industrial areas, areas with a concentration of food establishments with grease disposal, or parts of the city with older infrastructure which may have cross contamination from aged domestic sewers, or an area of retail where litter may be an issue. The MS4 Operator should consider all types of pollutants when determining priority areas.

Investigating pollutants may involve sampling for the following parameters: specific conductivity, chloride, ammonia, nitrates, potassium, surfactant and/or fluorescence concentration, pH, *E. coli* and other chemicals indicative of suspected sources. Useful observations of any physical characteristics of the discharge include: flow rate, temperature, odor, color, turbidity, floatable matter, deposits, stains, and impacts to vegetation or wildlife.

The MS4 Operator does not need to have the sample analyzation equipment, they must at minimum maintain a contract lab relationship so the samples can be taken and analyzed. For guidance on illicit discharge investigations, and parameters to sample for see: https://www.epa.gov/sites/production/files/2015-11/documents/sw_idde_pittbacklit.pdf
Or https://stormwater.pca.state.mn.us/images/b/b2/Final_IDDE_Field_Guide_HRPDC.pdf

The program must include procedures for tracing the source of an illicit discharge. Once an illicit discharge is detected and field tests have provided source characteristics, the next step is to determine the location of the pollutant source. The map of the storm sewer system is a valuable tool, and is most often the first step in this plan. Techniques for tracing the discharge to its place of origin may include: following the flow up the storm drainage system via observations and/or chemical testing in manholes or in open channels, televising storm sewers, using infrared and thermal photography, conducting smoke or dye tests.

Education efforts in resolving the problem should occur before taking legal action; however, the MS4 needs to have the ability to enforce the IDDE plan. The procedures for removing the source of the illicit discharge will vary depending on the source of the discharge. The plan may include notifying the property owner and specifying a time for the owner to eliminate the discharge. Additional notifications and escalating legal actions, if needed, should also be described in this part of the plan. The MS4 Operators should consider creating an enforcement response plan, including the ability to collect cleanup and abatement costs from the responsible party. The MS4 Operator should also maintain contacts for environmental cleanup and environmental emergency response.

Per 260.505 RSMo, any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply when the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. <https://dnr.mo.gov/waste-recycling/investigations-cleanups/environmental-emergency-response>.

Each MS4 will need to determine their own priority areas. However, if an area receives three complaints or reports of separate events

within a six month range, the MS4 must prioritize this area until the source is determined.

The MS4 Operator must have procedures for responding to reports of illicit discharges. Actions taken under the illicit discharge program should be documented. The MS4 Operator must use tracking to show progress is being made to eliminate illicit connections and discharges.

Illicit discharges may originate in one MS4 jurisdiction and cross into another MS4 jurisdiction before being discharged at an outfall. The MS4 that detects the illicit flow is expected to trace it to the point where it leaves their jurisdiction and notify the adjoining MS4 of the flow, and any other physical or chemical information. The adjoining MS4 shall then trace it to the source or to the location where it enters their jurisdiction. The process of notifying the adjoining MS4 should continue until the source is located and eliminated.

MCM 4 Construction Site Runoff Control

This MCM is required in accordance with 40 CFR 122.34(b)(4).

Polluted stormwater runoff from construction sites often flows to MS4 storm sewers and is ultimately discharged into local waterbodies. Of the pollutants that have the potential to be discharged, sediment is usually the main pollutant of concern. According to the 2000 National Water Quality Inventory, States and Tribes report sediment as one of the most widespread pollutants affecting assessed rivers and streams, second only to pathogens (bacteria). Sources of sediment include agriculture, urban runoff, construction and forestry. However, sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands and 1,000 to 2,000 times greater than those from forest lands.

During a short time period, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation and contribution of other pollutants from construction sites can cause physical, chemical, and biological harm to Missouri's waters.

The MS4 Operator must establish a construction program that controls polluted runoff from construction sites with a land disturbance of greater than or equal to one acre. There must be control through ordinances and/or other regulatory mechanism, such as a permit for land disturbance or grading activity.

Site Plan Review ensures the implementation of appropriate BMPs on construction sites to control erosion and sediment along with litter and other wastes at the site. To determine if a construction site is in compliance with such provisions, the MS4 operator can review the site plans submitted by the construction site before ground is broken. Plan reviews can aid in compliance and enforcement efforts since they alert the MS4 operator early in the process to the planned use or non-use of proper BMPs and provides a way to track new construction activities. Reviewing non-structural BMPs first shall help make sure a more appropriate order of operation is being maintained. This may prevent actions such as removing trees only to install a permanent structural BMP which has the same effect as the removed trees. The structural BMPs may also reduce the quantity of runoff, which will have an influence on any permanent structural BMP.

Land disturbance activities, such as clearing and grading the land surface, increases the potential for sediment discharges. Clearing reduces the natural uptake of water and nutrients by vegetation and excessive grading can smooth the ground surface, increasing amount and velocity of runoff. Vegetation inhibits erosion as the roots hold the topsoil in place, while leaves protect the surface against rain. Once the vegetative cover is gone, erosion is accelerated. The longer the exposed area is subject to erosive forces, the more severe the effect.

The goal for this land disturbance program, should be to expose the smallest practical area of land, for the shortest possible time, to eroding forces. Phased construction minimizes the amount of land exposed at one time.

When the site becomes active, BMPs must be in place and the permittee inspection and enforcement activities must begin. To ensure that the BMPs are properly installed, the permittee is required to develop procedures for site inspection and enforcement of control measures to deter infractions. Procedures include steps to identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography, the characteristics of soil and the receiving water body's quality. Inspections give MS4s an opportunity to provide additional guidance and education, issue warnings, or assess penalties.

Each site shall self-inspect to ensure their compliance with the regulations of both the MS4 and the State of Missouri Clean Water Law. An MS4 may require the site operator submit their self-inspection reports to the MS4 Operator as a form of oversight, tracking of compliance, or issues with the site. For consistency the requirements mirror the requirements of the current Missouri State Land Disturbance permit.

To fully ensure compliance the MS4 Operator must conduct oversight inspections as well. The MS4 Operator may choose to contract out these inspections to qualified inspectors, or consultants. If choosing this option, the MS4 Operator must make it clear to the site operators that the inspections are being conducted on behalf of the MS4. The oversight inspections must be conducted at a frequency which ensures compliance, but not so often that the site operator can use the MS4 oversight inspections as their own inspections. Too frequent oversight inspections may cause the inspector to become complacent or too familiar with the site or the personnel. Inspections can be used as educational opportunities from the inspector to the site operator.

Plan reviews before construction begins will help to identify priority site based off of site characteristics. Past inspections and the tracking of compliance issues may also assist in this identification if there have been issues with particular construction site operators or neighbors in the area of a site. Final inspections performed after the completion of the land disturbance project, ensure the site is properly stabilized, clean of solid waste and temporary BMPs. Terminating the Missouri Land Disturbance permit will reduce the number of NPDES permits open in that MS4 service area. Documenting inspections, such as with a checklist, will be evidence that the inspections are being conducting, ensure thoroughness and uniformity for the inspector. These documents be used to show the site operators that the inspectors are being consistent between sites.

