City of Greer, SC

# STORMWATER MANAGEMENT PROGRAM
# FOR THE
# CITY OF GREER
# SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM, (SMS4) PERMIT

## BACKGROUND

The Small Municipal Separate Storm Sewer System, (SMS4) Permit is a Clean Water Act, National Pollutant Discharge Elimination System Permit that is issued by SC Department of Health and Environmental Control (DHEC) under the direction of the U.S. Environmental Protection Agency (EPA). In order to fully grasp the purpose and complexities of the SMS4 permit one must first have some understanding of the Clean Water Act and National Pollutant Discharge Elimination System (NPDES) permitting.

The Clean Water Act (CWA) refers to a 1972 federal law that reorganized, expanded and amended the Federal Water Pollution Control Act. The Federal Water Pollution Control Act, which was first enacted in 1948, became the Federal Water Pollution Control Act in 1956 and the Water Quality Act in 1965. Under the 1965 act Congress required states to develop water quality standards and establish water quality goals for interstate waters. In 1972 the water quality standards program was amended to include intrastate waters. In 1987 Congress required states to develop numeric criteria for water bodies where toxic pollutants could affect designated uses. Water quality standards establish water quality goals by:

1) Designating the use or uses of the water body
2) Identifying necessary criteria to protect the water body's designated use and
3) Providing anti-degradation provisions.

Examples of designated uses include *aquatic life* and *recreational use*, while examples of numeric criteria include limits of bacteria such as fecal coliforms or E. coli in water bodies.

The 1972 Clean Water Act Amendments were enacted as a result of a national concern over the discharge of untreated sewage and toxic and industrial wastes into our nation's waters. The CWA was created, "to restore and maintain the chemical, physical and biological integrity of the Nation's waters". Interim goals of "fishable and swimmable waters" were also set. The CWA has since been amended a number of times.

The Clean Water Act makes it unlawful to discharge pollutants into waters of the United States without a National Pollutant Discharge Elimination System (NPDES) Permit. The NPDES permit program controls water pollution by limiting the amount of pollution a point source discharger may discharge to surface waters. When the NPDES program was first introduced in 1972, point source discharges were primarily considered end of pipe discharges thus the term point source discharge. Point source discharges typically include those from sewage treatment plants, industrial facilities and urban stormwater runoff. Urban storm water runoff is considered a point source because it is typically conveyed through a system of pipes or ditches. With the exception of Concentrated Animal Feeding Operations, pollution from agricultural activities is considered a non-point source and is exempted from NPDES regulation.

According to EPA, stormwater runoff is our nation's most common cause of water pollution. Amendments to the Clean Water Act in 1987 required EPA to develop a program to address pollution from storm water runoff. Federal stormwater regulations were rolled out in two phases. Phase I which was issued in 1990 regulated stormwater discharges from:

1) Construction activities disturbing five acres of land or more,
2) Industrial facilities, and
3) Cities and counties with populations of 100,000 or more.

In 1999, Phase II expanded stormwater regulations to include:

1) Construction activities disturbing one acre of land or more,
2) Cities and counties not covered under Phase I and that are located in an "urbanized area" (as defined by the U.S. Census).
3) Small MS4s (SMS4s) located outside an urbanized area that the permitting authority (DHEC) designates, such as military bases.

SMS4 are required to design and implement a Stormwater Management Program that:

1) Reduces the discharge of pollutants to the "maximum extent practicable" (MEP),
2) Protects water quality, and
3) Satisfies appropriate water quality requirements of the CWA.

Stormwater Management Programs are required to implement six minimum control measures that are intended to result in a significant decrease in the discharge of pollutants to receiving water bodies. The six minimum control measures are:

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

EPA considers stormwater permitting to be an iterative process with each succeeding permit containing more requirements until water bodies are:

1) Fishable and swimmable, and
2) The chemical, physical and biological integrity of the nation's water have been restored and maintained.

The City of Greer is a Phase II SMS4; it first received its SMS4 permit in 2006. Its second SMS4 permit became effective on January 1, 2014.
The new SMS4 permit can be found at:

http://www.cityofgreer.org/docs/BldgDevStandards/stormwater/Final_SMS4_Permit.pdf

## FUNDING

MS4 stormwater permit requirements are an unfunded federal mandate. Therefore, MS4s must develop their own funding mechanism to develop and implement permit required programs. Many MS4s have established a *stormwater utility* in order to generate the necessary funds to comply with this expensive program. In 2004 the City of Greer passed a Stormwater Management Fee ordinance (see link to the ordinance in the section below) and established a stormwater utility.

Stormwater fees are assessed by parcel number for properties located within the City of Greer. Developed residential, duplexes, undeveloped residential, agricultural, and undeveloped non-residential properties are charged the base fee of $21.60 per parcel. Developed non-residential properties are charged $21.60 for every 2,500 square feet of impervious area. Impervious area means hard surfaces such as rooftops, parking lots, asphalt, concrete, etc. that stormwater cannot soak into thus allowing the stormwater and its pollutants to wash into the storm sewer system. Runoff from impervious surfaces creates a heavier load on the storm sewer system and the water bodies to which it discharges.

