



RICHLAND COUNTY NPDES MS4 ANNUAL REPORT

Reporting year July 1, 2020 – June 30, 2021

*Prepared by the
Stormwater
Management
Division*

South Carolina NPDES Permit # SCS400001
Medium Municipal Separate Storm Sewer System (SMS4)
Annual Report

Permit Coverage SCS400001 **Reporting Period:** July 1, 2020 – June 30, 2021*

Permittee: Town of Arcadia Lakes, City of Forest Acres, and Richland County

Program Name: Richland County MS4

* This is the Fifth Annual Report of the County’s NPDES MS4 Permit SCS400001 (effective July 1, 2016). Due to the permit renewal application, the annual reporting period for the 4th Annual Report differed from the normal schedule and occurred from July 1, 2019 through November 1, 2020. This 5th Year Annual Report will cover from July 1, 2020 through June 30, 2021 which differs from what the County requested in the letter dated April 11, 2017 (Re: Richland County Annual Report). There will be a period of overlap (July 1, 2020 through November 30, 2020) of data that was contained in the 4th Year Annual Report and the 5th Year Annual Report. The reporting period for the 6th Year Annual Report will be from July 1, 2021 through June 30, 2022. A summary of the annual reporting dates for the last five years and for next year can be found below:

Date	Period Covered	Date Due
1 st Annual Report	July 1, 2016 - June 30, 2017	<i>November 1, 2017</i>
2 nd Annual Report	July 1, 2017 - June 30, 2018	<i>November 1, 2018</i>
3 rd Annual Report	July 1, 2018 - June 30, 2019	<i>November 1, 2019</i>
4 th Annual Report	July 1, 2019 - November 30, 2020	<i>January 1, 2021</i>
5 th Annual Report (Should expired permit continue)	July 1, 2020 - June 30, 2021	<i>November 1, 2021</i>
6 th Annual Report	July 1, 2021 - June 30, 2022	<i>November 1, 2022</i>

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Certification

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

Responsible Official Signature (Richland County): Leonardo Brown **Date:** 10/12/2021
(The responsible official may authorize another person or person occupying a specific position to certify this report if this authorization is made in writing and submitted to the Department. Please attach a copy of the authorization with this report, if applicable)

Responsible Official Signature (City of Forest Acres): Eric Cannon **Date:** 10/22/21
(The responsible official may authorize another person or person occupying a specific position to certify this report if this authorization is made in writing and submitted to the Department. Please attach a copy of the authorization with this report, if applicable)

Responsible Official Signature (Town of Arcadia Lakes): Martina Lopez **Date:** 10/22/21
(The responsible official may authorize another person or person occupying a specific position to certify this report if this authorization is made in writing and submitted to the Department. Please attach a copy of the authorization with this report, if applicable)

Submit the annual report to:

South Carolina Department of Health and Environmental Control (SCDHEC)
ATTN: Bureau of Water / Compliance Assurance Division
2600 Bull Street
Columbia, SC 29201-1708

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II. SWMP Evaluation

A. Objective of the SWMP

The purpose of Richland County’s Stormwater Management Plan (SWMP) is to reduce the discharge of pollutants from Richland County’s Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate requirements of the Clean Water Act (CWA). The goals in the SWMP are expected to change over time due to the iterative process of developing and updating the SWMP. The SWMP will be reviewed annually to reflect accomplishments, potential revisions to program components, and additions to other activities or expanded efforts.

B. Major Findings (Water Quality Improvements or Degradation)

Water quality continues to improve throughout Richland County (the County). The County updated its water quality monitoring program to meet the Total Maximum Daily Load (TMDL) and impaired water quality monitoring requirements. This created a better correlation between stormwater activities and water quality improvements. Since the update, staff has investigated areas where water quality standards were outside of the allowable range, identified maintenance needs, and utilized the data to guide education and outreach efforts. The County will continue to review and update the water quality monitoring plan and make program improvements based off monitoring results.

C. Major Accomplishments

The County successfully updated its SWMP to meet the requirements of the NPDES MS4 permit (SCS400001 effective July 1, 2016).

Major accomplishments include:

- The removal of over 1,768 tons of dirt and debris from the County’s storm drain system through the vac truck and street sweeper program. A 6% increase from last year.
- The removal of 35.5 tons of materials from the County’s catch basin inserts and water quality units.
- The removal of 815 tons of litter through the various litter control program. A 54% increase from last year.
- A 41% increase in the number of illegal dump requests investigated and cleaned.
- Instillation of four new control measures at County facilities.
- The completion of three capital projects: Melody Gardens ditch stabilization project, Hickory Ridge Drainage Study and the Knollwood Drive Restoration design.
- The implementation of Richland County Utilities (RCU) aggressive monitoring, reporting, and response system for sanitary sewer overflows.
- A less than 5% weekly noncompliance rate on construction sites.
- Through partnerships with Buonasera, Free Times, Natural Awakenings, and Richland County PIO along with, publications, workshops, festivals, presentations, and trainings the Public Education and Outreach program reached 4,406,579 people.
- The Stormwater Management Division launched a “Community Gap Analysis” project to determine the level of public awareness regarding water quality, public involvement, and the role of Richland County Stormwater Management has in the community. Six virtual focus

groups were attended by 37 community members during which participants were asked questions about and discussed their thoughts on the health of Richland County's waterways.

D. Overall Program Strengths/Weaknesses

Efforts in 2021 focused on a return to normalcy with the County's Stormwater Program. The County was able to recover from COVID-19 impacts by meeting program monitoring and inspection requirements.

The Stormwater Division experienced turnover with the loss of the watershed program coordinator in 2020 and the inability to successfully fulfill the position long term. The County utilized the efforts of its on-call Stormwater consultant, Woolpert, to ensure watershed program needs are met during the turnover.

E. Future Direction of the Program

The goal of Richland County's SMWP is to continue to grow and improve through further integration of water quality monitoring results into other areas of the stormwater program. In the 2021 reporting year, the transition of monitoring data into the Aquarius software was completed which allows ease of analyzing data. This will provide the County with additional guidance for maintenance, inspections, and new program goals based on water quality trends. Best Management Practices (BMPs) identified in TMDL implementation plans will be included in the overall Capital Improvement Projects (CIP) program.

Plans to utilize ArcGIS online for pond, industrial, and facility inspections are underway with a goal to be fully digital by the 2022 reporting year. Most inspection forms are converted for ArcGIS Collector and Survey123, which are being beta tested by County staff.

Based on the feedback from citizens during the virtual focus group meetings in 2020, plans are underway to develop a virtual water quality, capital project, and education and outreach dashboard. Citizens requested more access to water quality data and information about the County's programs. The move to an online dashboard will increase transparency about the County's programs while also improving education and involvement efforts.

F. Permit Reapplication and Program Modifications

Richland County has worked diligently over the permit term to fully implement NPDES MS4 Permit No. SC400001 and to protect water quality within Richland County. The annual reports submitted demonstrate the County's commitment to preserving water quality and, where possible, making improvements. The County utilized the 2021 annual report as the principal reapplication document as stated in the Federal Register (Vol. 61, No. 155 [FRL-5533-7]).

Included in the 2021 permit renewal package were the following items.

1. Cover letter
2. Fourth Annual Report including a Permit Reapplication and Program Modifications section
3. Draft Third Cycle Permit Parts III, IV, and V (See Appendix A)
4. NPDES MS4 Permit No. SC400001 Modification Requests (See Appendix B)

As part of the 2021 renewal package, the County submitted draft language for Parts, III, IV, and V of the new permit. Those sections of the permit are the more challenging sections to implement and have not produced all the data needed to make sound scientific, engineering-based watershed management decisions. Therefore, the County prepared draft language for SCDHEC's consideration and inclusion in the new permit (See Appendix A). The County believes the proposed language provides the County with flexibility to design a monitoring program to gather appropriate data, while still meeting the intent of the CWA and SCDHECs regulatory needs.

A table of proposed changes to the existing permit was also submitted. A thorough review was completed post-issuance of the permit by County staff and discussions were held with SCDHEC regarding the proposed modifications. Lacking a reasonable mechanism to make changes to the existing permit, clarifications were discussed but changes were not incorporated into the existing permit. While the County preferred to prepare and submit a complete working draft permit for SCDHECs review and consideration, at a minimum, the County requested that the submitted changes be considered and addressed, as appropriate.

III. Summary Table of SWMP Elements

As required per Richland County Phase 1 NPDES permit, the following table summarizes the appropriate SWMP annual activities for each permittee. The purpose of the Summary Table is to document in a concise form the program activities and permittees' compliance status with quantifiable permit requirements. Program elements that are administrative (e.g. planning procedures, program development, and pilot studies) are inappropriate for the summary table and are discussed in the narrative section of this report.

Program Element	Permittee Name	Requirement	Frequency of Required Activities	Complied With (Y/N)?	Activities Accomplished During Calendar Year	Comments
Structural Controls and Stormwater Collection System Operation	Richland County	Detention Ponds Maintained	Annually	Y	Summary in Section III.A (Structural Controls)	48 inspections for County-owned ponds 85 inspections for private ponds 22 inspections performed on commercial ponds
		Maintenance of Other Components	1/permit cycle	Y	Summary in Section III.A (Structural Controls)	20.37 miles of ditches inspected and sprayed
		Inspect Outfalls	1/permit cycle	Y	Summary in Section III.A (Structural Controls)	100% complete
Areas of New Development & Redevelopment	Richland County, Forest Acres, Arcadia Lakes	Implement planning procedures to develop, implement, and enforce controls to reduce the discharge of pollutants from the MS4 that receive discharges from areas of new development and significant redevelopment after construction is complete	1/permit cycle	Y	Revised stormwater design standards to incorporate into the new Land Development Manual	The revised Land Development Manual includes requirements to control or reduce the discharge of pollutants from the MS4 from areas of new development and significant redevelopment. A description of the status of the update is included in Section III.B of the Annual Report
		The planning process must include public participation	N/A	Y	Monthly meetings with the development community and separate stakeholder meetings	The Community Development and Planning Department coordinates monthly meetings with the development community in Richland County. Changes to the design standards were presented at these meetings and comments accepted for review and possible incorporation
Existing Roadways	Richland County	Stormwater structure maintenance	As needed	Y	Summary in Section III.C (Existing Roadways)	4 catch basins investigated/repaired 377 drainage problems investigated 27 paved/resurfaced roads maintained 197 dirt road culverts inspected 421 unpaved roads maintained 167 streets swept 185 catch basins vacuumed

Program Element	Permittee Name	Requirement	Frequency of Required Activities	Complied With (Y/N)?	Activities Accomplished During Calendar Year	Comments
Flood Control Projects	Richland County	Richland County shall assess flood control projects for water quality	Annually	Y	New projects that are considered and designed to manage storm events with a recurrence frequency of 100 years or less are considered for water quality	2 new flood control projects 3 completed CIP projects
Municipal Facilities	Richland County	Municipal facility inspections	Annually for high priority	Y	Summary in Section III.E (Municipal Facilities)	38 Richland County facilities inspected 3 Forest Acres facilities inspected Arcadia Lakes has 0 facilities
		Comprehensive site compliance evaluation	Annually	Y	Summary in Section III.E (Municipal Facilities)	Completed for high priority facilities
Application of PHF	Richland County	Training	Annually (recommended)	Y	Summary in Section III.F (PHF)	Blue Thumb Landscaper Workshop for staff and landscaping companies held on 2/18/2021.
		Inspections	Annually (recommended)	Y	Summary in Section III.F (PHF)	21 PHF inspections conducted
Illicit Discharges and Improper Disposal	Richland County, Forest Acres, Arcadia Lakes	Dry weather screening	All major outfalls/permit cycle	Y	Summary in Section III.G (IDID)	17 IDID incidents 78 Major outfalls screened
Industrial Runoff	Richland County	Update database	Annually	Y	Summary in Section III.H (Industrial Facilities)	100% of 139 facilities inspected
Construction Site Runoff	Richland County, Forest Acres, Arcadia Lakes	Inspections	N/A	Y	Summary in Section III.I (Construction Planning and Construction Inspections)	Updating construction site SOPs
Public Education & Public Participation	Richland County, Forest Acres, Arcadia Lakes	Public education and outreach	Annually	Y	Numerous outreach activities and public involvement activities were conducted	Additional information included in the public education narrative and associated appendices.

IV. Minimum Control Measures (MCM)

A. Minimum Control Measure 1: Structural Controls and Stormwater Collection System Operation

Objective

Continue operation and maintenance of the County's structural stormwater controls to improve water quality.

General Discussion of SWMP Element

Crews in the Roads and Drainage Division of Public Works and private contractors perform maintenance on the County-owned portions of the storm drainage system, as well as within Arcadia Lakes and Forest Acres.

Inspections – The Stormwater Division inspected County-owned stormwater structural controls. The Stormwater Division conducts yearly inspections on 20.37 miles of ditches and 48 County-owned ponds. Catch basin inserts are inspected quarterly and water quality units are inspected twice a year. Inspection findings are documented using an Excel spreadsheet with plans to convert to ArcGIS online in 2022. Requests for storm drainage maintenance are directed to the Roads and Drainage Division via the County's service request program called One Stop. Structural control maintenance requests submitted by other departments or by the public are tracked via the Department of Public Works Work Order System.

Inspection and Maintenance Procedures and Training – Procedures for inspection and maintenance of the County's drainage system were reviewed during the first year of the permit cycle and updated as needed. Public Works crews are provided training related to operation and maintenance activities via presentations and webinars during the annual Public Works All Hands training. Dates and attendee information is included in Appendix C.

Maintenance Schedule – The Stormwater Division contracts with an outside firm, EcoGroup, for maintenance of County-owned ponds, water quality units, and catch basin inserts. EcoGroup maintains County-owned ponds twice a year. EcoGroup is required to comply with the County's stormwater control measures, good housekeeping practices, and specific stormwater management procedures. EcoGroup also attended the Stormwater Division's yearly Blue Thumb Landscaper training held on February 18, 2021. Water quality units are inspected twice a year and catch basin inserts are inspected quarterly. Any requests for maintenance from these inspection findings are submitted to EcoGroup. Additional maintenance needs observed by EcoGroup are reported to the Stormwater Division for approval. EcoGroup reports the tonnage of materials removed during their maintenance activities, which is provided in the first table below under Measurable Goal Summary section.

Inspections and Maintenance Activities – The Stormwater Division inspects privately owned and maintained ponds annually. The County has no contractual agreements for maintenance of privately owned stormwater structural controls. If the Stormwater Division notes deficiencies during an inspection of a private facility, the owner receives a Notice of Violation (NOV). Progress to correct deficiencies is tracked until the work is complete, and if necessary, enforcement is elevated per the established Enforcement Response Guide. The Stormwater Division and the Roads and Drainage Division responded to 4,725 requests for service/maintenance on the County's drainage system during this reporting period. This is a 12% decrease from last year. Some of the decrease is attributed to the public health emergency. Another contributing factor is the switch to the use of an in-house Work Order System. Maintenance needs

that are identified by County staff are routed through the Work Order System versus the OneStop system, which relies on citizen complaints. This proactive approach cuts down on the amount of maintenance requests received by the public.

The County utilizes a street sweeper and vacuum truck to prevent pollutants from private conveyances (including floatables) from entering waterways. Notes are recorded for areas that require sweeping or vacuuming and areas that may require maintenance at a higher frequency, such as neighborhoods within a TMDL watershed. The vacuum truck is deployed to certain neighborhoods and areas within the County that are known to have more frequent storm drainage needs prior to expected large storm events. The County also uses curb screens on some inlets to inhibit floatables from entering the storm drainage system.

Assessment of Controls

The Structural Controls and Stormwater Collection System Operation section of the permit is fully implemented. There was no significant change in the amount of NOVs issued for commercial ponds. Commercial pond compliance is high due to the amount of interaction between Stormwater inspectors and private pond owners. Stormwater inspectors work with pond owners throughout the process from initial inspection to final pond compliance.

The tonnage of materials removed from the catch basins and water quality units decreased slightly by 2.93%. This decrease indicates that the plans for the Stormwater and Solid Waste Divisions to collaborate on education and outreach related to yard waste, debris pickup, and litter pick-up is timely.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Total number of proactive inspections performed on County-owned and/or maintained ponds:	48
Total number of proactive inspections performed on private ponds:	85
Total number of proactive inspections performed on commercial ponds:	22
Tons of materials removed from curb screens and water quality units:	35.5 tons
Number of private ponds that received NOVs:	11
Number of commercial ponds that received NOVs:	0
Miles of ditches sprayed for maintenance:	20.37
Number of new structural controls added to inventory:	0
Number of implemented control measures:	114 (16 water quality units, 49 curb screens, 48 ponds, and 1 rainwater harvester)

2. Use the table below to summarize structural controls action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Structural Controls Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Report any QA/QC completed, and any field studies conducted for data accuracy during the reported year	Field verify outfall location	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Obtain maps from GIS and field verify size and location. Ongoing since July 1, 2016.
Update procedures to develop and maintain an inventory of all structural controls BMPs	Check eTRAKiT monthly for new Stormwater BMPs	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Stormwater Division staff pulls new stormwater structures from eTRAKiT and updates the inventory monthly.
Improve coordination between Stormwater, Roads and Drainage, and Engineering	Conduct weekly coordination meetings between the three divisions	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Weekly project meetings have been reduced to bi-monthly. The projects standard operating procedure was officially approved in 2021.
Continue to review and update guidance documents on maintenance activities	Yearly review of guidance documents and updated based on lessons learned	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Review all guidance documents and add to the Public Works SOP as procedures are finalized.
Maintenance schedule for the upcoming year	Inspect structural stormwater controls	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The Stormwater Division actively inspects structural stormwater controls throughout Richland County on a quarterly basis.
Transition pond and structural control inspections from Excel spreadsheets to ArcGIS	Use of ArcGIS Collector and Survey123 for inspection reports	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Inspection reports are converted to the digital format. The Stormwater Division will continue to work with the County's GIS division on the conversion.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

The County's Structural Control program is successful. The Stormwater Management and Roads and Drainage Divisions continue to work together to meet maintenance needs. This is evident by the decrease in NOVs issued to private and commercially owned ponds since the first annual report and the increase in proactive maintenance through the County's Work Order System and a reduction in maintenance requests in OneStop.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

A Department wide Work Order System would improve efficiency and assist with implementing a more proactive maintenance schedule on the drainage system.

B. Minimum Control Measure 2: Areas of New Development and Redevelopment

Objective

To reduce the discharge of pollutants in stormwater runoff from areas of new development and redevelopment to predevelopment levels, to the MEP, and to protect water quality.

General Discussion of SWMP Element

This section of the permit relates to plan review, site inspections, and the implementation of post-construction BMPs.

Land Development Manual (LDM) – The County’s storm drainage regulations were revised to a comprehensive LDM. The LDM includes updates to the stormwater and road design standards. The updates incorporate components of the 2012 Construction General Permit (CGP) and the 2016 NPDES MS4 Permit. Site performance procedures, requirements for water quality aimed at meeting the Water Quality Based Non-Numeric Effluent Standards for *E. coli* and dissolved oxygen, encouraging the reduction of impervious areas, a list of structural and non-structural BMPs in the program area, and specific redevelopment requirements are all included in the LDM.