MS4 staff must have enforcement tools available if they observe noncompliance with the MS4 regulatory mechanisms. The tools available may be notices of violation, stop work orders, or withholding of funds. These tools and mechanisms, and how to use them, should be described in the SWMP. The SWMP should also list who can use the enforcement tools, enforcement follow-up actions, such as follow-up inspections; how and when enforcement is escalated if the violation isn't corrected, and documentation requirements.

Having an inventory of all sites with relevant contact information and project information ensures the MS4 Operator is aware of the projects in their area. The tracking of sites is useful not only for the MS4 Operator's recordkeeping and reporting purposes, but also for members of the public interested in ensuring that sites are in compliance.

MCM 4 also includes a requirement to allow the public to report concerns they have regarding construction sites and water quality impacts. An educated public is more aware of sediment runoff as a pollutant, therefore this may be reflected in the amount of reports of water quality impacts and improper site management increasing. Conversely, as education for the developer increases, the amount of reports on these things may decrease. It should also be noted that while erosion and sediment regulations are typically focused on sediment, MCM 4 is not limited to just sediment. MS4 Operators must enforce construction sites for other types of waste, such as litter or concrete washout.

Many MS4s use existing code or building inspectors to also look at the sediment and erosion aspects of a site. These inspectors must have training, and must understand why the sediment and erosion inspections are of value. The permit writer understands that not all MS4s are able to afford extra training for inspectors, however there are free resources available. Because of the great impact, even one mismanaged construction site can cause a stream to be damaged. The effort and time to establish these training resources to create a training program are necessary to have competent inspectors.

Educating the individual site operators will add more awareness for how to manage sediment and erosion on a site, and why this is important. More information on the Missouri land disturbance permit is found at: <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/stormwater/construction-land-disturbance>.

MCM 5 Post-Construction Runoff Control

This MCM is required in accordance with 40 CFR 122.34(b)(5).

If water quality impacts are considered from the beginning stages of a project, new development and redevelopment provide more opportunities for water quality protection. Post-construction stormwater management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly affect receiving waterbodies. Many studies indicate that prior planning and design for minimization of pollutants in post-construction stormwater discharges is the most

cost-effective approach to stormwater quality management.

The Phase II rule applies to redevelopment projects that alter the footprint of an existing site or building in such a way that there is a disturbance of equal to or greater than one acre of land. This program requires ordinances, or policies, that address stormwater runoff quality. Post-construction stormwater management can be utilized in ways that preserve and protect in a non-structural way, and in structural items that are used to mitigate the decreased water quality in the stormwater runoff. Because structural and non-structural practices work together, a minimum of one ordinance is required for structural controls and one ordinance for non-structural controls.

Structural controls have traditionally been concrete or “gray” infrastructure created to quickly move the stormwater away from the place it falls. These have caused increased erosion and water quality degradation to the receiving streams. Current standards include water quality as a factor in design, and many standards are actually based on natural systems and rely upon vegetation and soil mechanisms in order to perform as intended. The choice of which structural BMPs are most appropriate comes not as a post-construction fix, but rather as a result of the site design review, which should also look at the stormwater management of the site comprehensively.

Numeric, or technical, performance standards are broken into two types for stormwater discharges, a treatment standard or a volume-based/retention standard. Treatment standards typically specify an amount of pollutant to be managed, for example 80% TSS removal. Volume-based or retention standards typically require the use of infiltration, evapotranspiration or harvest practices to control a specified volume of stormwater onsite and are usually expressed as a volume of rainfall, a percentile storm event or a groundwater recharge volume.

Non-structural controls focus on preserving open space, protecting natural systems, and incorporating existing landscape features such as wetlands and stream corridors into a site plan to manage stormwater at its source. There is also emphasis on clustering and concentrating development, minimizing disturbed areas, and reducing the size of impervious areas.

Both structural and non-structural controls consider comprehensive stormwater management items such as:

- Stormwater should be managed as a resource
- Natural features and systems should be preserved and utilized
- Stormwater should be managed as close to the source as possible
- The hydrologic balance of surface and ground water should be maintained
- Runoff should be slowed down
- Potential water quality and quantity problems should be prevented
- Problems that cannot be avoided should be minimized
- Stormwater management should be integrated into the initial site design process.

The Department has created the Missouri Guide to Green Infrastructure, Integrating Water Quality into Municipal Stormwater Management for guidance; <https://dnr.mo.gov/document-search/missouri-guide-green-infrastructure-pub2446>.

Other guidance and model ordinances may be found at the following:

<https://www.epa.gov/nps/urban-runoff-model-ordinances-post-construction-controls>

<https://www.epa.gov/nps/urban-runoff-model-ordinances-aquatic-buffers>

<https://www.epa.gov/nps/urban-runoff-model-ordinances-open-space-development>

https://www3.epa.gov/npdes/pubs/sw_ms4_compendium.pdf

https://www.epa.gov/sites/production/files/2015-09/documents/urban_ch05.pdf

<https://www.epa.gov/green-infrastructure>

<https://www.cwp.org/reducing-stormwater-runoff/>

The MS4 Operator must ensure adequate long-term operation and maintenance of post-construction BMPs. This is accomplished through agreements between the MS4 Operator and land owners or regional authorities. Tying a structural control to the land deed may be adequate for some MS4s. If the agreement is recorded with local land records, any successive owner of the property would take the responsibilities of the operations and maintenance of that structural control in the agreement.

Both structural controls and non-structural controls, must be tracked and inspected. An inspection program must be established to ensure the stormwater controls are working and being properly maintained.

Non-structural controls must also be reevaluated. If an urban growth area was identified, it must be evaluated to ensure is room for more development, or if a new growth area should be found. If open spaces or sensitive areas are protected by ordinances or similar mechanism, these places should be inspected to ensure there is no encroachment of development or by neighboring properties. If impervious areas were minimized, these places should be inspected to ensure no additional impervious areas were added.

Educating MS4 on post-constructions BMPs will ensure the inspections are effective. There are free resources available online such as: <https://www.youtube.com/watch?v=SM9sI9wQgz0&feature=youtu.be>

As the public becomes more educated on post-construction stormwater runoff BMPs and controls, they may have more concerns to report. Through education however, there may be ways an MS4 can also gain participation to assist with maintenance issues, and to also further education on water quality and stormwater management.

MCM 6 Pollution Prevention/Good Housekeeping

This MCM is required in accordance with 40 CFR 122.34(b)(6).

The MS4 Operator's actions, and facilities are the example for the residents of that MS4. Leading by example can be an important component of education.