Greer's MS4 funding is also supplemented by the Engineering/Stormwater Plan Review/Inspection Fee (see City of Greer Code of Ordinances Section 14-12). Although the Plan Review/Inspection Fee is placed in the city's general fund, it is also used to assist with Stormwater Division expenses.

## ELIGIBILITY

Under the SMS4 permit the City of Greer is permitted to discharge its storm water to waters of the State or waters of the U.S. provided they are comprised entirely of storm water or allowable non-stormwater discharges provided they are not a substantial contributor of pollutants.

*Allowable Non-stormwater Discharges*

a) Water line flushing
b) Landscape irrigation
c) Diverted stream flows
d) Rising ground waters
e) Uncontaminated ground water infiltration
f) Uncontaminated pumped ground water
g) Discharge from potable water sources
h) Foundation drains
i) Air conditioning condensate
j) Irrigation water ( not consisting of treated, or untreated wastewater)
k) Springs
l) Water from crawl space pumps
m) Footing drains
n) Lawn watering
o) Individual residential car washing
p) Natural flows from riparian habitats and wetlands
q) De-chlorinated swimming pool discharges
r) Street wash water
s) Discharges or flows from firefighting activities

Limitations on permit coverage can be found in Section 1.3 of the new SMS4 permit:

http://www.cityofgreer.org/docs/BldgDevStandards/stormwater/Final_SMS4_Permit.pdf

Section 1.3 of the permit also gives DHEC the authority to limit or prohibit discharges of storm water that could result or contribute to violations of water quality standards.

**STORMWATER DISCHARGES TO SENSITIVE WATERS**

The City of Greer discharges some stormwater to water bodies determined by DHEC to be sensitive because they are either located in a Source Water Protection Area, have been listed on the 303(d) List of Impaired Waters, or have been issued a Total Maximum Daily Load (TMDL) for fecal coliforms/E. coli. Because some stormwater discharges from the City discharge to streams for which TMDLs have been developed, the City of Greer is required to develop a TMDL Stormwater Discharge Monitoring and Assessment plan by January 1, 2015. The stormwater monitoring plan must be implemented by July 1, 2015 and a TMDL Implementation Plan must be submitted to DHEC by January 1, 2016. The purpose of the TMDL Implementation Plan is to achieve pollutant load reduction identified by DHEC in the TMDL. TMDL reduction is to be achieved by structural and/or nonstructural Best Management Practices (BMPs).

A TMDL for fecal coliforms has been issued for Suber Branch at Suber Mill Road and the Enoree River at Gibbs Shoal Road. Since stormwater from some areas of Greer discharges into these water bodies we are required to develop and implement a stormwater monitoring and assessment plan for these waters.

The entire Enoree River Basin TMDL can be found at:
http://www.scdhec.gov/HomeAndEnvironment/Docs/tmdl_enoree_fc.pdf

The water quality monitoring station at Suber Branch and Suber Mill Road is also listed on the most recent 303(d) List of Impaired Waters. It is biologically impaired. For impaired water bodies for which no TMDL has been assigned, water quality protection will be provided through BMP applications conducted through implementation of the minimum control measures listed in Section 4.2 of the new SMS4 permit.

The 2012 (most recent) 303(d) List of Impaired Waters in South Carolina can be found at:

http://www.scdhec.gov/HomeAndEnvironment/Docs/tmdl_12-303d.pdf

The table below depicts TMDL and 303(d) water quality monitoring stations located in the City of Greer or within one mile of the city limits into which some stormwater from the City of Greer discharges. Source Water Protection Area water quality monitoring stations are also depicted.

| STREAM NAME | WQMS | Impairment(s) and/or TMDL |
|---|---|---|
| Suber Branch | B-192 | Bio and TMDL for fecal coliforms |
| Enoree River | BE-015 | TMDL for fecal coliforms |
| Lake Robinson (source water) | RL 06449, RL 06445, RL 07021, RL 09085, RL 07029, RL 02321, CL 100, RL 07013 | No impairments or TMDLs |
| Lake Cunningham (source water) | RL 10107, B-341 | No impairments or TMDLs |

## ORDINANCES

City of Greer ordinances relating to storm water can be found at the link below:

**http://www.cityofgreer.org/departments/stormwater_ordinances.php**

Each ordinance contains a section on the appeal process.

## LEGAL AUTHORITY

By January 1, 2015 and pursuant to Section 4.1.4 of the new SMS4 permit the City of Greer is required to provide for the legal authority for the City to implement and enforce the Storm Water Management Program. City staff believes that the existing ordinances already meet the requirements of Section 4.1.4 however the City Attorney will review the existing ordinances for compliance with the new permit requirements prior to the January 1, 2015 deadline. The required certification of legal authority will be placed in Appendix I.

## ENFORCEMENT MEASURES AND TRACKING

Section 4.1.5 of the new SMS4 permit requires an Enforcement Response Plan, enforcement tracking and recidivism reduction of violators. The current City of Greer Enforcement Response Plan can be found in Appendix II.