Major changes in the LDM include:

- Requirement for water quality treatment during significant redevelopment
- Requiring a downstream analysis for all new development and redevelopment projects. The downstream analysis will take into consideration any local flooding concerns during the plan review process
- Requiring a quantitative and qualitative analysis for construction projects disturbing 25 acres or more that discharge to a TMDL or a 303(d) listed impaired waterbodies
- Summarization of the plan submission process
- Submittal requirements and the plan review process
- Guidelines for designing and constructing roads in accordance with South Carolina Department of Transportation (SCDOT) standards
- Roadway testing requirements
- Guidelines for designing, implementing, and maintaining stormwater BMPs to be used in the County to improve water quality and minimize stormwater runoff impacts due to increased flow volumes and peak discharge rates from developed areas

The LDM will accomplish the following objectives:

- Reduce stormwater impacts on water quality
- Reduce stormwater impacts on water quantity
- Protect downstream areas from adverse stormwater impacts resulting from development
- Ensure that roads added to the County’s inventory are designed and constructed to last for at least 25 years
- Address all sites, including “hot spots,” to ensure adequate water quality BMPs are selected

Two Water Quality Design Standards:

Water Quality Design Standard	Non-sensitive Watersheds	Sensitive Watersheds ¹
<p><u>WQ Design Standard #1:</u> Water Quality Storm Event Design Standard</p>	Manage the runoff from the Water Quality Storm Event	
<p><u>WQ Design Standard #2:</u> TSS Removal Design Standard</p>	Obtain 85% removal efficiency of the annual TSS loading	Demonstrate that the annual post-development pollutant loading does not exceed the annual pre-development pollutant loading for the pollutant(s) of concern
<p><u>Hardship Criteria</u> Alternative TSS Removal Design Standard</p>	Demonstrate the annual post-development TSS load should be no more than 600 pounds/acre/year	

The County is implementing a new requirement in the new Land Development Manual, which encourages engineers to use the Integrated Design, Evaluation, and Assessment of Loadings (IDEAL) model for all permitted projects. This model evaluates the performance of post-construction BMPs and calculates loads and concentrations of sediment, nitrogen, phosphorus, and bacteria based on designer inputs and local, historic soil and rainfall data.

The LDM was originally projected to go before Richland County County Council (RCCC) in January 2018. Due to County restructuring, staff turnover, and multiple stakeholder meetings on the various changes in the LDM, the County notified SCDHEC Compliance on June 4, 2018 that the County would not meet the July 2018 deadline of having the LDM updated and approved. The draft LDM was presented to the development community on May 30, 2019 and the RCCC on August 19, 2019. Both communities have come to an agreement with the changes related to the water quality requirements.

The final version of the LDM was completed in September 2020. County Administration was updated on the proposed major changes on October 21, 2020 where the implementation plan was reviewed and discussed. The review and approval of the LDM will be included with the approval of the County’s new Land Development Code, which is the ordinance that also references the LDM. Copies of the updated manual were provided to County Council in September 2021 and council approved the new LDM during the September 26, 2021 zoning board meeting. The final resolution to adopt the new LDM goes before council on October 26, 2021.

Current Design Standards – A Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP) is required to identify the performance of selected BMPs and confirm that stormwater discharges will not cause or contribute to any adverse impact downstream.

Commonly used Sediment Control BMPs:

- Inlet Protection
- Outlet Protection
- Sediment Basins
- Sediment Traps
- Silt Fence

Commonly used Structural BMPs:

- Wet/Dry Ponds
- Vegetated Swales
- Underground Detention Systems

The County encourages the use of water quality “treatment trains” during construction and post-construction to meet water quality standards.

Current standards include requirements for water quality buffers and the Community Development and Planning Department’s open space requirements. The Neighborhood Planning Division includes stormwater improvement recommendations in their neighborhood master plans.

New development proposals are reviewed for impacts to natural resources. Developers are required to depict areas of constrained and unconstrained open space on development plans utilizing the Open Space Code. All subdivision submittals are required to include a Natural Resource Inventory. This inventory identifies natural resource features such as 100-year floodplain area, riparian buffers, protected trees, wetlands, and steep slopes.

The City of Forest Acres continues to enforce their version of the Water Quality Buffer Ordinance and Floodplain Management Ordinance as they both relate directly to stormwater management and stormwater quality. The City of Forest Acres is maintaining an additional codes enforcement position, in part due to the increased regulatory activity associated with stormwater management. This affords three personnel who are available to respond to stormwater issues.

The amendments to the current Land Development Code, which foster more environmentally sensitive site development, such as decreasing the minimum caliper size for grand trees and increasing the tree replacement ratio to increase tree protection, continue to be enforced through the approval of land development plans.

More information on the County’s current standards can be found at the following location: <http://rcgov.us/DevServ/QuickLinks/CodesandRegulations.aspx>

Pre-construction meetings are held for every project that is issued a Land Disturbance Permit. The following topics are discussed at these meetings:

- Approved C-SWPPP, stormwater calculations, and construction plans.
- Enforcement procedures and expectations.
- Environmentally sensitive areas or any known flooding problems in the watershed.
- eTRAKiT software logistics.
- Clemson University’s Certified Erosion Prevention and Sediment Control Inspector Program.
- Closeout process & stabilization requirements.

Inspections and Maintenance of Post-Construction BMPs – The Community Development and Planning Department revised ‘Inspector Areas’ for efficiency and production: The Stormwater Division analyzed its operations and developed a strategic plan for improvement. The plan improves coverage in assigned areas and a change in area boundaries, along with procedural changes based on identified deficiencies throughout the division.

The Stormwater Division continues to ensure proper long-term maintenance of post-construction BMPs through its post-construction inspection program. Maintenance agreements for post-construction BMPs are submitted during the plan review process. Copies of maintenance agreements are kept digitally in the eTRAKiT software. The Stormwater Division accompanies the Community Development and Planning Department on final inspections where new stormwater BMPs are added to the system. The new BMP is then added to stormwater post-construction BMP inspection list. Privately owned BMPs are inspected once every permit cycle. The stormwater inspector contacts the property owner and submits an inspection report to the owner after the inspection if there are any violations. The stormwater inspector works closely with the property owner and/or their contractor on any maintenance needs related to the BMPs. All records of work completed are documented both digitally and in print. The Stormwater Division currently has over 200 ponds included in the private pond database.

Assessment of Controls

Richland County reviews new development and redevelopment plans to ensure compliance with water quality requirements, site performance standards, and post-construction BMPs needs. Post-construction BMPs are inspected once a permit cycle and the owner is contacted if maintenance is needed. New ponds are added to the inventory yearly, which results in an increased number of post-construction ponds inspected.

The County worked to improve enforcement procedures by looking to establish a more standardized process for the most common infractions. This has been effective in setting better expectations. The County has improved of foreseeing issues and alerting contractors to them before they happen, as well as noting the enforcement measures that would be used and when.

The Community Development and Planning Department is already operating in a digital environment but seized upon opportunities to improve data sharing. Due to the size of reports received, the New Development Division experienced delays in the transmission of these reports. To avoid compromising efficiency or quality of the report, the New Development Division transitioned to a cloud-based operation. Reports are generated while onsite and emailed to all parties prior to leaving the site. The cloud-based operation has allowed ease of transmission and improved data-storage and sharing.

Through the County’s monitoring program, the County is assessing improvements in sensitive waters. The County is collecting macroinvertebrate samples that are discussed in the quarterly reports which are included in Appendix D. Macroinvertebrate lab reports are also provided in these quarterly reports.

Measurable Goal Summary

1. Were there any regulation changes during the reporting period?

The major changes in the Land Development Manual are scheduled to be presented to County Council in the fall of 2021.

2. Use the table below to summarize areas of new development and redevelopment action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

New Development and Redevelopment Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Continue to enforce the current County zoning and land use requirements and development standards to reduce the discharge of pollutants from areas of new development and significant redevelopment after construction is completed.	Update current standards, policies and procedures. Incorporate language in the drainage regulations that encourage impervious area reduction.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	New LDM developed which incorporates current and new requirements aimed at reducing the discharge of pollutants from areas of new and significant redevelopment.
Update County Design Standards to include requirements listed in MS4 Permit.	Develop new LDM.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	LDM created and going through stakeholder approval before submitting to council for approval in early 2021.
Evaluate and modify, as necessary, the post-construction program.	Get Stormwater Division access to approved as-built drawings so they can be included in final inspections.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Stormwater Division now has access to eTRAKiT and can view approved as-built drawings for inspections. The County’s stormwater inspector is invited to final inspections when a new stormwater BMP is installed.
Track water quality improvements achieved due to the enforcement of this program.	Track monitoring results in impaired watersheds where new BMPs have been installed.	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Will look at BMPs implemented in impaired or TMDL watersheds.
Educate staff on the new LDM standards and procedures.	Host internal trainings on the new requirements in the LDM.	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Hold internal trainings on the IDEAL model and LDM in the Fall/Winter of 2021.
Educate the design community and the public on new LDM standards and procedures.	Host trainings and public meetings on	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed	Schedule two meetings for design community on the IDEAL model and the new LDM in Fall/Winter of 2021.

New Development and Redevelopment Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
	the new requirements in the LDM.	<input type="checkbox"/> Evaluation	

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program’s strengths?

Despite continued delays in the approval of the new Land Development Manual, including the COVID-19 public health emergency which shutdown the County for several months, strides continued to be made on finalizing it.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives

The County will continue to develop a successful way to track water quality benefits through the New Development/Redevelopment control measures. The requirement to manage the water quality storm event could provide an effective method to track the amount of stormwater runoff treated onsite by New Development/Redevelopment projects.

C. Minimum Control Measure 3: Existing Roadways

Objective

Operation of public streets, roads, and highways to reduce the discharge of pollutants through implementing SOPs, policies, and other regulatory requirements.

General Discussion of SWMP Element

The Existing Roadways element requires an analysis of the County's road construction, maintenance, and permitting requirements to reduce the risk of pollutant discharge into waterways, to the MEP. This includes paved and unpaved County roads. The County is responsible for the maintenance of 617 miles of paved roads and 206 miles of unpaved roads. Richland County's Public Works Department operates and maintains the County's roads. The Stormwater Division works closely with the Roads and Drainage Maintenance and Engineering Divisions related to maintenance performed on the County's roads.

Standard Operating Procedures (SOPs) – During the first year of the permit, the SOPs for County maintained roads were reviewed and updated. Annual training is held during the Public Works All Hands training session, which includes presentations on proper roadway maintenance procedures and a refresher on the NPDES MS4 permit requirements. The Roads and Drainage Division implemented monthly lunch-and-learn training sessions for crew leaders and supervisors on various operating and maintenance topics and group viewing of webinars.

For most projects, the Richland County Transportation Department ensures all current County drainage standards are met by direct coordination with plan review staff in the Community Development and Planning Department. Plan review staff ensures that drainage standards are met and followed. For those projects that are permitted through the SCDOT encroachment permit process instead of the County MS4 process, the Department ensures all SCDOT drainage standards are met. The Richland County Transportation Department's inspectors oversee implementation of these standards during the construction process. For transportation improvements projects, project engineers evaluate the impact of the project at each outfall location. This requires an outfall-specific watershed analysis, which involves documentation of drainage area, land use, and rainfall data. The watershed analysis is a pre versus post construction evaluation that includes an assessment of downstream conditions. This analysis is used to determine the need for stormwater BMPs to address potential stormwater issues. The stormwater design includes an emphasis on velocity control using additional drainage structures, as needed, to minimize potential erosion downstream of the projects.

The Penny Transportation Program currently has four (4) in-house inspectors; five (5) on-call Engineering firms; seven (7) on-call Construction, Engineering & Inspection (CE&I) firms; and three (3) on-call Geotech/Materials Testing firms to assist with the program. The Richland County Transportation Department ensures that drainage and hydraulic studies are being performed to ensure that stormwater structures are reducing volume and stormwater runoff velocity from newly paved roads. For transportation improvement projects, project engineers are responsible for determining the applicable design criteria (roadway and drainage) and standards for development of the project upon initiation of design services. Each project is scoped with the project engineer to determine the

applicable and controlling standards in order to ensure the project is developed with proper standards. The Richland County Stormwater Management Design Standards and the SCDOT Hydraulic Design Manual are utilized for determining the applicable project criteria; this document is based upon all requirements as set forth by SCDHEC and applicable federal and state regulations. A stormwater management report, based on the design standards, is developed for each transportation project to identify drainage areas, hydrology and design hydraulics, as applicable documentation for the preparation of a land disturbance permit.

Inspections, Operation and Maintenance – The Stormwater Division works closely with the Roads and Drainage Division on appropriate maintenance activities that can reduce or minimize the amount of pollutants captured in stormwater runoff from roadways. Both Divisions inspect the County roadway network and submit service requests to address maintenance concerns observed in the field. The County does not perform de-icing activities. Sand is used when necessary to prevent ice on roadways.

Visual inspections of high-risk flooding areas are conducted before large storm events. The Roads and Drainage Division uses the street sweeper and vacuum trucks to clean any debris identified in the drainage system. This not only reduces the chance of localized flooding but also removes potential pollutants from entering the system.

Maintenance Schedule – The Stormwater Division and Roads and Drainage Division continue to work on the creation of a proactive maintenance schedule for the County’s roadway network. The Stormwater Management Division provided identified high-risk areas to the Roads and Drainage Division for focused usage of the street sweeper and vac trucks. This reduces the risk of clogged infrastructure along the County’s road network and removes potential pollutants from entering the system.

The Solid Waste Division and Special Services Division both have active litter pick up programs. Refuse Control Officers in the Solid Waste Division, are responsible for ensuring cars and trucks carrying debris are covered while on the highway, check illegal dumping sites on lots and roads and issue citations for violations of the County’s Solid Waste Ordinance. The Special Services Division has an inmate labor program, which utilizes inmates from the SC Department of Corrections to provide litter pick up along County maintained streets. Special Services also partners with HOAs and community leaders to organize annual community clean up events. These events provide an opportunity for citizens to properly dispose of unwanted items not collected at curbside by regular trash collections.

Assessment of Controls

The County has a fully implemented existing roadways program and continues to investigate ways to increase proactive maintenance of the roadways. There was a 41% increase in the number of illegal dump requests investigated this year. This is due to the reopening of the county facilities and an increased effort to educate citizens about proper ways to report illegal dumping. Through the county’s street sweeping and vac truck programs 167 streets were swept and 1,768 tons of material was removed from the County’s drainage network. Over 815 tons of litter was prevented from entering the County’s MS4 through various litter control activities.

For transportation improvements projects, the County’s Transportation Department paved six (6) dirt roads. Reducing the number of dirt roads reduces the amount of erosion and sedimentation associated with those dirt roads. The Transportation Department continues to address the increase in runoff from paving dirt roads through their plan review and approval process.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Number of illegal dumping requests investigated:	1033
Number of warning letters issued by Special Services:	186
Number of citations issued by Special Services Division:	24
Number of warning letters issued by Solid Waste Division:	125
Number of citations issued by Solid Waste Division:	9
Number of dirt road culverts proactively inspected by the Stormwater Division:	197
Number of dirt road culverts requiring maintenance from inspection by the Stormwater Division:	31
Number of ditches investigated/cleaned/cutback/maintained:	309
Number of drainage problems investigated/maintained:	377
Number of catch basins investigated/repared:	4
Number of manhole lid problems:	17
Number of dirt roads paved penny tax:	6
Number of dirt road culverts inspected	197
Number of streets swept:	167 streets 668 tons of material removed
Number of catch basins vacuumed:	185 catch basins 1100 tons of material removed
Number of litter control activities by Special Services:	6 special clean-up projects 301 roads with litter picked up 439 tires picked up 1450 illegal dump sites cleaned 5220 estimated litter bags collected 815.25 tons of litter collected

2. Use the table below to summarize roadway maintenance action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Roadway Maintenance Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Maintain and modify policies, procedures, or regulatory requirements for the use of structural and nonstructural controls	Review current policies and procedures and update as necessary	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The road maintenance standard operating procedures was updated along with the Public Works Stormwater Pollution Prevention Plan
Perform routine inspections of each maintenance facility to ensure BMPs are operational and determine changes that are necessary to improve runoff quality.	Continue yearly and quarterly inspections of the county owned BMPs.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Water quality units are inspected twice a year and curb screens are inspected quarterly. County-owned ponds inspected yearly. 25% of major outfalls screened yearly.
Increase frequency of street sweeping.	Develop a proactive schedule for the use of the street sweeper.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Created a pilot project with Roads and Drainage for proactive use of the street sweeper.
Dissipate energy from stormwater discharges on new pipe installed.	Require the use of energy dissipation BMPs on pipes installed on new roads.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The Penny Transportation Program installs all new pipe outfalls with riprap aprons to dissipate the energy from the stormwater discharge and to protect against scour.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program’s strengths?

1. Evaluate the success of this MCM. What are the program’s strengths?
<p>This program is fully implemented. The Stormwater Division proactively inspects unpaved roads and culvert crossings on unpaved roads. The Public Works Department works closely with the Transportation Department to stress the importance of water quality on new road paving projects.</p> <p>The amount of litter picked up and debris removed from the County’s MS4 increased this year. Operations have returned to normal after the previous shut-down related to COVID-19.</p> <p>The Transportation Department hired inspectors and brought on five on-call engineering firms and seven construction, engineering, and inspection firms to meet their program goals.</p>

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

Continued coordination between the Stormwater and Roads and Drainage Division on identifying areas for proactive street sweeping and vac truck deployment will further improve removing pollutants from the MS4.

D. Minimum Control Measure 4: Flood Control Projects

Objective

Incorporate water quality criteria into the design and construction of projects to manage storm events with a recurrence frequency of 100 years or some less frequent storm events.

General Discussion of SWMP Element

Capital Improvement Project List - The Stormwater Management and Engineering Divisions respond to flooding complaints and evaluate those complaints for possible inclusion on the County's Capital Improvement Project (CIP) list. The CIP list is created using a Project Database Tool. The Project Database Tool uses evaluation criteria to cover a range of considerations that are important in the implementation of a potential capital improvement project. By applying the criteria in a systematic method, each potential project is objectively evaluated and compared. The evaluation criteria are: improves stormwater drainage, floodplain management, water quality, fiscal responsibility, customer service, and workforce. Projects that improve floodplain management and water quality are weighted higher than projects that do not improve these areas.

Once a project goes on the CIP list, either the Engineering Division or an outside consultant completes the design. The Stormwater Division has a CIP Manager who oversees the design and construction of Stormwater CIPs.

The Stormwater Division requires designers to follow the Land Development Manual, which is currently being updated, and this includes procedures and policies related to water quality of projects, including flood control projects. Water quality design requirements are implemented and thus are assessing water quality impacts.

The County is implementing a new standard in the new Land Development Manual, which encourages engineers to use the IDEAL model for all permitted projects. This model evaluates the performance of BMPs and calculates loads and concentrations of sediment, nitrogen, phosphorus, and bacteria based on designer inputs and local, historic soil and rainfall data.

Assessment of Controls

The Flood Control component is fully implemented. The Stormwater Division requires projects to meet the water quantity and quality standards and has bi-weekly project meetings with the Engineering and Roads and Drainage Divisions to discuss flood control projects. The bi-monthly meetings improved coordination when it comes to addressing water quality in both CIP and force account projects. The County's on-call consultant, Woolpert, is working with the Stormwater and Engineering Division to update the County's 25-year Stormwater Plan and project ranking database to meet new program needs. We think that our program is improving and is successful due to the fact projects are being completed within budget and during appropriate time frames.

There have been more projects moving forward with construction in recent years. Since the October 2015 flood, the Stormwater Division has leveraged disaster recovery funds to design and construct other flood control projects.

