

City of Clemson

# STORMWATER MANAGEMENT PLAN

AUGUST 2012

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## 1.0 Emergency Contacts

Agency:	Contact Number:
Local Emergency Response	911
SC DHEC - Emergency Response	888 481 0125
SC DHEC - Pickens County Office	864 898 5965
National Spill Response Center	800 424 8802
US EPA -- REGION IV	404 347 4062

City of Clemson:	Contact Number:
Fire Department	864 656 2222
Police Department	864 624 2000
Kent Guthrie, City Engineer	864 653 2071
Chris Shivar, Assistant City Engineer	864 624 1127

## 2.0 Requirement of the NPDES Phase II Program

The City of Clemson Phase II NPDES program will implement, and enforce a stormwater management program designed to reduce discharge of pollutants from the municipal separate storm sewer system to the “maximum extent practicable” to protect water quality. The six “minimum control measures”, listed below, are required under Phase II regulations:

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

At a minimum, the City of Clemson is required to implement a Stormwater Management Plan (SWMP) which addresses each of the following issues:

- The best management practices (BMPs) that will be implemented for each of the stormwater minimum control measures;
- The measurable goals for each of the BMPs;
- The party or parties responsible for implementing or coordinating the BMPs for the SWMP; and
- A schedule for implementation of each minimum measure, including interim milestones and the frequency of the action to be undertaken.

In addition to identifying specific goals that will be implemented for each of the control measures identified above, information about the city, its government, population, departments, etc. are submitted with this plan.

### 3.0 Maximum Extent Practicable (MEP)

Maximum extent practicable (MEP) is a technology-based control standard used in the municipal storm water program against which SC DHEC and the City of Clemson can assess whether or not an adequate level of control has been proposed in the Stormwater Management Program (SWMP).

MEP criteria include, but are not limited to:

- 1) The effectiveness to address the pollutant(s) of concern,
- 2) Public acceptance,
- 3) Cost,
- 4) Technical feasibility, and
- 5) Compliance with Federal, State, and local laws and all applicable regulations.

The NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (SMS4s) requires the SMS4 to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Additionally, elements required under SC Water Pollution Control Permits Regulation 61-9 should be included in the Stormwater Management Plan.

MEP is determined through a series of steps associated with identification of Best Management Practices (BMP) and implementation of the six Minimum Control Measures (MCM) of the SWMP. SC DHEC has established requirements for each of the MCM elements and requires the SMS4 to identify the BMP to be performed and the measurable goals to be achieved.

SC DHEC Bureau of Water reviews each Notice of Intent (NOI) submitted by an SMS4 to ensure that the selected BMP and measurable goals meet the MEP requirement. The MEP requirements are determined on a case by case basis and the SMS4's performance will be evaluated consistently by SC DHEC via periodic inspections, review of annual reports, and scheduled audits.

### 4.0 Funding Sources

The City of Clemson will establish a stormwater utility ordinance to fund the SWMP for the City of Clemson MS4.

[Insert details of Stormwater Utility here once ordinance is complete.]

## 5.0 Adequate Legal Authority

[Insert copies of stormwater ordinances for utility, illicit discharge, construction, and post construction here.]

## 6.0 Enforcement Response Plan (ERP)

### 6.1 Introduction

On **Month XX, XXXX**, the South Carolina Department of Health and Environmental Control issued a Certificate of Coverage under the State of South Carolina NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (SMS4) (SCR030000) to the City of Clemson (the 'City'). The MS4 permit specifies requirements the City needs to implement to comply with federal storm water standards. Clemson is required to reduce pollutants in its storm water discharges to Waters of the United States (U.S.) to the maximum extent practicable (MEP). Waters of the U.S. in Clemson include Hartwell Lake and Eighteen Mile Creek. Tributaries to these waters are also considered Waters of the U.S.

The SMS4 permit requires the City to establish and maintain the legal authority to comply with the permit. Specifically, the City must have legal authority to:

- Prohibit illicit connections and discharges to the storm drain system;
- Control discharges to the storm drain system from spills, dumping, and disposal of materials other than storm water;
- Require compliance with ordinances, permits, contracts or orders;
- Require installation, implementation, and maintenance of control measures for owners/operators of construction sites, new development and redevelopment (including industrial and commercial activities without an NPDES industrial storm water permit).
- Require continued implementation and maintenance of long-term stormwater pollution control measures associated with existing development (including industrial and commercial activities without an NPDES industrial storm water permit) to ensure their intended stormwater management pollutant removal performance.
- Receive and collect information regarding stormwater discharges from operators of construction sites and new or redeveloped land, including industrial and commercial facilities.
- Perform inspections, surveillance, and monitoring necessary to determine compliance; and

Historically, the City used separate sections of the City Code to manage and enforce stormwater requirements. The SMS4 permit received by the City in **2012** requires that the City adopt a comprehensive storm water management ordinance and prepare and implement an Enforcement Response Plan. The Ordinance was adopted on **Month XX, XXXX (Ordinance No. XX-XXXX)**. This Enforcement Response Plan describes a set of procedures and the framework for progressive enforcement actions. The purpose of the Enforcement Response Plan is to provide an overview and summary of the city's storm water compliance and enforcement program.

## 6.2 Timeframes for Enforcement Responses

There are strict timeframes for enforcement actions. The South Carolina NPDES General Permit, (GP 4.1.4.2 i. and 4.2.3.4.1), requires that the City must initiate an investigation to identify and locate the source of any continuous or intermittent non-stormwater discharge within two (2) business days of becoming aware of the illicit discharge.

- The City must immediately report the occurrence of any dry weather flows believed to be an immediate threat to human health or the environment to SC DHEC Emergency Response, 1-888-481-0125.
- Illicit discharges suspected of being sanitary sewer and/or significantly contaminated must be considered “high priority”.
- Illicit discharges suspected of being cooling water, wash water, or natural flows may be delayed until all “high priority” cases have been investigated.
- The City must track all investigations to document at a minimum the date the illicit discharge was observed; the results of the investigation; any follow-up of the investigation; and the date the investigation was closed.

In instances where a violation of the city ordinance has occurred that has not resulted in an illicit discharge to the city storm water system, e.g., when: best management practices have not been implemented properly, enforcement actions will be taken promptly, but in no event later than 10 days following the identification of the non-compliance

An illicit discharge is defined as any discharge to the city's storm sewer system that is not composed entirely of storm water. Discharges pursuant to a federal or state agency discharge permit (i.e., NPDES permit and discharges resulting from fire fighting activities are not considered illicit discharges NPDES General Permit, Section 4.1.4.2). Additionally, § 11-194 of the storm water ordinance allows certain non-stormwater discharges such as water line flushing, landscape irrigation, individual residential car washing, and air conditioning condensation. A complete listing of the allowable non-stormwater discharges can be found at § 11-194 of the storm water ordinance.

## 6.3 Enforcement Criteria

The City will take action based upon the nature and severity of the situation. Non-compliance with the city's storm water ordinance is either classified as minor or major violation. Minor violations are generally instances that do not directly result in an illicit discharge, or in some cases, involving violations that can be immediately remedied upon finding. Major violations are generally those acts or omissions that lead to a discharge of pollutants to storm water.

The enforcement action will depend on several factors:

- Severity of the violation; including the duration, type and amount of pollutants discharged, and the impact on public safety/health and the environment.
- The violator's knowledge (either negligent or intentional) of the regulations being violated.



- The history of violations and/or enforcement actions involving the site, business, or individual.
- The effect the enforcement action has as a deterrent.
- Whether there was a good faith effort to comply with applicable requirements.
- The economic benefit to the violator resulting from the violation.

## 6.4 Methods of Discovery of Illicit Discharges and Compliance Issues

An illicit discharge is any discharge to the city storm water system that is not composed entirely of storm water except discharges that are exempt by federal and state laws and regulations. Additionally, other scenarios may be encountered that do not result in an illicit discharge but are not in compliance with the storm water ordinance, e.g. a facility that does not implement best management practices to keep pollutants from mixing with storm water and entering the city storm drain system. The methods by which the City discovers or identifies illicit discharges and other non-compliance issues will depend on the type of incident. Examples include:

- a. Reports from city staff, residents, businesses, visitors
- b. Reports from water providers and irrigation districts
- c. Reports from local, state, or federal agencies
- d. During maintenance of wastewater, storm, or water systems
- e. During proactive inspections, such as:
  - i. Commercial/industrial facilities
  - ii. Construction sites
  - iii. Residential areas
  - iv. Outfalls and the storm drain system

Enforcement procedures for non-compliance issues and illicit discharges will follow those outlined in sections 6.5.a., 6.5.b., or 6.5.c. of this Storm Water Enforcement Response Plan, depending on the nature of the illicit discharge.

## 6.5 Storm Water Inspections and Enforcement Actions

The city's storm water permit requires that the City have an inspection and enforcement program. The City will provide storm water awareness and public education. The City will work cooperatively with residents, businesses, and property owners in conducting inspections and in gaining compliance. The City will use enforcement actions when necessary. The City will utilize progressive enforcement which applies more stringent enforcement actions concurrent with the frequency and severity of the level of non-compliance. City enforcement actions range from issuing verbal warnings, notice of violations, consent orders, assurances of voluntary compliance, negotiated settlement agreements, cease and desist order, and civil or criminal penalties (City Code, Chapter 11, Article V, Division 9).

In some cases involving serious and intentional violations of Federal, State, and local laws and regulations, the City may seek the assistance of the Environmental Protection Agency, the South Carolina Department of Health and Environmental Control, the State or the County.

The City's inspection and enforcement program includes the following components:

### **6.5.1 Residential Inspections and Enforcement**

Most residential inspections are conducted by the Planning and Codes Department and typically include activities such as weed control, using a leaf blower to blow debris into the right-of-way, draining swimming pool water, gray water discharge, and dumping, spilling, or disposing of materials that may impact the storm drain.

The Planning and Codes Department has Operating Procedures for conducting inspections and issuing enforcement actions to ensure compliance with city codes. These Operating Procedures will be used to achieve compliance with storm water requirements:

- i. Field Inspections - Complaint and Pro-active
- ii. Repeat / Non-Compliant Offender / Probation Violations

Compliance timelines and enforcement processes are contained in the Operating Procedures.

### **6.5.2 Industrial and Commercial Inspections and Enforcement**

The Engineering Department is responsible for ensuring compliance of industrial and commercial facilities pertaining to the city's wastewater pretreatment requirements. The Engineering Department is also responsible for developing and implementing the city's storm water inspection and enforcement program for industrial and commercial facilities. This plan only details the Pretreatment Division's enforcement policy with respect to enforcement of the storm water ordinance.

Industrial and commercial facilities that are determined to potentially impact storm water quality based on the activities that occur at the facility will be placed in the city's storm water inspection program. During a site inspection, the city's Stormwater Inspector will assess whether the facility is in compliance with city storm water requirements. City Stormwater Inspectors will only enforce the storm water provisions in city ordinance and will not enforce federal or state laws or regulations specific to storm water, such as the SC DHEC General Permit for Storm Water Discharges Associated with Industrial Activities (SCR000000) provisions. However, the City Inspector may refer findings/issues to outside regulatory agencies when potential violations of federal or state laws are observed.

The city's inspection and enforcement program for industrial and commercial facilities includes the following progressive enforcement practices:

#### **1. Verbal Warning**

Verbal warnings may be given by city inspectors when non-compliance is relatively minor and can be immediately corrected at the time of inspection.

The verbal warning will be documented on the inspection form and transferred to a computer database. Typically, no further action by the City is taken if the problem has been corrected immediately.

## **2. Corrective Action Notice (Warning Letter)**

The City will issue a Corrective Action Notice when non-compliance is minor and can be quickly corrected. The Corrective Action Notice will outline the areas on non-compliances and reference applicable portion(s) of the city ordinance. The letter will specify a timeframe for compliance. The inspector will typically provide the alleged violator up to 10 calendar days to resolve the issue and provide proof of compliance. A Notice of Violation (NOV) will be issued in cases where corrective actions are not completed.

## **3. Notice of Violation**

The City will issue a Notice of Violation (NOV) when: 1) non-compliance is major; 2) compliance actions require some time to implement; or 3) a corrective action notice is not addressed in the specified timeframe. An NOV is a written notification that action is required by the recipient (e.g.; the owner/operator of a facility) to resolve a non-compliance situation. The recipient of an NOV will typically have up to 10 calendar days to resolve the issue and provide proof of compliance. Deadline extensions will be considered by the City for extenuating circumstances when requested in writing by the violator. Deadline extensions may be granted by the inspector with supervisor approval if the facility operator provides a written explanation of the violation and a plan for correction and actions to be taken to prevent future violations.

## **4. Compliance Status Review Meeting**

A compliance status review meeting may be requested by the recipient of an NOV or initiated by the City when the fine amount exceeds \$300. Recipients of an NOV must request, the meeting from the administrator in writing prior to the compliance deadline specified in the NOV. The administrator shall schedule the meeting within 30 calendar days from receipt of the written request. The meeting notice will be provided to the facility that will contain the date, time, and location for the compliance status meeting between the violator and the City. The City may have an attorney present at the compliance status review meeting.

The purpose of the meeting is to present evidence of a company's noncompliance and to provide an opportunity for the violator to present pertinent information. Based upon the information presented, an attempt will be made to reach a settlement agreement on the type of needed compliance activities and the amount of civil sanctions per § 11-271 of the Stormwater Management Ordinance.

## **5. Closure Letter**

When all compliance conditions are met, a closure letter will be sent by the City to the facility representative. This letter will inform the facility that they are considered "in compliance" with the City of Clemson storm water ordinance.

## **6. Industrial and Commercial Program Civil and Criminal Penalties**

Civil Penalties will be assigned in accordance with § 11-271 of the stormwater management ordinance. Factors affecting the penalty assigned to the violation are included in Section 6.3. In some circumstances, criminal penalties may be required to gain compliance. In these instances, the Planning and Codes Department or Police Department will be notified to investigate.

### **6.5.3 Construction Site Inspections and Enforcement**

Inspections of construction sites (typically greater than 1 acre) are conducted by the Engineering Department for all facilities that require a Construction General Permit issued by the South Carolina Department of Health and Environmental Control. The Engineering Department will use the following progressive enforcement practices to address noncompliance issues:

#### **1. Verbal Warning--Minor Violation**

Verbal warnings will be given by city construction site inspectors to the facility operator at the time of an inspection. A verbal warning is a notification to correct a non-compliant issue.

The City will document or record the verbal warning in a computer database as soon as possible. Typically, no further action is taken if the problem has been corrected immediately. In some instances, the inspector may provide the construction site up to 10 calendar days to attain and provide proof of compliance.

#### **2. Second Notice of Violation or Significant Violation**

For more serious violations or at sites where compliance has not been demonstrated following previous warnings or when there is an imminent threat or actual discharge to the city's storm water system, a full or partial stop work order or notice of violation will be issued. Upon issuance of the full or partial stop work order, the operator will cease activities until compliance is achieved. The City will document or record the violation and subsequent resolution in a computer database as soon as possible.