## MINIMUM CONTROL MEASURE I – Public Education and Outreach on Storm Water Impacts

**Responsible SMS4 Employee –** Stormwater Engineer

Permit requirements for this minimum control measure are found in Permit Section 4.2.1. In summary the City is to identify and analyze pollutants of concern within our watershed area(s). Next the City must implement a planning process that defines the goals and objectives of the Public Education and Outreach program as they relate to at least three high priority community issues with the potential to decrease the pollutant of concerns effect on water quality. We must identify the target audiences, create an appropriate message, develop an education campaign, assess and evaluate the program. This program must also include short and long term goals to increase awareness and effect behavior change to the MEP. The three pollutants of concern selected are as follows.

Pollutant of Concern #1 – *Illegal Dumping of Hazardous Materials*

Target Audience – General Public
Goal – Eliminate Dumping of Hazardous Materials into the MS4.
Short Term Goal – Increase the public's awareness of the problem of hazardous material dumping through educational campaigns and materials.
Long Term Goal – Enlist the public's help by requesting they report suspect hazardous material dumping activity.
Measureable Goals – Track information distributed and complaints received.

Pollutant of Concern #2 – *Litter and Debris*

Target Audience – General Public

Goal – Minimize littering to prevent it from being washed into storm drains and stormwater conveyances
Short Term Goal – Increase the public's awareness that when litter, debris and food waste are washed into our storm drains and stormwater conveyances they can then enter our streams, lakes and rivers. Encourage the public to recycle materials where possible and to properly dispose of the remaining waste.
Long Term Goal – Through increased public awareness of the problems litter and debris pose when they enter the stormwater conveyance system increase, the recycling and proper disposal of litter, debris and food waste to the MEP.
Measurable Goals – Keep track of information distributed, Number of Adopt a Road team(s) and members, and assessment of quantities of litter and debris collected.

Pollutant of Concern #3 – *Bacteria and Waste from Restaurant/Food Service Dumpster and Grease Container Areas*

Target Audience – Restaurant/Food Service Establishments
Goal – Minimize contaminated stormwater runoff from dumpster areas.
Short Term Goal – Collect stormwater samples from a variety of dumpster/grease container areas. If runoff contains high bacteria concentration as expected, implement an education program on keeping these areas clean using kitty litter to clean up liquids, frequently picking up litter, closing dumpster lids to keep out rainwater, using self-contained dumpsters or discharging contained runoff to sanitary sewer.
Long Term Goal – Minimize the bacteria and pollutants discharged from dumpster and grease container areas to the MEP by implementing dumpster/grease container good housekeeping methods listed above. Clean dumpster areas also reduce fecal coliform bacteria by discouraging vermin.
Measurable Goals – Assess for increase in clean dumpster areas; reduction in bacteria and pollutants. Require installation of improved BMPS in new development/ redevelopment projects.

**MINIMUM CONTROL MEASURE II – Public Involvement/Participation**

**Responsible SMS4 Employee –** Stormwater Engineer

Permit requirements for this minimum control measure are found in Section 4.2.2 in the new SMS4 permit. The City is required to involve the public in the planning and implementation of activities related to the development and implementation of the Stormwater Management Program. Planned public involvement and participation activities are:

*Stormwater Management Program* – The *Stormwater Management Program* will be submitted to city council for review and approval. After first reading by council it will be placed on the website for public review and comment. Once final it will be permanently posted on the city's stormwater website.
Goal – Develop and implement the Stormwater Management Program.
Short Term Goal – Submit to DHEC, City Council and website for comments.
Measureable Goal - The comments and number of hits on the website will be recorded.

*Adopt a Road Clean-ups* – Encourage and support Adopt a Road Clean-ups so that litter and debris removed from the road are intercepted before it can enter our streams, lakes and rivers.
Goal – Reduce litter and debris occurrence in our streams, lakes and rivers through Adopt a Road clean-ups.
Short Term Goal – Encourage, support and increase the number of Adopt a Road Clean-ups.
Long Term Goal – Collect litter and debris in drainage areas along the road before it can be deposited in our streams, lakes and rivers.

Measureable Goal – Before and after photographs will be taken of the clean-up areas. At the end of each clean-up estimates of quantities collected will be obtained.

*Friends of Lake Robinson (FOLR) Day of Celebration* – FOLR Board members spend several months each year planning the annual Day of Celebration. The Day of Celebration has an environmental education theme with educational booths by Friends of Lake Robinson, City of Greer, Greenville County Stormwater, Greenville County Soil and Water, Spartanburg County Stormwater, Audubon Society, Greenville County Bookmobile, Greenville Animal Care, Greer CPW, Every Drop Counts, Native Plant Society, Clemson Extension, Spartanburg Beekeepers Association, Trees Greenville, Sunrift Adventures, Wildlife Rehab of Greenville, etc. Lake Robinson is a drinking water supply lake.
Goal The focus of the Day is to celebrate the way of life in the Lake Robinson community and learn how to take care of the precious resources there.
Short Term and Long Term Goal – Increase the public's knowledge base of the environment and provide them with information on how to take care of it.
Measureable Goal – Estimates of the number of people in attendance will be obtained. Evaluations by booth participants will also be collected.

**MINIMUM CONTROL MEASURE III – Illicit Discharge Detection and Elimination (IDDE)**

**Responsible SMS4 Employees –**

City Engineer - Items 1 through 5
Director of Public Services – Items 4 and 5
Stormwater Engineer - Items 5, 6 and 7
Nuisance Abatement Officer - Item 5 for residential sewer laterals and commercial building drains.