Summary of CIP/Flood Control Projects:

Site 1: Spring Valley Little Jackson Creek Stream mitigation, Stream restoration and Regenerative Stormwater conveyance – Seeking HMGP Funding (Estimated Cost: \$1.2 million)

Status:	In progress (Design Phase: 95% completed & Construction Phase: 0% completed)
Location:	Spring Valley Subdivision adjacent to stream
Description:	The project began in early 2013 and is part of an overall strategy to improve water resources and quality in the Gills Creek Watershed. Erosion of the streambed and side slopes has potentially compromised the integrity of the adjacent rail bed and is beginning to cause property damage along the adjacent residential properties (Spring Valley Subdivision). Transported sediment has contributed to siltation in Lake reducing the capacity for regional drainage detention, degrading water quality and creating a negative impact on the lake habitat.

Site 2: Knollwood Drive Drainage Study and Property Buyouts (Estimates Cost: Grant Funds additional \$2.1 Million Construction)

Status:	In progress (Design/Study Phase: 100% completed & Construction Phase: 100% completed)
Location:	Flooding of Properties along channel between Knollwood Drive and Planter Drive
Description:	Purchasing the properties adjacent to the concrete lined channel that currently experience flooding under various storm events, but the overall goal of the project will now be to permanently address water quality and flooding for this area as much as practical and feasible with the property and resources available to the County.

Site 3: Melody Gardens Stream/Ditch Stabilization Project (Estimates Cost: \$165,847.00 Design & \$400,000 Construction)

Status:	In progress (Study/Design Phase: 100% completed & Construction Phase: 90% completed)
Location:	Upstream drainage ditch stabilization near Firelane road on the back side of Moonglo Circle
Description:	Channel stabilization will be addressed as part of this project, but the overall goal of the project will now be to permanently address water quality for this area as much as practical and feasible with the property and resources available to the County.

Site 4: Danbury Basin Area Improvements Project (Estimates Cost: \$280,000.00 Design/CGBD-DR Grant \$2.1 Million)

Status:	Complete (Study/Design Phase: 100% completed & Construction Phase: 10% completed)
Location:	The project area will extend from the North 21 Terrace development above Mason Road down to the regional detention pond on the Full Gospel Word & Worship church property at 6015 N. Main Street.
Description:	Channel stabilization will be addressed as part of this project, but the overall goal of the project will now be to permanently address water quality for this area as much as practical and feasible with the property and resources available to the County. These improvements are to help the existing pond on the church property to provide more peak detention during design events and help the drainage system within the basin to meet the 10-year level of service.

Site 5: Knollwood Drive Drainage Project (Estimates Cost: \$99,063.00 Design & \$500,000.00 Construction)

Status:	In progress (Design/Study Phase: 100% completed & Construction Phase: 0% completed)
Location:	Flooding of Properties along channel between Knollwood Drive and Planter Drive
Description:	This project will consist of the design and installation of measures to improve drainage and flooding issues in an existing drainage ditch/channel. The project area will extend between Knollwood and Planters Drive. The goal is for these improvements to help the existing channel to reduce flooding at peak flows during design events and help the drainage system within the basin to meet the 10-year level of service. The design must take into consideration all county design standards for water quantity and quality. These improvements are to serve as an innovative example of stormwater best management practice.

Site 6: Hickory Ridge Development Drainage Study (Estimates Cost: \$58,000.00)

Status:	In progress (Design/Study Phase: 100% completed)
Location:	The Hickory Ridge Development area extends between Bitternut Drive, Ragsdale drive, Shellnut Avenue and Hickory Ridge Drive.
Description:	This project will consist of assessing the flood and water quality risks in the watershed. The consultant must develop a plan to reduce the flood risk and improve water quality. Recommendations in the plan must include both engineered and natural solutions.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Number of completed CIP projects:	3
Number of new CIP projects:	2
Number of drainage projects completed with in-house labor:	12

2. Use the table below to summarize floodplain management action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Floodplain Management Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Create a Flood Control Program document (SOPs).	Procedures for the permitting process to include as assessment of water quality impacts on receiving water for flood management projects identified in the watershed planning process.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	This action item is a requirement for all consultants to look at a way to address water quality in all capital improvement projects.
Assess pollution discharge procedures, processes, and methods to control the discharge of pollutants from Flood Control Projects into waterbodies and publicly owned lakes.	Projects selected from the County’s 25-year Stormwater plan will be reviewed and assessed to see how water quality can be implemented.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	This action item is complete and the process will be ongoing throughout the permit term.
Improve coordination within the Public Works Department on drainage and CIP projects.	Hold regular meetings between Engineering, Roads and Drainage, and Stormwater Management.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Bi-weekly projects meeting coordinated by the Deputy Public Works Director.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

This program is fully implemented. The Public Works Department has a dedicated Capital Improvement Project Manager who oversees design and construction of the Stormwater Capital projects. The Capital Improvement Project Database ranks capital projects based on flood control and water quality benefits. Over half of the projects on the Stormwater Divisions CIP list have complete designs and are ready for construction. The Engineering Division hired a new Assistant County Engineer to facilitate the implementation of in house drainage projects. Filling this position increased efficiency with ranking projects and coordination between the Divisions.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

The County will receive additional disaster recovery funding for mitigation projects. This will require increased coordination between project managers and the Stormwater Management Division to include water quality benefits in future projects. The awarding of these grant funds is delayed, therefore the unknown draw on staff time is still an unknown that may affect efficiency on other projects.

E. Minimum Control Measure 5: Municipal Facilities

Objective

Implement a pollution prevention and good housekeeping program that involves regular inspections, maintenance, and training with the goal of preventing or reducing pollutant runoff from municipal operations.

General Discussion of SWMP Element

Richland County must identify priorities and procedures for inspecting and implementing controls for stormwater discharges from county facilities such as landfills, hazardous waste treatment, storage and disposal facilities.

Facility Inventory and Prioritization - Richland County's Stormwater Management Division has reviewed and updated the County-owned municipal facilities. Facilities are ranked low, medium, and high priority. All County-owned industrial facilities, locations with a previously developed SWPPP, or locations with a Spill Prevention, Control, and Countermeasure (SPCC) plan are considered high priority and are inspected yearly. Low and medium risk facilities are inspected once every permit cycle. The County has six (6) facilities that store a combined total 1,320 or more gallons of fuel, used oil containment, and have a SPCC plan. Each facility with a SPCC plan has an onsite spill cleanup and containment kit.

The Stormwater Division maintains a list of industrial facilities owned or operated by the County that are subject to the SCDHEC NPDES General Permit for Stormwater Discharges Associated with Industrial Activity along with a list of BMPs that are located at each County facility. The Division has identified and located all landfills. A copy of facility inspection reports completed over the permit term is located in Appendix F.

The Town of Arcadia Lakes does not own any facilities but helps promote stormwater quality awareness where possible. The Town of Arcadia Lakes developed a Stormwater BMPs fact sheet to educate employees.

The City of Forest Acres owns a Public Works facility and some parks. The Public Works facility has a SWPPP and distributed a Stormwater BMPs fact sheet to all City staff. The City has a CESPCI certified inspector on staff.

Inspections, Operations, and Maintenance - The Operational Services Division is responsible for maintenance of County facilities. The Stormwater Division conducts the yearly inspections for high-risk facilities. Any concerns noted during an inspection are forwarded to the appropriate department head along with the Operational Services Department manager.

Operational Services oversees the annual Underground Storage Tank (UST) inspections. UST inspections occurred at the main Public Works location, DPW Ballentine Campus, the Landfill, Eastover, and the Hamilton-Owens airport, by Precision Tank Services. All of the sites passed their line and detection tests, as required. All UST sites are inspected monthly by a County employee who has passed SCDHEC testing and designated as a "Class A Operator". The annual SCDHEC inspection followed at all of these sites. All issues found at the sites during the inspections were corrected in a

timely manner, and the permits for the new year were issued and are posted at each site. Examples of necessary repairs included spill bucket replacements, modifications to shear pins, and hose and line replacements. The sites that include above ground tanks are being reviewed for possible inclusion in an annual program for replacement of the tanks with newer, double-walled containment storage tanks. The Operational Services Department is budgeting for one site per year to remove old tanks and install new, larger double wall tanks. The first tank replacement occurred at the Blythewood Fire/EMS station. Site selected for the next tank replacement will be Spring Valley EMS/Fire Station.

Operational Services is currently closing out the construction phase of having the 6 traction elevators modernized/upgraded. This upgrade helps reduce the environmental exposure from a potential leak with the drive unit by having new parts and by ensuring that all the connections are tight and proper. The new equipment also allows for better inspections, thus also reducing the chances of spills in the future. During the construction process, the contractor adhered to all environmental regulations, including recycling the old equipment and the removal of ACM and Hazardous material. This project affects stormwater by reducing the exposure to water contamination. This project is completed and is in the closeout phase.

The Solid Waste and Recycling Division (SWR) has added additional covered storage in the recycle area to contain potential pollutants. Re-constructed the storm water pond in front of Phase 4. Removed loose silt and sediment to original base grade. As well as constructed new check dams.

The SWR is continuing efforts to address stormwater runoff by using mulch to control erosion, cleaning stormwater ditches and ponds, keeping used oil, antifreeze, and other items under cover. SWR maintains all stormwater ponds located on the property for capacity and discharge. Loose contaminants are removed immediately. The closed and open Phases on the property are largely covered in vegetation preventing unwanted silt and sediment. SWR, as normal practice, keeps as much waste off the ground and in containers as possible.

A stormwater inspector completes monthly inspections for the main Public Works facility at 400 Powell Road. The County maintenance vendor, First Vehicle Services, inspects the Central Garage located on the main Public Works yard monthly. This monthly Environmental Inspection Report provided by First Vehicle Services includes inspections of the shop's hydraulic equipment (lifts), outside facility and parking areas, the fluid storage areas including waste oil and new fluid tanks and drums, and the equipment used in the maintenance of the County equipment. The Central Garage facility receives a monthly environmental and safety inspection performed by the County maintenance contractor, First Vehicle Services. Their Monthly Environmental Inspection Report (MEIR) includes inspections of the shop hydraulic equipment, outside facility and parking areas, the fluid storage areas (including waste oil and new fluid tanks and drums), and the equipment used in the maintenance of the County equipment.

Spill Prevention and Containment

There are six sites under this program and Operational Services works with other agencies and County Departments to implement this program. These agencies include the County Stormwater

Division, Columbia – Richland Fire Department, Eagle Aviation, and the Solid Waste and Recycling Department.

The Hamilton – Owens airport program oversight is handled by a Fixed Base Operator (FBO), Eagle Aviation, due to their work of transporting and fueling aircraft. The Airport Director also works to insure compliance of the program by the FBO.

Four sites are County fire stations manned by City of Columbia fire personnel: #17 Upper Richland, #19 Gadsden, #24 Sandhill, and #26 Blythewood. The City personnel maintain the SPCC inspection reports and report to County Facilities Maintenance any concerns by utilizing an e-mail address set up for this purpose. Emergency contacts are also provided in each on site binder to include home numbers for immediate needs. All requests are then inputted into the maintenance work-order system to insure follow-up and completion for any non-urgent issues and tracking of any urgent items.

One of the major projects where funding continued from FY14 through FY21 was emergency generator upgrades for all Richland County Fire Stations. During this period, (15) new generators have been installed. This multiyear project is now completed.

Training - The County has a Stormwater Pollution Prevention Plan (SWPPP) video that is presented to the appropriate staff and high-risk facilities are targeted. A SWPPP and Industrial General Permit (IGP) training are held annually. The topics included are consistent year to year and include different groups to cover items related to the Public Works SWPPP, SCDHEC information and updates, and MS4 related topics related to inspections, good housekeeping, BMPs, industrial runoff, and water quality monitoring. This year's annual training was conducted virtually on October 29, 2020 using the Zoom webinar feature. Twenty-three employees logged into the virtual training, but multiple employees watched in certain locations. A spreadsheet of those logged in is included in the Appendix C. The training was recorded and made available through the Department of Public Works intranet site for new employees and those unable to attend.

City of Forest Acres Codes Enforcement Officers receive informal training in, and application of, Water Quality Buffer Ordinance, Erosion and Sediment Control, and Flood Damage Prevention Ordinance. The Code Enforcement Officers are under the supervision of Keith Lindler, who is a registered Professional Engineer (#10846) and registered Building Official (#2240) with the State of South Carolina. City Code Enforcement staff joined the South Carolina Association of Stormwater Managers in January 2019 and will attend the affiliated conferences. Public works staff will begin receiving formal training semi-annually in 2020. Other training provided to Town staff is listed below:

- February 12, 2021, two staff attended the SCASM 1st Quarter Virtual meeting.
- June 3, 2021, one staff attended the SCASM 2nd Quarter meeting.

Assessment of Controls

The Municipal Facilities SWMP component is fully implemented. County facilities are ranked using a low, medium, or high priority scale, with high priority facilities receiving annual inspections. Facilities with SWPPPs and SPCC plans that are currently in place are included on the high priority list.

Four (4) new control measures were implemented or required at County facilities during this reporting year. Facilities operating under a NPDES Industrial Permit continue to implement the facility’s SWPPP.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Number of monitored municipal facilities:	38 (Richland County), 3 (Forest Acres)
Number of added monitored municipal facilities:	1
Number of SWPPP inspections completed:	20
Number of SWPPP locations needing enforcement:	1
Number of SPCC inspections completed:	6
Number of SPCC locations needing enforcement:	1
Number of newly implemented control measures:	4

2. Have yearly comprehensive inspections been conducted at high priority facilities? If not, indicate a status and planned completion date in the chart below.

Yes No In Progress (*explain*): _____

3. Has training been conducted for employees? If not, indicate a status and planned completion date in the chart below.

Yes No In Progress (*explain*): _____

4. Use the table below to summarize municipal facility pollution prevention action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Ensure that the maintenance and inspection of MS4 catch basins and structural storm water controls are addressed in the chart. Add rows where needed and attach additional sheets if necessary.

Pollution Prevention Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Add berm to all 4 fuel dispensers	Reduction of fuel spills leaving the site.	<input checked="" type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	This installation reduces the risks of potential storm water contamination via a fuel spill.
Assess all municipally owned or operated facilities	Complete by June 1, 2018	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Item was completed by July of 2016.
Based on assessment create a high priority facilities list	Complete by June 1, 2018	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Item was completed by July of 2016.

Perform an annual inspection of high priority facilities	Start by June 1, 2018	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Completed in August/September 2020.
SWPPP Training	Hold training for County-owned SWPPP facilities	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Held a training on SWPPP requirements for County industrial facilities on October 29, 2020.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

The County has a successful good housekeeping program. Most of the high priority facilities have SWPPP or SPCC already in place. The Stormwater Inspector has good communication with other divisions responsible for high priority facilities. Both the Operational Services Department and Fleet Services Division are well versed in the SWPPP and SPCC requirements and actively monitor the buildings and grounds they are responsible for maintaining.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

Improve record keeping by integrating the files and inspection reports in a GIS based system instead of using Excel spreadsheets.

F. Minimum Control Measure 6: Application of Pesticide, Herbicide, and Fertilizers (PHF)

Objective

Implement a program to reduce, to the MEP, pollutants in discharges from the County associated with the application of PHFs including educational activities, permits, certifications, and other guidance related to using, storing, and disposing of PHFs.

General Discussion of SWMP Element

Richland County had fully implemented its PHF program. The Stormwater Division reviewed and updated the PHF program in 2016. This included updating the PHF SOP, list of facilities, and applicators for inspections. The database is prioritized with criteria and level of risk.

Certifications - The County's Operational Services Division is responsible for grounds maintenance. Mr. Wells is certified by Clemson University, certification number N006492, which expires in December 2021, to handle restricted use pesticides. Mr. Wells possesses emergency spill response training.

Usage – The Stormwater Division maintains an inventory of all Department of Pesticide Regulation (DPR) approved chemicals and where they are located. The Stormwater Division inspects all county owned facilities where PHFs are used and stored. The Division also inspects facilities not owned by the County that are operating under a Clemson PHF certification.

Operational Services uses three (3) types of application equipment that requires calibration; a Lesco Commercial Broadcast Spreader with deflector shield, backpack sprayer, and 25-gallon tank sprayer. For the broadcast spreader, the product package and instructional information is referred to for the recommended rate setting and recommended swath width before proceeding with the application. The fertilizer spreader is filled on a sidewalk, driveway when possible, or over plastic to control any unforeseen spills. Delivery rates and patterns are done to a small area before proceeding to the treatment of a larger area to help ensure accuracy, and the deflector shield is used to ensure minimal runoff.

All facilities under the oversight of Operational Services are treated with appropriate materials to aid in healthy greenery and distributed according the specification of the product label in conjunction with any literature regarding that product (LABELING). Chemicals are mixed in a contained area, empty chemical containers are triple rinsed and disposed of according to manufactures specification. Chemicals are applied to plant material with a backpack hand pump sprayer and tank sprayer. A surfactant is added for maximum adherence to plants with minimum application amounts along with an identification dye to track where the chemical is being applied. Calibration and repair of all applicators are completed in house.

The County does not use pesticides for repelling or mitigating insects or rodents, with the exception of mosquito control.

The following is a list of chemicals that are presently used by Operational Services by product name and active ingredient:

Non Selective Herbicide

Active Ingredient

Prosecutor/Ranger Pro	Glyphosate N- Glycine (36%-41%)
*Mojave	Imaxapyr/Diuron
*Oust	Sulfometuron Methyl
Tribune	Diquat Bromide
Pramatol	2-4 D Bis Cesopropylamino
Selective Herbicide	Active Ingredient
Speedzone southern	2-4 Dichlorophenoxyacetic
Weedar	2-4 Dichlorophenoxyacetic
Image	Imazaquin
Manor	Metsulfuron
Cesuis	Thiencarbazone-methyl
Cross Bow	Isopropylamine Salt of Glyphosate 41%
Fungicides	Active Ingredient
Eagle	
Bush Master	2-4 D Ethylhoxyl
Insecticides	Active Ingredient
Top Choice	Fipronil
Lesco Crosscheck	Biferthirm
Bandit	Imidacloprid

*Currently **NOT** in Facilities & Grounds Stock

Standard Operating Procedure - When a chemical is purchased, the amounts/quantities used are tracked as to identify total application amounts for each facility. To minimize storm runoff of the applied chemicals, weather conditions are monitored as to provide as many dry days as possible after applications. Facility sprinkler systems are also turned off after applications. If chemicals are to be stored for any length of time, they are placed in a containment shed at the County’s Gregg Street facility, which has limited access.

Training - Operational Services continues to utilize on-the-job opportunities for educating and training other grounds staff members on the proper use, care, and application of pesticides and herbicides. This is being accomplished through classes provided by the Stormwater Management Division and hands-on training by the grounds manager. Copies of sign in sheets from training activities are located in Appendix C.

The Stormwater Management Division holds a yearly Blue Thumb Workshop focused on pesticide, herbicide, and fertilizer usage. Landscapers across the County are invited along with EcoGroup and licensed applicators who work for the County. The Blue Thumb Workshop was held February 18, 2021.

Contractor – The County utilizes EcoGroup, a licensed pesticide and herbicide applicator through the state of South Carolina, to assist in administering chemicals along County maintained ditches. Contracted applicators are required to have proper certification and licensure for pesticides application through Clemson Extensions DPR.

The Hamilton – Owens Airport has herbicides and pesticides applied by DBI Services through a statewide contract administered through the SC Aeronautics Commission.