Training shall be given to any staff that have influence on stormwater for the MS4, not just environmental coordinators. By only focusing the training on a few members, the message will not get out. Each MS4 should take a realistic look at each department, division, and individual. If their work may either negatively impact or positively impact stormwater runoff, they must attend the training.

Training may be broken down into topics and dispersed throughout the year. It may be given in conjunction with other training. There are free resources available online such as;

https://stormwater.pca.state.mn.us/index.php?title=Employee_training

<https://www.youtube.com/watch?v=UxOam2GEVgQ>

<https://www.youtube.com/watch?v=I6ubsys6AZY>

While emergency firefighting actives are an authorized non-stormwater discharge, other actives related to a fire department, such as washing of trucks, run-off water from training activities, test water from fire suppression systems, and hydrant pressure testing, are not.

Live and simulated fire training should be conducted at facilities that have been built and engineered specifically for training exercises. These facilities should have run-off controls or BMPs to prevent discharging this water or foam used in training exercises. Any water used during training activities is considered wastewater and will require a separate permit (or de minimis determination) from the Department for discharge or land application. Water that is collected and conveyed to a wastewater treatment facility is not required to obtain a separate permit.

If firefighter training cannot be conducted at a specially designed facility, additional pollution prevention actions will need to be taken before training begins in order to prevent illicit discharges. Additional actions may include; sweeping prior to and after training; blocking off all potentially affected stormwater structures; directing to a sanitary sewer line; if spraying water over a landscape, arch the water so that velocities are dissipated and there is less chance of soil erosion; use dechlorination blankets and/or dechlorination diffusers after/prior to spraying, dispose of ashes and partially burnt debris in dumpsters.

Maintaining an Operations and Maintenance document, or SWPPP for each municipal site will ensure proper management, and behavior at those sites. This document should also include inspections for these sites as a method of checking up on the individual site programs. Inspections, cleaning, and routine maintenance of stormwater structures is necessary to ensure the structures are functioning properly and stormwater is managed properly.

Road salt and other deicers are a safety item for most residents of Missouri. However the chloride concentrations in streams is increasing which can potentially harm aquatic life and may impair drinking water.

So while there is a need for road salt, there are changes that can be made to use less salt and still clear the roads for the safety of the public. This is seen in product management. Loading, unloading and cleanup practices in the loading and parking areas can greatly

reduce the amount of salt loss to precipitation and subsequent stormwater. A winter maintenance program which tracks the rock salt use and finds ways to manage the product to reduce loss on the municipal yard is the goal of any BMPs designed and implemented for rock salt. In addition, educating private entities to reduce their usage of salt by incorporating salt reduction practices into their procedures is vital.

In contrast with road salt, brine spreads more evenly, stays where it falls, and begins working immediately. This is because the salt is already in solution. As a result, spraying liquid brine is more effective while using less salt. Beet juice has been suggested as an alternative, however, in practice, the sugar in the runoff has been shown to cause nutrient loading of waterways to increase.

For training or additional resources including application rates please see;

<https://www.wisaltwise.com/Tools/Application-Guidelines-Calculator>

<https://www.iwla.org/conservation/water/winter-salt-watch/road-salt-best-practices>

Yard waste includes any organic debris such as grass clippings, leaves, and tree branches. Research by the U.S. Geological Survey show municipal leaf collection programs have the ability to reduce loads of total and dissolved phosphorus in a given drainage area by 84 and 83%, respectively, and total and dissolved nitrogen by 74 and 71%. This research indicates that nearly 60% of the annual phosphorus yield in urban and suburban environments comes from leaf litter in the fall, making it a huge contributor of nutrients to urban receiving waters.

Removing leaf litter from roads and drain systems means; cleaner streets, safety, and a reduced likelihood of clogged storm drain inlets. Educating residents to not put leaves in, or on storm inlets and/or providing alternate means of disposal can help reduce the amount of effort needed to clean storm drain inlets.

For more information please see;

<https://www.sciencedirect.com/science/article/pii/S0048969716314462>

<https://slco.org/watershed/stream-friendly-practices/dont-dump-debris/>

There is also free training on overall stormwater management for MS4 Operators;

<https://www.torranceca.gov/home/showdocument?id=18591>

<https://njmel.org/mel-safety-institute/webinars/>

https://www.youtube.com/watch?v=Z09Yz_qS1f4

<https://www.youtube.com/watch?v=ACP7DOdOEDE>

Part V – Rationale for General Terms and Conditions:

Clean Water Act section 402(l)

On December 7, 2012, the U.S. EPA promulgated a rule (77FR 72970) clarifying that discharges of stormwater from silviculture activities do not require a NPDES permit. On March 20, 2013, the U.S. Supreme Court ruled that discharges of stormwater that run off from logging roads into ditches, culverts, and channels did not require a NPDES permit as stormwater from industrial activity.

In January 2014, Congress amended Clean Water Act 402(l) to prohibit the requirements of NPDES permits for the discharge of runoff “resulting from the conduct of the following silviculture activities conducted in accordance with standard industry practice: nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage or road construction and maintenance.” In 2016, the U.S. EPA published its decision to not regulate forest road discharges under Phase II stormwater non-permitting programs.

Additional Federal Acts

In accordance with 40 CFR 122.49(b) and (c) the operating permit cites the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA) and places the permittee on notice that the operating permit does not affect, remove or replace the requirements or compliance determination for NPDES operating permits. It is the responsibility of the permittee to determine if activities conducted within their MS4 or stormwater discharging from their MS4 are in compliance with the ESA and NHPA.

Assistance in determining applicability to ESA conditions and requirements can be found on the U.S. Fish and Wildlife Service (FWS) Endangered Species webpage, which is located at: <http://www.fws.gov/angered/>. Additionally, the FWS Information for Planning and Conservation (IPaC) web-based project planning tool that streamlines the environmental review process is highly

recommended and is located at: <http://ecos.fws.gov/ipac/>.

Assistance in determining applicability to NHPA conditions and requirements can be found on the Department's State Historic Preservation Office Section 106 Review, which is located at: <https://mostateparks.com/page/84371/state-historic-preservation-office>. Additionally, the Advisory Council on Historic Preservation Citizen Guide to Section 106 Review, which explains the process, is located at: <http://www.achp.gov/citizensguide.html>.

In addition to the ESA and NHPA, this operating permit does not affect, replace or remove the requirements and compliance determinations with respect to substances not otherwise covered under a NPDES permit and regulated by federal law under the Resource Conservation and Recovery Act or the Comprehensive Environmental Response, Compensation, and Liability Act.

Anti-Backsliding

Anti-backsliding is a provision in federal regulations CWA §303(d)(4); CWA §402(o); 40 CFR 122.44(l) that requires a reissued permit to be as stringent as the previous permit with some exceptions. The permit complies with Anti-backsliding regulations.