#### **3. Civil or Criminal Penalties**

In some circumstances, civil or criminal penalties may be required to gain compliance. In these instances, the Planning and Codes Department or Police Department will be notified to investigate.

## **6.6 VI. Reporting Requirements**

The City shall provide a list and description of all verbal warnings and written violations and their resolutions; including any enforcement actions taken in the annual report to SC DHEC. At a minimum, the inspection should document the source of the complaint, the date, the time, the contact person (if any), and a description of the nature of the non-compliance or illicit discharge, and actions taken.

## 6.7 Abbreviations and Definitions

### 6.7.1 Abbreviations

SC DHEC – South Carolina Department of Health and Environmental Control  
BMP – Best Management Practice  
EPA – Environmental Protection Agency  
ERP – Storm Water Enforcement Response Plan  
MS4 Permit – Municipal Separate Storm Sewer System Permit  
NPDES – National Pollutant Discharge Elimination System

### 6.7.2 Definitions

Administrator: The City Administrator or a duly authorized designee.

South Carolina Department of Health and Environmental Control: The state agency charged with enforcement of environmental laws and regulations.

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to storm water. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from outdoor storage areas.

Clean Water Act: The federal water pollution control act, as amended, 33 United States Code § 1251 et seq.

Discharge: Any spilling, leaking, pumping, pouring, emitting, emptying, injecting, placing, releasing, leaching, dumping, or disposing into or on any land in a manner that may cause pollution.

Environmental Protection Agency (EPA): The federal agency charged with enforcement of environmental laws and regulations.

Illicit discharge - any discharge to a MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities. [40 CPR 122.26(b)(2)]

Municipal Separate Storm Sewer System (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. Owned or operated by a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a approved management agency under Section 208 of the Clean Water Act (33 U.S.C. 1288) that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not part of a Publically Owned Treatment Works (POTW).

National pollutant discharge elimination system (NPDES) storm water permit: A permit issued by EPA which authorizes the discharge of storm water pursuant to the Clean Water Act § 402 (33 U.S.C. § 1342).

Person: Any individual, partnership, co-partnership, firm, company, corporation, limited liability company, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns.

Pollutant: Fluids, contaminants, toxic wastes, toxic pollutants, dredged spoil, solid waste, substances and chemicals, pesticides, herbicides, fertilizers and other agricultural chemicals, incinerator residue, sewage, garbage, sewage sludge, munitions, petroleum products, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and mining, industrial, municipal and agricultural wastes or any other liquid, solid, gaseous or hazardous substances.

Pollution: The presence of a pollutant(s) on land or in storm water.

Premises: Any building, lot, parcel, real estate, or land or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Public storm drain system: All or any part of the publicly-owned and maintained roads, streets, catch basins, curbs, gutters, ditches, man-made channels, storm drains, and dry wells located within public easements, right-of-way, parks, common areas, retention areas, or other publicly-owned or maintained real property designed or used for collecting, holding, or conveying storm water.

Release: Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, placing, leaching, dumping, or disposing into or on any land in a manner that can cause pollution.

Storm water: Storm water runoff, surface runoff, and drainage.

## 7.0 Notice of Intent Information

Application Requirement	Description
Name of Municipality (GP 2.2.1.1)	City of Clemson
Mailing Address (GP 2.2.1.1)	City of Clemson Engineering Department 1250 Tiger Blvd., Suite 4 Clemson, SC 29631
Telephone Number (GP 2.2.1.1)	864-653-2050
Public Entity Type (GP 2.2.1.2)	City
Map of the City Limits (GP 2.2.2.1)	<p><b><u>MS4 Location:</u></b> Clemson city limits</p> <p><b><u>Coordinates:</u></b> Latitude: N 82°49.69' (See Map Below) Longitude: W 34°41.36'</p> <p><b><u>MS4 Urbanized Area:</u></b> 8 square miles</p>
Major Receiving Waters (GP 2.2.2.2)	Eighteen Mile Creek, Hartwell Lake
Indian Country Lands (GP 2.2.2.3)	No portion of the City of Clemson's MS4 is located in Indian Country Lands. (Need to Confirm)
Other Entities Meeting Permit Obligations (GP 2.2.2.4)	Clemson Extension – Carolina Clear
Best Management Practices (GP 2.2.2.5)	See Section 5.0 – Minimum Control Measures
List of Entities (GP 2.2.2.6)	South Carolina Department of Transportation (SCDOT), Clemson University



Contacts	<p><b>City Engineer:</b> Kent Guthrie, PE City of Clemson Engineering Department 1250 Tiger Boulevard, Suite 4 Clemson, SC 29631 (864) 653-2071 <a href="mailto:kguthrie@cityofclemson.org">kguthrie@cityofclemson.org</a></p> <p><b>Assistant City Engineer:</b> Chris Shivar, E.I.T. (864) 624 -1127 <a href="mailto:cshivar@cityofclemson.org">cshivar@cityofclemson.org</a></p>
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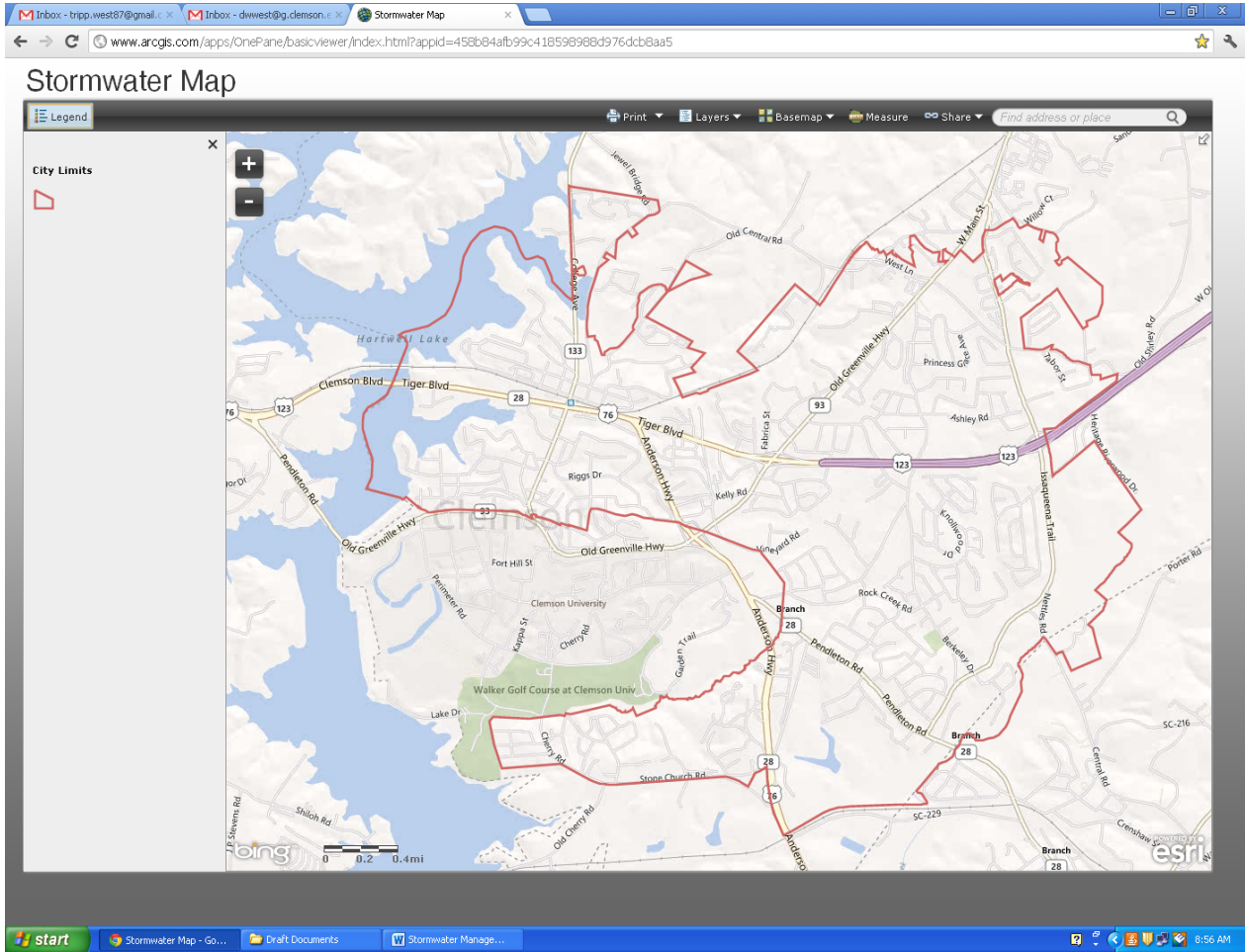


Figure 1: Clemson City Limits

## 8.0 Special Conditions

Section 5.0 Related to TMDL and 303 d List and how the City of Clemson MS4 will address these issues.

### 8.1 Receiving Water Conditions and Impacts

The City of Clemson MS4 discharges stormwater runoff to Eighteen Mile Creek located in Pickens and Anderson Counties and to Hartwell Lake in Pickens County, South Carolina. Eighteen Mile Creek is a tributary that terminates into Hartwell Lake downstream of the City of Clemson MS4 boundary.

WATERS OF THE STATE	
Eighteen Mile Creek	
Hartwell Lake	

The following Water Quality Monitoring Stations are located within or in close proximity to the City of Clemson MS4 boundary and were listed on the 2010 SC DHEC 303(d) listing of impaired waters for the referenced pollutants of concern.

IMPAIRED WATER BODIES (303d)		
Monitoring Station	Water Body	Pollutant of Concern
SV-107	Twelve Mile Creek	Fecal Coliform, Polychlorinated biphenyl (PCB)
SV-135	Eighteen Mile Creek	Fecal Coliform, PH
SV-233	Eighteen Mile Creek	Fecal Coliform, Total Phosphorus (TP), Total Nitrogen (TN)

The City of Clemson MS4 contributes stormwater runoff to Water Quality Monitoring Stations SV-135 and SV-233 which are included in an approved TMDL for Fecal Coliform in Eighteen Mile Creek, Three and Twenty Creek, Little River, and Long Cane Creek watersheds in the Savannah River basin of South Carolina.

TOTAL MAXIMUM DAILY LOAD (TMDL)		
Monitoring Station	Water Body	Pollutant of Concern
SV-135	Eighteen Mile Creek	Fecal Coliform
SV-233	Eighteen Mile Creek	Fecal Coliform

## 8.2 TMDL Monitoring and Assessment

### 8.2.1 Consistency with Total Maximum Daily Load (TMDL) Allocations

The Total Maximum Daily Load standards for Fecal Coliform in Eighteen Mile Creek for Water Quality Monitoring (WQM) Stations SV-135 and SV-233 near Clemson, South Carolina are found in SCDHEC Technical Report Number: 026-05 prepared for the United States Environmental Protection Agency, Region 4 and the South Carolina Department of Health and Environmental Control, Bureau of Water by Parsons dated April 2005. The Waste Load Allocation (WLA) for the Clemson MS4 is 57% reduction of fecal coliform for WQM Station SV-233.

### 8.2.2 TMDL Monitoring Plan

[Insert completed TMDL Monitoring Plan Here GP 3.2.1.2.1]

### 8.2.3 Assessment of Achieving the WLA / WQS

[Insert the process and schedule for assessing monitoring data to prioritize areas of the SMS4 that will be targeted for implementation of BMP and selection of BMPs. Updates to the TMDL monitoring and assessment plan and progress towards the TMDL monitoring and assessment plan should be submitted with the annual report. GP 3.2.1.2.2]

### 8.2.4 TMDL Implementation and Analysis

[Insert the implementation plan here including monitoring analysis, priority areas, structural and nonstructural BMP to address WLA, schedule of completion for BMP implementation during existing and next permit term. GP 3.3]

### 8.2.5 Water Quality Controls for Discharges to Impaired Water Bodies

[Describe how BMP implementation will not cause or contribute to violations of water quality standards in impaired water bodies identified by the SC DHEC Bureau of Water under Section 303(d) of the Federal Clean Water Act or under 40 CFR§ 130.7. The SWMP shall specifically identify BMP, control techniques, system design, and engineering methods and such other provisions deemed appropriate for control of the pollutants of concern. GP 3.4.2]

## 9.0 Minimum Control Measures

The City of Clemson Phase II NPDES management plan consists of the following six minimum control measures. Each control measure has associated goals, or BMPs, that will be implemented during the course of the permit term. It is through the implementation and evaluation of these BMPs that the City of Clemson will insure that all the objectives of the Phase II NPDES program will be met. Following is a discussion of each BMP.

The following sections describe the minimum control measures included in the City of Clemson's SWMP.

The schedule identified in the following tables refers to months from issuance of the permit until the date of full implementation of the milestone.

### 9.1 Public Education and Outreach (Minimum Measure #1)

#### 9.1.1 Overview

Minimum Control Measure #1 as prescribed in the SC DHEC General Permit (SCR030000) is Public Education and Outreach on Stormwater Impacts. To meet the requirements of this MCM, the City must develop a comprehensive stormwater education and outreach program.

This program must at a minimum, identify pollutants of concern and define the goals and objectives of the program based on at least three high priority community-wide issues. The program will include an analysis of the intended audiences, appropriate messages for residential and industrial issues, appropriate educational materials, methods and process of distribution of those messages, and an evaluation of the program effectiveness. Public input must be incorporated in the development of the Public Education and Outreach program. Education is believed to have a significant impact on the acceptance of the SWMP and to reduce overall stormwater pollution.

#### 9.1.2 Permit Requirements

- 4.2.1.1 *Permit requirement.* Permittees shall continue to implement, and revise if necessary within the first year of permit coverage, a comprehensive stormwater education/outreach program. The program must, at a minimum:
  - 4.2.1.1.1 Identify the pollutant(s) of concern and define the goals and objectives of the program based on at least three high priority, community-wide issues (e.g. reduction of the POC in discharges from the MS4, promoting pervious techniques used in the MS4);

- 4.2.1.1.2 Analyze the audience(s) identified in 4.2.1.1.1, above, to be targeted;
- 4.2.1.1.3 Based on sections 4.2.1.1.1 & 2, above, create an appropriate message(s) based on at least three targeted residential issues and three targeted industrial / commercial issues (See table 4.2.1.1.4 below for reference purposes, SMS4 may include issues deemed more appropriate to the identified POC):
- 4.2.1.1.4 Table of commonly targeted industrial / commercial issues.