The requirements for this minimum control measure are found in Permit Section 4.2.3. The city is required to develop, implement and enforce a program to detect, investigate and eliminate illicit discharges into the SMS4. Elements of this program are as follows:

1) Storm Sewer System Map – The map is complete and is updated with each new development project. The next step is to place it as a layer on the city's GIS system.

2) Identification of Priority Areas – Priority areas include the downtown area, Victor Mill, and older commercial areas along Wade Hampton Blvd. These areas have been identified because they are the oldest areas in Greer and thus have the greatest frequency and potential for cross connections and illicit discharges. The priority area will be updated annually to reflect changing priorities and be available for review by the permitting agency.

3) Field Screening to detect illicit discharges – A field screening procedure which can be found in Appendix III. However since this procedure was written and used the City of Greer has purchased a camera system and just recently purchased a locator attachment. Using the camera and locator will be much more cost effective as one can see where illicit connections are actually tied into the system. Pipe integrity and catch basins can be inspected at the same time. Written procedures are under development for the camera and locator system.

4) Minimum Investigation Requirements – After becoming aware of an illicit discharge, the city is required by the permit to initiate an investigation to identify and locate the source of any continuous or intermittent non-stormwater discharge within the following timeframes:

   a) Illicit discharges believed to be an immediate threat to human health and the environment must be reported to SC DHEC Emergency Response at 1-888-481-0125 immediately.
   b) Illicit discharges suspected of being sanitary sewage and/or significantly contaminated must be considered high priority and are addressed according to that outlined in Appendix III.
   c) Investigations of illicit discharges suspected of being cooling water, wash water or natural flows may be delayed until after high priority discharges are investigated.
   d) The illicit discharge investigation must include documentation of the date observed, results of the investigation, any follow-up investigation and the date the investigation was closed.
   e) The City of Greer is required to determine and document through their investigations the source of all documented illicit discharges. If the source of the illicit discharge is found to be a suspected non-compliance with an NPDES permit, the appropriate SCDHEC Regional Office must be notified.
   f) 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 the City of Greer will maintain written documentation for review by the permitting authority.
   g) Where the discharge is intermittent, the City of Greer must document three separate attempts to observe the discharge when it was flowing. The city must maintain written documentation for review by SC DHEC.

5) Corrective Action to Eliminate Illicit Discharges – Once the source of the discharge has been determined the City of Greer will follow the procedure outlined in the Storm Sewer System Illicit Discharge and Connection Ordinance or the International Building Code where applicable. Once corrected, per Section 4.2.3.2.7 c of the permit, the city must conduct and document a follow up investigation to verify that the discharge has been eliminated.

6) Public Reporting Mechanism – We are currently working on a written spill/dumping procedure and reporting mechanism for both the public and staff to report illicit discharges.

7) Employee Training – In addition, Annual Stormwater Training and training records will be updated as needed to incorporate illicit discharge requirements.

**MINIMUM CONTROL MEASURE IV – Construction Site Storm Water Runoff Control**

**Responsible SMS4 Employees –**

Stormwater Engineer – Items 1, 2, 3, 4, 5, 7 & 9a.
Stormwater Inspector – Items 2 (inspections), 3 (maintenance inspections), 6 & 7.
Various City of Greer Staff – Item 9b.

Per Permit Section 4.2.4 the City must continue developing, implementing, and enforcing a program to reduce pollutants in storm water runoff to their regulated SMS4 from construction activity. Written procedures for implementing this program can be found in Appendix IV. The link to Greer's Stormwater Management and Sedimentation and Erosion Control Ordinance can be found above under the Ordinance heading. The ordinance automatically incorporates by reference much of DHEC Regulation 72-300 and

the most recent version of the DHEC NPDES General Permit for Stormwater Discharges from Construction Activities. Specific requirements for this control measure are:

1) Regulatory Control Program, *Section 4.2.4.4.1 of the permit requires an ordinance or other regulatory mechanism to require sediment and erosion controls as well as sanctions to ensure compliance, to the extent allowable by State or local law.* – The City of Greer uses ordinances for regulatory control. It enacted the Stormwater Management and Soil Erosion and Sedimentation Control ordinance in 2007. Since the ordinance automatically incorporates by reference the most recent SC NPDES General Permit for Stormwater Discharges from Construction Activities and most of SCDHEC Regulation 72-300 city staff believe that it will meet the requirements of the new SMS4 permit.

   This is an ongoing BMP that was effective 9/1/2007.

2) Erosion and Sediment Control BMPs, *Section 4.2.4.4.2 of the permit requires construction site operators to implement erosion and sediment controls and soil stabilization practices on construction sites.* - The City of Greer's Stormwater Management and Soil Erosion and Sedimentation Control ordinance requires submission of Sediment and Erosion Control Plans for an Engineering/Stormwater Plan Review. Once plans are accepted by the City of Greer and a stormwater permit has been obtained, a City grading permit can be issued. Permittees, co-permittees and the design engineer must attend a pre-construction meeting administered by the City Stormwater Department. At the end of the meeting a City grading permit is issued. Construction site operators are required to follow the "Review Complete" plans that were designed by the engineer of record and reviewed by the City of Greer. These plans provide erosion and sediment controls and stabilization practices consistent with the requirements of the SCDHEC regulations and permits mentioned above and City of Greer ordinances. Once sediment and erosion controls are in place, the plans include a requirement for the construction site operator to contact City Stormwater Inspector for a sediment and erosion control inspection once sediment and erosion controls are in place. Implementation of the plan is tracked by the City Stormwater Inspector.