Anti-Degradation

Antidegradation policies ensure protection of water quality for a particular water body on a pollutant by pollutant basis to ensure Water Quality Standards are maintained to support beneficial uses such as fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as an Outstanding National Resource Water or Outstanding State Resource Water [10 CSR 20-7.031(3)(C)]. Antidegradation policies are adopted to minimize adverse effects on water.

The Department has determined that the best avenue forward for implementing the Anti-degradation requirements into the MS4 general permit is by requiring the appropriate development and maintenance of a Stormwater Management Program.

Application requirements

Small MS4s (as defined under 10 CSR 20-6.200) are to apply and obtain a small MS4 General Permit or site-specific permit in accordance with 40 CFR 122.33 and 10 CSR 20-6.200(5).

Compliance and Enforcement

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri CWL, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Dischargers of stormwater from regulated MS4s, as defined in the Missouri Stormwater Regulations 10 CSR 20-6.200 who do not obtain coverage under this or other Missouri general permits, or under a site-specific NPDES permit, will be in violation of the Missouri CWL and its implementing regulations and subject to civil penalties of up to \$10,000 per violation, per day. For entities covered under a NPDES permit, failure to comply with any NPDES permit requirement also constitutes a violation of the Missouri CWL and its implementing regulations.

Oil/Water Separators:

Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.

This permit authorizes the operation of OWS for the treatment of stormwater without the requirement to obtain a separate permit. If the OWS treats water other than precipitation which has run across the property (for example: wash water, effluent from shop drains, drips, spills, etc.) the facility must obtain an MOG14 or site specific permit to cover the discharges.

Pesticide Rule

The Department has developed a Pesticide General Permit #MOG-870000 for point source discharges resulting from the application

of pesticides. This permit has been developed as a result of federal requirements under NPDES.

The general permit authorizes the discharge of pesticides that leave a residue in water when such applications are made into, over or near waters of the United States. The department has determined that entities most likely affected by this permit include public health entities, including mosquito or other vector control districts and commercial applicators that service this sector. Others potentially affected by this permit include resource and land management entities, such as public and private entities managing public land; park areas and university campuses; as utilities maintaining easements and right-of-ways; golf courses; and other large residential developments which maintain a large grounds area. In addition, permits may be required for applications involving pesticide use for agricultural related activities when pesticides are applied to crops grown in or near a water of the United States.

The Department is collaborating closely with the Missouri Department of Agriculture, which already administers the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) along with the Missouri Pesticide Use Act, to ensure proper oversight of pesticide applications.

MS4s under this permit are subject to the pesticide rule. To determine if a permit is required, please visit the Department's website. The thresholds listed in Table 1 of the pesticide general permit will assist in determining if a permit is required. If a permit is required, the permittee/facility shall apply for either the Pesticide General Permit or a site-specific pesticide permit from the Department.

Secondary Containment

Prior to release of stormwater in secondary containments, the presence of petroleum sheen and odor must be observed. Steps must be taken if petroleum sheen or odor are observed to remove the petroleum from the stormwater prior to release. All secondary containment valves must remain closed when not actively draining stormwater. Release of stormwater from secondary containment must be controlled so as not to cause physical impacts such as forming rills, transporting solids, or scouring vegetation. If the stormwater is contaminated, the MS4 operator has the option of pumping out the secondary containment and taking it to an accepting wastewater treatment facility for treatment. Causing a sheen to be released to the environment is a violation of this permit and general water quality standards at 10 CSR 20-7.031(4)(B).

Standard Conditions:

The standard conditions Part I are incorporated into this permit, and incorporate all sections of 10 CSR 20-6.010(8) and 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the facility to ascertain compliance with this permit, state regulations, state statues, federal regulations, and the Clean Water Act.

Water Quality Standards

As noted previously, the nature of the MS4 program is technology-based, which is in accordance with Section §402(p)(3)(B)(iii) of the CWA with the establishment of the technology-based standard MEP. Many in the MS4 community believe that MEP is the only standard applicable for compliance determination, which for the most part (specifically for the six (6) minimum control measures, is correct). Given the litigious nature surrounding the “agreeability” of MS4 compliance with WQS, MS4 permits have been the subject of court cases for several years.

40 CFR 122.34(a)(1) clearly requires that the MS4 permit will require the MS4 permittee to, “...develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable (MEP), to protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act.” While this regulation seems to be in contradiction to Section §402(p)(3)(B)(iii) of the CWA due to the fact that it appears to require the permittee to “...protect water quality” and “satisfy the appropriate water quality requirements...” it actually is not; however, has been mistakenly applied to require strict, immediate compliance with WQS even in previously issued Missouri MS4 Master General Permits.

As noted in 64 FR No. 235, “The Court, did, however, disagree with the EPA’s interpretation of the relationship between CWA sections 301 and 402(p). The Court reasoned that MS4s are not compelled by section 301(b)(1)(C) to meet all State water quality standards, but rather the Administrator or the State may rely on section 402(p)(3)(B)(iii) to require such controls.” The discussion continues with, “...the 1996 Policy describes how permits would implement an iterative process using BMPs, assessment, and refocused BMPs leading toward attainment of water quality standards. The ultimate goal of the iteration would be for water bodies to support their designated uses...” and “EPA also believes the iterative approach toward attainment of water quality standards represents a reasonable interpretation of CWA section 402(p)(3)(B)(iii).”

A break-down of 40 CFR 122.34(a) is given in 64 FR No. 235, as follows, “*The first component, reduction to the MEP, would be realized through implementation of the six minimum measures. The second component, to protect water quality, reflects the overall design objective for municipal programs based on CWA section 402(p)(6). The third component, to implement other applicable water quality requirements of the CWA, recognizes the Agency’s specific determination under the CWA section 402(p)(3)(B)(iii) of the need to achieve reasonable further progress toward the attainment of water quality standards according to the iterative BMP process, as well as the determination that State or EPA officials who establish TMDLs could allocate waste loads to MS4s, as they would other point sources.*”

Part VI - 303(D) List, Total Maximum Daily Load (TMDL)

Section 303(d) of the CWA requires that each state identify waters that are not meeting water quality standards. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) List helps state and federal agencies keep track of waters that are impaired but not addressed by typical water pollution control programs. Federal regulations require permitting authorities to develop TMDLs to address impaired waters listed per Section 303(d) of the CWA. A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is impaired. Please visit the Department’s website to determine if you are listed in an approved or established TMDL at: <https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/tmdls>.