<b>Residential Community</b>	<b>Industrial / Commercial Community</b>
<ul style="list-style-type: none"> <li>● Residential car washing and auto maintenance control measures</li> <li>● Off-pavement automobile parking</li> <li>● Home and garden care activities (pesticides, herbicides, and fertilizers)</li> <li>● Disposal of household hazardous waste (e.g. paints, cleaning products)</li> <li>● Snow removal activities</li> <li>● Using techniques that keep water onsite and/or reduce imperviousness (rain barrels, rain gardens, porous pavers, permeable concrete, porous asphalt, etc.)</li> <li>● Litter prevention</li> <li>● Importance of native vegetation for preventing soil erosion</li> <li>● Public reporting of water quality issues</li> <li>● Community activities (monitoring programs, environmental protection organization activities, etc.)</li> <li>● Pet and other animal wastes</li> </ul>	<ul style="list-style-type: none"> <li>● Automobile repair and maintenance control measures</li> <li>● Control measure installation and maintenance</li> <li>● Lawful disposal of vacuum truck and sweeping equipment waste</li> <li>● Pollution prevention and safe alternatives</li> <li>● Using techniques that keep water onsite and/or reduce imperviousness (rain barrels, rain gardens, porous pavers, permeable concrete, porous asphalt, etc.)</li> <li>● Equipment and vehicle maintenance and repair</li> <li>● Importance of good housekeeping (e.g. sweeping impervious surfaces instead of hosing)</li> <li>● Illicit discharge detection and elimination observations and follow-up during daily work activities</li> <li>● Water quality impacts associated with land development (including new construction and redevelopment)</li> <li>● Water quality impacts associated with road resurfacing and repaving.</li> </ul>

4.2.1.1.5 Develop appropriate educational materials (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, websites);

4.2.1.1.6 Determine methods and process of distribution;

4.2.1.1.7 Evaluate the effectiveness of the program; and,

- 4.2.1.1.8 Utilize public input (e.g., the opportunity for public comment, public meetings, or other relevant sources) in the development of this MCM.
- 4.2.1.2 During the permit coverage, the goals and objectives identified in 4.2.1.1.1 must be implemented using whichever methods and procedures required in sections 4.2.1.1.2 – 8 that are determined appropriate by the permittee.
- 4.2.1.2.1 25% of the goals and objectives of this MCM should be accomplished on a yearly basis during the last four years of permit coverage.
- 4.2.1.2.2 A target different than 25% may be selected for any of the last four year(s) of permit coverage. This must be clearly documented under 4.2.1.3.2, below.
- 4.2.1.2.3 100% of the goals and objectives identified in 4.2.1.1.1 for this MCM must be met after 5 years of years of permit coverage to the MEP as assessed in 4.2.1.3.2, below.
- 4.2.1.3 Within the permit term, permittees must:
  - 4.2.1.3.1 Assess changes in public awareness, attitude and behavior toward stormwater pollution prevention resulting from the implementation of **Public Education and Outreach on Storm Water Impacts** strategies such as using a statistically valid survey and modifying this MCM accordingly.
  - 4.2.1.3.2 Assess their stormwater education/outreach program annually as specified in Part 5.3 of this permit. Permittee must adjust their educational materials and the delivery of such materials to address any shortcomings found as a result of these assessments.
  - 4.2.1.3.3 Incorporate written procedures for implementing this MCM into the SWMP.

### 9.1.3 Target Audiences

- Residents / Homeowners Associations
- Business Owners and Operators
- Schools (Institutions)
- Developers, Engineers, and Construction Site Operators (MCM #4 & #5)
- Civic Groups
- Stakeholders
- Recyclers
- Municipal Employees (MCM #6)
- Municipal Contractors (MCM #6)

### Residents / Home Owners Associations

Clemson residents encompass the largest audience for the storm water management program. The population of Clemson is 13,905 based on the 2010 Census response. Residents within the City are one of the most important groups that must be targeted. Providing sufficient information to the residents will help to educate them regarding the importance of the storm water management program as well as the legal requirements for the implementation of the program. Educating the residential public early on the development of a storm water management program is believed to result in greater acceptance and compliance with its implementation.

Homeowners have a large impact on the effectiveness of a storm water management program as well as shoulder many of the costs that must be met when implementing a storm water program. Educated homeowners are more likely to notice an illegal discharge to the storm drain system and be willing to report it. Staff evaluated available TMDL and 303(d) data and determined that residential land uses were located adjacent to all impaired water bodies. Homeowners and Homeowner Associations are also responsible for the maintenance of many storm water BMPs. The successful long term operations of these systems depend upon the owners having a good understanding of their responsibilities.

Homeowner Associations are responsible for maintaining structural BMP's such as ponds, swales, and manufactured systems within their respective developments. Educating the HOA board members on their responsibilities will also be a major goal of the city's program as their maintenance efforts will be directly correlating to the goal of maintaining clean water.

The City believes that all residents can have a positive impact reducing storm water pollution; if they are sufficiently informed of the requirements and of the role they can and must play. The City intends to work with these organizations to deliver educational materials, provide educational and technical resources for proper system management, and perform inspections to assist with assessing system functionality.

### Business Owners and Operators

Staff reviewed Land use maps to evaluate commercial impacts. [Business License data was also evaluated to identify different kinds of commercial enterprises that operate in the City MS4 area.] This category includes the construction industry. Many commercial complexes have stormwater BMPs that will require long-term maintenance. Having educated facility owners will help provide reasonable assurances that protective water quality measures are being maintained.

The City of Clemson will be working with local businesses to ensure that the managers and owners understand their responsibilities in regards to storm water quality. The City's business education program will be designed to provide information to those businesses that are more likely to have significant storm water impacts.

As part of the City's efforts to reduce pollution, staff will be identifying the types of businesses that are located within municipal boundaries. Once the types of businesses are identified, the City will be developing specific Fact Sheets targeting those businesses, which may have the greatest impact on storm water quality. These fact sheets will include information that has been tailored to the various business types and the potential pollutants that they could discharge. Staff

will distribute these to existing businesses and make the information available on the City's web site.

The City has few Industrial Permitted Operations within the city limits. These sites are potential contributors to storm water pollution and will be inspected to ensure that they are in compliance with NPDES Industrial Permits. Industrial facilities may have stormwater BMPs that will require long-term maintenance. Having educated facility owners will help provide reasonable assurances that protective water quality measures are being maintained.

### **Schools (Institutions)**

There are public and private institutional facilities within the City's MS4 area that educate children living in the City of Clemson. The importance of educating young people to these issues cannot be understated.

The students can also be an important part of disseminating information through bringing home brochures, flyers and other pertinent materials. Research of educational campaigns has shown that education of young minds leads to greater long term success and implementation of programs. Pickens County contacts all 3<sup>rd</sup> grade students within the school district each year with a stormwater education program in efforts to reduce the discharge of pollutants to the surface waters of Pickens County.

### **Developers, Engineers, and Construction Site Operators**

The City is focusing education efforts on the construction professional community. Developers, Engineers, and Contractors will be targeted with construction specific educational materials to assist them and provide guidance regarding the City's construction regulations and expectations for plan review, the construction process, and inspection processes.

By educating these professionals, the City believes that water quality protective measures can be properly designed, properly installed and properly maintained, thus helping to improve or protect local water quality. Educational efforts for this audience will also be developed in conjunction with Minimum Control Measures 4 and 5.

### **Civic Groups**

There are a number of Civic groups active within the Clemson community and Clemson University which will be targeted and leveraged to spread awareness of stormwater pollution prevention. Many of these groups are currently engaged in environmental cleanup programs including Adopt-a-Highway in the Clemson city limits.

These groups will be encouraged to participate in public participation activities including storm drain marking, Adopt-a-Highway, and stream cleanup activities.



## Stakeholders

The City recognizes that there are a significant number of individuals who will be greatly impacted by new stormwater regulations and implementation of stormwater utility fees. A representation of these individuals including residents, business operators, contractors, and developers will be invited to participate in the stormwater management program planning and review process.

## Recyclers

The City currently provides curbside recycling and debris removal along with waste collection and many local citizens are active participants in the recycling program. For the fiscal year 2011/2012 the city collected over 1.5 million pounds of recyclable refuse and over 40,000 cubic yards of brush and leaves.

The City believes that providing continuous support of recycling and debris removal programs will continue to improve and protect local water quality in the Clemson area by diverting waste from landfills and preventing the clogging of storm drains.

## Municipal Employees

Municipal employees are employees of the City of Clemson who through the normal course of their duties have an opportunity to directly impact stormwater quality. These employees will be given proper training to ensure that they are aware of and adhere to all city approved Storm Water Pollution Prevention Plans and Best Management Practices.

## Municipal Contractors

Municipal contractors are any private contractors performing services for the City of Clemson who through the course of their services have the opportunity to directly impact stormwater quality. Care will be taken to ensure that contractors are aware of and adhere to all Storm Water Pollution Prevention Plans and Best Management Practices while performing services for the City of Clemson.

### 9.1.4 Selected BMPs

<b>BEST MANAGEMENT PRACTICES – Minimum Measure #1</b>			
<b>Distribute a Quarterly Newsletter to Water Utility Customers</b>			
<b>Responsible Person: Name</b>		<b>Dept.: Departement</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Complete the quarterly newsletter template and distribute the first quarterly stormwater utility newsletter.	12 months	Quarterly	Engineering Department
Distribute stormwater utility newsletters once per quarter	On-going	Quarterly	Engineering Department / Water Utility
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• <b>Design and implement a program to meet the requirements of the Public Education Minimum Measure.</b></li> </ul>			
<b>Develop a Municipal Outreach Program</b>			
<b>Responsible Person: Name</b>		<b>Dept.: Department</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Develop municipal outreach program to target business and home owners	36 months	Annually	Engineering Department
Implement municipal outreach program and distribute municipal outreach materials.	48 months	Annually	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• <b>Design and implement a program to meet the requirements of the Public Education Minimum Measure.</b></li> </ul>			
<b>Develop a Public Education Program for Local Public Schools</b>			
<b>Responsible Person: Name</b>		<b>Dept.: Department</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Develop public education program	48 months	Annually	Engineering Department
Implement public education program	60 months	Annually	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• <b>Design and implement a program to meet the requirements of the Public Education Minimum Measure.</b></li> </ul>			

**9.1.5 Public Education and Outreach Program**

[Describe program objectives and selected BMPs. For each selected BMP address the following rationale topics. Proposed BMPs are listed in tables Section 9.1.4

- What needs to happen? What is the goal?
- When does the BMP/MCM need to get done, developed, and implemented?
- Where is the BMP/MCM going to be implemented?
- Who will develop and implement the BMP/MCM?
- Why was the particular BMP chosen to achieve the goal of the MCM?
- How many, or how much, and how often will the SMS4 carry the BMP/MCM out? ]

## 9.2 Public Involvement / Participation (Minimum Measure #2)

### 9.2.1 Overview

Minimum Control Measure #2 as prescribed in the SC DHEC General Permit (SCR030000) is Public Involvement and Participation. To meet the requirements of this MCM, the City must involve the public in the planning and implementation of the Stormwater Management Program (SWMP).

At a minimum the City shall promote the creation of citizen groups or utilize existing citizen organizations to participate in the City stormwater planning process. The group of new or existing organizations must consist of a balanced representation of all affected parties including residents, business owners, and environmental organizations within the MS4 area. Also, the City shall create opportunities for citizens to participate in the implementation of stormwater controls, examples of which include stream clean-ups, storm drain stenciling, volunteer monitoring, and educational activities. Information regarding the City SWMP must be easily accessible by the public. Involving the public is believed to increase the overall acceptance of the SWMP as well as reduce the actual impact of stormwater pollution.

### 9.2.2 Permit Requirements

- 4.2.2.1 *Permit requirement.* Permittees are required to involve the public in the planning and implementation of activities related to the development and implementation of the SWMP. The proposed Public Involvement / Participation MCM should provide, among other things, a forum and a structure by which to encourage, or to allow, the public to participate. There may be specific ways the public might be involved, based on a program particular needs. For instance, you may want stream watch groups to be organized. As such, the proposed program should describe how this will be accomplished, and the time schedule to do so. At a minimum, permittees shall:
- 4.2.2.1.1 Promote the creation of citizen groups or utilize existing citizen organizations. The permittee may establish a stand-alone group, utilize existing groups or already implemented Public Involvement / Participation process(es). The group must consist of a balanced representation of all affected parties, including residents, business owners, and environmental organizations in the MS4 area and / or affected watershed. The permittee must invite citizen groups to participate in the development and implementation of all parts of the community's SWMP.
  - 4.2.2.1.2 Create opportunities for citizens to participate in the implementation of stormwater controls (e.g., stream clean-ups, storm drain stenciling, volunteer monitoring, and educational activities).
  - 4.2.2.1.3 Ensure the public can easily find information about the permittee's SWMP

4.2.2.1.4 Incorporate written procedures for implementing the PIP MCM into the SWMP.

**9.2.3 Selected BMPs**

<b>BEST MANAGEMENT PRACTICES – Minimum Measure #2</b>			
<b>Meet Public Notice Requirements for Stormwater Related Activities</b>			
<b>Responsible Person: Name</b>		<b>Dept.: Department</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Follow public notice procedures as required by federal, state, and local laws on stormwater related matters.	As necessary	As necessary	Engineering Department / Administration
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• Meet federal, state, and local public notice requirements as applicable.</li> </ul>			
<b>Facilitate Stakeholder Meetings</b>			
<b>Responsible Person: Name</b>		<b>Dept.: Department</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Identify community stakeholder groups	6 months	Once	Engineering Department
Determine how to involve stakeholders	12 months	On-going	Engineering Department
Organize and facilitate a quarterly stakeholder meeting	18 months	Quarterly	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• Community stakeholder group established and meets regularly to discuss stormwater issues within the community.</li> </ul>			
<b>Adopt-a-Storm Drain / Storm Drain Marking</b>			
<b>Responsible Person: Name</b>		<b>Dept.: Department</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Map all storm drains within city limits.	18 months	Once	Engineering Department
Create marking kits for citizens to assist with storm drain marking program.	18 months	Once	Engineering Department
Advertise storm drain marking program to community.	18 months	Once	Engineering Department
Recruit and coordinate volunteer groups to assist with storm drain marking.	24 months	Once	Engineering Department / Public Works
Recognize contributions of volunteers.	36 months	Once	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• All storm drains within the city limits are mapped and marked.</li> </ul>			

<b>Create Adopt-a-Stream Program</b>			
<b>Responsible Person: Name</b>		<b>Dept.: Department</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Establish potential stream clean up sites	48 months	As necessary	Engineering Department
Solicit stream adoptions from various civic groups and organizations	48 months	As necessary	Engineering Department
Collect reports that streams have been cleaned	60 months	Semi-annually	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• All streams within the watershed are adopted and cleaned semi-annually.</li> </ul>			

**9.2.4 Public Involvement and Participation Program**

[Describe program objectives and selected BMPs. For each selected BMP address the following rationale topics. Proposed BMPs are listed in tables Section 9.2.3

- What needs to happen? What is the goal?
- When does the BMP/MCM need to get done, developed, and implemented?
- Where is the BMP/MCM going to be implemented?
- Who will develop and implement the BMP/MCM?
- Why was the particular BMP chosen to achieve the goal of the MCM?
- How many, or how much, and how often will the SMS4 carry the BMP/MCM out?]