The following applications on the Hamilton-Owens Airport took place during the preceding twelve-month period:

- | | | |
|-------------------------------|----------------------|-------------|
| • Herbicide | Airfield lights | Spring 2021 |
| • Herbicide | Taxi lane pavement | Spring 2021 |
| • Herbicide | Perimeter fence line | Spring 2021 |
| • Pesticide (Fire Ant killer) | Airfield lights | Spring 2021 |

Assessment of Controls

The County is implementing the PHF Program to control PHFs from entering stormwater runoff. There are no sites that required enforcement this year. This year, eleven (11) sites could not be inspected due to scheduling conflicts or the sites being closed to the public. The Stormwater Division reports locations that are not under its jurisdiction to Clemson.

Measurable Goal Summary

- Complete the list below for the last reporting year:

Total number of PHF inspections performed:	21
Number of sites with unsatisfactory/noncompliant inspection results:	0
Number of sites that could not be inspected	11
Number of sites with requiring enforcement	0

- Use the table below to summarize PHF application action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

PHF Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Identify areas known to have high applications of PHFs and prioritize problem areas	Complete	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Completed by July 2016.
Maintain an inventory of on hand PHF and information about product formulations	Complete	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Inventory reviewed and updated throughout the permit term.
Develop and implement a program to detect the improper usage of PHFs	Complete	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Updated PHF SOP in December 2016.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program’s strengths?

The County has successfully implemented the PHF Program. A list of departments and individuals that utilize PHFs and the list of chemicals stored by those departments is kept in the Stormwater Division. The Stormwater Division provides annual PHF conference for internal and external PHF contractors.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives

Not Applicable

G. Minimum Control Measure 7: Illicit Discharges and Improper Disposal

Objective

To develop processes, procedures, and legal authority to track and eliminate illicit discharges and improper disposal into the storm sewer system.

General Discussion of SWMP Element

Richland County Ordinance 26-203 prohibits illicit connections, illegal discharges, illegal dumping, and improper disposal, as well as addresses organic waste and spills. The Richland County Stormwater Management Division enforces this ordinance. The ordinance includes language concerning the reporting of SSOs within Richland County. The Stormwater Division also has a SOP for Illicit Discharge Detection and Elimination. The County's SOP includes procedures and checklists. Stormwater Division staff is trained on using field-screening testing kits for routine parameters, including *E. coli*, to take a quick screening sample to verify a suspected illicit discharge. If the Stormwater Division receives a suspected illicit discharge via One Stop, the County's service request system, or a phone call, a stormwater inspector investigates within 24 hours. A report is created from this inspection and proper enforcement and follow-up actions are determined. Paper copies of the inspections, reports, and follow-up letters sent are kept in the Stormwater Division.

Richland County Utilities Department has a rigorous Fats, Oil, and Grease (FOG) compliance program in effect. This program is aimed at reducing disruptions in service and overflows. The program's focus is on reducing FOG at the source, mainly commercial food service establishments (FSEs). Richland County Utilities (RCU) has issued 14 notices of non-compliance to FSEs to ensure compliance with FOG specifications. Affected FSEs have responded accordingly by installing and updating grease traps/interceptors per RCU's code of regulation, Section 8.1.

The County has mapped its drainage network including pipes, outfalls, detention ponds, and channels. The County has mapped the entire drainage system, but a map of the entire drainage system is not included. A map of major outfalls and their locations is included in Appendix E.

Field Screening – The Illicit Discharge and Improper Disposal (IDID) element requires the identification and dry weather inspection of all MS4 outfalls into waters of the State. Dry weather field screening is scheduled for all outfalls over the five-year permit period with the goal of inspecting 25% annual basis for the first four (4) years with follow up any further investigations and reporting in the fifth permit year.

During dry weather field screening investigations maintenance needs are identified and reported to the Roads and Drainage Division. A prioritized ranking system outlined in the IDID SOP provides the prioritization. While performing field screening throughout the County, field staff investigates all outfalls and further defines major outfalls. New outfalls and outfalls located while in the field are added to the database from as-built drawings. Outfalls are stored and updated in a GIS shape file.

In permit year 2019, the County's Stormwater Division implemented a small unmanned aerial system program in order to improve watershed and project assessments. This program utilizes a small drone (operated by an FAA licensed pilot) and advanced remote sensing software to provide aerial imagery

and topographic maps for decision-making processes. The Stormwater Division drafted SOPs in order to operate as safely and effectively as possible. In the future, this will be an important tool for remote assessments of outfalls and potential illicit discharges, allowing the division to conduct inspections and gather information in a quick and cost-effective manner.

The County has the entire storm drainage system mapped. Due to the size of the system, the information is not available online but is maintained via an internal GIS system, which is updated yearly. A copy is available upon request. For ease of reporting a map of the County's outfall network is included in Appendix E.

The City of Forest Acres is maintaining an annual subscription to GIS-based software called Mobile311 that allows in the field documenting of conditions and uploading of photographs for support of codes enforcement/stormwater regulation.

The Solid Waste Department works to locate and prosecute illegal dumpers in Richland County. Enforcement actions taken by the Solid Waste Department are discussed in the Enforcement Section.

Spill Response - Another key element of the IDID program is an effective spill prevention and response program. Section 26-202(c)(8) of the County's ordinance addresses spill response and establishes the authority of the Richland County Director of Emergency Services (or an authorized fire official) to control and contain hazardous materials that are emitted into the environment and are considered a threat to public health or the environment. This section also establishes the right of entry of the official in charge of a situation onto any private property. If it is determined that a spill could potentially impact stormwater or a receiving stream, the Stormwater Manager is contacted immediately.

Spill Response Procedures are included in Section 8 of the "Standard Operating Procedures: Illicit Discharge Detection and Elimination Program" document. This includes procedures for reporting spills, cleaning up spills, and follow-up.

Sources with the greatest potential for spills are inspected during facility inspections and efforts are made to provide appropriate storage and containment to prevent spills.

Richland County has a Hazardous Material Contingency Plan that the Emergency Management Division is responsible for implementation and update.

Public Reporting of Illicit Discharges - The One Stop response system is available to Richland County residents for making illicit discharge reports along with calling the Stormwater Management office directly. The County has an Adopt-A-Stream program to get citizens actively involved with testing water quality. Citizens are trained to actively look for suspected illicit discharges and provide with information on how to report those to the county while volunteering for the program. Reports of suspected illicit discharges discovered by an Adopt-A-Stream volunteer are forwarded to the Stormwater Manager.

Various educational outreach tours are held at the Broad River Wastewater Treatment Plant (WWTP) for elementary through high school classes, college environmental courses, and various civic groups that discuss stormwater impacts upon the operation of wastewater collection and treatment systems

and stormwater impacts upon the receiving waters that WWTP's discharge into. However, due to COVID-19 protocols, educational outreach tours have been suspended until further notice.

The City of Forest Acres and Town of Arcadia Lakes have monitored siltation in local creeks from construction sites and they have contacted Richland County for support when necessary. Richland County's One Stop response system provides citizens with the resource to report any illegal discharges.

A copy of all suspected illicit discharges, SSOs and other investigations are included in Appendix F.

Oil & Household Hazardous Waste - The oil and household hazardous waste portion of the IDID element is aimed at residents. Public education about the proper way to dispose of these materials is key to ensure the elimination of discharges or dumping of oil and household hazardous waste. Richland Recycles Day is an annual event where residents can safely dispose of household hazardous waste.

Richland County sponsors a Clean Sweep program in neighborhoods throughout the County. This program provides residents with a convenient means to dispose of hazardous household materials (HHM) inappropriate for collection with solid waste. In addition, the County operates a construction and demolition (C & D) landfill that accepts C & D debris, used tires, used motor oil, used oil filters, antifreeze, appliances and yard waste. The County contracts with private companies to dispose of the waste collected at this landfill. There are also ten (10) sites located in the County that accept used oil, oil filters, and antifreeze. These sites are operated in conjunction with Santee Cooper Power.

Sanitary Sewer and Septic Seepage - Richland County has seven (7) sewer service providers, and Richland County Sewer Service is one of them. Richland County's sewer service system. If there is a spill, the Utilities Department follows SCDHEC guidelines and will send a report within 24 hours including clean-up performed and corrective action plan assessed. Since each spill and related cleanup is so diverse, they do not have particular procedures identified for each type of spill. The Utilities Department follows SCDHEC guidelines in their submission of reports and submits monthly reports with all the findings. Any sewage seepage detected during dry weather screening is addressed.

For the specified time of this report (July 1st, 2020 to June 30th, 2021), there were a total of sixteen (16) SSOs being reportable to the South Carolina Department of Health and Environmental Control. The spills ranged in size from about 40,000 gallons to five hundred gallons. The total gallons lost from all SSOs from July 2020 to June 2021 was 126,250 gallons. In addition, several SSOs were due to negligence by construction companies damaging County infrastructure. These were unforeseeable by Richland County Utilities (RCU), and yet RCU actively checks job sites to ensure compliance with the PUPS program.

RCU has an updated, efficient, and effective electronic alert system and High Tide Technologies alert systems. These systems are connected to all pump stations with High Tide Technologies dedicated secondary alarm to the major pump stations in the area of operations. These systems generate an automatic alert that is sent to the on-call phone pager. If these alerts are not acknowledged, a calling tree series of automated calls to all RCU goes into effect until the said alarm is acknowledged. In addition, the redundancy of the High Tide Technologies, which sets as an additional safety protocol

for the major pump stations, generates an alarm that automatically goes to all RCU's personnel regardless of acknowledgment.

Recently, RCU started installing the Supervisory Control Data and Acquisition (SCADA) system at pump stations within the collection system. The SCADA unit is a system that allows both monitoring and controlling pump stations. This allows staff to control the system remotely as required, potentially eliminates the delayed response to emergency alarms, and limits future SSOs. The SCADA system will replace all OMNI and High Tide Technology at all RCU's pump stations. It is worth mentioning that RCU tracks the SSO using its ArcGIS system. That provides more information up to date to the maintenance, operational, and engineering team to work on the cause of the SSOs and provide practical solutions to prevent these spills in the future.

In addition to the electronic monitoring and controlling process, all pump stations in the area of operations can pump peak flow volume (PFV) if the primary pump becomes disabled, as all pump stations have at least one pump of equal power as a backup. Large pump stations also have on-site generators capable of powering the pump stations at PFV until normal power is restored. Small pump stations are provided with electrical connections connected to a portable generator for generating power. RCU supplies fuel to these generators using its portable fuel tanks, which is on standby at its facilities until a contractor takes over to provide energy for these generators.

RCU always takes an aggressive approach to combating SSOs and infiltration of sanitary sewage and septic seepage. The maintenance staff has increased in size; this new personnel is trained not only to apply laws and regulations to perform their duties but also to perform the mechanical and practical aspects. Coupling this training with mission objectives, quality equipment, and access to reliable contractors improve technicians' maintenance skills to make immediate decisions to contain or control any situation regardless of their tenure. Furthermore, full support from the Chain of Command at RCU is available 24/7.

The spill and clean-up procedures, included in the training for field maintenance crews, are for whoever receives a call for an issue related to the system to respond immediately on-site to resolve that issue. After ascertaining the area of operation is safe to work in, the next step is to isolate and shut down the cause of the flow itself. Once the instantaneous flow stops, safety procedures are followed to protect the surrounding area from further contamination. The risk to the public health, surrounding workforce, and environment is then minimized. Once the situation has stabilized, SSOs are reported to proper authorities. Proper investigations will be performed to prevent future occurrences or at least minimize them.

Upon responding to a sewer obstruction, Maintenance crews will first determine if this obstruction falls under the responsibility of RCU. If there is an existing issue, the decision will be made based on what work needs to be done to rectify the problem.

Currently, there is a plan to commence using the SL-RAT system to monitor the health system of the RCU gravity sewer mains. Furthermore, the plan will be conducted as needed to test the system followed events such as after significant weather or indications that cause the reliability of the lines might have been compromised.

Maintenance crews and performing SL-RAT testing are performing camera inspections when necessary to locate blockages, bellies, and other potential sources of sewer obstructions. Maintenance crews have found and repaired several sites where inflow and infiltration (I/I) were prevalent. In addition, maintenance has raised several manholes which were in floodplains. There are plans to raise/rehabilitate more in the near future.

Operations/Maintenance personnel replaced manhole cover on UV system influent manhole at Broad River WWTP with a higher vertical section. In addition, it resealed joints to stop past seepage and halt any leakage.

Summary on measurements taken to seal sanitary sewer lines - RCU has taken a proactive approach to seal sewer lines and rehabilitating manholes over the thorough inspection of surface lines and manholes by responding to any issues with long-term and permanent solutions. Performing these actions is proven to be effective and efficient in reducing infiltration and preventing SSOs from occurring. As mentioned earlier, RCU has raised/rehabilitated approximately 10 manholes in the Shady Grove lift station area. This has resulted in a noticeable reduction in I/I. We are presently preparing to raise/rehabilitate ten more manholes to reduce I/I further.

Operations/Maintenance personnel replaced manhole cover on UV system influent manhole at Broad River WWTP with a higher vertical section. It resealed joints to stop past seepage and halt any leakage.

Summary of approach to eliminate sanitary sewer failures - As mentioned above, RCU takes an aggressive, professional, and dedicated stance on the issue of SSOs and their prevention. The philosophy, adopted not only by the Chain of Command but also by field level supervisors and all other workers, is that the prevention of an SSO far outweighs any response that can be mustered during or after one has occurred. Having stated that understanding, a reiteration of crucial points of this program is not without merit, as this further reinforces the main points of the response and reaction.

RCU maintains the necessary equipment and material to repair manholes, risers, and lids, which are on standby for immediate deployment as needed. Visual inspections of these lines using the SL-RAT and CCTV are conducted continuously. Also, because part of the procedure of Right-of-Way maintenance and mowing is to inspect the condition of manholes and lines visually, this further increases the chances of identifying any problems with the lines. The technicians identify the issues, mark them with paint, and immediately report any damages or issues to their supervisor. Inspection of lines is optimized by integrating the SL-RAT with the GIS layout of our sewer system. Utilizing these procedures allows for accurate and real-time updates of the system and identification of any potential future hazards or issues.

Personnel is trained in the mechanical aspect of the system and the operations side as well, ensuring that there is at least an understanding of how the entire system works, from the time the wastewater enters the system, then properly treated and released into the outfall. Safety, communication, and a working knowledge of the system and its relationship to the community are key points to preventing an SSO and anticipating where a problem may arise. These attributes, combined with the necessary equipment, access to contractors, and all personnel's ability to make, informed decisions at the scene, add to maintaining a safe environment.

All crews are instructed to inspect the pump stations at least twice weekly, including the generators on-site, floats, transducers, and other necessary components of those areas. Accountability and documentation of these actions are also critical. A consistent form was compiled for each pump station so that all observations could be recorded at the inspection time. These sheets are collected monthly and reviewed by the Maintenance Supervisor. They understand that any deviance in the pump station's usual operations is to be immediately reported to the appropriate person for immediate action.

Our active compliance personnel conducts monthly inspections and enforcement to control fats, oils, and grease (FOG) in RCU's sewer system. Education of the public is also critical in preventing SSOs, such as informing homeowners about how to identify potential issues, when tanks should be pumped, and what is and is not appropriate for disposal into the system itself. The FOG program also enforces this doctrine, both at a commercial and residential level, ensuring the standards of quality are equally applied across the system. Combining these efforts into a concise method of operations has allowed RCU to not only react, but more importantly reduce and prevent the number of SSOs in our area.

The Septic Elimination Program for Lower Richland has been contracted to a consulting and engineering firm. The plan for septic elimination has been approved and will be implemented accordingly. As ownership of a property is changed, RCU requires new owners to change the LETTS system to STEP system per RCU's code of regulation section 10.1.

RCU staff has taken an active role in evaluating any plans, proposals, etc., submitted by consulting firms for adequacy, appropriateness, completeness, etc.

Employee Training – The Public Works Department offers an annual “All Hands” meeting, which is held every December. All employees in the Public Works Department are required to attend. A variety of topics are covered at this meeting including, but not limited to, Spill Prevention and Control, Good Housekeeping Practices, Illicit Discharge Detection and Elimination, and Roadway Maintenance Pollution Prevention.

RCU Maintenance, Operations, and Engineering staff regularly attend conferences, training sessions sponsored by WEASC, on-site training given by vendors, confined space entry training, on-the-job training, tailgate safety meetings, informal one on one training, etc.

Assessment of Controls

The County has a fully implemented Illicit Discharge Detection and Elimination Program. The number of suspected illicit discharges decreased slightly from the last annual report from 22 to 17. Of those investigated, only one was an actual illicit discharge and the City of Forest Acres identified four. The County's efforts to effectively prohibit illicit discharges through inspections, reporting, and increased awareness may have resulted in an increase in the number reported and inspected. RCU implemented an aggressive monitoring, reporting, and response system for SSOs.

Measurable Goal Summary

1. How can the public notify the MS4 of suspected illicit discharges?

Citizens can contact the Stormwater Management Division or the Ombudsman's office at 803-929-6000.

Complete the list below for the last reporting year:

Total number of suspected illicit discharges investigated by Richland County Stormwater:	17
Total number of illicit discharges found by Richland County Stormwater:	1
Number of NOVs issued related to Fats, Oil & Grease program:	14
Number of household hazardous materials collected at hazardous material recycling event:	16.30 tons
Number of suspected illicit discharges/improper disposal City of Forest Acres:	7
Total number of illicit discharges found by City of Forest Acres:	4
Number of proactive dry weather inspections:	78 major outfalls screened
Number of SSOs investigated by Stormwater:	5
Number of SSOs investigated by Richland County Utilities:	16
Number of SSOs reportable to DHEC by Richland County Stormwater:	5
Number of SSOs reportable to DHEC by Richland County Utilities:	16

2. Use the table below to summarize IDDE action items, goals, and progress for the current reporting year. In the "activities conducted and planned" section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

IDDE Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Update dry weather screening/IDDE manual.	Review manual to see if there are any updates	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Completed by June 30, 2017.
Identify all field screening points	Work with GIS to identify new outfalls	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	GIS updates outfall inventory throughout the year.

Update illicit discharge inspection form	Review form to see if any changes need to be made due to new permit	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Completed in July of 2016.
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Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

This program is successfully implemented. All stormwater staff is trained in the proper response procedure in identifying and responding to an illicit discharge and other departments are trained on proper illicit discharge inspection and reporting procedures. Richland Utilities has a robust program to identify sewer leaks, repair and upgrade infrastructure, and respond to sanitary sewer overflows.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

Transitioning to a digital inspection form that will automatically map the location of illicit discharges will ease in drawing a correlation between potential increases in pollution levels in monitoring data. The Stormwater Division is working with the County's GIS Division to implement this change in 2022.

H. Minimum Control Measure 8: Industrial Runoff

Objective

Implement a program that monitors and controls pollutants, to the MEP, in stormwater discharges to the County's MS4 from industrial facilities.

General Discussion of SWMP Element

Legal Authority - Richland County's ordinance, Section 26-203 provides the County with authority for inspectors to implement the inspection schedule.

Facility Inventory - The County maintains an inventory of all industrial facilities and updated procedures for inspecting, monitoring and responding to non-compliance at industrial facilities. Updates include identifying and controlling pollutants in stormwater discharges to the Richland County MS4 from any municipal landfill(s), hazardous waste treatment, storage, disposal (TSD) and recovery facilities, and facilities that have reported under the requirements of the Emergency Planning and Community Right to Know Act (EPCRA) Title III, Section 313. The list is updated annually and includes the closest waterbody, watershed, and sub watershed that the facility drains to. The inventory of industrial facilities is included in Appendix G.