Federal regulation 40 CFR 122.34(a) establishes the requirements applicable to all MS4s with, “*Your NPDES MS4 permit will require at a minimum that you develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.*” EPA translated this regulation into three parts in 64 FR No. 235, as follows, “*The first component, reductions to the MEP, would be realized through implementation of the six minimum measures. The second component, to protect water quality, reflects the overall design objective for municipal programs based on CWA section 402(p)(6). The third component, to implement other applicable water quality requirements of the CWA, recognizes the Agency’s specific determination under CWA section 402(p)(3)(B)(iii) of the need to achieve reasonable further progress toward attainment of water quality standards according to the iterative BMP process, as well as the determination that State or EPA officials who establish TMDLs could allocate waste loads to MS4s, as they would to other point sources.*”

The above citation of 64 FR No. 235 clearly states that MEP is specific to the six (6) MCMs and clearly establishes that Wasteload Allocations (WLAs) are applicable to MS4s. However, unlike other traditional point sources that utilize treatment facilities, the EPA clearly indicated that attainment of the WLA is to be conducted via “*the iterative BMP process.*” Thus, requiring any condition for the attainment of water quality standards in addition to the MCMs is going beyond MEP but the process for attainment of the WLA is still achieved with BMPs using the iterative process of establishing BMPs, evaluating the BMPs, and refocusing on BMPs.

However, just because a WLA for any given pollutant(s) of concern (POC) has been established in a TMDL for a MS4, additional BMPs or modifications to BMPs for the six MCMs should not be required as a trigger action. Rather, the MS4 permittee subject to an effective and approved TMDL should first make a determination if the implementation of their MCMs is adequately meeting the requirements and assumptions of the TMDL. As noted in 64 FR No. 235, “*At this time, EPA determines that water quality-based controls, implemented through the iterative process today are appropriate for the control of such pollutants and will result in reasonable further progress towards the attainment of water quality standards.*” While potentially rare this does indicate that no further action may be necessary to implement the requirements and assumptions of the TMDL as the MS4 community may, through successful implementation to the MEP for each of the MCMs, have already demonstrated “*reasonable further progress.*” This, rightfully so, places the burden of support on the MS4 community; however, in order for the MS4 community to continue operating only under the six MCMs, the determination of beneficial use re-attainment must be reviewed and timely approved by applicable program staff (i.e., the MS4 Team and Watershed Protection Section staff).

If the requirements and assumptions of the TMDL are not being met, then the MS4 will need to, at a minimum, develop BMPs that target the given POC with the goal or design for the reduction of the pollutant. Due to the nature of stormwater controls via the iterative process, subsequent determinations can and should be made by the MS4 community to determine if “*reasonable further progress*” has resulted in the attainment of the WLA.

In addition to the initial determination or additional BMPs as required in the MS4 general permit, integrated planning actions may be considered as actions taken to specifically restore a waterbody’s beneficial uses. Regardless, if the MS4 permittee uses integrated

planning or BMPs design to reduce pollutants, other factors need to be considered in accordance with 64 FR No. 235, which states, “*If the permitting authority (rather than the regulated small MS4 operator) needs to impose additional or more specific measures to protect water quality, then that action will most likely be the result of an assessment based on a TMDL or equivalent analysis that determines sources and allocations of pollutant(s) of concern. EPA believes that the small MS4’s additional requirements, if any, should be guided by its equitable share based on a variety of considerations, such as cost effectiveness, proportionate contribution of pollutants, and ability to reasonably achieve Wasteload reductions. Narrative effluent limitations in the form of BMPs may still be the best means of achieving those reductions.*”

In addition to the above, the TMDL portion of the permit (Part 3) requires the development and implementation of a TMDL Assumption and Requirement Attainment Plan (ARAP). While the TMDL ARAP is not a Schedule of Compliance actions and schedules established in the TMDL ARAP will be subjected to the federal regulations on Schedules of Compliance [40 CFR 122.47]. Specifically if the development and implementation of the TMDL ARAP is to be conducted in a period of time extending one calendar year, then the permittee will be required to report annually for either the status of the development of the plan or for the implementation of the plan based on 40 CFR 122.47(a)(3)(ii).

Regarding the time period allowed for development of the TMDL ARAP (i.e., as soon as practicable not exceeding 30 months), the Department has determined the 30 month time period is appropriate as it allows the permittee the necessary time and flexibility that is needed to ultimately achieve attainment with the TMDLs assumptions and requirements. The Department has experience in the facilitation of an adaptive SWMP, along with EPA Region 7, with a MS4 community that addressed the assumption and requirements of an applicable TMDL. The time period to develop the adaptive SWMP took more than 30 months, but the assumptions and requirements of the TMDL were more complex than other straight forward TMDLs. Thus, the 30 month maximum time period allows the permittee to determine or develop appropriate BMPs, measurable goals, funding sources, local votes, strategic planning, opportunity to engage interested parties and stakeholders, etc... However, it would be naïve to believe that all regulated MS4s could develop a plan in 30 months, which is why the permit also indicates that the permittee can request an extension to the 30 months.

Permittees seeking approval of the extension will need to provide appropriate justification of why the extension is needed, a revised time schedule of compliance, and reason for failing to meet the 30 month maximum time; however, the allowance of extending the time period beyond 30 months is not guaranteed.

Stakeholder Outreach

In an effort to improve overall effectiveness of the MS4 MOR04 permit renewal process, introduction to the MOR04C permit, and to maximize stakeholder input, the Department published a preliminary draft of this MS4 NPDES permit and conducted extensive outreach for stakeholders in the preparation of the draft MS4 NPDES permits. A listing of stakeholder meetings is as follows:

Meeting Location	Meeting Date	Total attendees	Number of regulated MS4s represented
Jefferson City, MO	March 2, 2020	5	2
Macon, MO	March 3, 2020	7	5
Springfield, MO	March 5, 2020	17	11
Lee’s Summit, MO	March 9, 2020	28	18
Poplar Bluff, MO	March 13, 2020	12	8
Web	March 23, 2020	13	10

Additionally, the Department held virtual meetings with municipal permittees in an effort to explain and gather feedback about proposed permit conditions. These meetings were broken down by MCM. Notification of such workshops was provided via e-mail invitation to all provided MS4 contacts in Missouri’s permitted municipalities. A listing of each workshop follows:

Meeting topic	Meeting Date	Total attendees	Number of regulated MS4s represented
MCM 1	April 6, 2020	37	23
MCM 3	April 7, 2020	30	21
MCM 6	April 9, 2020	37	23
MCM 5	April 13, 2020	42	29
MCM 4	April 14, 2020	35	24
MCM 2	April 14, 2020	28	17

Other parts of the draft permits	April 20, 2020	40	27
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Part VII – Administrative Requirements

On the basis of preliminary staff review and applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the permit. The proposed determinations are tentative pending public comment.

Public Meeting:

A public meeting for this permit was held on July 30, 2020.

Public Notice:

The Department shall give public notice when a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest or because of water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing.