## 9.3 Illicit Discharge Detection and Elimination (Minimum Measure #3)

### 9.3.1 Overview

Minimum Control Measure #3 as prescribed in the SC DHEC General Permit (SCR030000) is Illicit Discharge Detection and Elimination (IDDE). To meet the requirements of this MCM, the City must obtain the legal authority to enforce and develop a program to detect and eliminate illicit or non-stormwater discharges, including dumping, to the City of Clemson MS4 stormwater system. The city is required to develop a complete storm sewer system map and to conduct field screening, tracing, and remediation of illicit discharges to the City of Clemson municipal storm sewer system. The City will use an iterative review process to evaluate the effectiveness of the IDDE program operations and ensure that pollutants which are introduced through illicit discharges and connections are discontinued to improve the overall stormwater quality.

### 9.3.2 Permit Requirements

- 4.2.3.1 *Permit requirement.* Permittees shall develop, implement and enforce a program to detect and eliminate illicit discharges into the SMS4.
- 4.2.3.2 Permittees shall implement a program to detect, investigate and eliminate non-stormwater discharges (see Part 1.2.2) including illegal dumping into its system. Permittees must also procure all necessary legal authority to do this. The IDDE program must include the following:
- 4.2.3.2.1 ***Develop or update the regulated storm sewer system map.*** The storm sewer system map must show the following, at a minimum:
- a. The location (and name, where known to permittees) of all waters receiving discharges from the permitted MS4. Each mapped outfall must be given an individual alphanumeric identifier, which must be noted on the map. When possible, the outfalls should be located using a geographic position system (GPS) and photographs should be taken to provide baseline information and track operation & maintenance needs over time.
  - b. Priority areas identified under Part 4.2.3.2.2
  - c. If during the course of illicit discharge investigation, the drainage area of the illicit discharge is identified, the illicit discharge with its respective drainage area should be mapped.
  - d. A copy of the storm sewer system map must be available for review by SC DHEC.
- 4.2.3.2.2 ***Procedures for identifying priority areas within the MS4*** likely to have illicit discharges, and a list of all such areas identified in the system.

- 4.2.3.2.2.1 Permittees must identify the following as priority areas:
- a. Areas with older, decaying, dilapidated infrastructure that are more likely to have illicit connections;
  - b. Industrial, commercial, or mixed use areas, with a high potential for pollutant discharges;
  - c. Areas with a history of more than one illicit discharge in any rolling calendar year (i.e. from April 1, year 2 to March 31, year 3);
  - d. Areas with a history of more than one illegal dumping in any rolling calendar year;
  - e. Areas with onsite sewage disposal systems older than 40 years, history of failing, or with soils are not amenable to absorption;
  - f. Areas with sewer lines older than 40 years or with a history of sewer overflows or cross-connections; and,
  - g. Areas upstream of sensitive water bodies as defined in Part 3 of this permit.
- 4.2.3.2.2.2 Permittees must document the basis for its selection of each priority area and create a list of all priority areas identified in the system no later than 12 months after the effective date of the certificate of coverage. This priority area list must be updated *annually* to reflect changing priorities and be available for review by the permitting authority.
- 4.2.3.3 ***Field screening to detect illicit discharges.*** Permittees must implement, or continue to revise as applicable, a written dry weather field screening and analytical monitoring procedures to detect and eliminate illicit discharges to the MS4 within one year from the effective date of coverage. These procedures must be included as part of the IDDE program, and must be incorporated into the SWMP document. Dry weather field screening may consist, but is not limited to, (1) visual observations; (2) field screening monitoring; and may include (3) analytical monitoring at selected points to the extent necessary to identify and eliminate an illicit discharge in the drainage area of the suspected illicit. Field screening points can be any, or all, of the following suitable to complete field screening activities: major outfalls, other outfalls or points of access such as manholes.
- 4.2.3.3.1 Conduct dry weather field screening (including analytical monitoring where field screen monitoring has not yielded a definitive identification of the source of the illicit discharge) to identify the source of illicit discharges. At a minimum, permittees must:
- a. Identify all field screening points within the priority areas identified in Part 4.2.3.2 where field screening and analytical monitoring, if warranted, will take place. In addition, where permittees are aware of non-stormwater discharges that occur outside of the priority areas, permittees must identify points, outfalls, or major outfalls to conduct field screening in the drainage area of such non-stormwater discharges;

- b. Permittees must include the following in the field screening portion of their IDDE program:
  - i) the areas and the schedule for conducting the screening, the proposed location of outfalls, or field screening points, should reflect water quality concerns (as required in Part 3.1.2 of this permit) to the MEP and to protect water quality.
  - ii) a description of which screening methods will be used (i.e. outfall, major outfall, or screening point) and a description as to why it is appropriate for each area, and,
  - iii) a description of field screening equipment with their respective methodologies for use.
- c. Conduct all dry weather visual observations and required field screening at each outfall / field screening point identified in 4.2.3.3.1.b.i, above. All dry weather screening activities should be conducted, preferably, during prolonged dry weather periods when no rainfall runoff has the potential to be present.
- d. When field observations do not suffice to identify the source of the suspected non-stormwater discharge, permittees must perform field screening monitoring to characterize the discharge as outlined in paragraph (D), SC 61-9 122.26(d)(1)(iv). If any flow, or ponded runoff, not associated with tidal influence, is observed at a field screening point, or major outfalls as defined in SC 61-9 122.26(b)(5), and there has been at least seventy-two (72) hours of dry weather, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, permittees must also record in the narrative general information such as time since last qualifying storm event, site descriptions (e.g., conveyance type, dominant watershed land uses), flow estimation (e.g., width of water surface, approximate depth of water, approximate flow velocity, flow rate), and visual observations (e.g., color; odor; turbidity; oil sheen, or surface scum, presence; clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology as well as any other relevant observations regarding the potential presence of non-stormwater discharges or illegal dumping).
  - i) Field screening requirements: Permittees are also required to include a narrative description of the results of field screening analysis using suitable methods to estimate the following constituents:
    - pH,
    - total chlorine,
    - total copper,
    - total phenol,
    - detergents (surfactants),
    - any pollutant of concern, if in the watershed area of a TMDL / 303(d) WQMS, and,



a description of the flow rate.

Samples must be collected in accordance to SC 61-9 122.21(g)(7)(ii). Where the field screening does not involve analytical methods approved under 40 CFR 136, permittees shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Where field screening and / or source tracking monitoring methods are not sufficient to identify the source of the discharge to be eliminated, laboratory analysis is necessary for definite identification. Sample analysis must be consistent with the procedures required by 40 CFR Part 136.

- ii) When field screening is performed in a drainage area contributing to a TMDL / 303(d) impairment of a WQMS, in Part 4.2.3.3.1.d.i, above, the minimum level of effort requires, at first, that at least all major MS4 outfalls draining to the WQMS of concern be screened.
- iii) Analytical monitoring requirements: Samples collected for laboratory analysis where the field screening is conducted according to Part 4.2.3.3.1.d.ii, must be conducted as specified in Part 3.2.1.2.1.f.i of this permit.
- iv) Consult developed benchmark concentration levels (Center for Watershed Protection, Industrial MSGP, Effluent Guidelines, etc.) to compare dry weather field screening and analytical monitoring results obtained under parts 4.2.3.3.1.c.i.–iii, above.
- v) Where exceedance of widely accepted benchmark values occur, follow-up investigations to identify and eliminate the source causing the benchmark excursions must be conducted under Part 4.2.3.5, below.

e. Document elimination of the illicit discharge.

- 4.2.3.3.2 Permittees must assess the effectiveness of the Field Screening component of their IDDE program in the third annual report to determine if the level of effort is adequate in attaining the effective prohibition of non-stormwater discharges into the MS4. Where updates are found to be necessary, the permittee must make such changes and include them as part of the re-notification required under Part 2.5 of this permit.
- 4.2.3.3.3 For non-traditional MS4 permittees, if illicit connections or illicit discharges are observed related to another operator's municipal storm sewer system then the permittee must notify the other operator *within two business days* of discovery.
- 4.2.3.3.4 If another operator notifies the permittee of an illegal connection or illicit discharge to the municipal separate storm sewer system then the permittee must follow the requirements specified in Part 4.2.3.4.
- 4.2.3.3.5 Written procedures for implementing this program, including those components described in Parts 4.2.3.3.1 – 4.2.3.3.6 must be incorporated into the SWMP document.

- 4.2.3.4 ***Procedures for tracing the source of an illicit discharge.*** Permittees are required to develop written procedures for conducting investigations into the source of all identified illicit discharges, including approaches to requiring such discharges to be eliminated.
- 4.2.3.4.1 **Minimum Investigation Requirements** – At a minimum, the permittee is required to initiate an investigation(s) to identify and locate the source of any continuous or intermittent non-stormwater discharge within two (2) business days of becoming aware of the illicit discharge.
- a. Permittees must report immediately the occurrence of any dry weather flows believed to be an immediate threat to human health or the environment to SC DHEC Emergency Response, 1-888-481-0125.
  - b. Illicit discharges suspected of being sanitary sewage and/or significantly contaminated must be considered a high priority.
  - c. Investigations of illicit discharges suspected of being cooling water, wash water, or natural flows may be delayed until after all discharges suspected of having the potential for adversely impact either human health or water quality have been investigated, eliminated and/or resolved.
  - d. Permittees must track all investigations to document at a minimum the date(s) the illicit discharge was observed; the results of the investigation; any follow-up of the investigation; and the date the investigation was closed.
- 4.2.3.4.2 **Determining the Source of the Illicit Discharge** – Permittees are required to determine and document through their investigations, carried out in Part 4.2.3.4.1, the source of all documented illicit discharges. If the source of the suspected illicit discharge is found to be a suspected non-compliance with an NPDES permit, the appropriate SC DHEC Regional Office must be notified.
- a. If an illicit discharge is found, but within six (6) months of the beginning of the investigation neither the source nor the same non-stormwater discharge has been identified/observed, then permittees must maintain written documentation for review by the permitting authority.
  - b. If the observed discharge is intermittent, permittees must document that a minimum of three (3) separate investigations were made to observe the discharge when it was flowing. If these attempts are unsuccessful, permittees must maintain written documentation for review by the permitting authority. However, since this is an ongoing program, permittees should periodically recheck these suspected intermittent discharges.
- 4.2.3.4.3 **Corrective Action to Eliminate Illicit Discharges** – Once the source of the illicit discharge has been determined, permittees:
- a. Must notify the responsible party of the problem immediately,
  - b. Must require the responsible party to conduct all necessary corrective

actions to eliminate the non-stormwater discharge within 10 days. When, and if, elimination will take longer than 30 days, permittees shall require responsible parties to submit a plan with a schedule for elimination that meets the ASAP standard herein to the MEP,

- c. Must conduct a follow-up investigation and field screening, consistent with Part 4.2.3.4, to verify that the discharge has been eliminated upon being notified that the discharge has been eliminated,
  - d. Are required to document their follow-up investigations.
  - e. Must follow the SWMP ERP and include the resulting enforcement actions in the subsequent annual report.
- 4.2.3.5 Permittees must promote, publicize, and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point, including phone numbers for complaints and spill reporting, and publicize to both internal permittee staff and the public. If 911 is selected, permittees must also create, maintain, and publicize a staffed, non-emergency phone number with voicemail, which is checked.
- 4.2.3.5.1 Permittees must develop a written spill/dumping response procedure, and a flow chart or phone tree, or similar list for internal use, that shows the procedures for responding to public notices of illicit discharges, the various responsible agencies and their contacts, and who would be involved in illicit discharge incidence response, even if it is a different entity than the permittee.
- 4.2.3.5.2 Permittees must conduct reactive inspections in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented by the responsible party to achieve and maintain compliance.
- 4.2.3.6 Permittees must implement a training program for all appropriate 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.
- 4.2.3.6.1 Contact information, including the procedure for reporting an illicit discharge, should be included in the permittee's fleet vehicles that are used by field staff. Training program documents must be available for review by the permitting authority.
- 4.2.3.6.2 By no later than *12 months after permit coverage is granted*, permittees must train all staff identified in Section 4.2.3.6 above on:
- a. identification of illicit discharges or connections,
  - b. proper procedures for reporting and responding to the illicit discharge or connections,
  - c. changes in procedures, techniques, or staffing as needed, and,
  - d. documentation and maintenance of records

4.2.3.6.3 Permittees must keep track of all training and follow up training provided to address IDDE and to the staff trained in this MCM.

**9.3.3 Selected BMPs**

<b>BEST MANAGEMENT PRACTICES – Minimum Measure #3</b>			
<b>Develop Illicit Discharge Ordinance</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Prepare draft illicit discharge and elimination ordinance (including sections on spills and illegal dumping).	3 months	Once	Engineering Department
Submit draft ordinance to City Council for review and approval	3 months	Once	Engineering Department
Implement ordinance	18 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Implement illicit discharge detection and elimination ordinance.</li> </ul>			
<b>Educate Citizens Regarding Illicit Discharge Detection and Elimination</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Assess illicit discharge potential in the City of Clemson	24 months	Once	Engineering Department
Develop education materials to target illicit discharges with the highest potential	36 months	Once	Engineering Department
Distribute educational materials to community	48 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Distribute notice of illicit discharge detection and elimination to community.</li> </ul>			
<b>Create a Complete Storm Sewer System Map</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Delineate watersheds	Complete	Once	Engineering Department
Develop field processes and procedures for inventory, screening and tracking	12 months	As necessary	Engineering Department
Map major outfalls and storm sewer system in Lower Eighteen Mile Creek watershed (Approximately 4.4 sq. mi.)	24 months	On-going	Engineering Department
Map major outfalls and storm sewer system in Lower Twelve Mile Creek watershed (Approximately 1.6 sq. mi.)	36 months	On-going	Engineering Department
Map major outfalls and storm sewer system in Upper Seneca River watershed (Approximately 2 sq. mi.)	48 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Complete mapping of major outfalls and storm sewer system within the Clemson city limits.</li> </ul>			
<b>Create Illicit Discharge Non-compliance Reporting Mechanism</b>			

<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Establish a mechanism for the public to submit information regarding water quality violations.	Complete	Once	Engineering Department
Publicize the phone number, website, etc.	18 months	Once	Engineering Department
Receive and respond to complaints, messages, etc.	24 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Receive and respond to complaints, messages, etc. within 72 hours of notification</li> </ul>			
<b>Screen Track and Eliminate Illicit Discharges</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Dry weather screen major outfalls in Lower Eighteen Mile Creek watershed (Approximately 4.4 sq. mi.)	24 months	Once per permit cycle	Engineering Department
Track and eliminate illicit discharges discovered in first dry weather screening.	36 months	Once per permit cycle	Engineering Department
Dry weather screen major outfalls in Lower Twelve Mile Creek watershed (Approximately 1.6 sq. mi.)	36 months	Once per permit cycle	Engineering Department
Track and eliminate illicit discharges discovered in second dry weather screening.	48 months	Once per permit cycle	Engineering Department
Dry weather screen major outfalls in Upper Seneca River watershed (Approximately 2 sq. mi.)	48 months	Once per permit cycle	Engineering Department
Track and eliminate illicit discharges discovered in third dry weather screening.	60 months	Once per permit cycle	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Eliminate or bring full enforcement action on all illicit discharge activities identified in the dry weather screening process.</li> </ul>			
<b>Maintain Recycling Program for Hazardous Waste Including Used Motor Oil</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Inform community of curbside recycling program and recycling center location and services.	Complete	Annually	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Maintain support of curbside recycling program and recycling centers.</li> </ul>			

**9.3.4 Illicit Discharge Detection and Elimination Program**

[Describe program objectives and selected BMPs. For each selected BMP address the following rationale topics. Proposed BMPs are listed in tables Section 9.3.3

What needs to happen? What is the goal?