Inspections - Any facilities that have closed/moved were removed from the facility inventory. Landfills are included in the inventory and are inspected annually. By the end of this reporting year, there were 139 facilities on the list the same as the previous year. All 139 facilities were inspected by the end of the fourth year of the annual report. The County will continue to implement the program by inspection twenty-five percent (25%) of the industrial facilities in the upcoming permit year. In addition to updating the industrial facility database, the inspection report includes detailed information such as receiving waters, priority classification, and County tax map number. Before an inspection, the facility is contacted to schedule a date and time that a representative can be present. The County inspector walks the site and notes any concerns during the inspection. A follow-up letter and inspection form are submitted to the industry concerning any deficiencies found. If there is a significant deficiency, a NOV is submitted to the industry and a follow-up inspection is conducted.

All inspection reports are filed in the central repository in the Stormwater Management Division's Office and are available upon request. A list of inspected industrial sites is provided in Appendix G.

The industrial program has continued to grow and evolve. One such way was the development and testing of a digital inspection form to replace the current paper form. Richland County GIS Division has developed the form and presented it for field-testing in April of 2021. It is an ESRI based platform, using the Survey123 app. Stormwater personnel began testing the form and has provided feedback. The form will be implemented in September of 2021.

Monitoring – The County implemented a self-monitoring program for industrial sites. The majority of the industrial facilities inspected by the County are covered under the SCDHEC IGP and perform their own monitoring. The IGP permittees perform monitoring at industrial facilities, and the Stormwater Division checks that results are maintained at the facility during inspections. The County did not find evidence of industrial facilities non-compliant with their monitoring requirements. If the County has

a reason to believe, through analysis of its monitoring program, that an industrial site is the source of the discharge of pollutants downstream the County has the legal authority to inspect the site and conduct additional monitoring.

Assessment of Controls

The Industrial Runoff Program is fully implemented. The COVID-19 pandemic concerns forced many industries to suspend operations or go to a no visitor policy. Therefore, there were no inspections completed in the later half of 2020 and early 2021, but all industrial facilities have been inspected within the allotted timeframe of the permit. The Stormwater Division hired a new inspector in 2020.

Measurable Goal Summary

1. Complete the list below for the last reporting year:

Total number of inspections performed:	0
Number of sites with unsatisfactory/noncompliant inspection results:	0
Number of active industrial users in Richland County:	139
Number of sites with enforcement escalation (action taken beyond written warning):	0
Percentage of industrial facilities inspected:	100%

2. Use the table below to summarize industrial runoff action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Industrial Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Develop and begin testing digital inspection form to replace current paper form.	Complete testing and implement new form.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The form will be implemented in September of 2021.
Review and update Industrial Runoff program SOP.	SOP update completed.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Started using updated SOP in July 1, 2017 in daily activities.

Industrial Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Ensure new water quality industrial monitoring plan includes consideration for industrial runoff.	Locate wet weather stations at industrial outfalls.	<input type="checkbox"/> In Planning <input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Completed <input type="checkbox"/> Evaluation	The County's monitoring plan is focused on TMDL, 303d listed and sensitive waters. The County provides general oversight of industries to ensure they are following the monitoring plans in their IGP. If any questionable spikes in County collected samples/monitoring data, occur that may point towards an industrial facility as the potential source, more targeted monitoring at or near the industrial facility will be considered.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

This program is successfully being implemented. The Stormwater Division hired a dedicated inspector in June 2019 who completed all industrial inspections before leaving the County in February 2020. A new inspector was hired and will resumed the industrial inspections in the fall of 2021.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

Currently inspection forms are done on paper and the list of industries are kept in a spreadsheet. The conversion to a digital inspection form will automatically map and inventory locations will keeping the reports tied to each facility. The Division plans to have the conversion to a digital form completed in 2022.

I. Minimum Control Measure 9: Construction Site Runoff

Objective

Reduce erosion and sedimentation associated with construction sites by implementing the appropriate ordinances and procedures to require the design, installation, and maintenance of effective pollution prevention measures for construction site operators.

General Discussion of SWMP Element

Richland County continues to implement its sediment and erosion control standards. The County is currently developing a Land Development Manual that will fully incorporate the changes required in the MS4 permit and the Construction General Permit.

Plan Review and Approval - Sediment & Erosion Control Plan Reviews are performed by the Community Development and Planning Department in the Planning and Community Development Department. The Community Development and Planning Department also conducts plan reviews for the Town of Arcadia Lakes and the City of Forest Acres. Richland County utilizes a plan review checklist to review submitted information prior to approval and issuance of a land disturbance permit. The checklist includes items to ensure that sediment and erosion control measures during the land disturbance and stormwater management practices are completed and adequate.

County staff can take a maximum of 18 days to complete the first stage of the plan review. Any modifications or changes to be made are then discussed and resubmitted for further review. Plan review is all completed electronically. A plan submittal may not be submitted to the County for review until all required items are included. Any questions or issues that arise during plan review are followed up on prior to approval.

Chapter 26 of Richland County's ordinance establishes regulations for erosion and sediment control, land development regulations, zoning, and landscape requirements. The Enforcement Response Guide for Stormwater Management and Floodplain Management programs addresses the appropriate enforcement actions related to specific violations. The County's Land Development Manual and ordinance provide the requirements related to permit approval and the specific erosion and sediment control BMPs required. Guidelines for site specific SWPPPs are also included in the Land Development Manual and on the Richland County Development Services website.

Qualified County staff conduct plan and SWPPP reviews. Richland County provides training for the plan reviewers through Clemson's Certified Stormwater Plan Reviewer (CSPR) certification program.

Richland County reviews SWPPPs to verify that consideration has been given to TMDL waters, 303(d) impaired waters, wetlands, and sensitive waters and what water quality impacts the discharges may have. The Land Development Manual, which is currently being updated, includes special design provisions for construction projects that disturb 25 acres or more and discharge to a TMDL or impaired waterbody to have BMPs in place during construction and after construction to meet antidegradation requirements.

Additional information on the process of plan review, inspection, and enforcement is provided on the County's website: <http://rcgov.us/DevServ/QuickLinks/CodesandRegulations.aspx>

Sediment and Erosion Control Inspections - The Community Development and Planning Department conducts sediment and erosion control inspections on all sites undergoing construction weekly and after large storm events. These inspections continue throughout all phases of construction until the project is closed out. When applicable, the inspection includes enforcement actions as required in the County's Enforcement Response Guide for Stormwater Management and Floodplain Management programs. Community Development and Planning Department Inspectors are authorized by Richland County to enforce the requirements of the Land Development Ordinance.

If a deficiency is found the site is given a NOV or Stop Work Order (SWO) depending on the level of deficiency. NOVs are submitted in writing and a card is posted onsite if immediate compliance is required. The Division gives the violator seven (7) working days of the inspection to comply. A SWO halts all land disturbing activity. A SWO shall be submitted in writing and a card is posted onsite immediately.

If there is any off-site impact, it is deemed a failed inspection. Failed inspections are given the opportunity to submit and act upon a corrective action plan approved by the Community Development and Planning Department.

The Community Development and Planning Department has three inspectors who are assigned specific areas of the County where they conduct sediment and erosion inspections, road construction inspections, and special investigations.

This past year has presented challenges to the compliance staff due to a staff shortage, budget reductions and, of course, COVID-19. Despite these challenges, compliance in the field is still high. Inspectors and plan reviewers developed a positive working relationship with the developers and made "Education and Outreach" a big part of the inspection process. This has provided a much greater understanding and appreciation among the regulated community of MS4 requirements and County expectations. The judicious use of enforcement tactics, i.e., NOVs and SWOs along with a more positive interaction with the regulated community has led to greater compliance in the field. While the threat of a SWO is immediately effective in bringing about corrective action, education and outreach for the regulated community appears to have had an extremely beneficial effect as compliance has become a collaborative effort between the permit holders and compliance staff.

Inspections Team – Supervisor and 3 Inspectors

- **Certified Erosion Prevention and Sediment Control Inspectors (CEPSCI) (All)**
- **Certified Asphalt Roadway Technician (2)**
- **Certified Earthwork, Drainage & Base Inspector (2)**
- **Certified Nuclear Gauge Safety Training Program (2)**
- **Certified Stormwater Plans Reviewer (CSPR) (2)**
- **Plan Review (2)**
- **Certified Floodplain Manager (CFM) (1)**

Community Involvement and Training - Over this past year, we have also had several opportunities for both formal and informal education and outreach sessions with the community at large.

Town of Arcadia Lakes – Formal meeting at the Arcadia Lakes Town Hall with the Town Mayor, Town Council Members, members of the Richland County School District, a Richland County Council Member, and concerned residents of the community. This meeting called by the Town Mayor as a “question and answer” session regarding sediment and turbidity concerns in Cary Lake, supposedly coming from the Forest Acres Elementary School project. During the meeting, the MS4, the County’s expectations for compliance and the regulatory difference between sediments and turbidity and how the County inspects and assesses compliance were all discussed at length.

Stonemont Subdivision - This was an informal meeting with about fifteen concerned residents after a catastrophic SEC BMP failure and sediment and turbidity impacts to the community lake. At this meeting staff fielded questions regarding the regulatory difference between turbidity and sediment, the permitting process, the MS4 and its requirements and the inspection and compliance process.

Ballentine Cove – This was an informal meeting with member of the Ballentine Cove HOA to discuss turbidity and sediment concerns in the Lake Murray cove in their community. Again, the MS4, the County’s expectations for compliance regarding the MS4 and the regulatory difference between sediments and turbidity and how the County inspects and assesses compliance were all discussed at length.

Alden Glen – This was an informal meeting on site in an adjacent neighborhood with many concerned residents who were concerned that the new construction would lead to flooding. The permitting process and stormwater studies were discussed at length as well as the inspections process, the MS4 and compliance process.

Village at Hilton - This was another informal meeting with member of the Village of Hilton HOA and concerned residents to discuss turbidity and sediment concerns in the common lake in their community. And, once again, the MS4, the County’s expectations for compliance regarding the MS4 and the regulatory difference between sediments and turbidity and how the County inspects and assesses compliance were all discussed at length.

Training - While education and training measures for construction site operators and those associated with the implementation of sediment and erosion control measures at constructions is daily and on-going, training for our inspectors has also been a challenge because of budget cuts, staff reductions and COVID-19. There are plans to hire additional inspectors in 2022 and training for all inspectors is expected to accelerate. For this past calendar year, sediment and erosion control inspectors received 3 CEPSCI certifications and 2 Plan Reviewer Certifications.

The Community Development and Planning Department along with the Department of Public Works Stormwater Management Division held two (2) training sessions on the proposed revisions to the Land Development Manual.

Assessment of Controls

Richland County has sediment and erosion control plan review procedures in place. Richland County has an Enforcement Response Guide in place as well as a priority decision matrix to aid in construction site inspections.

The judicious use of enforcement tactics, i.e., Notices of Violations and Stop Work Orders along with a more positive interaction with the regulated community has led to greater compliance in the field. While the threat of a Stop Work Order is immediately effective in bringing about corrective action, education and outreach for the regulated community appears to have had an extremely beneficial effect as compliance has become a collaborative effort between the permit holders and compliance staff. The number of construction sites increased slightly in 2021 from 456 to 485 respectively. The number of NOV's increased but this correlation is expected considering the increase in sites.

Measurable Goal Summary

1. How can the public notify the MS4 of possible noncompliance at construction sites?

Citizens can contact New Development or the Richland County Ombudsman’s office at 803-929-6000.

Complete the list below for the last reporting year:

Total number of active construction sites:	485
Total number of certified construction site operators:	51
Number of stop work orders:	27
Number of notice of violations:	37
Number of final inspections:	65
Number of sediment erosion control inspections:	1845
Number of new stormwater BMPs approved:	0

2. Use the table below to summarize construction and post-construction site action items, goals, and progress for the current reporting year. In the “activities conducted and planned” section, focus on activities that were conducted in the last reporting year and those that are planned for the upcoming reporting year, providing implementation dates. Add rows where needed and attach additional sheets if necessary.

Construction Site Action Item	Measurable Goal(s)	Progress on Goal(s)	Activities Conducted and Planned <i>(specific implementation dates)</i>
Review construction SOP. Update as necessary.	Make changes to the construction SOP during the creation of the land development manual.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Finalize construction SOP after land development manual is approved.
Identify additional local trainings for staff to attend.	Send staff to sediment and erosion control training as it becomes available.	<input type="checkbox"/> In Planning <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Completed <input type="checkbox"/> Evaluation	Schedule staff to attend trainings yearly to the MEP.

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

The successful implementation of improved technology in the Community Development and Planning Department allowed the program to continue during the COVID-19 shut down. During the last year Community Development and Planning improved consistency from all of the inspectors which increased compliance from the regulated community. The Department seldom sees more than 5% non-compliance rate on a weekly basis.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

Increased coordination between Community Development and Planning and the Department of Public Works though this should improve with the start of monthly Public Works and Community Development and Planning meetings.

J. Minimum Control Measure 10: Public Education & Public Participation

Objective

Distribute educational materials or conduct equivalent outreach activities about the impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff.

General Discussion of SWMP Element

Town of Arcadia Lakes, City of Forest Acres, and Richland County must implement a public education program to distribute educational materials or conduct equivalent outreach activities about the impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff. The successful implementation of each component of the SWMP requires the education and input of all residents of Arcadia Lakes, Forest Acres, and the unincorporated areas of Richland County.

Richland County's Stormwater Division has a full-time outreach and public involvement coordinator. The County has a comprehensive public outreach plan.

Identify and Analyze Pollutants of Concern – Richland County has identified the pollutants of concern (POC) for the County's MS4 area. These include *E. coli*/Fecal Coliform, phosphorus/nutrients, and litter.

Richland County staff analyzed the POCs and narrowed down their sources to better target pollutant-focused programs. Richland County waterways have a great economic and recreational value that will encourage the public to be more involved in maintaining and improving the water quality. Consideration included TMDL watersheds, impaired waterbodies, and input from the County's monitoring results.

Program Highlights – During the 2020-2021 permit year, the County addressed POC-targeted outreach through workshops (in-person and virtual), events, newsletter publications, and media campaigns.

The annual "Blue Thumb Landscaper Conference" targets lawn maintenance professionals and landscape architects. Topics in the conference's fifth year included soil health, native plants and insects, parks and wetlands in stormwater management, aquatic plant management, and small-scale mushroom production. Due to the COVID-19 pandemic, the conference was held virtually with 89 attendees. The "Blue Thumb Landscaper" program also hosted two rain barrel and compost bin sales during which citizens were able to purchase rain barrels and compost bins at a discounted price while learning about the importance of composting to reduce landfill waste, reducing use of fertilizers in gardens, and recycling roof runoff.

"Trash the Poop" is an ongoing program that works to encourage pet owners to pick up their pet waste and educate the public on how this affects water quality. This program includes sponsoring neighborhoods to receive free pet waste stations that the neighborhood can maintain, mass media campaigns, and the distribution of leash bag holders. Every year Richland County partners with the City of Columbia and the Columbia Fireflies baseball team to host the Trash the Poop Wag-Along

Wednesdays at the Fireflies games; however, the baseball games were canceled during the 2020 season due to the pandemic. Games resumes during the 2021 season and Richland County employees attended 4 games and gave away 154 leash bag holders. Because of the partnership, Segra Park has seen a reduction in the amount of dog waste seen at the games.

The “Drains Aren’t Dumps” campaign communicates the message about how illicit discharges and illegal dumping affects water quality. During the height of the pandemic, storm drain marking was on hiatus, but media campaigns continued to educate the public on the importance of identifying illicit discharges and reducing the amount of non-point source pollution that entered the storm sewer system.

Richland County hosted an “LID and Water Quality Standards” webinar that covered the various LID practices, a cost-benefit analysis of those practices, and an overview of how LID practices can help meet the new water quality standards.

In addition to the standard outreach programs hosted by Richland County, the Stormwater Management Division launched a “Community Gap Analysis” project to determine the level of public awareness regarding water quality, public involvement, and the role of Richland County Stormwater Management has in the community. Six (6) virtual focus groups were attended by 37 community members during which participants were asked questions about and discussed their thoughts on the health of the County’s waterways. In addition to the focus groups, 13 citizens filled out a survey asking the same questions asked during the focus group in lieu of attending the focus groups. Details about the results of the focus groups can be found in the final report, included as Appendix J.

Digital Outreach – Because the in-person events typically hosted by Richland County Stormwater Management Division could not be held due to COVID-19, the division focused its efforts on mass media campaigns and digital outreach. Five new educational videos covering composting, watershed awareness, rainwater harvesting, car washing, and illicit discharges were published. A video on SWPPP’s and spill control was also featured during a department-wide training.

Through partnerships with Buonasera, Free Times, Natural Awakenings, and Richland County PIO Richland County covered illicit discharges, proper oil disposal, septic system maintenance, pet waste disposal using billboards, OTT, targeted emails, newsletter articles, digital ads, and print ads. Digital outreach topics were developed based on the target POCs, upcoming events, and geographic areas in which impaired watersheds are located.

Richland County Stormwater also partnered with Richland County Solid Waste and Recycling on proper yard debris disposal and the importance of keeping trash and yard debris away from storm drains.

The Solid Waste and Recycling Division assisted the Stormwater Division with the Clean Storm Drains campaign to keep yard waste from being placed near or above storm drains. SWR continues to educate County residents over the phone and in person with our Refuse Control Officers and Collections Control Inspectors.

City of Forest Acres also hosted public education and outreach activities in the reporting year 2020-2021:

- July 28, 2020; Utilizing city's Facebook page, Posted information about a Recycling Drop-off event. 486 people were reached with this post.
- August 4, 2020; Utilizing city's Facebook page, Posted information about a Recycling Drop-off event. 1,166 people were reached with this post
- August 4, 2020; Utilizing city's Facebook page, Posted information related to an environmental conservation program hosted by Richland County. 959 people were reached with this post.
- October 2, 2020; Utilizing city's Facebook page, Posted information related to the Trash the Poop Campaign from Richland County. 372 People were reached with this post
- October 23, 2020; Utilizing city's Facebook page, Posted an information about national prescription drug take back day to educate people on the proper way to dispose of prescription drugs to ensure they don't end up in the watershed. 779 people were reached with this post.
- November 20, 2020; Utilizing city's Facebook page and website, the city officially announced and launched the Waste Wizard app to assist in educating the public in the correct way to dispose of certain types of materials and recycling. 507 people were reached with this post.
- February 23, 2021; Utilizing City's Facebook page, Posted an advertisement for a Richland County and Lexington County recycling event. 1,018 people were reached with this post.
- May 24, 2021; Utilizing City's Facebook page, posted about the Waste Wizard app to assist in educating the public in the correct way to dispose of certain types of materials and recycling. 591 residents were reached. In addition, the City placed flier on every recycling can at over 4,000 residences.

Forest Acres City Council approved additional funds in the 2020-2021 budget for a targeted recycling educational tool. Waste Wizard is an online tool that allows users to sign up for notices about recycling pickup and provide online interactive games to teach people about property recycling. Through an enhanced recycling program, the City feels more debris can be properly disposed of and less will find its way into the watershed.

The Richland County Conservation Division works directly with the Commissioners of the Richland Soil and Water Conservation District and Richland County Conservation Commission to implement the responsibilities of the District and Commission. The Division also consults with and advises County Council and the County Administrator regarding the conservation and protection of Richland's natural, cultural and historical resources.

During the reporting period, the Conservation Division held many Stormwater related workshops and education events that reached over two-thousand individuals. Below is the list of activities conducted by the Conservation Commission:

Producer Workshops:

- Stormwater-related events for agricultural producers conducted in FY21 include:
 - USDA-NRCS Local Work Group Meeting (virtual) for producers and natural resource professionals in Calhoun and Richland County was held in August, 2020; 12 attendees
 - Staff presented a session at the Southeast Stormwater Association’s Virtual Conference in October, 2020 titled “Success Story: Significant Bacteria Reduction from BMP Implementation.” The presentation was based on the Richland District’s experience leading a Section 319 water quality improvement grant in the Twenty-five Mile Creek Watershed; 75 people attended the session.