The Department must give public notice of a pending permit or of a new or reissued Missouri State Operating Permit. The public comment period is a length of time not less than thirty (30) days following the date of the public notice, during which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed permit, please refer to the Public Notice page located at the front of this draft permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this permit was from September 4, 2020 through October 5, 2020

Date of Fact Sheet: August 17, 2020

SARAH WRIGHT, ENVIRONMENTAL PROGRAM ANALYST
MUNICIPAL SEPARATE STORMSEWER SYSTEM (MS4) PERMITTING COORDINATOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
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STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
2. **Monitoring Requirements.**
 - a. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.
3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.
4. **Test Procedures.** The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.
5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee’s sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
 - a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
 - b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
 - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1);
 - iii. The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
 - iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.
2. **Non-compliance Reporting.**
 - a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.



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MISSOURI CLEAN WATER COMMISSION
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- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - ii. Any upset which exceeds any effluent limitation in the permit.
 - iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
 - c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.
 4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.
 5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.
 6. **Other Information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.
 7. **Discharge Monitoring Reports.**
 - a. Monitoring results shall be reported at the intervals specified in the permit.
 - b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
 - c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.
- b. Notice.
 - i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
 - c. Prohibition of bypass.
 - i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 3. The permittee submitted notices as required under paragraph 2. b. of this section.
 - ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.
3. **Upset Requirements.**
 - a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated; and
 - iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
 - iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
 - c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section C – Bypass/Upset Requirements

1. **Definitions.**
 - a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility.
 - b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
2. **Bypass Requirements.**
 - a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
 - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 - b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement



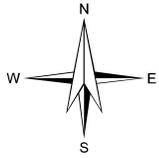
STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

- imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
- d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
- a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
- b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
- c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
6. **Permit Actions.**
- a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
- i. Violations of any terms or conditions of this permit or the law;
- ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
- iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- iv. Any reason set forth in the Law or Regulations.
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
7. **Permit Transfer.**
- a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
- b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
- c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



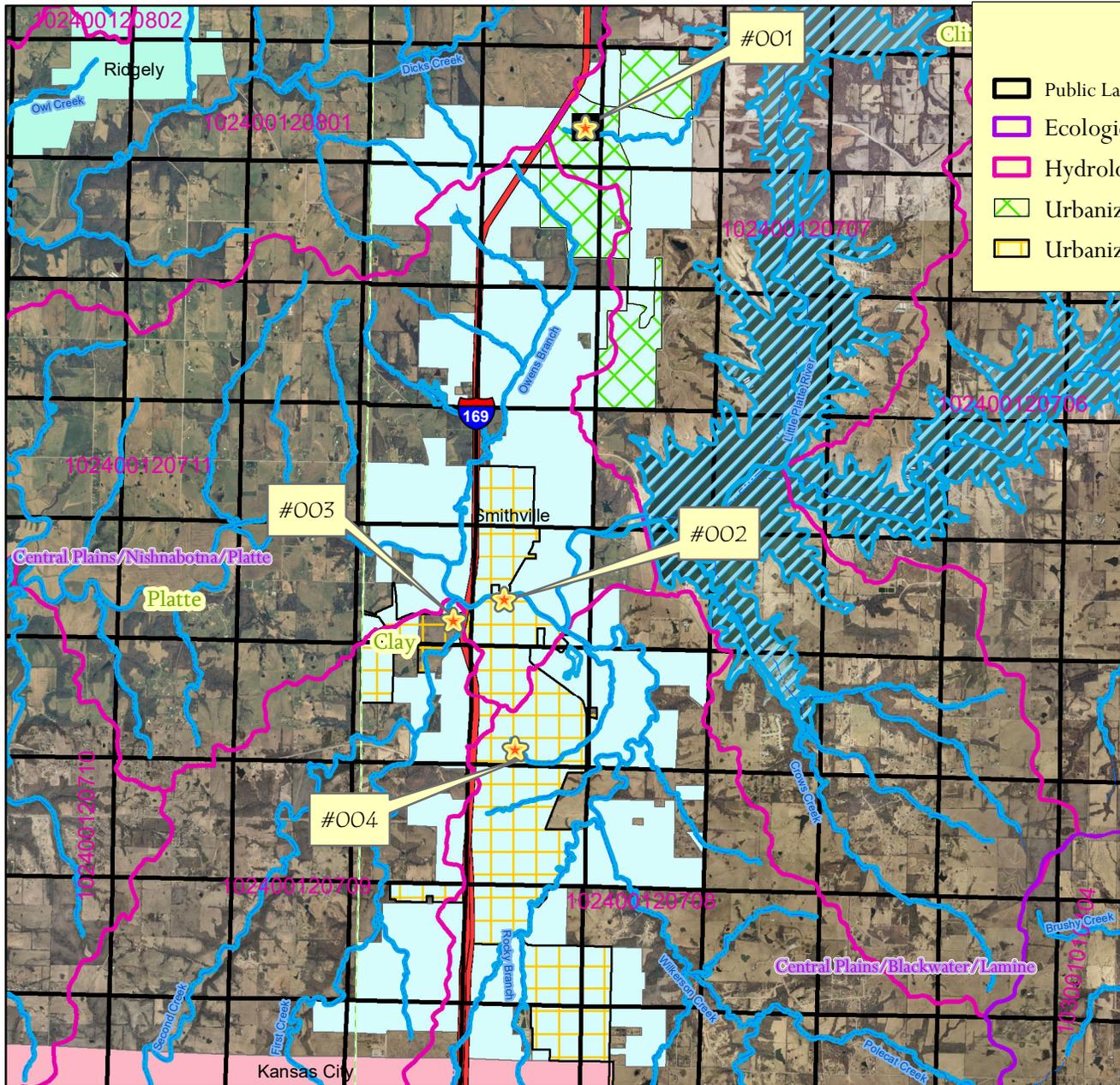
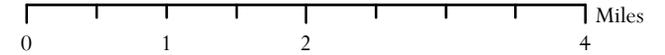
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10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.
12. **Closure of Treatment Facilities.**
 - a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
 - b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.
13. **Signatory Requirement.**
 - a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
 - b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
 - c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.
14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.



MOR04C037

Smithville Phase II MS4



Legend

Public Land Survey System	Classified Waters
Ecological Drainage Unit	303 (d) Listed Waters
Hydrological Unit Code	Outstanding Waters
Urbanized Cluster	Losing Streams
Urbanized Area	Bioreference Stream Segments

Please note the Department has included only one outfall per Hydrologic Unit Code Area to streamline the permitting process. The permit does not contain all of the actual MS4 outfalls. You are responsible for determining the location of all outfalls under Parts 4.3.A and 4.3.B of your permit.