When does the BMP/MCM need to get done, developed, and implemented?

Where is the BMP/MCM going to be implemented?

Who will develop and implement the BMP/MCM?  
Why was the particular BMP chosen to achieve the goal of the MCM?  
How many, or how much, and how often will the SMS4 carry the BMP/MCM out? ]

### **Storm Sewer System Mapping**

[Include general comments regarding storm sewer system mapping here and include or reference Stormwater Inventory Procedures. May include by reference SOPs, examples of which can be found under current projects/stormwater/MS4 on the T:/ Drive.]

### **MS4 Priority Areas**

[Provide rationale and findings of illicit discharge detection priority areas for the City of Clemson MS4 here. Consider at a minimum areas with older infrastructure; industrial, commercial or mixed use areas; areas with a history of more than one illicit discharge per calendar year; areas with a history of more than one instance of illegal dumping per calendar year; areas with onsite sewage disposal systems older than 40 years; areas with sewer lines older than 40 years; and areas upstream of sensitive water bodies.]

### **Dry Weather Field Screening**

[Include illicit discharge dry weather screening procedures as part of the SWMP document here. Should include guidance on outfall reconnaissance and field testing and sample collection for dry weather flows. Procedural guidelines can be found in the Illicit Discharge Detection and Elimination Guidance Manual. May include by reference SOPs, examples of which can be found under current projects/stormwater/MS4 on the T:/ Drive.]

### **Illicit Discharge Tracing Procedures**

[Insert procedures for tracking and documenting sources of illicit discharges. May include by reference SOPs, examples of which can be found under current projects/stormwater/MS4 on the T:/ Drive.]

## 9.4 Construction Site Storm Water Runoff Control (Minimum Measure #4)

### 9.4.1 Overview

Minimum Control Measure #4 as prescribed in the SC DHEC General Permit (SCR030000) is Construction Site Stormwater Runoff Control. To meet the requirements of this MCM, the City must develop, implement, and enforce a program which requires operators of public or private “construction activities” to select, install, implement, and maintain stormwater control measures that comply with any and all applicable erosion and sediment control, pollution prevention, and other stormwater requirement. These requirements include the SC NPDES General Permit for Storm Water Discharges from Construction Activities (SCR100000), the technical provisions of the South Carolina Stormwater Management and Sediment Reduction Regulations 72-300, and any local requirements.

The City will adopt these requirements through ordinance, provide municipal staff and community training, and ensure compliance through site plan reviews, regular inspections, and enforcement actions consistent with the Enforcement Response Plan, to ensure that stormwater quality throughout the MS4 boundary is not adversely affected by construction activities.

### 9.4.2 Permit Requirements

90436880.90437456.90436640.90439232 **NEW PERMITEES.** Within eighteen months from the date of coverage, first time permittees shall develop, implement, and enforce a program which requires operators of public or private “construction activities” to select, install, implement, and maintain stormwater control measures that comply with any and all applicable erosion and sediment control, pollution prevention, and other stormwater requirements, including, but not limited to, the effective SC NPDES General Permit for Storm Water Discharges from Construction Activities (SCR100000), the technical provisions contained in SC Stormwater Management and Sediment Reduction Regulations 72-300, and any local requirements. “Construction activity” for this permit includes, at a minimum, all public and private clearing, grading and excavating that result in a total land disturbance of either: one or more acres, less than one acre if part of a larger common plan or development or sale (LCP), or, if located in the eight coastal counties, any land disturbance located within one-half (1/2) mile of a receiving water body. Written procedures for implementing this program, including all components described in this Construction Site Storm Water Runoff Control measure, must be incorporated into the SWMP document.

90436880.90437456.90436640.90439233 **EXISTING PERMITEES** shall continue developing, implementing, and enforcing a program which requires operators of public or private “construction activities” to select, install, implement, and maintain stormwater control measures that comply with any and all applicable erosion and sediment control, pollution prevention, and other stormwater requirements, including,

but not limited to, the effective SC NPDES General Permit for Construction Activities (SCR100000), the technical provisions contained in SC Stormwater Management and Sediment Reduction Regulations 72-300, and any local requirements. "Construction activity" for this permit includes, at a minimum, all public and private clearing, grading and excavating that result in a total land disturbance of either: one or more acres, less than one acre if part of a LCP, or, if located in the eight coastal counties, any land disturbance located within one-half (1/2) mile of a receiving water body. Written procedures for implementing this program, including all components described in this Construction Site Storm Water Runoff Control measure, must be incorporated into the SWMP document.

90436880.90437456.90436640.90439234 **Construction Site Storm Water Runoff Control** programs required under 4.2.4.1 & 2 above must include the development and implementation of, at a minimum:

- 4.2.4.3.1 An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law.
  - a. **NEW PERMITTEES** need to develop the ordinance or other regulatory mechanism. A plan and a schedule to have this mechanism implemented in full force and effect 18 months from the date of coverage, along with the rationale why you chose such mechanism must be included in the SWMP required with the NOI.
  - b. **EXISTING PERMITTEES** must include a copy of the relevant sections of the existing ordinance or other regulatory mechanism along with the SWMP description.
- 4.2.4.3.2 Requirements for construction site operators to implement appropriate BMP such as,
  - a. Erosion and Sediment Controls, and
  - b. Soil Stabilization Practices
- 4.2.4.3.3 Requirements for the design, installation and maintenance of effective pollution prevention measures for construction site operators to:
  - a. minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water and other wash waters. Washouts from concrete, stucco, paint, oils, oils, brick acid wash, curing compounds, fuel and soaps or solvents used in equipment washing are subject to the effective prohibition in 402(p)(3)(B)(ii) of the CWA,
  - b. minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on site to precipitation



- c. and to stormwater runoff that may cause adverse impacts to water quality, and, minimize the discharge of pollutants from spills and and leaks and implement chemical spill and leak prevention and response procedures

4.2.4.3.4 Permittees must require each operator of a construction activity to prepare and submit an stormwater management /erosion and sediment reduction plan, hereinafter referred as Stormwater Pollution Prevention Plan (SWP3), prior to the disturbance of land for the SMS4 review and written approval prior to issuance of the appropriate permit prior to the commencement of grading or construction. Permittees must make it clear to operators of construction activity that they are prohibited from commencing construction activity until they receive of written approval of the plans. If after approval, the SWP3 is revised, SMS4 must review and approve those revisions.

a. The permittee must implement site plan review procedures that meet the following minimum requirements:

- i) Permittees must not approve any SWP3 unless it contains appropriate site-specific construction site control measures that meet all requirements in Parts 4.2.4 & 5 of this permit.
- ii) The SWP3 must include the rationale used for selecting control measures, including how the control measure protects a waterway or stormwater conveyance.
- iii) Permittees must ensure plan reviewers are either qualified professionals as defined in South Carolina Regulation 72-300 and 61-9 or have completed, and become certified through, a plan reviewer course acceptable to the SCDHEC use qualified individuals, knowledgeable in the technical review of SWP3 to conduct such reviews, see Part 4.2.4.3.7.b.
- iv) Permittees must document its review of each SWP3 using a checklist or similar process.

b. SWP3 review for all sites that either disturb 1 acre or more (less, if part of a LCP, or any land disturbance in the eight coastal counties that is located within one-half (1/2) mile of a receiving water body) that discharge pollutant(s) of concern to TMDL waters and to waters on the 303(d) List of Impaired Waters must identify potential water quality impacts the permitted discharges may have. The SWP3 shall limit sediment discharges and protect water quality to the MEP and shall include an assessment showing that the selected BMP will effectively control the construction and post-construction stormwater discharges such that the stormwater discharges will not cause or contribute to a violation of water quality standards. Procedures for SWP3 review will;

- i) incorporate consideration of potential water quality impacts,
- ii) include the review of construction site plans,
- iii) require a written quantitative and qualitative assessment showing that the

selected BMP will control the discharge of the pollutant, or pollutants, of concern from construction and post construction within a TMDL watershed, or to a water on the 303(d) List of Impaired Waters, and

- iv) require that the SWP3 prepared by applicants for construction sites that SMS4 review must demonstrate that stormwater discharges will neither cause nor contribute to a violation of water quality standards.

A copy of the most current TMDL / 303(d) List of Impaired Waters can be obtained from:

Water Quality Division  
Bureau of Water  
SC DHEC  
2600 Bull Street  
Columbia, SC 29201

the most current TMDL / 303(d) List can be also be downloaded at: <http://www.scdhec.gov/tmdl>;

#### 4.2.4.3.5 Construction Site Operator and Public Involvement

- a. Construction Operator Education. Develop and implement an effective communication process with construction contractors to educate them on areas in which improvements are needed and to enforce any required actions.
- b. Public Involvement. Implement procedures for receipt and consideration of information submitted by the public. Consider coordinating this requirement with the public participation program.

#### 4.2.4.3.6 Construction Site Inspections and Control Measures Enforcement Response Plan (ERP).

- a. Permittees must maintain an inventory of all active public and private construction sites that result in a total land disturbance of disturb of 1 acre or more (less, if part of a LCP, or any land disturbance within one-half (1/2) mile of a receiving water body in the eight coastal counties). The inventory must be continuously updated as new projects are permitted and projects are completed. The inventory must contain relevant contact information for each project (e.g., name, address, phone, etc.), the size of the project and area of disturbance, whether the project has submitted for permit coverage under SC NPDES General Permit for Storm Water Discharges from Construction Activities (SCR100000), the date the permittee approved the stormwater management / erosion and sediment reduction plan in accordance with Part 4.2.4.3.4, and the NPDES coverage number SCR10##### issued by SC DHEC. Permittees must make the inventory available to SC DHEC Bureau of Water

upon request. As part of this inventory,

- i) Permittees must track the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies required, and,
  - ii) Inspection findings must be documented and maintained for review by SC DHEC.
  - iii) Permittees must develop and maintain an active ERP tracking system.
- b. Permittees must implement procedures for inspecting public and private construction projects in accordance with the frequency specified in table 4.2.4.3.6.b below.

Table 4.2.4.3.6.b Inspection Frequency

Site	Inspection Frequency
a. All sites <i>5 acres</i> or larger in size	All new approvals must be inspected initially within the first two weeks of commencement of land disturbing activity.
b. All sites one (1) acre or larger that discharge to a tributary listed by the state/tribe as an impaired water for sediment, turbidity, or BIO under the CWA section 303(d)	
c. Other sites one (1) acre or more determined by permittees or by SC DHEC to be a significant threat to water quality*	All active sites shall be inspected at least monthly during construction.
d. All other construction sites with one (1) acre or more of soil disturbance not meeting the criteria specified in (A),(B), or (C) above	Inspection must occur at least monthly
e. Construction sites less than one (1) acre	Inspection must occur as needed based on the evaluation of the factors that are a threat to water quality*
f. Final Inspection	Inspect all projects to ensure that all graded areas have reached final stabilization and that all temporary control measures are removed and permanent stormwater management BMP are permitted as required
*In evaluating the threat to water quality, the following factors must be considered: soil erosion potential; site slope; project size and type; sensitivity of receiving water bodies; proximity to receiving water bodies; non-stormwater discharges; past record of non-compliance by the operators of the construction site; proximity to sensitive water bodies; and, other factors relevant to particular MS4.	

- c. Permittees must adequately inspect all phases of construction as follows.
  - i) Beginning of Land Disturbance: Prior to, or during the commencement of land disturbance, permittees must perform an inspection to ensure all necessary erosion and sediment controls are in place within the first two weeks of commencement of land disturbing activity.
  - ii) During Active Construction: During active construction, permittees are required to conduct inspections in accordance with the frequencies specified in Table 4.2.4.3.6.b.
  - iii) Following Active Construction: At the conclusion of the project, permittees must inspect all projects to ensure that all graded areas have reached final stabilization and that all temporary control measures are removed (e.g., silt fence).
  
- d. Permittees must have trained and qualified inspectors (See Part 4.2.4.3.7.a). Permittee must also continue to follow, and revise as necessary, written procedures outlining the inspection and enforcement procedures. Inspections of construction sites must, at a minimum:
  - i) Check for coverage under SCR100000 by requesting a copy of any application or Notice of Intent (NOI), the stamped approved stormwater management / erosion and sediment reduction plan or other relevant application form during initial inspections.
  - ii) Review the applicable stormwater management / erosion and sediment reduction plan and conduct a thorough site inspection to determine if control measures have been selected, installed, implemented, and maintained according to the plan.
  - iii) Assess compliance with the permittee's ordinances and permits related to stormwater runoff, including the implementation and maintenance of designated minimum control measures.
  - iv) Assess the effectiveness of control measures.
  - v) Visually observe and record non-stormwater discharges, potential illicit connections, and potential discharge of pollutants in stormwater runoff.
  - vi) Provide a written or electronic inspection report generated from findings in the field.
  
- e. The Construction Site Inspections and Control Measures Enforcement Response Plan (ERP) must contain a description of how permittees would use specific type of responses to address various types of violation.
  - i) Types of response include, but is not limited to;

Verbal warnings,  
Written notices,  
Escalated enforcement measures such as citations, stop work orders, etc.

- ii) Specific strategies for escalating enforcement response, where necessary, to address persistent, repeat or escalating violations.
- iii) Ensure the ERP is reasonably effective in reducing pollutant discharges to the MEP and to protect water quality.