   This is an ongoing BMP that was fully implemented on 9/1/2007.

3) Pollution Prevention Measures for Wastes, *Section 4.2.4.4.3 of the permit requires design installation and maintenance of effective pollution prevention measures so that construction site operators can:*

   a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge,

   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 and to stormwater runoff that may cause adverse impacts to water quality, and,

   c. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

   d. The following discharges from sites are prohibited:

i. Wastewater from washout of concrete, unless managed by an appropriate control;
ii. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
iii. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and,
iv. Soaps or solvents used in vehicle and equipment washing.

Notes and BMPs to meet these requirements are checked during the plan review process and these requirements are reviewed during the pre-construction meeting. City of Greer Standard notes address, portable toilet locations, water line flushing, concrete truck washout, waste, debris and litter. Any deficiencies in the field are noted on the Stormwater Inspection Report.

Much of this BMP was in place prior to 9/1/2007 has been updated to meet the requirements of the new SMS4 permit.

b. Stormwater Pollution Prevention Plan (SWPPP), *Section 4.2.4.4.4 of the permit requires submittal of a Stormwater Pollution Prevention Plan for review and acceptance by the SMS4 prior to land disturbing activity.*

Stormwater Pollution Prevention Plans are reviewed during the Engineering/Stormwater Plan Review process. Currently review of the on-site SWPPP follows the SWPPP template provided by SCDHEC. The City of Greer plans to propose a different approach to the on-site SWPPP that we feel is equally if not more protective of water quality.

c. Plan Review, *Section 4.2.4.5 of the permit requires procedures for site plan review.* All proposed commercial, industrial and residential subdivision projects that enter the City of Greer must first proceed through the Planning Advisory Committee, (PAC) meeting. This meeting is purely for informational purposes and does not mean that plans have been approved. Participants are encouraged to attend the meeting during the conceptual design phase. A package containing project comments along with an engineering plan review checklist and plan review fee invoice are submitted to both the developer and design engineer at this meeting. The package contents and plan review checklist may be revised by the City as needed. Site preparation and linear projects are not required to proceed through PAC because no building structures are being built. Typically the design engineer will also have to attend a pre-submittal meeting prior to stormwater plan review. The purpose of this meeting is to check the submittal package for completeness and to check site specific data such as rainfalls, time of concentrations, curve numbers, pond data reports and methodology for skimmer calculations.

Plans are reviewed in order by date received. Plan review data is recorded on a Project Review Data Sheet. Completed reviews are submitted by email in document format to the design engineer and often the permittee as well. Plan reviews document appropriate:

a) sediment and erosion control,
b) residential subdivision lot grading and lot control,
c) hydrology,
d) standard notes,
e) storm sewer system,
f) detention, and
g) water quality.

Once plans are accepted as "Review Complete" and applicable stormwater permits are received a preconstruction meeting is scheduled. "Review Complete" plans must also include a Stormwater Pollution Prevention Plan and requirements for the design, installation and maintenance of effective pollution prevention measures found in Section 4.2.4.4.3 of the Permit. "Review Complete" plan review procedures follow the checklist located in Appendix IV.

If a construction project disturbs 25 acres or more and discharges a pollutant of concern to TMDL waters and/or to waters listed is on the SC 303(d) List of Impaired Waters, the Stormwater Pollution Prevention Plans must identify potential water quality impacts the permitted discharges may have. The SWPPP must also include a written qualitative and quantitative assessment prepared by the design engineer showing that the BMPs selected will control the discharge of the Pollutant(s) of Concern from construction and post construction discharges so that stormwater discharges will not cause or contribute to a violation of water quality standards. "Review Complete" plans must meet the minimum requirements of *SC DHEC 72-300 through 72-316 and SC DHEC NPDES Permit # SCR100000*.

Plan Reviewers are either Certified Stormwater Plan Reviewers or Professional Engineers.

This is an ongoing BMP that was fully implemented on 9/1/2007.

d. Inspections - *Section 4.2.4.6 of the permit specifies requirements for Construction Site Stormwater Runoff Control Inspections. The City of Greer must maintain an inventory of all construction sites that includes the size of the project, disturbed area and relevant contact information. The City of Greer must track the number of inspections to verify that the minimum numbers of inspections are occurring. Inspection reports and enforcement activity must be documented for each site in the inventory.* Inspection documentation is as follows:

a) Inventory – An inspection inventory is maintained.
b) Recordkeeping – Documentation of construction site inspections and any enforcement actions is kept on the codes drive in the Stormwater folder.
c) Inspection Procedures – Inspection procedures follow the City of Greer stormwater inspection report forms found in Appendix IV.
d) Inspection Frequency – The required inspection frequency required under Section 4.2.4.6 b of the new SMS4 permit is as follows:

| SITE | INSPECTION FREQUENCY |
|---|---|
| a. All sites 5 acres or larger | Within the first two weeks of land disturbing activity and at least monthly during construction. |
| b. All sites one acre or larger that discharge to a BIO impaired water. | |
| c. All sites determined to be a significant threat to water quality. | |
| d. All other construction sites with one acre or more of soil disturbance. | Inspection must occur at least monthly. |
| e. Inactive sites | All inactive sites must be inspected at least monthly. |
| f. Final inspection | Inspect all permitted projects to ensure that all graded areas have reached final stabilization, that all temporary control measures have been removed, |

| | |
|---|---|
| | and permanent stormwater control structures have been permitted. |