001
 Huc12: (10240012-0707)
 UTM: X = 365123.610, Y = 4367458.718

002
 Huc12: (10240012-0711)
 UTM: X = 364031.303, Y = 4361120.876

003
 Huc12: (10240012-0709)
 UTM: X = 363355.555, Y = 4360840.946

004
 Huc12: (10240012-0708)
 UTM: X = 364182.644, Y = 4359111.097

STORMWATER CONSTRUCTION SITE INSPECTION REPORT

GENERAL INFORMATION

Project Name:	
Location:	
Date of Inspection:	Start/End Time:
Inspector's Name:	
Inspector's Title:	
Inspector's Contact Information:	
Describe present phase of construction:	
Type of Inspection:	
<input type="checkbox"/> Regular <input type="checkbox"/> Pre-storm event <input type="checkbox"/> During storm event <input type="checkbox"/> Post-storm event	

WEATHER INFORMATION

Has there been a storm event since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, provide:		
Storm Start Date & Time:	Storm Duration (hrs):	Approximate Amount of Precipitation (in):
Weather at time of this inspection?		
<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snowing <input type="checkbox"/> High Winds		
<input type="checkbox"/> Other:		Temperature:
Have any discharges occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, describe:		
Are there any discharges at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, describe:		

CERTIFICATION STATEMENT

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

Signature of Inspector

Printed Name and Title

Date

OVERALL SITE ISSUES

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1. All inactive slopes and disturbed areas have been stabilized.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2. Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3. Are all sanitary waste receptacles placed in secondary containment and free of leaks?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4. Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5. Are discharge points and receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6. Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7. Is the construction exit preventing sediment from being tracked into the street?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8. Is trash/litter from work areas collected and placed in covered dumpsters?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9. Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10. Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11. Are materials that are potential stormwater contaminants stored inside or under cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12. Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Element #	description and Location	Action Required	Completion date	Initials

Appendix B. BMP Installation Checklist

Table 4-1. Stormwater Best Management Practice Installation Inspection Checklist (Appendix B)

Stormwater Best Management Practice Installation Inspection Checklist	
Project Title:	
Permit/Plan Number:	Owner Name:
Inspector Name and Company:	Contractor Name:
Inspector Contact Information:	
PRE-CONSTRUCTION EFFORT	
Pre-construction site photographs of BMP areas of impact collected:	Yes/No
If so, photograph log name:	
BMP installation responsibilities contractually defined:	Yes/No
Expertise required for BMP installation:	Yes/No
If so, expertise contracted and scheduled:	Yes/No
Communication expectations established for the following:	
Changes in BMP design:	Yes/No
Installation requirements not specified in design:	Yes/No
Material requirements not specified in design:	Yes/No
Upstream conditions inspected for impact to BMP:	Yes/No
Diversion methods defined to minimize impact during construction:	Yes/No
CONSTRUCTION EFFORT	
Weather Conditions:	Inspection Date and Time:
Antecedent Dry Period: >72 hours 48-72 hours 24-48 hours <24 hours	
BMP Name:	Photograph Number:
BMP Location:	
Required inspection frequency met:	Yes/No
BMP protection established and in good condition:	Yes/No
BMP meets design requirements:	Yes/No
Design modification required:	Yes/No
If yes, approving person name and date:	
Maintenance required:	Yes/No
If yes, specify the following:	Yes/No
Required action:	
Responsible party:	
Due date:	
FINAL STABILIZATION EFFORT	

Stormwater Best Management Practice Installation Inspection Checklist

BMP installed per design with no impact from construction activities:	Yes/No
BMP free of debris and sediment:	Yes/No
Upstream conveyance system free of debris and sediment:	Yes/No
Design altered:	Yes/No
If yes, Record Drawing prepared and submitted:	Yes/No
Post-construction site photographs of BMP areas of impact collected:	Yes/No
If so, photograph log name:	
For short-term maintenance:	
Schedule established:	Yes/No
Responsible party:	
Contract executed:	Yes/No
Signature of Inspector:	Date:



Dry Weather Outfall Screening Form	
Name of City or County:	Data Sheet Number:
Date of screening (MM/DD/YY):	Time of screening:
Weather conditions:	
Sampling performed by:	

Outfall Description	
Outfall Location:	Outfall I.D. Number/ Name:
Outfall Type/Material: <input type="checkbox"/> Closed Pipe (check): <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____ <input type="checkbox"/> Open Channel (check): <input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Grassy <input type="checkbox"/> Other: _____	Outfall Diameter/Dimensions:
Receiving stream and watershed name:	
Land use/industries in drainage area:	
GPS Coordinates:	Photo numbers:

Field Observations and Measurements	
Flow from outfall? <input type="checkbox"/> Yes <input type="checkbox"/> No	Flow Description: <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial
Odor: <input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide (rotten eggs) <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Other _____	Relative severity: <input type="checkbox"/> 0-None <input type="checkbox"/> 1-Faint <input type="checkbox"/> 2-Easily Detected <input type="checkbox"/> 3-Noticable from a distance
Color: <input type="checkbox"/> Clear <input type="checkbox"/> White <input type="checkbox"/> Gray <input type="checkbox"/> Orange/Rust <input type="checkbox"/> Red <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Brown/Black <input type="checkbox"/> Other _____	Relative severity: <input type="checkbox"/> 0-None <input type="checkbox"/> 1-Faint <input type="checkbox"/> 2-Clearly visible in bottle <input type="checkbox"/> 3-Clearly visible in flow
Turbidity: <input type="checkbox"/> None <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque <input type="checkbox"/> Silty <input type="checkbox"/> Muddy <input type="checkbox"/> Other	Relative severity: <input type="checkbox"/> 0-None <input type="checkbox"/> Slight cloudiness <input type="checkbox"/> 2-Cloudy <input type="checkbox"/> 3-Opaque
Floatables: <input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Suds <input type="checkbox"/> Other _____	Relative severity: <input type="checkbox"/> 0-None <input type="checkbox"/> 1-Few/slight <input type="checkbox"/> 2-Some <input type="checkbox"/> 3-Heavy

Outfall Potential for Illicit Discharge: <input type="checkbox"/> Unlikely - or- No Flow <input type="checkbox"/> Possible (presence of two or more indicators) <input type="checkbox"/> Suspect (one or more indicators with severity of 2 or 3) <input type="checkbox"/> Obvious - or- Confirmed
--

ILLICIT DISCHARGE CHECKLIST (FOR SW FAILURE) - NON-ROUTINE

In the event of a stormwater management plan failure, the City must notify the owner on permit in writing & phone. The Inspector must complete this report & Comprehensive Inspection Checklist for Construction

Date:

Inspector:

WEATHER CONDITIONS	
	What are the weather conditions?
	Last Rain Event? Amount of Rain?
	If wet weather, is stormwater runoff leaving site? Is the runoff discolored, odiferous, or oily?
	What could be the source of the discoloration, odor or sheen?
ITEM	SITE SPECIFIC INFORMATION
1	Site Description: Facility: Roadway: Ditch: Culvert: Catch basin: Storm Sewers:
2	Circle General Condition of site and describe. POOR FAIR GOOD EXCELLENT Describe:
3	Describe the type of outfall (pipe, natural discharge point, foundation drain, etc). What condition is it in?
4	Is an observable non-stormwater discharge noted?
5	Are there reasons for suspicions of source (clues: discolored water, fungus, oily, motor fluids, grass clippings and leaf litter, animal waste, septic tank, sewer lines failing, exposed fill nearby, past landfill, pump site, industrial source nearby, black water source, gray water source, etc.)?
6	Describe Non-stormwater discharge. a) Odor <input type="checkbox"/> YES <input type="checkbox"/> NO Description: b) Color <input type="checkbox"/> YES <input type="checkbox"/> NO Description: c) Sheen <input type="checkbox"/> YES <input type="checkbox"/> NO Description: d) Stressed flora <input type="checkbox"/> YES <input type="checkbox"/> NO Description: e) Stressed fauna <input type="checkbox"/> YES <input type="checkbox"/> NO Description: f) Visible discharge <input type="checkbox"/> YES <input type="checkbox"/> NO Description:
7	Describe the location of discharge and depict on map.
8	Describe the source of discharge
9	Describe the corrective actions recommended

10	Was the owner notified of corrective actions needed? How?
11	Other Observations or comments
12	Reviewed by
13	Reported to

SKETCH MAP

Large empty rectangular area for sketching a map.

Maintenance Inspection Checklists



MAINTENANCE INSPECTION CHECKLISTS

This appendix contains four checklists available as guides for maintenance inspections of specific BMPs. The maintenance items have been adapted from multiple stormwater programs.

The checklists are designed to help identify key components of BMPs that require ongoing maintenance as well as a basic schedule of when the maintenance should occur. The checklists have been divided into those items essential for the general operation and functionality of the BMP and those items that are optional and may enhance the BMP.

It is suggested that the inspection be undertaken by a licensed PE and/or a person knowledgeable about the design and function of the BMP.

These BMP checklists include:

- Detention (ponds, basins, wetlands)
- Infiltration (basins, trenches)
- Bioretention
- Bioswales, vegetated filter strips

Detention BMP Inspection Checklist*

Project Location: _____

Date/Time: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Inlet/Outlet Pipes			
Structural integrity of inlet/outlet (Are any inlet pipes broken, crumbling, separated?) List Approximate Diameter and Type of Material of Inlet Pipes 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.			
Pretreatment (if applicable). This might include sediment forebay, upstream catch basin, bioswale, rain garden, swirl concentrator			
Device functioning to trap/collect sediment			
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	
Overall functionality			
Ensure pond is functioning properly (Professional Civil Engineer is recommended)		A	
Ensure the outlet is functioning properly (Professional Civil Engineer is recommended)		A	
Optional/Enhancements			
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	
Qualified 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, unkempt 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: _____

Infiltration BMPs Inspection Checklist*

Project Location: _____

Date/Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Inlet/Outlet			
Structural integrity of inlet/outlet		A	
Inlet/outlet clear of debris		M	
Overflow spillway clear of debris		M	
Erosion control at inlet in place (e.g., rock, mat)/ evidence of erosion		A	
Erosion control at outlet in place/evidence of erosion		A	
Inspect/clean catch basin upstream of BMP		A	
Pretreatment for Sediment			
Device functioning to trap sediment		A	
Remove accumulated sediment		A	
Overall functionality			
Ensure infiltration device is functioning properly (professional civil engineer is recommended)		A	
BMP infiltration surface			
Evidence of sedimentation in BMP		A	
Does sediment accumulation currently require removal		A	
Debris in BMP		S	
Evidence of erosion present		A	
Aggregate (if applicable)			
Surface of aggregate clean		A	
Any replacement of aggregate needed? If clogged with sediment, replacement is necessary for continued proper function.		A	

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

* Prior to field inspection, it is recommended to review the as-built plans.

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Vegetated surface (if applicable)			
Vegetative cover exists		A	
Optional considerations			
Inspect BMP for invasive species.		A	
Qualified professional applicator selectively herbicide invasive species		A	
Increase plant diversity by planting additional vegetation or creating a native plant infiltration basin area.		A	
Complaints from residents (note on back)		A	
Mowing done when necessary		A	
No fertilizer unless testing requires it		A	

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

* Prior to field inspection, it is recommended to review the as-built plans.

Summary

Inspector's remarks:

Overall condition of facility (acceptable or unacceptable): _____

Dates any maintenance must be completed by: _____

Bioretention Inspection Checklist*

Project Location: _____

Date/Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Inlet/Outlet			
Structural integrity of inlet/outlet		A	
Inlet/outlet clear of debris		M	
Overflow spillway or catch basin clear of debris		M	
Erosion control at inlet in place (e.g., rock, mat)/ evidence of erosion		A	
Erosion control at outlet in place/evidence of erosion		A	
Inspect/clean catch basin upstream of BMP		Every 5 years	
Pretreatment for Sediment (Generally consists of catch basin or velocity dissipater at inlet such as area of riprap/collection for sediment)			
Device functioning to trap sediment		A	
Remove accumulated sediment		A	
Overall functionality			
Ensure bioretention area is functioning properly (professional civil engineer is recommended)		A	
Bioretention area surface			
Evidence of sedimentation in BMP		A	
Does sediment accumulation currently require removal		A	
Debris in BMP		M	
Evidence of erosion present		A	
Does good vegetative cover exist?		A	
Mulch covers entire area (no voids) and to specified thickness		A	
Optional considerations			
Inspect BMP for invasive species.		A	

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

* Prior to field inspection, it is recommended to review the as-built plans.

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Qualified professional applicator selectively herbicide invasive species		A	
Increase plant diversity by planting additional vegetation		A	
Complaints from residents (note on back)		A	

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

* Prior to field inspection, it is recommended to review the as-built plans.

Summary

Inspector's remarks:

Overall condition of facility (acceptable or unacceptable): _____

Dates any maintenance must be completed by: _____

Bioswale, Filter Strip Inspection Checklist*

Project Location: _____

Date/Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Inlet/Outlet			
Structural integrity of inlet/outlet		A	
Inlet/outlet clear of debris		M	
Pretreatment / Energy Dissipaters			
No evidence of flow going around structures		A	
No evidence of erosion		A	
Device functioning to trap sediment		A	
Remove accumulated sediment		A	
BMP surface			
Area free of debris?		M	
No evidence of erosion		A	
Does sediment accumulation currently require removal?			

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

* Prior to field inspection, it is recommended to review the as-built plans.

Maintenance Item	Satisfactory/ Unsatisfactory	Recommended Inspection Frequency	Comments
Overall functionality			
Ensure swale is functioning properly (professional civil engineer is recommended)		A	
Optional considerations			
Inspect BMP for invasive species.		A	
Qualified professional applicator selectively herbicide invasive species		A	
Increase plant diversity by planting additional vegetation		A	
Complaints from residents (note on back)		A	

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

* Prior to field inspection, it is recommended to review the as-built plans.

Summary

Inspector's remarks:

Overall condition of facility (acceptable or unacceptable): _____

Dates any maintenance must be completed by: _____