4.2.4.3.7 MS4 Staff Training. Permittee must ensure that all staff whose primary job duties are related to implementing the construction stormwater program, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. The training can be conducted by the permittee or outside training can be attended, however, this training must include, at a minimum:

- c. Erosion and Sediment Control / Stormwater Management Inspectors:
  - i) Initial training, held within the first permit year, regarding proper control measure selection, installation, implementation, and maintenance, (e.g. CEPSCI Certification) as well as administrative requirements such as inspection reporting/tracking and use of permittees enforcement responses; and,
  - ii) Annual refresher training for existing inspection staff to update them on preferred controls, regulation changes, permit updates, and policy or standards updates. Throughout the year, e-mails and/or memos must be sent out to update the inspectors as changes happen.
- b. Plan Reviewers:
  - i) Initial training, held within the first two permit years, regarding control measure selection, design standards, and review procedures; and,
  - ii) Annual training regarding new control measures, innovative approaches, permit updates, regulation changes, and policy or standard updates.
- c. Third-party Inspectors and Plan Reviewers: If the permittee utilizes outside parties to conduct inspections and/or review plans, these outside staff must be trained per the requirements listed in Parts 4.5.1.a and / or b (above).

9.4.3 Selected BMPs

<b>BEST MANAGEMENT PRACTICES – Minimum Measure #4</b>			
<b>Revise Local Ordinances for Construction Site Runoff Control</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Provide public notice of requirements to amend current stormwater ordinance to satisfy the requirements of the NPDES General Permit for Small MS4s	3 months	Once	Engineering Department
Revise current stormwater management ordinance to require contractors to implement appropriate BMPs for Erosion and Sediment Controls and Soil Stabilization Practices, to require the design, implementation, and maintenance of effective pollution prevention measures, and to require contractors to prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) prior to land disturbing activities	6 months	Once	Engineering Department and Planning and Codes
Implement requirements for Construction Site Storm Water Runoff Control	18 months	Once	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Amend current stormwater ordinances to establish adequate legal authority to enforce NPDES General Permit for Storm Water Discharge from Construction Activities requirements</li> </ul>			
<b>Training and Certification Program for Contractors and Designers</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Inform contractors and designers of changes to current City of Clemson stormwater requirements, inspection, and enforcement procedures	12 months	Once	Engineering Department
Host initial training session regarding proper control measure selection, installation, implementation, and maintenance of BMPs for erosion prevention, sediment control, and pollution prevention and creation of site specific SWPPPs	24 months	Once	Engineering Department
Host refresher training and new certification for contractors with feedback and lessons learned from previous years	36 months	Annually	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Train and certify local contractors and designers to comply with City of Clemson MS4 permit and construction permit requirements.</li> </ul>			

<b>Municipal Construction Site Inspection Program and Enforcement Response Plan (ERP)</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Create inventory of all public and private construction sites within the City of Clemson	6 months	On-going	Engineering Department
Initial training of Erosion and Sediment Control / Stormwater Inspectors regarding proper control measure selection, installation, implementation, maintenance, and administrative requirements including reporting/tracking and enforcement responses	12 months	Once	Engineering Department and Planning and Codes
Inspect construction sites within the City of Clemson for proper use, installation, and maintenance of BMPs and compliance with SWPPPs	18 months	Once	Engineering Department and Planning and Codes
Refresher training of Erosion and Sediment Control / Stormwater Inspectors regarding proper control measure selection, installation, implementation, maintenance, and administrative requirements including reporting/tracking and enforcement responses	24 months	Annually	Engineering Department and Planning and Codes
<b>Measurable Goal:</b> <ul style="list-style-type: none"> <li>Stormwater construction inspections performed and enforcement procedures implemented for all construction sites within the City of Clemson as prescribed in the SWMP and ERP.</li> </ul>			
<b>Construction Phase Plan Review</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Initial training of plan reviewers regarding control measure selection, design standards, and review procedures	24 months	Once	Engineering Department
Provide stormwater plan review for all new development projects and redevelopment projects	24 months	Once	Engineering Department
Provide refresher training to City of Clemson staff on stormwater plan review	36 months	Annually	Engineering Department
<b>Measurable Goal:</b> <ul style="list-style-type: none"> <li>Stormwater plan review conducted by qualified and trained staff for all new development and redevelopment projects within the City of Clemson for erosion control, pollution prevention, and permanent water quality measures.</li> </ul>			

<b>Construction Non-compliance Reporting Mechanism (Same as Minimum Measure #3)</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Establish a mechanism for the public to submit information regarding water quality violations.	Complete	Once	Engineering Department
Publicize the phone number, website, etc.	18 months	Annually	Engineering Department
Receive and respond to complaints, messages, etc.	18 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>• Receive and respond to complaints, messages, etc. within 72 hours of notification</li> </ul>			

**9.4.4 Construction Site Storm Water Runoff Program**

[Describe program objectives and selected BMPs. For each selected BMP address the following rationale topics. Proposed BMPs are listed in tables Section 9.4.3

- What needs to happen? What is the goal?
- When does the BMP/MCM need to get done, developed, and implemented?
- Where is the BMP/MCM going to be implemented?
- Who will develop and implement the BMP/MCM?
- Why was the particular BMP chosen to achieve the goal of the MCM?
- How many, or how much, and how often will the SMS4 carry the BMP/MCM out? ]



## 9.5 Post Construction Stormwater Management in New Development and Redevelopment or Permanent / Long Term Storm Water Pollution Control Measures (Minimum Measure #5)

### 9.5.1 Overview

Minimum Control Measure #5 as prescribed in the SC DHEC General Permit (SCR030000) is Post Construction Stormwater Management in New Development and Redevelopment or Permanent / Long Term Storm Water Pollution Control Measures.

To meet the requirements of this MCM, the City must develop a program to control long-term stormwater runoff from new development and redeveloped sites that disturb one or more acres and discharge to the City's municipal storm sewer system. The City must adopt through ordinance certain site performance standards, including a requirement that the first 1" of runoff be managed onsite. The City must also require long-term maintenance agreements between the City and property or homeowner or homeowners associations to ensure the proper maintenance and operation of stormwater quality devices. The City will conduct site plan reviews and regular inspections to ensure that these devices are operating properly to improve stormwater quality within the City separate storm sewer system. Enforcement actions will be taken in accordance with the Enforcement Response Plan to ensure compliance with this program.

### 9.5.2 Permit Requirements

#### 4.2.5.1 Post-Construction Stormwater Management Program

4.2.5.1.1 Permittees shall implement a program to control stormwater discharges from new development and redeveloped sites that disturb at least one acre (including projects that disturb less than one acre that are part of a larger common plan of development or sale, LCP) that discharge into an MS4. The program must apply to private and public development sites, including roads.

4.2.5.1.2 The **Post-Construction Stormwater Management Program** shall require that controls are in place to meet the performance standards in Part 4.2.5.2 to the MEP and to protect water quality.

4.2.5.1.3 Written procedures for implementing this program, including, but not limited to, the components described in Parts 4.2.5.2 – 8, must be incorporated into the SWMP document.

#### 4.2.5.2 Site Performance Standards

4.2.5.2.1 Permittees must establish, implement and enforce a requirement that owners or operators of new development and redeveloped sites discharging to the MS4, which

disturb greater than or equal to one acre (including projects that disturb less than one acre that are part of a LCP), design, install, implement, and maintain stormwater control measures that maintain pre-development conditions and protect water quality to the MEP.

- 4.2.5.2.2 New Development Standards to be used can be either one, combination, or equivalent combination of design strategies, control measures, practices or provisions such as infiltration, evapotranspiration, rain harvesting, and stormwater reuse and recharge that demonstrate the runoff reduction and pollutant removal necessary to maintain pre-development conditions and to protect water quality to the MEP. Permittees must require that the first inch of runoff be managed. Table 4.2.5.2.2.1, below, contains examples of specific standards that could be adopted. Permittees must describe the site design strategies, control measures and other practices deemed necessary by the MS4 to maintain, or in the case of redevelopment improve, pre-development hydrology in order to meet 4.2.5.2.1 above.

Table 4.2.5.2.2.1 Site Performance Standards

<i><b>Basis for Performance Standard</b></i>	<i><b>Description</b></i>	<i><b>Performance Standard</b></i>
<i>Rainfall</i>	<i>Minimum storm volume to be retained on site.</i>	<i>Design, construct, and maintain stormwater management practices that manage rainfall on-site, and prevent the off-site discharge of the precipitation from [insert standards, such as “the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation”]. Discharge volume reduction can be achieved by canopy interception, soil amendments, evaporation, rainfall harvesting, engineered infiltration, extended filtration and/or evapotranspiration and any combination of the aforementioned practices. This first one inch of rainfall must be 100% managed with no discharge to surface waters, except when the permittee chooses to implement the conditions in Part 5.2.5.d below</i>
<i>Rainfall</i>	<i>Minimum storm size to be retained on site.</i>	<i>Design, construct, and maintain stormwater management practices that manage rainfall on-site, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to [insert standards, such as “the 95<sup>th</sup> percentile rainfall event”]. This objective must be accomplished by the use of practices that infiltrate evapotranspire and/or harvest and reuse rainwater. The 95<sup>th</sup> percentile rainfall event is the event whose precipitation total is greater than or equal to 95 percent of all storm events over a given period of record.</i>
<i>Recharge/Runoff</i>	<i>Hydrologic analysis.</i>	<i>Design, construct, and maintain stormwater management practices that preserve the pre-development runoff conditions following construction. The post-construction rate, volume, duration and temperature of discharges must not exceed the pre-development rates and the pre-development hydrograph for 1, 2, 10, 25, 50 and 100 year storms must be replicated through site design and</i>

		<i>other appropriate practices. These goals must be accomplished through the use of infiltration, evapotranspiration, and/or rainwater harvesting and reuse practices. Defensible and consistent hydrological assessments and modeling methods must be used and documented.</i>
<i>Recharge</i>	<i>Groundwater recharge requirement.</i>	<p>Any “major development” project, which is one that disturbs [insert standards, such as at least one (1) acre of land or creates at least 0.25 acres of new or additional impervious surface], must comply with one of the following two groundwater recharge requirements:</p> <ul style="list-style-type: none"> <li>● <i>Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; or</i></li> <li>● <i>Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater discharge volume from pre-construction to post-construction for the two-year storm is infiltrated.</i></li> </ul>
<i>Annual Pollutant Load</i>	<i>Hydrologic Analysis Loading Calculations</i>	<i>Design, construct and maintain stormwater management practices that preserve the pre-development runoff conditions following development. Post construction annual pollutant loads are not allowed to exceed pre-development levels. Whenever and wherever appropriate, runoff volume and peak discharge rates for specific design storms should be taken into account as well. These goals will be accomplished through low impact development practices (LID) including impervious cover limitations and treatment means. Water quality modeling methods used to support establishment of this standard must be defensible and be consistent with the MEP standard, to protect water quality and to satisfy the appropriate water quality requirements of the CWA<sup>1</sup>.</i>

4.2.5.2.3 Incentives for Redeveloped Sites. When considered at the watershed scale, certain types of developed sites can either reduce existing impervious surfaces, or at least create less ‘accessory’ impervious surfaces. SMS4 may develop a program to allow adjustments to the performance standard for new development or redevelopment sites that qualify.

4.2.5.2.4 Additional Requirements and Exceptions: The permittee shall implement the following additional requirements where applicable:

- a. A site with potential for contaminating groundwater must provide treatment for associated pollutants (e.g., petroleum hydrocarbons at a vehicle fueling facility).
- b. A site that discharges or proposes to discharge to any surface water or ground

<sup>1</sup> SC DHEC Bureau of Water / SCASM Phase II MS4 Permit Focus Group  
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water that is used as a source of drinking water must comply with all applicable requirements relating to source water protection.

- c. Sites may not use infiltration techniques as a method for stormwater control in areas of documented soil contamination.
- d. Proposed stormwater controls with potential to adversely impact ground water that are required under for Post-Construction Stormwater Management in New Development and Redevelopment or Permanent / Long Term Stormwater Pollution Control Measures, shall be assessed for potential impacts to waters classified as Ground Waters (GA, GB & GC) pursuant to SC DHEC Bureau of Water **Classifications & Standards (R.61-68) Classified Waters (R.61-69)**,
- e. For projects that cannot meet the performance standard in Part 4.2.5.2.2 on site, alternatives such as off-site mitigation and payment in lieu should be made available. A determination that standards cannot be met on site must include multiple criteria that would rule out fully meeting the performance standard in Part 4.2.5.2.2, such as: too small a lot outside of the building footprint to create the necessary infiltrative capacity even with amended soils; soil instability as documented by a thorough geotechnical analysis; a site use that is inconsistent with capture and reuse of stormwater; or too much shade or other physical conditions that preclude adequate use of plants. Sites must still maximize stormwater retention on-site, before applying the remaining stormwater to one of the alternatives. In instances where alternatives are chosen, technical justification as to the infeasibility of on site management is required to be documented.

#### 4.2.5.3 **Site Plan Review**

4.2.5.3.1 To ensure that all applicable new development and redeveloped sites conform to the performance standards required in Section 4.2.5.2, permittees must implement project review, approval, and enforcement procedures that include:

- a. Procedures for the site plan review and approval process(es) that include inter-departmental consultations, as needed, and a required re-approval process when changes to an approved plan are desired; and
- b. A requirement for submittal of 'as-built' certifications at project completion.

4.2.5.3.2 Permittees must conduct site plan reviews, using the procedures described in Part 4.2.5.3.1, of all new development and redeveloped sites which will disturb greater than or equal to one acre and discharge to the MS4 (including sites that disturb less than one acre that are part of a LCP). The site plan review must specifically address how the project applicant meets the performance standards in Part 4.2.5.2 and how the project will ensure long-term maintenance as required in Part 4.2.5.4.

#### 4.2.5.4 **Long-Term Maintenance of Post-Construction Stormwater Control Measures**

4.2.5.4.1 All structural stormwater control measures installed and implemented to meet the performance standards of Part 4.2.5.2 must be maintained in perpetuity. Permittees must ensure the long-term maintenance of structural stormwater control measures installed according to this Part through one, or both, of the following approaches:

- a. Maintenance performed by the Permittee. See part 4.2.6.4.
- b. Maintenance performed by the owner or operator of a new development or redeveloped site under a maintenance agreement. Permittee must require the owner or operator of any new development or redeveloped site subject to the performance standards in Part 4.2.5.2 to develop and implement a maintenance agreement addressing maintenance requirements for any structural control measures installed on site to meet the performance standards. The agreement must allow the permittee, or its designee, to conduct inspections of the structural stormwater control measures and also account for transfer of responsibility in leases and/or deeds. The agreement must also allow the permittee, or its designee, to perform necessary maintenance or corrective actions neglected by the property owner/operator, and bill or recoup costs from the property owner/operator when the owner/operator has not performed the necessary maintenance.

4.2.5.4.2 Verification of maintenance responsibilities. Permittees must require that property owners or operators of any new development or redeveloped site subject to the performance standards in Part 4.2.5.2 provide verification of maintenance for the approved structural stormwater control measures used to comply with the performance standards. Verification must include one or more of the following as applicable:

- a. The owner/operator's signed statement accepting responsibility for maintenance with a provision for transferring maintenance responsibility if the property is legally transferred to another party; and/or
- b. Written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; and/or
- c. Written conditions in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of structural and treatment control stormwater management practices; and/or
- d. Any other legally enforceable agreement that assigns permanent responsibility for maintenance of structural or treatment control stormwater management practices.