*e.* Enforcement, *An Enforcement Response Plan as required by Section 4.2.4.7 of the permit can be found in Appendix I.* Although City ordinances and the Enforcement Response Plan allow verbal warnings, written notices, stop work orders, court appearance tickets, consent orders, fines and imprisonment it is seldom needed because of the stormwater surety system. The stormwater surety system is outlined in Section 90-363 of the City's Stormwater Management and Soil Erosion and Sedimentation Control ordinance. Bonds (must use the City of Greer's bond form), Standby Letters of Credit and Cash (held in an escrow account) are accepted methods of payment for the stormwater surety. A stormwater surety estimate is prepared by the design engineer. The estimate must include the cost plus 20% to complete necessary stormwater management facilities and maintain sediment and erosion controls according to the "Review Complete" plans.

*f.* MS4 Staff Training, *(Section 4.2.4.8 of the SMS4 permit requires staff implementing the construction stormwater program including plan review, construction site inspections and enforcement to be trained to conduct their activities.*) Staff certifications are as follows:

Lillian Hanley – Certified Stormwater Plan Reviewer; Certified Erosion Prevention and Sediment Control Inspector and has also attended a Code Enforcement class.

Dan Cain – Certified Erosion Prevention and Sediment Control Inspector

g. Construction Site Operator and Public Involvement, *(Requirements from Section 4.2.4.9 are as follows):*

a. Construction Operator Education – *(Section 4.2.4.9a) - Develop and implement an effective communication process with construction contractors to education them on areas in which improvements are needed and to enforce any required actions.*

i) The City of Greer holds the first pre-construction meeting for all construction projects. DHEC coverage letter requirements, pollution prevention measures, construction site plan sediment and erosion control BMPs, post-construction BMPs, On-site SWPPP recordkeeping, as-built certification, project close-out, stormwater surety refund, dust control, sediment tracking, and water quality impact are reviewed at the meetings. Subsequent pre-construction meetings are the responsibility of the permittee.
ii) Emails are forwarded to local contractors and engineers of upcoming of various training programs in the upstate that are applicable to Construction Site Stormwater Runoff.

b. Construction Site Public Involvement – *(Section 4.2.4.9b) – Implement procedures for receipt and consideration of information submitted by the public.*

The public can make requests for information and services via the following methods:

i) Emailing, telephoning or writing city staff (contact information is available on the website)
ii) Telephoning City Hall
iii) "Request A Service" portal on the City homepage

iv) Public Hearings
v) Public Forum at City Council meetings
vi) Freedom of Information Act requests (forms available on the website and at City Hall).

**MINIMUM CONTROL MEASURE V – POST CONSTRUCTION STORMWATER MANAGEMENT**

**Responsible SMS4 Employees**

City Engineer – Item 1 and 7
Stormwater Engineer – Items 1, 2, 3, 4, 5, 9a, 10c and 10d.
Stormwater Inspector – Items 6, 7, 8, 9b, 10a, 10b and 10e.

1) Post-construction Stormwater Management Program - *Per section 4.2.5.1 the City of Greer is required to implement a program to control stormwater discharges from new development and redeveloped sites that disturb at least one acre of land including those that are part of a larger common plan of development. The City must ensure that stormwater control measures for these sites approximate pre-developed conditions to the maximum extent practicable, (MEP) and protect water quality.*

2) Site Performance Standards - *Per section 4.2.5.2 the City of Greer is required to implement and enforce a requirement that owners or operators for sites described in section 4.2.5.1 design, install, implement and maintain stormwater control measures that approximate pre-development conditions to the MEP and protect water quality. The first inch of runoff must be addressed.*

The City's Stormwater Management and Soil Erosion and Sedimentation Control ordinance requires detention of the 2, 10 and 25 year storm events. It also includes requirements for projects that disturb less than one acre of land. Water quality treatment of the first inch of rainfall is required. The design engineer may select one or a combination of post-construction Best Management Practices to meet this requirement.

*3)* Re-developed sites – *Section 4.2.5.2.3 allows incentives for re-developed sites.*

When re-developing an existing site, the design engineer may count the existing impervious area as a pre-developed condition thereby reducing detention requirements. Even so water quality treatment and velocity dissipation may still be required.

4) Site Plan Review – *Under Section 4.2.5.3 the City of Greer is required to assure that all new development and redevelopment meets the performance standards required by Section 4.2.5.2 of the new SMS4 permit through the establishment of project review, approval and enforcement procedures. Site plan reviews must be performed on all new development and redevelopment projects disturbing one acre or more (including those that disturb less than one acre if they are a Larger Common Plan, LCP). The site plan review must specifically address how the project meets the performance standards of this section and how the project will ensure long-term maintenance.*

Post-construction site plan review follows the Plan Review Check List and the Stormwater Management and Soil Erosion and Sedimentation Control ordinance.