Stormwater-Related K-12 Student, Teacher, and Community Education:

- Richland SWCD staff produced 4 educational videos which addressed water quality-related topics:
 - Home Composting – 76 views
 - Integrated Pest Management – 608 views
 - Leave the Leaves – 583 views
 - Take Action SC Soil Conservation – 250+ workshop attendees
- In partnership with Richland County’s Public Information Office, Stormwater Management Division, and Division of Solid Waste and Recycling, Richland SWCD co-hosted a Winter Garden Watch Party for 40 participants in January 2021. The webinar included information about composting and rain barrels.
- Richland SWCD staff co-moderated a Champion of the Environment webinar on soil science (and the connections between soil conservation and water conservation) for 60 participants in October 2022.
- Staff mentored water-related projects at three schools through the Green Steps School Program and assisted with the production of a Green Steps School virtual training video (65 views to date).
- Staff led a “Sediment and Water Quality” virtual session for the Trout in the Zoo workshop in January 2021.
- Richland SWCD co-hosted monthly “Midlands Meetups” events for environmental educators in the midlands, including several educators who teach about stormwater-related issues. These Meet-ups were regularly attended by 12-30 individuals and provided professional development and networking opportunities to strengthen stormwater outreach in the midlands region.
- Richland SWCD sponsored and co-hosted the Southeastern Environmental Education Alliance’s annual conference in September 2020 and the Environmental Education Association of SC’s annual conference in June 2021. These virtual conferences were attended by 140 and 88 participants, respectively. Both events included sessions related to stormwater education.
- The Richland SWCD provided soil and water conservation education materials to two Richland County schools during FY21.
- Richland SWCD sponsored the FY21 Youth Conservation Poster Contest on the topic “Health Forests = Healthy Communities.” Forests provide several stormwater-related benefits, including reduced stormwater runoff, improved water infiltration, and flood mitigation. 88 Richland County students participated in the contest and 22 received awards in the FY21 competition. The District supported the development of a video about the theme (viewed 145 times) which includes information about how healthy forests affect water resources.

- Richland SWCD provided an Adopt-A-Stream monitoring kit for community use during FY21. This kit was borrowed for several months of data collection by students at Spring Valley High School and Dreher High School.
- Richland SWCD sponsored the 2021 SC Envirothon and supported the 2021 SC Envirothon Coaches Training (virtual edition). This program educates students and coaches about water conservation issues.

Conservation Education Mini-Grant Program: FY21 Conservation Education Mini-Grants supported the following stormwater-related projects at local schools:

- **Camp Discovery (\$1,000)**
Educational programming through Camp Discovery motivates, inspires and engages children by providing them a unique opportunity to be citizen scientists on the property at Camp Discovery, on their school grounds and now, more than ever, in their own backyards.
- **School Gardens, Pendergrass Fairwold School (\$1,000)**
Students will plant and maintain a variety of herbs and vegetables in the school’s greenhouse while learning about the needs of plants, practicing their vocabulary and communication skills, and developing hands-on skills for future employment. Project lead: Elizabeth Dawn Henson, teacher.
- **Conservation Newsletter and Vermicomposting Project, Dreher High School (\$500)**
Dreher High student Sophia Austermilller will partner with University of South Carolina student mentor Hannah Walton to create a monthly conservation newsletter for Dreher’s student body. Students will also launch a project that uses earthworms to turn food scraps into a rich soil amendment. The Dreher Recycling Club and Take Action SC Student Ambassadors for Sustainability program are sponsoring the project. Project lead: Austermilller
- **Carnivorous Plant Bog Garden, Cutler Jewish Day School (\$500)**
To learn more about the state’s ecosystems and biodiversity conservation, second- and third-grade students will create a bog garden featuring native carnivorous plants such as Venus’ flytrap, sundew and pitcher plants. Students will create lap books about the project and share their conservation research with other elementary classes during a school assembly. Project lead: Valerie Hoyt-Parrish, teacher

Other Efforts:

- Stormwater-related social media outreach was conducted through the [Carolina Cover Crop Connection Facebook Group](#) (1,100 members) and the Richland SWCD [Facebook Page](#) (986 follows), [Twitter](#) (453 followers), and [Instagram](#) (517 followers) accounts.
- The District published monthly e-newsletters which included information about water conservation efforts to >3,000 recipients.
Equipment Rental: The District provides low-cost rental of a no-till drill to promote soil health and water quality protection.

Partner Organizations – Although the Richland Countywide Stormwater Consortium no longer exists, the Stormwater Management Division continues to partner with other County programs, agencies, and local non-profits to educate citizens about water quality, land conservation, and stormwater management. Those partner organizations provided information about their activities in Richland County and their subsequent reach.

The Gills Creek Watershed Association (GCWA) works to restore Gills Creek, educate the communities within its watershed, and advocate for the protection and preservation of the Creek's resources, beauty, and environmental sustainability. The GCWA maintained its membership base of over 375 members within the watershed. During the 2020/2021 reporting year the organization hosted multiple outreach activities. These outreach activities took place through social media, webinar series, and monthly newsletters. As well as hosted, several socially distanced in person educational events. More detailed information on the GCWA's activities can be found in their yearly report included in Appendix I.

Assessment of Controls

In a typical year, education and public involvement efforts include surveys given at the end of workshops, verbal feedback at meetings and events, and written feedback submitted on Facebook pages. Because no in-person events were held during the permit year, assessments were limited to the number of interactions through digital platforms. These assessments are useful for evaluating a single event or specific topic but may not show overall behavior change. The Education Program Coordinator also conducts mid-year and end-of-year assessments to determine areas that need to be addressed in order to meet the outlined goals and objectives.

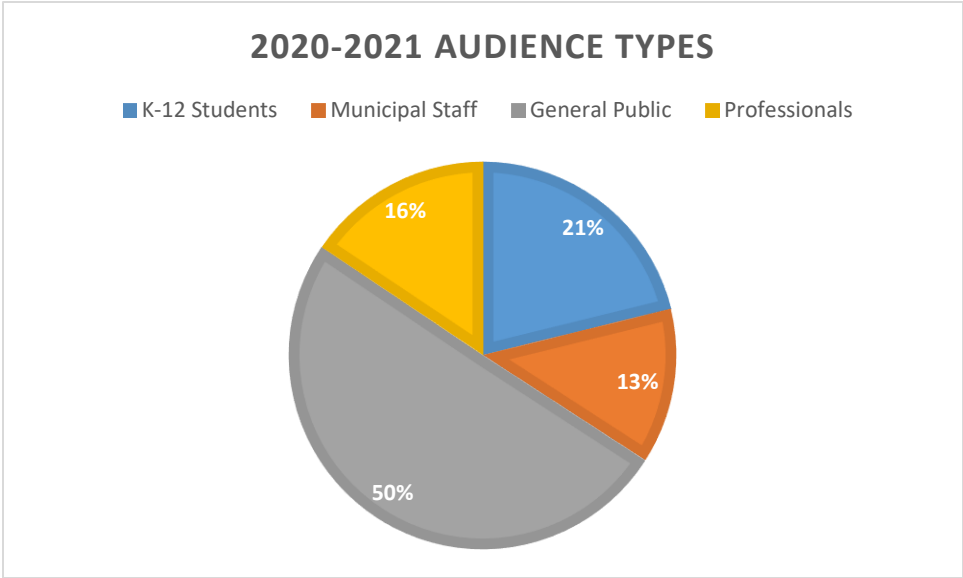


Figure 1. Pollutants targeted during workshops, presentations, and trainings.

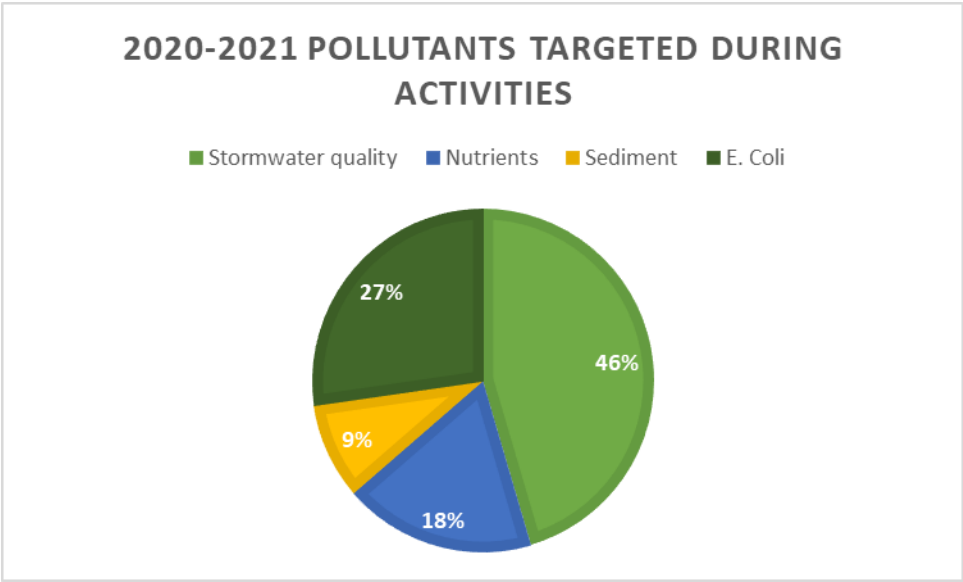


Figure 2. Audience type reached through workshops, presentations, and trainings.

Measurable Goal Summary

Number of people reached via internet resources	4,406,579
Number reached via publications, newsletters, and articles:	6,868
Number reached via festivals and events:	6,992
Number reached via presentations:	106
Number reached via workshops & trainings:	395
Number of workshops hosted by Richland County Stormwater Division	11

Control Measure Evaluation

1. Evaluate the success of this MCM. What are the program's strengths?

The County has a fully implemented Public Education and Public Participation Program. By changing the outreach platform and approach to a digital format, the County was still able to maintain the ability to execute most of the requirements outlined in the permit.

2. Provide an evaluation of where the program needs improvement and explain any actions that will be taken to achieve objectives:

Not Applicable

V. Monitoring Activities

A. Objective

As directed in its MS4 permit, the County continues to implement appropriate monitoring activities directed at the improvement of water quality conveyed by its MS4. Overall objectives for monitoring are to 1) characterize the quality of stormwater conveyed through the County's MS4, 2) assess in-stream water quality conditions in impaired watersheds across the County, 3) assess and observe water quality conditions in TMDL watersheds as outlined in the County's TMDL monitoring plans, 4) observe the biotic health of sensitive waters found throughout the County and 5) decrease (ideally eliminate) pollutants entering stormwater runoff and discharging into waters of the State to the Maximum Extent Practicable. To meet objectives 1 through 4, the County continues to implement the monitoring activities described in its MS4 NPDES Monitoring Plan (Appendix K) and summarized in this section. To meet objective 5, the County continues to implement its dry weather-screening program, described in Section G of this report.

B. General Discussion of SWMP Element

As directed in its MS4 permit, Richland County developed and continues to implement a monitoring program consisting of three (3) main elements: An Impaired Waters Monitoring Program, a TMDL monitoring program, and a Sensitive Waters Monitoring Program. The activities conducted under these three programs are outlined in the County's Monitoring Plan (Appendix K). These monitoring activities aid the County in understanding the impact of its MS4 on receiving waterbodies and in tracking water quality in its receiving streams. As part of its Monitoring Plan, the County collects ambient samples, wet weather samples, macroinvertebrate samples, and conducts continuous monitoring of dissolved oxygen, as appropriate.

C. Ambient Water Quality Monitoring Program

Richland County has developed and implemented a water quality-monitoring plan designed to meet requirements contained in the County's permit, while also informing the County on water quality conditions in waterways that receive discharge from the County's MS4.

The County's monitoring plan includes three major components:

1. **TMDL Monitoring:** The County's TMDL monitoring relies upon wet weather sampling at selected outfall locations.
2. **Impaired Waters Monitoring:** The County's impaired waters monitoring program primarily involves the collection of in-stream water quality samples to characterize conditions in impaired waterbodies. This information is supplemented with macroinvertebrate sample collection, sediment sampling, and periodic deployments of continuous dissolved oxygen (DO) sensors where appropriate, based upon the pollutant of concern.
3. **Sensitive Waters Monitoring:** This program includes the collection of macroinvertebrate samples in order to characterize overall stream health of sensitive waterbodies at locations in the County's MS4 area.

The County reviews and reports on data collected under its monitoring program in several ways. Under each of its TMDL Implementation Plans, the County reviews data collected in the corresponding TMDL watershed and includes results from that analysis as part of each TMDL Implementation Plan. All updated TMDL Implementation Plans are located in Appendix M. In addition to these reporting procedures, the County has initiated quarterly sampling reports to provide a more immediate overview of sample results as the implementation of its monitoring program continues. Appendix D includes all the quarterly reports from the 2020-2021 reporting period. Each report includes a brief description of the County’s sampling program, an overview of the specific quarterly sampling activities, and highlights notable results. Lab results for the macroinvertebrate samples (2020-2021) and sediment samples (entire permit term) are included within the quarterly reports in Appendix D.

A summary of the TMDL, impaired, and sensitive’s water sampling locations and samples collected in the 2020-2021 reporting year can be found in Tables 1 through 3 below.

Table 1. TMDL Implementation Monitoring Stations Sampled in 2020-2021 Reporting Year		
Station Name	Abbreviated Station Name	Number of Samples Collected
100 Huckleberry Court	HLS-TMDL-1	4
Business Park Boulevard	CRN-TMDL-2	4
6616 Dare Circle	GIL-TMDL-3	4
Hampton Trace	GIL-TMDL-4	4
Peake Road	BER-TMDL-5	4
Pine Grove Road	HRS-TMDL-6	4
Northpoint Boulevard	CRN-TMDL-7	4
Old Still Road	JAK-TMDL-8	4
Williamsburg Drive	BRD-TMDL-10	3
Jayne Lane	BRD-TMDL-11	3
Upland Trail Road	KLY-TMDL-13	3

Table 2. Impaired Watershed Monitoring Stations Sampled in 2020-2021 Reporting Year

Station Name	Abbreviated Station Name	Number of Samples Collected
Clarkson Rd at Cedar Creek	CDR-IMP-1/2	4
South Cedar Creek Rd at Unnamed Tributary	CDR-IMP-3	4
Bluff Rd at Toms Creek	TOM-IMP-4	4
Clement Rd at Smith Branch	BRD-IMP-5	4
Fairfield Rd at Crane Creek	CRN-IMP-6	4
Unnamed Tributary (to Smith Branch) at Bethune Court	SMI-IMP-7	4
Monticello Rd at Crane Creek	CRN-IMP-8	4
Muddy Ford Rd at Wateree Creek	WTR-IMP-9	4
Leesburg Rd at Mill Creek	MIL-IMP-10	4
Zeigler Rd at Toms Creek	TOM-IMP-11	4
Pineview Rd at Reeder Point Branch	RDR-IMP-12	4
Old Garners Ferry Rd at Mill Creek	CGR-IMP-13	4
Blackberry Rd at Toms Creek	TOM-IMP-14	4
Legrand Rd at Little Jackson Creek	LWK-IMP-15	4
Percival Rd at Colonels Creek	CLN-IMP-16	4
Senate St at Congaree River	CGR-IMP-17	4
Sandfield Rd at Twenty-five Mile Creek	TFM-IMP-18	4
Cedar Creek Rd at Cedar Creek	BCD-IMP-19	4
Piney Woods Rd at Stoops Creek	SLD-IMP-20	4

Table 3. Sensitive Waters Monitoring Stations Sampled in 2020-2021 Reporting Year

Station Name	Abbreviated Station Name	Number of Samples Collected
Candi Lane Saluda Riverwalk Access	SLD-SEN-7	1

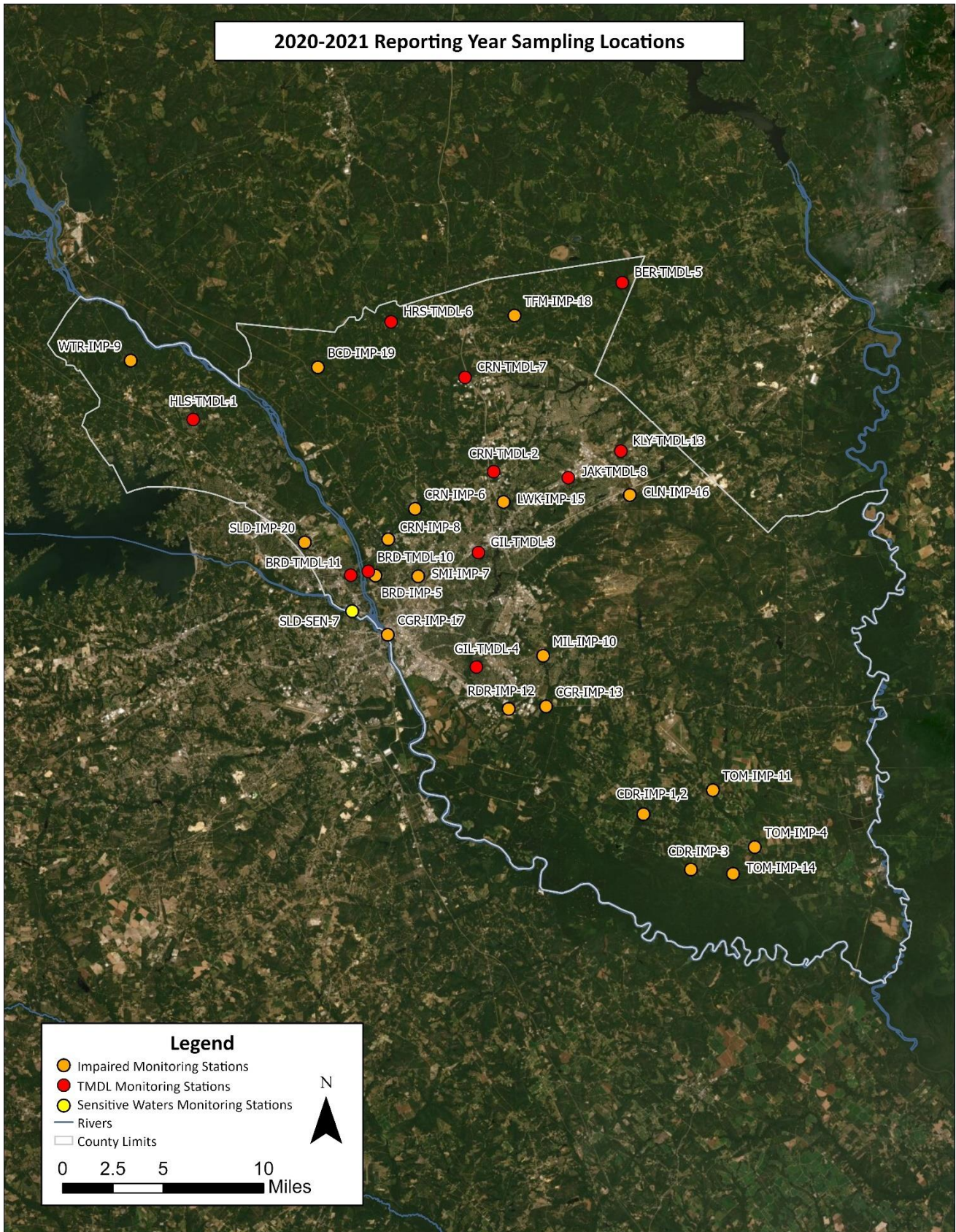


Figure 3. Sampling Locations for the 2020-2021 Reporting Year

VI. Fiscal Analysis

1. What is the source of funds proposed to meet the necessary expenditures?

Ad valorem tax assessment.