#### 4.2.5.5 **Watershed Protection**

Review planning procedures and ordinances to provide requirements for implementation of consistent water quality protection measures for new development and redeveloped sites within 36 months from the effective date of coverage. When permittees revise its planning procedures and ordinances, effective water quality and

watershed protection measures must be included. Examples of water quality and watershed protection elements to be considered as principles, or policies, as they may be appropriate for the watershed include the following:

- 4.2.5.5.1 Encourage development in,
  - a. High density urban areas, or
  - b. Areas with existing storm sewer infrastructure.
- 4.2.5.5.2 Preserve, protect, create and restore ecologically sensitive areas such as:
  - a. Wetlands,
  - b. Riparian areas,
  - c. Headwaters, and,
  - d. Floodplains.
- 4.2.5.5.3 Prevention of water quality impacts to streams by,
  - a. Providing buffers along sensitive water bodies,
  - b. Disconnecting discharges to surface waters from impervious surfaces such as parking lots,
  - c. Minimize impervious surfaces.
- 4.2.5.5.4 Minimize disturbance of soils and vegetation, and / or,
- 4.2.5.5.5 Maintain and / or increase open space (including a dedicated funding source for open space acquisition).
- 4.2.5.6 **Tracking of Post-Construction Stormwater Control Measures**
- 4.2.5.6.1 Inventory of Post-Construction Stormwater Control Measures. Permittee must maintain an inventory of all post-construction structural stormwater control measures installed and implemented at new development and redeveloped sites, including both public and private sector sites located within the permit area. At a minimum, the inventory shall contain all BMP constructed since the effective date of the first certificate of coverage under the permit. The inventory must be searchable. New entries to the inventory must be made during the as built plan review and approval process in Part 4.2.5.3.1.
- 4.2.5.6.2 Tracking Information. Each entry to the inventory must include basic information on each project, such as project name, owner's name and contact information, location, start/end date, etc. In addition, inventory entries must include the following for each project:
  - a. List of each stormwater control measure (type, number, design or performance specifications);
  - b. Latitude and longitude coordinates of each stormwater control measure; and,
  - c. Inspection information (date, findings, follow up activities, prioritization of

follow-up activities, compliance status).

Based on inspections conducted under Part 4.2.5.7, permittees must update the inventory as appropriate where changes occur in property ownership or the specific control measures implemented at the site. This inventory must be maintained and available for review by the permitting authority.

#### 4.2.5.7 Inspections and Enforcement

- 4.2.5.7.1 Inspection Frequency. To ensure that all stormwater control measures are operating correctly and are being maintained as required consistent with its applicable maintenance agreement, Permittees must conduct inspections of each project site covered under Part 4.2.5.2 performance standards, *at least one time during the permit term*. A description of inspection procedures must be included in the SWMP document.
- 4.2.5.7.2 Post-Construction Inspection. Within 30 days of completion of construction of any project required to meet the Section 4.2.5.2 performance standards, SMS4 must conduct a post-construction inspection to verify that BMP have been installed as per approved plans. Permittees must include in its SWMP a mechanism for being notified by construction operators/owners of their completion of active construction so that the post-construction inspection may be conducted.
- 4.2.5.7.3 Inspection Reports. Permittee must document its inspection findings in an inspection report. Each inspection report must include:
- a. Inspection date;
  - b. Name and signature of inspector;
  - c. Project location (street address, latitude/longitude, etc.) and inventory reference number (from inventory established in Section 4.2.5.6.1)
  - d. Current ownership information (for example, name, address, phone number, fax, and email)
  - e. A description of the condition of the structural stormwater control measure such as: vegetation and soils; inlet and outlet channels and structures; embankments, slopes, and safety benches; catch basins; spillways, weirs, and other control structures; and sediment and debris accumulation in storage and forebay areas as well as in and around inlet and outlet structures;
  - f. Photographic documentation of all critical structural stormwater control measure components as necessary; and
  - g. Specific maintenance issues or violations found that need to be corrected by the property owner or operator along with deadlines and re-inspection dates.

Permittees must document and maintain records of inspection findings and enforcement actions and make them available for review by the permitting authority.

9.5.3 Selected BMPs

<b>BEST MANAGEMENT PRACTICES – Minimum Measure #5</b>			
<b>Post Construction Stormwater Management Program</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Establish criteria for site performance standards	3 months	Once	Engineering Department
Revise the current stormwater management ordinance to require developers of new development and redevelopment sites with land disturbance greater than one acre to meet site performance standards and to manage the first inch of runoff	12 months	Once	Engineering Department and Planning and Codes
Implement Post-Construction Stormwater Management Program	18 months	Once	Engineering Department
Complete inspections of permanent stormwater control measures and BMPs and enforce Post-Construction Stormwater Management Program	36 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Ensure that stormwater controls meet minimum performance standards to the MEP, maintain predevelopment conditions, and protect water quality</li> </ul>			
<b>Post-Construction Stormwater Control Measures (BMP) Inventory</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Create a searchable database for permanent stormwater control measures and BMPs	12 months	Once	Engineering Department
Update inventory to include all new permanent stormwater control measures and BMPs installed after issuance of the Certificate of Coverage	24 months	On-going	Engineering Department
Track and document inspection activities of all permanent stormwater control measures and BMPs	24 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Maintain updated inventory of permanent stormwater control measures and BMPs</li> </ul>			



<b>Post-Construction Site Plan Review</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Implement procedures for interdepartmental consultations and required re-approvals	Complete	Once	Engineering Department / Public Works
Require submittal of “as-built” certifications for new development and redeveloped sites	12 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Ensure that all applicable new development and redevelopment sites conform to site performance standards and ensure long term maintenance</li> </ul>			
<b>Long Term BMP Inspection, Maintenance, and Operation</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Require permanent maintenance agreements for all new development and redevelopment projects	12 months	Once	Engineering Department / Public Works
Perform inspections and document findings of permanent stormwater control measures and BMPs to ensure performance and satisfactory maintenance as recommended by the EPA and SCDHEC	24 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Ensure continuous operation and required maintenance of permanent stormwater control measures and BMPs</li> </ul>			
<b>Post-Construction Non-compliance Reporting Mechanism (Same as Minimum Measure #3 &amp; #4)</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Establish a mechanism for the public to submit information regarding water quality violations.	Complete	Once	Engineering Department
Publicize the phone number, website, etc.	18 months	Annually	Engineering Department
Receive and respond to complaints, messages, etc.	18 months	On-going	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>Receive and respond to complaints, messages, etc. within 72 hours of notification</li> </ul>			

**9.5.4 Post-Construction Stormwater Management in New Development and Redevelopment Program**

[Describe program objectives and selected BMPs. For each selected BMP address the following rationale topics. Proposed BMPs are listed in tables Section 9.4.3

- What needs to happen? What is the goal?
- When does the BMP/MCM need to get done, developed, and implemented?
- Where is the BMP/MCM going to be implemented?

Who will develop and implement the BMP/MCM?

Why was the particular BMP chosen to achieve the goal of the MCM?

How many, or how much, and how often will the SMS4 carry the BMP/MCM out? ]

## 9.6 Pollution Prevention / Good Housekeeping for Municipal Operations (Minimum Measure #6)

### 9.6.1 Overview

Minimum Control Measure #6 as prescribed in the SC DHEC General Permit (SCR030000) is Pollution Prevention / Good Housekeeping for Municipal Operations.

To meet the requirements of this MCM, the City must develop an Operation and Maintenance program to train employees and prevent and reduce pollutant runoff from municipal operations. The City will utilize and improve current operations and activities to reduce pollutant runoff from municipal operation to the maximum extent practicable and to comply with all applicable Storm Water Pollution Prevention Plans of current city-owned facilities permitted through the Industrial General Permit. It is believed that the City must set the standard for pollution prevention throughout the City separate storm sewer system if citizens are to support the initiatives of the Stormwater Management Program .

### 9.6.2 Permit Requirements

- 4.2.6.1 *Permit Requirement.* Permittees 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 as an integral part of the SWMP.
- 4.2.6.1.1 Development of a Municipal Facility and Stormwater Control Inventory - Permittees must update and maintain an inventory of municipally-owned or operated facilities and stormwater controls, including but not limited to the following:
- Composting facilities
  - Equipment storage and maintenance facilities
  - Fuel farms
  - Hazardous waste disposal facilities
  - Hazardous waste handling and transfer facilities
  - Incinerators
  - Landfills
  - Landscape maintenance on municipal property
  - Materials storage yards
  - Pesticide storage facilities
  - Public buildings, including schools, libraries, police stations, fire stations, municipal buildings, and similar buildings
  - Public parking lots

- Public golf courses
- Public swimming pools
- Public works yards
- Recycling facilities
- Salt storage facilities
- Solid waste handling and transfer facilities
- Street repair and maintenance sites
- Vehicle storage and maintenance yards
- Municipally-owned and/or maintained structural stormwater controls

4.2.6.1.2 Documentation - The list of municipally owned, or operated, facilities and stormwater controls must be maintained and available for review by the permitting authority.

4.2.6.1.3 Mapping - On a map of the area covered by the MS4 permit, required under part 4.2.3.2.1, permittees must identify where the municipally-owned or operated facilities and stormwater controls are located. The map must identify the stormwater outfalls corresponding to each of the facilities as well as the receiving waters to which these facilities discharge. The map must be maintained and updated regularly and be available for review by the permitting authority.

#### 4.2.6.2 **Municipally-owned or operated facility assessment:**

4.2.6.2.1 Comprehensive Assessment of Pollutant Discharge Potential –The permittee must review, reassess, and update the comprehensive assessment of all municipally-owned or operated facilities identified in Part 4.2.6.1 at least once during the permit term and include it in the permit reapplication for their potential to discharge in stormwater the following typical urban pollutants: sediment, nutrients, metals, hydrocarbons (e.g., benzene, toluene, ethylbenzene and xylene), pesticides, chlorides, and trash. Other pollutants may be associated with, but not generated directly from, the municipally-owned or operated facilities, such as bacteria, chlorine, organic matter, etc. Permittees must determine additional pollutants associated with its facilities that could be found in stormwater discharges. A description of the assessment process must be included in the SWMP document and must be made available during the re-notification process, Part 2.5.

4.2.6.2.2 Identification of “High Priority” Facilities – Based on Part 4.2.6.2.1, the permittee must identify as “high-priority” those facilities that have a high potential to generate stormwater pollutants. Among the factors that must be considered in giving a facility a high priority ranking is the amount of urban pollutants stored at the site, the identification of improperly stored materials, activities that must not be performed outside (e.g., changing automotive fluids, vehicle washing), proximity to water bodies, poor housekeeping practices, and discharge of pollutant(s) of concern to impaired water(s). High priority

facilities must include the permittee’s maintenance yards, hazardous waste facilities, fuel storage locations, and any other facilities at which chemicals or other materials have a high potential to be discharged in stormwater.

4.2.6.2.3 Documentation of Comprehensive Assessment Results – The permittee must document the results of the assessments and maintain copies of all site evaluation checklists used to conduct the comprehensive assessment. The documentation must include the results of the permittee’s initial assessment, any identified deficiencies and corrective actions taken, and a list of the “high priority” facilities identified per Part 4.2.6.3.2.

4.2.6.3 **Development of Facility-Specific Stormwater Management SOP and Implementation of Facility Stormwater Controls**

4.2.6.3.1 Facility-specific Stormwater Management SOPs for “High Priority” Facilities:

- a. For each “high priority” facility or operation identified in Part 4.2.6.2.2, the permittee must develop a site-specific SOP that identifies stormwater controls (i.e., structural and non-structural controls, and operational improvements) to be installed, implemented, and maintained to minimize the discharge of pollutants in stormwater. At a minimum, the facility-specific SOP must include the stormwater control measures described below in Part 4.2.6.3.2, as well as inspection and visual monitoring procedures and schedules described in Part 4.2.6.3.3. Stormwater Pollution Plans in full compliance with all applicable requirements contained in the Multi Sector NPDES General Permit for Storm Water Discharges Associated with Industrial Activity, SCR030000, may be acceptable substitutes.
- b. A copy of the facility-specific stormwater management SOP must be maintained and be available for review by the permitting authority. The SOP must be kept on-site at each of the municipally-owned or operated facilities’ offices for which it was completed. The SOP must be updated as necessary.
- c. The permittee must install, implement, and maintain all stormwater controls required per Part 4.2.6.3.2 of this permit and included in the facility’s site-specific SOP.

4.2.6.3.2 Stormwater Controls for “High Priority” Facilities – The following stormwater controls must be implemented at all “high priority” municipally-owned or operated facilities identified in Part 4.2.6.2.2. A description of any controls included in this part and any standard operating procedures developed to comply with this part must be included as part of the of each facility’s SOP:

- a. General good housekeeping – The following good housekeeping practices must be implemented for all facilities identified as “high priority”:
  - i) Permittees must keep all municipally-owned or operated facilities neat and

orderly, minimizing pollutant sources through good housekeeping procedures and proper storage of materials.

- ii) Exposure of materials to stormwater must be minimized.
- b. Sand, salt, recycled oils, fertilizers, pesticides and other materials storage – Permittees must store and/or cover salt and other erodible materials in a manner to minimize potential runoff impacts. Storage areas for recycled oils, fertilizers, pesticides and other chemicals must ensure that all containers / structures are in good condition and that all materials are properly stored, labeled, closed and / or covered. Spill prevention and cleaning measures must be developed and implemented for facilities with chemical and recycled waste material storage. If a permanent storage structure is required but does not exist, one must be built within the permit term, and seasonal tarping must be used as an interim control measure until the permanent structure is completed. If a permanent storage facility is not feasible, the permittee must provide a rationale to the permitting authority as to why and what alternate BMPs will be utilized instead. Where a permanent storage structure is present, the permittee must perform regular maintenance and inspections of the permanent storage structure.
- c. Fueling operations – Permittees must develop and implement standard operating procedures for vehicle fueling and receiving of bulk fuel deliveries at municipally-owned or operated facilities with the goal of reducing the likelihood of spills, and providing spill controls in the event that accidental spills do occur.
- d. Vehicle maintenance – Permittees must develop and implement a standard operating procedure for vehicle maintenance and repair activities that occur at municipally-owned or operated facilities with the goal of reducing the likelihood of spills or releases and providing controls in the event that accidental spills do occur. The standard operating procedures must include regular inspections of all maintenance areas and activities.
- e. Equipment and vehicle washing – The discharge of equipment and vehicle wash wastewater to the MS4 or directly to receiving waters from municipal facilities is prohibited. Permittees may meet this requirement by either installing on site BMP such as vehicle wash reclaim system, biodegradable soaps, capturing and hauling the wastewater for proper disposal, connecting to sanitary sewer (where applicable and approved by local authorities), ceasing the activity, and/or applying for and obtaining a separate NPDES permit for the discharge.
- f. Animal Shelters and pounds. Permittees should develop and implement a plan to address potential discharges associated with animal shelters/pounds to include, but not be limited to, collecting and / or directing animal waste to a

waste water treatment system (not the storm sewer), covering storage areas whenever possible and / or utilizing BMP to minimize offsite / onsite water quality impacts.