5) Long Term Maintenance - *Section 4.2.5.4.1 of the new SMS4 permit requires perpetual maintenance of stormwater control measures.*

Perpetual maintenance of stormwater control measures such as stormwater management systems and water quality devices is addressed by the following:

i) Stormwater Management and Soil Erosion and Sedimentation Control ordinance,
ii) Stormwater Management and Water Quality Device Agreements (passes to assigns), see

http://www.cityofgreer.org/docs/BldgDevStandards/stormwater/PMagreement.pdf

http://www.cityofgreer.org/docs/BldgDevStandards/stormwater/WQDagreement.pdf

iii) Maintenance and Repair of Stormwater Management Systems and/or Water Quality Devices ordinance.

6) Verification of Maintenance Responsibilities – *Starting with the effective date of this permit the City of Greer is required under Section 4.2.5.4.2 to provide verification of maintenance of the permanent structural stormwater control measures installed pursuant to this section.*

Owner/operators of permanent stormwater control measures will be required to submit verification of maintenance to the City of Greer.

7) Inventory of Post Construction Stormwater Control Measures - *Starting with the effective date of this permit, The City of Greer is required under Section 4.2.5.5 of the new SMS4 permit to maintain an inventory of all post-construction structural stormwater control measures installed and implemented at new development and re-developed sites.*

The City of Greer has an existing permanent BMP inventory and periodically updates its inventory.

*8)* Inspection Frequency – *Starting with the effective date of this permit, and per Section 4.2.5.6.1 the City of Greer must conduct a post-construction operation and maintenance inspection of all stormwater control structures at least once per permit term.*

The City of Greer will conduct a cursory post-construction operation and maintenance inspection at least once per permit term on all stormwater control structures installed since the effective date of the new SMS4 permit. If more than a cursory inspection is required then, per city ordinance, the City of Greer will require the owner to have an inspection performed by a professional engineer licensed in the state of South Carolina.

*9)* Post-construction Inspection - *Within 30 days of completion of a project, per Section 4.2.5.6.2 of the new SMS4 permit, the City of Greer is required to conduct a post-construction inspection to verify that the stormwater control measures have been installed according to the approved plans.*

The City of Greer does not necessarily hold a Certificate of Occupancy because site stormwater control measures are not quite complete. Stormwater project close-out consists of as-built review and a project close-out inspection. Permittees call for their project close-out inspection and as-built review because they cannot receive a refund on their stormwater surety until they pass as-

built review. The stormwater inspector also sends a reminder of this requirement on the City of Greer inspections.

a) As-built Review - Per city ordinance none of the stormwater surety can be released until as-built review is complete. As-built review consists of a review of the as-built survey as required by the SC DHEC project coverage letter, the City of Greer's As-built Certification forms and the "Review Complete" plans. As-built review is pass/fail. If the stormwater management structures and water quality devices installed can "function as designed" then they "pass" review. Per city ordinance twenty percent of the stormwater surety is held for one year past project completion.
b) Project close-out Inspection – The project close-out inspection is conducted by the City of Greer Stormwater Inspector and the Design Engineer. They agree on a punch list as they inspect and the Design Engineer forwards the punch list to the owner and applicable contractors. A copy of the punch list is also kept by the City of Greer.

10) Inspection Reports – *Per Section 4.2.5.6.3 the City of Greer is required to document and maintain records of its inspection findings and enforcement actions in an inspection report.* Location of forms and documentation is as follows:

a) Cursory City of Greer Stormwater Management Facility Inspection form – See Appendix V
b) Copies of Post-construction Inspection reports are found on the codes drive in Stormwater folder/ Post Construction file.
c) As-built Certification forms can be found at:

http://www.cityofgreer.org/docs/BldgDevStandards/stormwater/asbuiltcert.pdf

http://www.cityofgreer.org/docs/BldgDevStandards/stormwater/waterqualitydevice.pdf

d) As-built Reviews can be found on the codes drive in the Stormwater folder/ As-built file.
e) Project Close-out Inspections can be found on the codes drive in the Stormwater folder.

## MINIMUM CONTROL MEASURE VI – POLLUTION PREVENTION/GOOD HOUSEKEEPING

**Responsible SMS4 Employees**

City Engineer – Items 1, 3, 4 and 5.
Stormwater Engineer – Items 2 and 10a.
Stormwater Inspector – Item 9
Consultant – Item 6
Director of Public Services – 8 a through 8g and 10 c.
Director of Parks and Recreation – 8g, 8 h and 10 b.
Responsibilities for contractor oversight (item 11) are by Department per project.

*Under Section 4.2.6 of the new SMS4 permit the City of Greer is required to develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of reducing pollutant runoff from municipal operations.* Elements of the Pollution Prevention/Good Housekeeping Minimum Control Measure include:

1) Municipal Facility and Stormwater Control Inventory – *Section 4.2.6.1.1 includes a requirement to maintain an inventory of municipal facilities such as public work yards, equipment yards, maintenance facilities, public buildings, and landscape maintenance on municipal property (ex. parks) and municipally owned and/or maintained structural stormwater controls.*

   A list of municipal facilities is being developed and once developed it will be maintained and available for review by the permitting authority.