2. What are the legal restrictions on the use of the funds?

The funds are subject to millage cap legislation.

3. Use the table below to summarize the fiscal analysis for the program implementation both for the past calendar year as well as the next.

Fiscal Year	Stormwater Budget	Source of Funding
FY 16/17	\$5,289,806	Ad valorem tax assessment
FY 17/18	\$3,861,269	Ad valorem tax assessment
FY 18/19	\$4,053,471	Ad valorem tax assessment
FY 19/20	\$3,482,654	Ad valorem tax assessment
FY 20/21	\$3,083,362	Ad valorem tax assessment

VII. Summary of SWMP and Monitoring Modifications

The Richland County SWMP includes actions that when implemented will aid in the reduction of pollutants discharged from Richland County's MS4 to the Maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate requirements of the Clean Water Act. The contents of the SWMP will change due to the iterative process of implementing the stormwater program. The SWMP will be revisited on an annual basis to reflect accomplishments, potential revisions to program components, and additions of other activities or expanded efforts.

The SWMP is organized into the following sections: Introduction, Stormwater Management Plan, SWMP Requirements, Monitoring and Fiscal Analyses. A copy of the SWMP is included in the Appendix L.

VIII. Water Quality Based Effluent Limitations (WQBEL)

Richland County has established and is implementing a water quality-monitoring plan designed to meet WQBEL requirements contained in the County's municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) permit, while also informing the County on water quality conditions in waterways that receive discharge from the County's MS4. During the 2020-2021 reporting period, Richland County went above and beyond to overcome challenges associated with maintaining a robust monitoring program.

To better understand and interpret the sampled metals data required by the permit the County began collecting hardness samples at the TMDL monitoring sites in 2020 Q3. This data is used by the County to calculate sample specific chronic criteria for metals using the equations provided by SCDHEC in Regulation 61-68: Water Classifications and Standards. A conversion calculation is used to estimate the dissolved metal concentration of the sample given the sampled total concentration and hardness. A partitioning coefficient is also calculated using the sampled TSS. Together these factors were used to calculate a total recoverable adjusted CCC (Criterion Chronic Concentration).

In 2020 Q4, there was a delay in sampling at newly established TMDL monitoring sites BRD-TMDL-10, BRD-TMDL-11, and KLY-TMDL-13. The County spent resources that quarter hiring and training a new field technician to assist with the demands of their monitoring program. The County was able to make up for the missed samples the following quarter. Outside of challenges faced by COVID-19, the County also suffered the loss of their Watershed Program Coordinator early 2021. The County had to spend 2021 hiring and onboarding a new staff member to fill that position.

The County has made a continued effort this reporting period to further investigate abnormal sample results. In 2021 Q1, the County noted elevated results at RDR-IMP-12 and investigated this instance by contacting Access Analytical, the lab, finding that site conditions were "very dark and muddy" at the time of sampling. The County therefore excluded this result from historical record to avoid skewing the overall averages that are more representative of typical conditions at RDR-IMP-12. Similar instances occurred at TOM-IMP-14 and LWK-IMP-15 wherein abnormally high fecal coliform measurements were reported in sediment samples (56,000 MPN/g and 40,000 MPN/g respectively). Since no abnormal circumstances were observed at these sites, they were resampled with the results being much lower (80 MPN/g and 700 MPN/g respectively). The County concluded that no chronic issue exists at these sites and remains diligent in identifying analytical errors in data.

During this reporting period, the County made the decision to replace the data sonde used to collect continuous water quality data at Crane Creek. The new EXO Sonde, replacing the YSI 6600 Data Sonde will provide more accurate and reliable water quality data for the Crane Creek watershed, which is impaired for dissolved oxygen. Continuous water quality data collection resumed in April 2021, providing valuable information on the patterns governing water quality conditions in Crane Creek.

Further, in 2021 Q2, the County discovered a blockage of debris impeding flow upstream of the GIL-TMDL-3 monitoring site during sampling. Following the sampling event, the County worked to remove the blockage in an effort to improve water quality within this watershed prior to 2021 Q3 sampling. During this quarter, the County also performed a field study of the CRN-TMDL-7 watershed including an

industrial inspection of the Koyo Corporation to investigate historically elevated copper concentrations in past samples. The report concluded that vehicle pollutants from heavily trafficked Community Rd. and Northpoint Blvd. are the likely sources of copper within this watershed. The full report is located in Attachment C of the 2021 Q2 quarterly report (Appendix D).

IX. Appendices

Appendix A: Draft Third Cycle Permit Parts III, IV, and V

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

Appendix C: Employee Training Sign-in Sheets

Appendix D: Water Quality Monitoring Quarterly Reports

Appendix E: Outfall and CIP Map

Appendix F: MS4 Illicit Discharges, SSOs, Inspections, and Investigations

Appendix G: List of Industrial Sites

Appendix H: Location of Stormwater Structural Controls

Appendix I: Gills Creek Watershed Annual Report

Appendix J: Education and Outreach Program Plan

Appendix K: MS4 NPDES Monitoring Plan

Appendix L: Stormwater Management Plan

Appendix M: TMDL Implementation Plans

*Appendix C through Appendix M are included in digital format on attached CD.

Appendix A: Draft Third Cycle Permit Parts III, IV and V

Part III. Water Quality Based Effluent Limitations

A. WQBEL

There are no numeric effluent limitations at the time of permit issuance. Should the need arise for an effluent limitation, a permit modification may be necessary, and the permit can be reopened according to Part VIII. The permit modification should reflect the terms of compliance with the effluent limitation(s) imposed. Effluent limitations, when determined by the Department to be necessary, will be imposed by modification of this permit in accordance with SC Regulation 61-9.

Part IV. Monitoring Requirements

A. Monitoring Requirements

Monitoring Strategy - In order to assess and address the impact of MS4 discharges on surface water quality the Permittee shall develop a monitoring strategy to determine the most efficient monitoring locations for collecting data useful to both the Permittee and SCDHEC. The strategy should consider all watersheds within the MS4 with an emphasis on currently impaired or TMDL watersheds and watersheds that contain a large portion of Permittee owned stormwater infrastructure. The strategy should utilize available data to assess the potential for and impact of pollutants, including but not limited to the following factors:

- SCHDEC TMDL, impaired, and sensitive watersheds and monitoring locations
- Risk and consequences to water quality and quantity such as:
 - o SSOs, EPA sites of interest, sewer lines, highly developed areas, potable water source intakes, recreation areas, and flood prone areas
- Trends from historical monitoring data
- MS4 area and existing infrastructure
- Other monitoring efforts (Adjacent MS4, USGS, volunteer)

Monitoring Plan - Upon completion, the strategy should be used to develop a monitoring plan that includes a schedule for implementing and tracking the progress of monitoring activities and BMPs. The monitoring plan update should be treated as an iterative process and should be reevaluated based on collected monitoring data. The monitoring plan should be updated as necessary, with the most up to date plan submitted annually with the Annual Report.

B. TMDL

Existing TMDL - There are existing TMDLs applicable to Permittees as of the effective date of this permit. If a TMDL is approved for any waterbody into which the MS4 discharges, the Permittee is to review the TMDL to determine whether the TMDL includes a Wasteload Allocation (WLA) applicable to the Permittee. If there are WLA applicable to the permittee, the Permittee is required to implement the TMDL within a timeframe consistent with the TMDL and with applicable parts of this permit.

Newly Established TMDL - Once a TMDL has been established, or approved, for any watershed into which the MS4 discharges, any limitations, conditions and requirements contained in the TMDL applicable to the discharges authorized herein, including monitoring frequency and reporting required becomes part of this permit. Applicable limitations, conditions and requirements contained in the TMDL are those limitations, conditions and requirements set forth in the TMDL implementation plan and attributed to discharges from the MS4.

Should an applicable TMDL, approved for a water body located within the permit area, be either more rigorous, or more stringent than the conditions of this permit, the affected Permittee(s) shall be responsible for implementation of the TMDL as prescribed. Implementation of the TMDL shall consist of incorporating into the SWMP, to the maximum extent practicable (MEP), the necessary measures to reach the goal of the TMDL and a schedule to accomplish the measures, with the schedule becoming a part of the permit requirements.

TMDL Implementation Plan - The Permittee will develop and submit to SCDHEC a TMDL Implementation Plan after development of any TMDL applicable to the Permittee. The TMDL Implementation Plan will contain details including, but not limited to the frequency of monitoring, the monitoring approach, and monitoring locations. The Permittee may develop one overall TMDL Implementation Plan to outline the proposed assessment approach for all applicable TMDL due to the number of currently effective TMDL. The Permittee may use innovative technological approaches to assess potential sources of the POC in the TMDL watersheds. If the source identification yields a pollutant source within the Permittee's control, the Permittee will subsequently implement BMP to address the contribution of the POC to protect water quality. For all other identified sources of the POC, the Permittee will notify the appropriate party to mitigate or remove the pollutant source. Monitoring associated with Part IV of this permit may be used in conjunction with data collected in the TMDL Implementation Plans to address the POC. Where a TMDL Wasteload Allocation (WLA) is assigned to point sources, Permittee shall review its SWMP requirements for the control of stormwater discharges to WQMS identified in the TMDL. For MS4 discharges of the pollutant(s) of concern to TMDL waters, Permittee shall identify discharges located in the TMDL watershed draining to the impaired WQMS. The SWMP shall include a TMDL Implementation Plan for each effective, or approved TMDL.

1. The TMDL Implementation Plan shall be developed within 12 months of the effective date of this permit for existing TMDL and within 12 months from the EPA approval or establishment date for new TMDL.
2. The Permittee may utilize existing monitoring data or initiate additional monitoring, as deemed necessary by the Permittee.
3. Data must be assessed to guide the Permittee to the implementation of BMP to address the WLA.
4. The TMDL Implementation Plan must identify BMP and schedule of implementation of BMP to achieve progress towards addressing the TMDL WLA, as long as the intended uses are not supported. The TMDL Implementation Plan shall be updated to include this information within 48 months for existing TMDL and within 48 months from the EPA approval or establishment date for new TMDL. It is expected that implementation of BMP will begin during the current permit term and continue through the next permit.

C. Impaired Water Quality Monitoring Stations (WQMS)

The SWMP will address discharges to water bodies listed as impaired on the most current 303(d).

1. For each impaired WQMS, the Permittee should determine from its IDDE and Water Quality monitoring program whether discharges from the MS4 contribute the pollutant of concern to waterbodies with impaired WQMS listed in the most current 303(d) list. This determination shall be included in the *first ANNUAL REPORT* and updated in the ANNUAL REPORT following issuance of a new 303(d) list. All POC contributing to the impairments listed must be effectively addressed.
2. The **SWMP Requirements** must be updated as appropriate to address the discharge of the POC

present in MS4 stormwater discharges that contribute, to impaired waterbodies, to the MEP, in the *second ANNUAL REPORT*.

Part V. Sampling Collection and Analytical Requirements

Sample collection frequency and parameters analyzed will be outlined in the County's monitoring plan. At a minimum the following General Monitoring Requirements outlined in Part V.A below will be followed.

A. General Monitoring Requirements.

1. Each year the sampling program shall be described by the submitted date, conducted after the approval and the results included in the ANNUAL REPORT by the reported date. For the purposes of this permit, the location of each monitoring station shall be inventoried and identified on a map and in a database, included in the SWMP, and the ANNUAL REPORTS and the method used in identifying them in each subsequent year. In addition, the ANNUAL REPORT will include all measured analytical data if requested.

The methods, parameters, and field techniques shall be in accordance with SC Regulation 61-9.122.26(d)(1)(iv)(D). Records of all analytical results shall be maintained in accordance with Part VII.R. of this permit.

2. The Department may allow or establish appropriate site specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under 40 CFR Part 136, that quantitative data shall be provided for additional parameters, and additional time for submitting data on a case-by-case basis.
3. The monitoring and sampling locations shall be selected such that the permittee can use the information collected in a useful manner to evaluate any trends in the reduction of pollutants loads discharged to waters of South Carolina during the term of the permit. The pollutant loading trends will be used to evaluate the effectiveness of the Permittee's SWMP to reduce the discharge of pollutants to the MEP and to not cause nor contribute to violations of Water Quality Standards.
4. When the permittee is unable to collect samples due to adverse climatic conditions, the permittee must submit in lieu of sampling data, a description of why samples could not be collected, including available documentation of the event. Adverse climatic conditions which may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, etc.).

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

The National Pollutant Discharge Elimination System Permit (NPDES) Stormwater Permit No. SCS400001 issued to Richland County and effective on July 01, 2016 contains several conflicting deadlines, ambiguous/absolute language, and conflicting/unrealistic requirements that make permit compliance impractical. A number of these items were presented to the South Carolina Department of Health and Environmental Control (SCDHEC) during the permit drafting and negotiation period. These issues were also presented to SCDHEC during the public comment period and again during an in-person meeting between SCDHEC and Richland County staff on October 4, 2016.

Some of the permit requirements are relatively minor and may be clarified through simple revisions to current permit language, while other issues are more significant and threaten the County's ability to remain permit compliant. For these issues, it may be more prudent to completely revise specific sections of the permit.

At the request of SCDHEC, the County sent a table containing the critical issues that if not addressed would put the County in a position where it would be impossible to meet some requirements in the permit. A response from SCDHEC was received by the County on December 16, 2016 to address these critical issues. After a thorough review of the SCDHEC responses, the summary table below shows the status of the clarifications found in the SCDHEC response. For a more detailed explanation of the response status, see the tables on the following pages.

Critical Issues (Red Comments)			
Compliance Issue	<u>SCDHEC Response Status</u> Did SCDHEC sufficiently address the County concerns?	Absolute Language	<u>SCDHEC Response Status</u> Did SCDHEC sufficiently address the County concerns?
Part II.B.2.c.iii.(pg.8)	No	Part II.B.2.d.ii.(pg.9)	Yes
Part II.B.2.k.v.(pg.15)	Partially Addressed	Part II.B.3.b.ii.(pg.16)	No
Part II.B.3.(pg.15)	No	Part II.B.7.c.iii.(e)(pg.25)	Yes
Part II.B.8.c.(pg.30)	Partially Addressed	Part II.B.7.g.iv.(pg.27)	Partially Addressed
Part III.A.2.a.iv.(pg.49)	No	Part II.B.9.c.v.(d)(pg.36)	Partially Addressed
Part III.A.2.a.vi.(pg.49)	No	Part III.A.2.a.i.(pg.48)	No
Part III.A.2.b.i.(pg.50)	No	Part III.A.2.a.iii.(a)(pg.48)	No
Part III.A.2.b.ii.(pg.50)	No	Part III.A.2.b.vii.(pg.51)*	No
Part III.A.2.b.vi.(pg.51)	No		
Part IV.C.(pg.61)	No		

*2 instances in the same section of permit

During the October 4, 2016 meeting, County staff presented all critical, major and minor issues that were identified within the permit. It was agreed at that time that SCDHEC would only address the critical issues, since addressing the major and minor issues would have required the reopening of the permit. The County requests that SCDHEC address the issues in the following table while developing the new third cycle permit. All critical, major, and minor issues listed in the tables have a corresponding permit reference where the complete permit language can be found and reviewed in context with the entirety of the related sections of the permit. Highlights within the permit are color coded to correspond to the types of issue (**Critical Issue**, **Major Issue**, **Minor Issue**), and in

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

most cases are accompanied by a comment box that explains the issue in more detail. The County is acceptable to a meeting during the permit negotiation process to discuss any of the issues outlined in this document so that a resolution can be reached between both parties.

Major Issues (Orange Comments)				Minor Issues (Yellow Comments)		
Compliance Issue	RC	Scheduling Conflict	RC	Clarification Needed	RC	Permit Reference
Part II.B.2.a.(pg.7)	10	Part II.B.2.k.(pg.14)		Part II.B.1.d.vii.(pg.7)	7	Part II.A.1.(pg.3)
Part II.B.2.c.v.(pg.9)	17, 18	Part II.B.5.a.ii.(a)(pg.18)		Part II.B.2.(pg.7)	8, 9	Part II.B.1.c.(pg.5)
Part II.B.2.d.(pg.9)	19, 20	Part II.B.5.a.iii.(pg.19)	50	Part II.B.2.b.(pg.8)	11	Part V.A.1.3.a.iv.(f)(p.68)
Part II.B.2.d.i.(pg.9)	21	Part II.B.7.c.(pg.23)	58	Part II.B.2.c.(pg.8)	12, 13	Part VI.A.1.a.(pg.70)
Part II.B.2.j.i.(pg.13)*		Part II.B.7.c.iii.(pg.24)		Part II.B.2.d.iii.(pg.9)		
Part II.B.3.b.vi.(pg.16)	49	Part II.B.7.c.iii.(f)(pg.25)		Part II.B.2.d.iv.(pg.9)	24	
Part II.B.5.a.iii.(a).(pg.19)	50	Part II.I Table II.I.4(pg.47)		Part II.B.2.g.(pg.10)		
Part II.B.7.g.vi.(a)-(c)(pg.27)	63	Part VI.A.1.a.(pg.70)		Part II.B.2.h.(pg.10)	34	
Part II.B.8.a.(pg.29)		Part VI.C.1.(pg.74)		Part II.B.3.a.(pg.15)		
Part II.B.10.c.Table(pg.41)		Appendix F		Part II.B.3.b.iv.(pg.16)	48	
Part III.A.2.a.iii.(c)(pg.48)	88			Part II.B.5.b.i.(pg.20)		
Part III.A.2.a.v.(pg.49)				Part II.B.5.b.ii.(pg.20)		
Part III.A.2.b.(pg.50)	96, 97			Part II.B.6.b.v.(pg.21)	55, 56	
Part III.A.4.a.v.(pg.53)				Part II.B.7.c.iii.(d)(pg.25)		
				Part II.B.7.h.(pg.28)	*64*	
				Part II.B.10.a.vii.(pg.40)		
				Part III.A.4.c.(pg.54)		

After the October 4, 2016 meeting the following critical issues that were identified in the current permit were submitted to SCDHEC for a response. This submittal included a proposed clarification section (See COUNTY REQUEST headings) to properly address these concerns. SCDHEC sent a response to the County on December 17, 2016, which can be seen in the table below under the SCDHEC RESPONSE headings. The County is now submitting a counter response (See COUNTY COUNTER RESPONSE headings) which are shown within the blue highlights in the tables below.