- g. Locally owned and operated parks and recreation facilities – Permittees should develop and implement a plan to address potential discharges from parks and recreation facilities to include, but not be limited to, utilization of the correct amount of pesticides, herbicides and fertilizers, proper disposal of yard waste, proper condition of waste containers / dumpsters and the repair and / or replacement of damaged waste containers.

#### 4.2.6.3.3 Inspections and Visual Monitoring:

- a. Initial visual inspection – Permittees must perform an initial inspection of all Municipally-owned or operated facilities identified in 4.2.6.1.1 to ensure materials and equipment are clean and orderly, and to minimize the potential for pollutant discharge no later than 18 months from the effective date of coverage . Permittees must look for evidence of spills and immediately clean them up to prevent contact with precipitation or runoff. The inspection must be tracked in a log for every facility, and records kept with the SWMP document. The inspection report must also include any identified deficiencies and the corrective actions taken to fix the deficiencies.
- b. Yearly comprehensive inspections – Starting no later than 24 months from the effective date of coverage and at least once per year thereafter, a comprehensive inspection of “high priority” facilities (Part 4.2.6.2.2), including all stormwater controls, must be performed by the permittee. Pay specific attention to waste storage areas, dumpsters, vehicle and equipment maintenance/fueling areas, material handling areas, and similar potential pollutant-generating areas. The yearly inspection results must be documented and records kept with the SOP document. This inspection must be done in accordance with the developed SOP. The inspection report must also include any identified deficiencies and the corrective actions taken to fix the deficiencies.
- c. Semi-annual visual observation of stormwater discharges – At least once between yearly comprehensive inspections, permittees must visually observe the quality of the stormwater discharges from the “high priority” facilities (unless climate conditions preclude doing so, in which case the permittee must attempt to evaluate the discharges two times during the wet season). Any observed problems (e.g., color, foam, sheen, turbidity) that can be associated with pollutant sources or controls must be remedied within three days or before the next storm event, whichever is sooner. Visual observations must be documented, and records kept with the SOP document. This inspection must be done in accordance with the developed SOP. The inspection report must also include any identified deficiencies and the corrective actions taken to fix

the deficiencies. These semi-annual visual observations may be performed by the facilities themselves provided that SOP are followed. Inspection reports must include the corrective action taken within three days of the observation of the deficiency, or before the next storm event, whichever is sooner.

#### 4.2.6.4 **Storm Sewer System Maintenance Activities - MS4 Maintenance**

4.2.6.4.1 Assessment/prioritization of MS4 catch basins – Permittees must prioritize their owned and / or operated stormwater management systems / structures and implement a maintenance schedule.

- a. The prioritization and schedule should be based on factors such as:
  - Known problem areas,
  - Citizen complaints,
  - Reports,
  - Proximity to sensitive waters

The prioritization scheme and its corresponding schedule must be included in the SWMP.
- b. Catch basin maintenance inspection and cleaning
  - i) Based on the priorities assigned in Parts 4.2.6.4.1, permittees must inspect and clean catch basins in accordance with the following schedule:
    - Priority A – Catch basins to be cleaned annually
    - Priority B – Catch basins to be cleaned at least once every two years
    - Priority C – Catch basins to be cleaned less frequently than A & B
    - All basins must be inspected with cleaning and maintenance performed as necessary.
    - Permittees must develop a catch basin cleaning schedule based on the frequency specified in this permit, along with a list of each of its catch basins and the priority assigned to them per Parts 4.2.6.4.1
  - ii) In addition to catch basin cleanings performed above, permittees must ensure that any catch basin that is inspected and found to be between one third and one half full of trash and/or debris must be cleaned within one month of discovery. Permittees must maintain a log of all maintenance performed.
  - iii) Permittees must document that they have performed all required catch basin cleanings in a log that is to be made available for review by SC DHEC upon request.
- c. Catch basin labeling – Permittee must ensure that all new, or replaced, catch basins includes a legible stormwater awareness message (e.g., a



label, stencil, marker, or pre-cast message such as “drains to the creek” or “only rain in the drain”).

- d. Maintenance of surface drainage structures – Permittees must:
  - i) Remove trash and debris from open channels and other drainage structures at least *once per permit term*.
  - ii) Document their drainage structure maintenance in a log that is to be made available for review by the permitting authority upon request.
- e. Disposal of waste materials – Permittees must develop a procedure to dewater and dispose of materials extracted from municipally owned and operated systems / structures. This procedure must ensure that water removed during the stormwater system/ structure cleaning process and waste material will not reenter the MS4. Dewatering and disposal methods for materials removed from stormwater systems / structures shall be handled to the MEP and to protect water quality to the Best Professional Judgment (BPJ) of the permittee.

#### 4.2.6.4.2 Municipal activities and operations

- a. Assessment of municipal activities and operations
  - i) Permittees must develop, implement, and update, as necessary, the operation and maintenance (O&M) activity assessment. The following municipal O&M activities must be included in the assessment for their potential to discharge pollutants in stormwater:
    - Road and parking lot maintenance, including pothole repair, pavement marking, sealing, and re-paving
    - Bridge maintenance, including re-chipping, grinding, and saw cutting
    - Cold weather operations, including plowing, sanding, and application of deicing compounds and maintenance of snow disposal areas
    - Right-of-way maintenance, including mowing, herbicide and pesticide application, and planting vegetation
    - Municipally-sponsored events such as large outdoor festivals, parades, or street fairs
  - ii) Permittees must identify materials that could be discharged from each of these O&M activities. Typical pollutants associated with these activities include metals, chlorides, hydrocarbons (e.g. benzene, toluene, ethylbenzene, xylene), sediment, and trash.
  - iii) Permittees must develop a set of pollution prevention measures that, when applied during municipal O&M activities, will reduce the discharge of pollutants in stormwater. These pollution prevention measures must consider, at a minimum:
    - Replacing materials/chemicals with more environmentally benign materials or methods (e.g., use mechanical methods vs.

herbicides, or use water-based paints or thermoplastics rather than solvent-based paints for stripping) to the MEP

- Changing operations to minimize the exposure or mobilization of pollutants (e.g., mulch, compost or landfill grass clippings) to prevent them from entering surface waters
- Placing barriers around or conducting runoff away from deicing chemical storage areas to prevent discharge into surface waters), consistent with Part 4.2.6.5.1.e

iv) Permittees must develop and implement a schedule for instituting the pollution prevention measures. At a minimum, with respect to all roads, highways, and parking lots with more than 5,000 square feet of impervious surface area that are owned, operated, or maintained, permittees must implement all pollution prevention measures by the expiration date of the permit.

v) Results of the above assessments and of the pollution prevention measures, including schedules for implementation, must be documented and made available for review by SC DHEC upon request.

b. Inspection of pollution prevention measures – All pollution prevention measures implemented at municipal facilities must be visually inspected once every six month to ensure they are working properly; a log of inspections must be maintained and made available for review by the permitting authority upon request.

4.2.6.4.3 Maintenance of municipally-owned and/or maintained structural stormwater controls

Permittees must inspect, and maintain, wherever and whenever necessary, all municipally-owned or maintained structural stormwater controls according to the schedules in this Section. The permittee must also maintain all green infrastructure practices through regularly scheduled maintenance activities.

4.2.6.5 **Flood Management Projects**

Within *two years* of the effective date of coverage, permittees must ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. An inventory of these procedures must be included in the SWMP document and in the re-application submittal (Part 2.5).

4.2.6.6 **Pesticide, Herbicide, and Fertilizer (PHF) Application and Management in Landscape Maintenance**

4.2.6.6.1 Permittees must evaluate the materials used and activities performed on public spaces

such as parks, schools, golf courses, easements, public rights of way, and other open spaces owned / operated by the permitted SMS4 for pollution prevention opportunities. Maintenance activities for the turf landscaped portions of these can include mowing, fertilization, pesticide application, irrigation, etc. Typical pollutants include sediment, nutrients, hydrocarbons, pesticides, herbicides and organic debris.

4.2.6.6.2 Permittees must implement the following practices to minimize landscaping-related pollutant generation resulting from PHF application:

- a. Educational activities, permits, certifications, and other measures for municipal applicators and distributors.
- b. Integrated pest management measures that rely on non-chemical solutions to the MEP, including
  - Use of native plants, xeriscaping in arid/semi-arid regions (reduces water usage and fertilization)
  - Keeping clippings and leaves away from waterways and out of the street using mulching, composting, or landfilling
  - Limiting or eliminating the use of fertilizers, or, if necessary, prohibiting application within 5 feet of pavement, 25 feet of a storm drain inlet, or 50 feet of a water body
  - Scheduling grass mowing frequency to reduce PHF application and to allow for greater pollutant removal to the MEP, but not jeopardizing motorist safety
- c. The following pesticide BMP must be implemented:
  - Compliance with SC NPDES General Permit for discharges from the Application of Pesticides for SMS4 areas, or operations, authorized to discharge under SCG160000.
  - For areas, or activities not covered by SCG160000,
    - The application of pesticides and fertilizers if precipitation is forecasted within 24 hours, or as specified in label instructions, must be carefully planned with water quality in mind,
    - The use of pesticides must be limited, or replaced to the MEP (e.g., manual weed and insect removal), and,
- d. Schedules for PHF application that minimize the discharge of such constituents due to irrigation and expected precipitation (e.g. applying for mosquitoes immediately after runoff has stopped save \$,,\$\$.¢¢ because pesticide will not run off; hence, won't pollute receiving waters).
- e. The collection and proper disposal of unused pesticides, herbicides, and fertilizers.

4.2.6.7 **Employee Training and Education Requirements –**

Permittees must develop an annual employee training program for appropriate

employees involved in implementing pollution prevention and good housekeeping practices.

- 4.2.6.7.1 This annual training must include a general stormwater education component, any new technologies, operations, or responsibilities that arise during the year, and the Permit Requirements that apply to the staff being trained.
- 4.2.6.7.2 A description of the program must be maintained for review by the permitting authority.
- 4.2.6.7.3 The permittee must also identify and track all personnel requiring training and records must be maintained.
- 4.2.6.7.4 Training must begin within the first year from the effective date of permit authorization.
- 4.2.6.7.5 Effective April 9, 2012, permittee operated pesticide applications must be conducted by competently trained individuals to ensure that water quality impacts are minimized and eliminated to the MEP. Details of the Initial Training for Pesticide Applicators may be found at:

<http://entweb.clemson.edu/pesticid/document/PATinit.htm>  
(<http://entweb.clemson.edu/pesticid/document/lawsregs.htm>), and  
(<http://entweb.clemson.edu/pesticid/document/siteindx.htm>)

4.2.6.8 **Requirements for Contractors Oversight:**

- 4.2.6.8.1 Contractors hired by permittees to perform municipal maintenance activities must be contractually required to comply with all of the stormwater control measures, good housekeeping practices, and facility-specific stormwater management SOP described above.
- 4.2.6.8.2 Permittees must provide oversight of contractor activities to ensure that contractors are using appropriate control measures and SOP. Oversight procedures must be described in the SWMP document.

4.2.7 **Industrial Stormwater Sources**

Permittees shall develop and maintain an inventory of all industrial sites/sources permitted under the DHEC Industrial NPDES Permitting program within their jurisdiction (regardless of ownership) that could discharge pollutants in stormwater to the MS4 by the fourth (4<sup>th</sup>) year of the permit term. The inventory must be updated at least once per permit term, must be available for review by the permitting authority upon request, and must be included in the re-notification (Part 2.5) submittal.

**9.6.3 Selected BMPs**

<b>BEST MANAGEMENT PRACTICES – Minimum Measure #6</b>			
<b>Maintain Stormwater Pollution Prevention Plans</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Create stormwater pollution prevention plans for appropriate sites.	Complete	Once	Engineering Department
Implement stormwater pollution prevention plans	Complete	Annually	Engineering Department
Inspect facilities for proper disposal of waste materials	6 months	Semi-annually	Engineering Department
Review and revise current stormwater pollution prevention plans	60 months	Once	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>● <b>Maintain stormwater pollution prevention plans at City owned facilities as appropriate.</b></li> </ul>			
<b>Provide Staff Training Regarding Stormwater Quality Issues</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Develop a training program for City staff regarding stormwater quality	12 months	Once	Engineering Department
Hold annual employee training	12 months	Annually	Engineering Department
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>● <b>Provide a minimum of one training opportunity per year for those members of City staff that have the potential to directly impact stormwater quality through the normal course of their work.</b></li> </ul>			
<b>Storm Drainage System Cleaning</b>			
<b>Responsible Person:</b>		<b>Dept.:</b>	
<b>Milestone</b>	<b>Completion Date</b>	<b>Frequency</b>	<b>Responsible Party</b>
Map all storm drain inlets including catch basins and drop inlets within the City of Clemson	12 months	Once	Engineering Department
Prioritize and schedule storm drain cleaning to inspect and clean storm drains in high priority areas annually and low priority areas biennially	24 months	Once	Engineering Department
Inspect and clean all storm drains in “high priority” areas	24 months	Annually	Public Works
Inspect and clean storm drains as scheduled	60 months	On-going	Public Works
<b>Measurable Goal:</b>			
<ul style="list-style-type: none"> <li>● <b>Routinely inspect and clean storm drains to remove sediment and debris</b></li> </ul>			

**9.6.4 Good Housekeeping for Municipal Operations Program**

[Describe program objectives and selected BMPs. For each selected BMP address the following rationale topics. Proposed BMPs are listed in tables Section 9.4.3

- What needs to happen? What is the goal?
- When does the BMP/MCM need to get done, developed, and implemented?
- Where is the BMP/MCM going to be implemented?
- Who will develop and implement the BMP/MCM?
- Why was the particular BMP chosen to achieve the goal of the MCM?
- How many, or how much, and how often will the SMS4 carry the BMP/MCM out? ]

## 10.0 Certification

### 10.1 Management Approval

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.

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

## 11.0 Implementation/Amendments/Revisions

### 11.1 Schedule

This plan is scheduled to become in effect immediately to replace any plan which was previously established for the City of Clemson.

### 11.2 Keeping Plans Current

This plan will be amended or revised whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of South Carolina or if the stormwater pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources or in

otherwise achieving the general objectives of controlling pollutants in stormwater discharges associated with industrial activity. All amendments and revisions will be recorded below.

Date	Section Affected	City Representative	Reason
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