2) Industrial Facilities - *Section 4.2.6.1.2 requires the City of Greer to include a list of municipally owned/operated facilities with Industrial Stormwater Permits. We are also required to include a list of industrial permitted facilities that discharge to the City of Greer SMS4.*

   A list is being developed.

*3)* Municipally-owned or Operated Facility Comprehensive Assessment of Pollutant Discharge Potential – *At least once during the permit term the City of Greer must develop a comprehensive assessment of the municipal facilities listed in item 1.*

   An assessment will be performed during the permit term.

*4)* High Priority Facilities – *Per Section 4.2.6.2.2 the City of Greer is required to designate facilities that have a high potential to generate stormwater pollutants as "high priority".*

   Facilities will be evaluated and identified if found.

*5)* Documentation of Comprehensive Assessment Results – *Per Section 4.2.6.2.3 the City of Greer is required to document the results of the assessments and maintain copies of all site evaluation checklists used to conduct the assessment. The documentation must include the initial assessment and any identified deficiencies and corrective actions taken.*

   The appropriate documentation will be prepared and maintained.

6) Facility Specific Stormwater Management Inspections for "High Priority" Facilities – *Per Section 4.2.6.3.1, beginning 1/1/2016 the City of Greer is required to conduct comprehensive inspections of "high priority" facilities including all stormwater controls. Inspections must be documented and records of the inspections must be maintained by the City of Greer. Inspection reports must include any deficiencies and corrective actions.*

   Annual inspections of "high priority" facilities will begin by January 1, 2016 and inspection records will be maintained.

7) Storm Sewer System Maintenance Activities/Assessment and Prioritization of MS4 Catch Basins – *Per Section 4.2.6.4.1 the City of Greer must prioritize its storm water management system structures and implement a maintenance schedule.*

   The City of Greer will clean and maintain catch basins on an as-needed basis.

8) Municipal Activities and Operations – *Per Section 4.2.6.4.2of the new SMS4 permit the City of Greer is required to develop a set of pollution prevention measures that when applied during*

*operation and maintenance activities, will reduce the discharge of pollutants in stormwater.* Pollution prevention measures for City of Greer operation and maintenance activities and municipally sponsored events include:

a) Street Sweeping – The City of Greer regularly sweeps city streets according to its street sweeping schedule. The sweepings are disposed of at the county landfill.
b) Vac Truck Jetting – The City's vacuum truck will operated so that pollutants will not be discharged to waterbodies when jetting storm sewer systems.
c) Cold Weather Operations – The City of Greer will maximize the use of inert materials such as sand for road deicing operations. Salt will be used as a last resort.
d) Cold Weather Operations – Once a winter storm has passed the City of Greer will endeavor to collect sand used in road deicing operations with the street sweeper.
e) Paving Operations – On an as needed basis residual asphalt material will be collected with the street sweeper after paving or patching streets.
f) Spills – spills of fuel, oil, fertilizer, etc. will be cleaned up as soon as possible.
g) Lawn Maintenance – Use of lawn maintenance chemicals such as fertilizers, herbicides and pesticides will be used according to their label and by trained personnel.
h) Municipally Sponsored Events –

    a. Cigarette Litter Cans will be provided in smoking areas.
    b. Trash cans are available for litter.
    c. Trash and litter will be removed at the close of City events.
    d. Members of the Events staff will periodically monitor activities.
    e. Special contracts with the City of Greer Events Department are required to allow cooking at events.
    f. When cooking grease is involved grease mats and an approved method of grease disposal is required.
    g. Discharge of beverages, liquids or cleaning materials into the storm drain or storm sewer system is prohibited (Prohibition noted in contract with City of Greer).

9) Maintenance of Municipally-owned and/or Maintained Structural Stormwater Controls – *Per section 4.2.6.4.3 the City of Greer is required to inspect, and maintain all municipally owned or maintained structural stormwater controls.*

Once per permit term city owned structural stormwater controls will be inspected. Maintenance will occur according to an established schedule.

10) Annual Pollution Prevention and Good Housekeeping Training – *Per Section 4.2.6.5 the City of Greer must develop an annual employee training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices.*

a) Annual Pollution Prevention Training is conducted by the Stormwater Division. Employees from the Recycle Center, Public Services, Parks and Recreation and Animal Control attend the training.
b) Pesticide training is contracted through the Parks and Recreation Department. Personnel from both Public Services and Parks and Recreation attend the training.
c) Equipment training – When new equipment is purchased crew members are trained by the vendor on the proper use of the equipment.

11) Contractor Oversight – *Per Section 4.2.6.6, 4.2.6.6.1 and 4.2.6.6.2 of the new SMS4 permit the City of Greer is required to contractually require contractors hired to perform municipal maintenance activities to comply with all SMS4 stormwater control measures, good housekeeping practices and facility specific stormwater management procedures. The City of Greer must also provide oversight of contractor activities to ensure that contractors are using appropriate control measures and procedures.*

    Contracts will be amended to include the required language and the city department requisitioning the work will provide contractor oversight.

## STORMWATER MANAGEMENT PROGRAM UPDATES

The Stormwater Management Program will be updated and revised during the permit term as needed.