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
1.	Part II.B.2.c.iii.(pg.8)	These may include practices such as infiltration, evapotranspiration, rain harvesting and storm water reuse and recharge that demonstrate the runoff reduction and pollution removal necessary to maintain pre-development levels to the MEP and to protect water quality.	This permit does not have the authority to require runoff reduction.	<p>COUNTY REQUEST (10/4/2016): Runoff reduction is one of a variety of methods for reducing pollutant loadings. This section does not require use of runoff reduction, but rather allows for runoff reduction methods to be used when appropriate.</p> <p>SCDHEC RESPONSE (12/17/2016): Methods used to support establishment of the New Development and Redevelopment Standards part of the Area of New Development and Redevelopment element of the permit must be defensible and be consistent with the MEP standard, be protective of water quality and be satisfactory to the appropriate water quality requirements of the CWA.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The SCDHEC response does not sufficiently address the issue of runoff reduction having to be demonstrated. Runoff reduction is one of a variety of methods for reducing pollutant loadings. This section should not require the use of runoff reduction, but rather allow for runoff reduction methods to be used when appropriate. The County should have the ability to decide which method is most appropriate.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	<p>New development or redevelopment standards to be used can be either one, combination, or equivalent combination of design strategies, control measures, practices or provisions. These may include practices such as infiltration, evapotranspiration, rain harvesting and stormwater reuse and recharge that demonstrate the runoff reduction and pollution removal necessary to maintain pre- development levels to the MEP and to protect water quality. The first inch of runoff must be managed</p> <p>Richland County, Town of Arcadia Lakes, City of Forest Acres and potential future 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 approximate pre-development conditions to the MEP and protect water quality by the second ANNUAL REPORT.</p> <p>New Development Standards to be used can be either one, combination, or equivalent combination of design strategies, control measures, practices or</p>		

Appendix B: NPDES MS4 Permit No. SC40001 Modification Requests

		<p>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 to the MEP and to protect water quality. The first inch of runoff must be addressed. Appendix A 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 these requirements.</p> <p>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. MS4 may develop a program to allow adjustments to the performance standard for new development or redevelopment sites that qualify.</p> <p>For areas of new development, there shall be no increase in the discharge of pollutants with respect to pre-development levels to the "effective prohibition" and "MEP" standards from Section 402(p)(3)(B) of the Clean Water Act;</p> <ul style="list-style-type: none"> i. Impervious surfaces shall be minimized; ii. BMP with the best pollutant removal performance shall be selected for post construction storm water management; iii. Forested stream buffers and wetlands shall be protected; and, iv. Drainage "hot spots" shall be effectively addressed. <p>For areas of significant redevelopment, incentives for water quality improvements shall be developed prior to the SECOND ANNUAL REPORT and provided to the MEP when upgrading components of the MS4 or, when replacing deteriorating components of the MS4, to meet appropriate water quality criteria;</p> <ul style="list-style-type: none"> i. Forested riparian buffers will be restored; ii. Controls including, but not limited to, BMP, control techniques, and system, design and engineering methods are required to reduce the discharge of pollutants to the MEP as deemed appropriate for the control of such pollutants; and, iii. Implementation of redevelopment water quality requirements, including incentives to encourage re-development to the MEP <p>Evaluate and modify, as necessary, the post-construction element. Individual BMP, measurable goals, and responsible persons for the program must be described. This narrative must be included in the SWMP, and in the ANNUAL REPORT. It must include the following information, at a minimum:</p> <ul style="list-style-type: none"> (a) Description of the existing program to address stormwater runoff from new development and redevelopment projects, including any specific priority areas for this program, and modifications completed during the reporting period (c) List of non-structural BMP in the program, including, as appropriate: <p>Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space, provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation.</p> <p>Policies or ordinances and incentives that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure;</p> <p>Education programs for developers and the public about project designs that minimize water quality impacts; and Measures such as: minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought as good housekeeping, preventive maintenance and spill prevention.</p> <p>Methods used to support establishment of the New Development and Redevelopment Standards part of the Area of New Development and Redevelopment element of the permit must be defensible and be consistent with the MEP standard, be protective of water quality and be satisfactory to the appropriate water quality requirements of the CWA.</p>
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Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
2.	Part II.B.2.k.v.(pg.15)	MS4 and commercially owned, operated or maintained structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, yearly. The remaining structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, on a 25% /year basis.	<p>This section requires the inspection and maintenance of commercially owned BMPs annually. This could be interpreted that the County must provide maintenance rather than require maintenance by the owner. This places an unusual burden on the MS4.</p> <p>Further, there is a scheduling conflict with annually and 25% per year. Richland County should set the inspection schedule in the SWMP in accordance with the IDDE requirements and their knowledge of critical points within the system.</p>	<p>COUNTY REQUEST (12/10/2016): This section requires that County owned structural controls should be maintained as necessary and inspected a minimum of 25%/year. The County should require that commercially owned, operated, or maintained storm water controls and BMPs be inspected yearly at a minimum and maintained as necessary.</p> <p>SCDHEC RESPONSE (12/17/2016): It is expected that MS4 and commercially owned, operated or maintained structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, yearly. The remaining structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, on a 25% / year basis. Detailed inspection reports with extensive explanation of results and correction actions taken must be part of the MS4 inventory of Structural Controls and Storm Water Collection System and of Post-Construction BMP in areas where new development and redevelopment has taken place. Whether permittees conduct the inspection and maintenance (or require commercially owned facilities to perform it by themselves), or if the permittees themselves contract the inspection and maintenance shall be stated in the written SOP. Documentation and reporting of Inspection and maintenance of Post Construction BMP are expected in the quantity and, frequency required by the permit.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): SCDHEC clarifies that the County may require owners to inspect, but the response does not address the scheduling conflict or what is meant by "remaining structural controls". If SCDHEC does not clarify what constitutes "remaining structural controls", then Richland County will define what those structures are in the updated SWMP that corresponds with the third cycle permit.</p>
			<p>SCDHEC FULL RESPONSE (12/17/2016):</p> <p>"Storm water point source" means a conveyance or system of conveyances (including but not limited to pipes, conduits, ditches and channels) primarily used for collecting and conveying storm water runoff and that is located in an urbanized area as designated by the Bureau of the Census; discharges from lands of facilities used for industrial or commercial activities.</p> <p>Permittees are expected to have a Written Standard Operating Procedures (SOP). The Structural Controls and Storm Water Collection System Operation and the Areas of New Development and Redevelopment elements of the SWMP must be effectively addressed in accordance to a written SOP no later than 18 months from the effective date of the permit. Among other components expected to be clearly specified in the SOP by the first ANNUAL REPORT, there are agreements where maintenance responsibilities are in place.</p> <p>It is expected that MS4 and commercially owned, operated or maintained structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, yearly. The remaining structural controls, storm water collection system and post-construction BMP shall be inspected and maintained, if necessary, on a 25% / year basis.</p> <p>Detailed inspection reports with extensive explanation of results and correction actions taken must be part of the MS4 inventory of Structural Controls and Storm Water Collection System and of Post-Construction BMP in areas where new development and redevelopment has taken place.</p> <p>Whether permittees conduct the inspection and maintenance (or require commercially owned facilities to perform it by themselves), or if the permittees themselves contract the inspection and maintenance shall be stated in the written SOP. Documentation and reporting of Inspection and maintenance of Post Construction BMP are expected in the quantity and, frequency required by the permit.</p>	

Appendix B: NPDES MS4 Permit No. SC400001 Modification Requests

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
3.	Part II.B.3.(pg.15)	<ul style="list-style-type: none"> Water turnouts, drainage systems designed to reduce the volume and velocity of ditch flow, shall be constructed in conjunction with the roadside drainage ditches in accordance with accepted roadway drainage practices Existing turnouts must direct diverted flow onto vegetated areas where it can be adequately dispersed. The turnouts shall not direct diverted flow or road runoff into Waters of the State to the MEP. 	<p>The County was told during the permit negotiation process that these bullets would be removed.</p> <p>This section regulates volume and velocity and is not supported by the federal register. This section is very confusing (e.g., are volume controls required in every ditch?) and required compliance with SCDOT standards (not allowing for more or less stringent standards, if desired, and what is SCDOT standards change or are rescinded?).</p>	<p>COUNTY REQUEST (12/10/2016):</p> <p>Option A: Delete language through a minor modification to the permit.</p> <p>Option B: Clarify that the section implies that these standards will be applied where appropriate.</p> <p>SCDHEC RESPONSE ABBREVIATED RESPONSE (12/17/2016): The Existing Road Runoff Element of the Storm Water Management Program must implement practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters from discharges from these areas including pollutants discharged.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The County requests that this language <u>not</u> be included in the third cycle permit, as agreed upon by SCDHEC during the negotiations for the second cycle permit.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	<p>In response to comments, this section was edited prior to the final permit decision to avoid prescriptiveness. Water turnouts are drainage systems designed to reduce the volume and velocity of ditch water flow. These water turnouts shall be constructed in conjunction with the roadside drainage ditches in accordance with accepted roadway drainage practices. Existing turnouts must direct diverted water flow onto vegetated areas where flow energy can be adequately dispersed prior to discharge. Turnouts shall not direct diverted water flow or road runoff directly into waters of the State to the MEP. <i>The Existing Road Runoff Element of the Storm Water Management Program must implement practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters from discharges from these areas including pollutants discharged.</i></p>		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
4.	Part II.B.8.c.(pg.30)	<p>Monitor for Industrial Runoff: The County shall continue to implement a monitoring (or self monitoring) program as required in Parts III. A. 1, 2.a.viii & b.viii, 3, 4; IV and V, which includes analytical monitoring for stormwater discharges associated with:</p> <p>i. industrial facilities identified in II.B.8.a, above,</p> <p>v. facilities subject to effluent guidelines (40 CFR Subchapter N), SC R. 61-9 122.26(b)(14)(i),</p>	<p>Could require monitoring at a large number of facilities. Also, facilities that are covered under the IGP are already required to monitor. Tables referenced in vii do not exist in Appendix D. Redundant with IDDE program. Why sample the industrial discharge if POC is not showing up at the outfall?</p>	<p>COUNTY REQUEST (12/10/2016): In the context of this requirement, “self-monitoring” means that the County does not have to monitor facilities identified in parts i., v., vi., and vii. that are currently monitoring themselves. Further, outfall dry weather screening constitutes “monitoring”.</p> <p>SCDHEC RESPONSE (12/17/2016): This section was edited prior to the final permit decision. Richland County is expected to have adequate legal authority to:</p> <ol style="list-style-type: none"> Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the MS4 by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity, and, Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions. (See subparts II.A, above, and II.F & I, below, in this permit). The County must have the legal authority necessary to require industries to self-monitor in order to provide analytical data necessary to demonstrate compliance with permit conditions affected by their discharges.

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		vi. facilities with existing NPDES permit, vii. facilities where it is known, or there is reason to believe, that any of the pollutants Tables II, III & IV of Appendix D is present as required under SC R. 61-9 122.21(g)(7)(vi) & (vii).		<p>COUNTY COUNTER RESPONSE (1/1/2021): SCDHEC response does address legal authority but does not discuss the issue of duplicating monitoring efforts at facilities. The County requests that the terms “self-monitoring” and “monitoring” be clarified in the third cycle permit.</p>
	<p>SCDHEC FULL RESPONSE (12/17/2016):</p>	<p>Richland County is required to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the County determines are contributing a substantial pollutant loading to the MS4. The monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, includes the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under this permit. Tables II, III & IV of Appendix D refer to Refer to 40 CFR Part 122, Appendix D; where, table II is the Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS), table III is the Other Toxic Pollutants (Metals and Cyanide) and Total Phenols, and table IV is the Conventional and Nonconventional Pollutants Required To Be Tested by Existing Dischargers if Expected to Be Present. Quantitative results for Hazardous Substances Required To Be Identified by Existing Dischargers if Expected To Be Present in stormwater discharges should also be submitted. https://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol21/pdf/CFR-2010-title40-vol21-part122-appD.pdf</p> <p>This section was edited prior to the final permit decision.</p> <p>Richland County is expected to have adequate legal authority to:</p> <ol style="list-style-type: none"> 1. Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the MS4 by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity, and, 2. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions. (See subparts II.A, above, and II.F & I, below, in this permit). The County must have the legal authority necessary to require industries to self-monitor in order to provide analytical data necessary to demonstrate compliance with permit conditions affected by their discharges. 		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
5.	Part III.A.2.a.iv.(pg.49)	iv. Where redevelopment occurs, water quality must be improved when upgrading, or replacing MS4 components to meet the WLA / WQS as follow:	<p>This sets an unrealistic requirement that cannot always be obtained and should be deleted or revised. Even if discharge of DO depleting pollutants is reduced to zero from a single site, there may not be a noticeable change in the receiving water DO levels.</p> <p>Since this is under the Dissolved Oxygen section, does this standard only apply to DO?</p>	<p>COUNTY REQUEST (12/10/2016): “Where redevelopment occurs, water quality must be improved” means the water quality associated with storm water runoff from the site must be improved to the MEP.</p> <p>SCDHEC RESPONSE (12/17/2016): When evaluating compliance with water quality-based effluent limitations in this permit, it shall be ensured that:</p> <ol style="list-style-type: none"> A. The level of water quality achieved by implementing the limitations on point sources established under the derived from, and complies with all applicable water quality standards; and B. WQBEL implemented to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7. <p>COUNTY COUNTER RESPONSE (1/1/2021): The SCDHEC response is confusing, but may address the issue assuming item A. is meant to imply that runoff from redevelopment sites must meet water quality standards, as opposed to each redevelopment site having to show improvement downstream. The County requests that the term</p>

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				<p>“Where redevelopment occurs, water quality must be improved” be revised to include the MEP standard in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<p><u>SCDHEC FULL RESPONSE (12/17/2016):</u></p>	<p>The NPDES storm water program regulates MS4 discharges to protect water quality. The proposed permit requires the development, implementation, and enforcement of a storm water management program designed to reduce the discharge of pollutants from the MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.</p> <p>Elements in Part II of the permit include BMP designed to satisfy the “best available” and “best conventional” (BAT & BCT) technology requirements. Implementation of these BMP consistent with the SWMP provisions in Part II constitute compliance with the standard of reducing pollutants to the “MEP”.</p> <p>Where sources located within the jurisdiction of a discharger are subject to WQBEL, pollutant sources in that specific jurisdiction shall be subject to the same WQBEL.</p> <p>MS4 discharges authorized in the proposed permit have been determined to contribute to a violation of a water quality standard or to be a significant contributor of pollutants to waters of the State. The following factors were considered while imposing these WQBEL:</p> <ul style="list-style-type: none"> (A) The location of the discharge with respect to receiving waters; (B) The size of the discharge; (C) The quantity and nature of the pollutants discharged; and (D) Factors such as Total Maximum Daily Loads (TMDL), Water Quality Monitoring Station (WQMS) impairments (303(d)) and sensitive waters (classified as ONRW, ORW and TPGT). <p>These WQBEL are needed based on a “TMDL” approved or established by EPA that addresses the pollutant(s) of concern, impaired water quality monitoring stations (303(d) WQMS) that do not have a TMDL and sensitive waters. Waste Load Allocations (WLA) for point sources in TMDL are needed to protect water quality based on consideration of existing in-stream concentrations and in pollutant contributions from MS4 sources, among other factors. Pollutants of concern in Part III of the proposed permit include Dissolved Oxygen (DO), Escherichia Coli (E.coli), BIO (or a parameter that addresses macroinvertebrate impairment such as imperviousness), Copper (Cu) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the MS4. Authorized storm water discharges subject to these WQBEL will occur, within the drainage area addressed by the TMDL, 303(d) WQMS or whose presence is deleterious to sensitive waters and its intended uses.</p> <p>Water bodies receiving MS4 discharges, include downstream segments, lakes and estuaries, where pollutants from the MS4 discharges accumulate and cause water degradation. WQBEL apply to; areas where there are known water quality impacts to TMDL watersheds and to 303(d) and sensitive waters; discharges that causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses; and, reflect water quality concerns requiring the MS4 to assess, evaluate, prioritize and retrofit control devices to provide the additional pollutant removal necessary to protect water quality by considering the adverse impacts associated with MS4 discharges. The goal of these WQBEL is to prevent MS4 discharges from causing exceedances of water quality standards, including impairment of designated uses, or other adverse water quality impacts, including habitat and biological impacts. For the purpose of Part III, the non-numeric, narrative, effluent limitations requiring implementation of specific BMP are the most appropriate form of WQBEL (including reduction of pollutants to the MEP) to protect water quality. WQBEL are based on TMDL, 303(d) WQMS) and Sensitive Waters. The proposed permit requires that the permittee monitors parameters in the stream receiving permitted discharges to identify water quality improvements. WQBEL are necessary to achieve water quality standards (WQS) by; controlling all 303(d) pollutants of concern (POC); accounting for existing controls on point and nonpoint sources of pollution for discharges that cause, has the reasonable potential to cause, or contributes to in-stream excursions of WQS; ensuring that WQBEL are consistent with the assumptions and requirements of any available WLA for the discharge. The WQBEL listed in Part III.A.2.a from i to xi, specifically apply, in the manner prescribed, to watersheds draining to WQMS impaired for DO.</p> <p>When evaluating compliance with water quality-based effluent limitations in this permit, it shall be ensured that:</p> <ul style="list-style-type: none"> (A) The level of water quality achieved by implementing the limitations on point sources established under the derived from, and complies with all applicable water quality standards; and (B) WQBEL implemented to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7. 		

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No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
6.	Part III.A.2.a.vi.(pg.49)	vi. Municipal operations, and activities, in the watershed must eliminate their potential to discharge oxygen depleting pollutants.	This is similar in nature to comments on Section III.A.2.a.iv, p 49 and exceeds the MEP standard. No mention of MEP. For example, a tree (dead leaves) has the potential to cause a discharge of oxygen depleting pollutants.	<p>COUNTY REQUEST (12/10/2016): "Eliminate their potential" means to eliminate sources to the MEP.</p> <p>SCDHEC RESPONSE (12/17/2016): While there is a practical aspect to Storm Water Management Program (SWMP) implementation, the minimum requirement of the permit is to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. After two permit cycles, increased number of adverse water quality impacts, non-numeric water quality based effluent limitations expressed as permit requirements became necessary to achieve water quality standards and /or to protect narrative water quality criteria, numeric water quality criteria, or both, as consistent with the assumptions and requirements of available wasteload allocations. <i>Implementation of the WQBEL in Part III.A of the permit is expected to reverse the adverse pollution trends; therefore, protecting water quality.</i></p> <p>COUNTY COUNTER RESPONSE (1/1/2021): While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	While there is a practical aspect to Storm Water Management Program (SWMP) implementation, the minimum requirement of the permit is to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. After two permit cycles, increased number of adverse water quality impacts, non-numeric water quality based effluent limitations expressed as permit requirements became necessary to achieve water quality standards and /or to protect narrative water quality criteria, numeric water quality criteria, or both, as consistent with the assumptions and requirements of available wasteload allocations. Implementation of the WQBEL in Part III.A of the permit is expected to reverse the adverse pollution trends; therefore, protecting water quality.		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
7.	Part III.A.2.b.i.(pg.50)	i. Structural controls, including flood control projects, detaining large amounts of water over a period of time shall be managed to prevent increased bacteria levels.	This is not possible to control except through extraordinary means. What is a large amount of water?	<p>COUNTY REQUEST (12/10/2016): Implies to control levels of bacteria from sources of pet and human waste to the MEP.</p> <p>SCDHEC RESPONSE (12/17/2016): SEE SCDHEC RESPONSE IN 6. ABOVE</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	See SCDHEC response in item 6. above		

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No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
8.	Part III.A.2.b.ii.(pg.50)	ii. The storm sewer system shall be proactively maintained with the frequency necessary to ensure that pathogens will not be discharged.	This is impossible to achieve.	<p>COUNTY REQUEST (10/4/2016): The emphasis of this section is pathogens, therefore, activities should focus on detecting, locating and correcting cross-connections with sanitary sewer systems to the MEP.</p> <p>SCDHEC RESPONSE (12/17/2016): SEE SCDHEC RESPONSE IN 6. ABOVE</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	See SCDHEC response in item 6. above		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
9.	Part III.A.2.b.vi.(pg.51)	vi. Municipal activities, and operations, in the watershed must eliminate their potential to discharge pathogens.	Same as comment for Sections III.A.2.a.iv and III.A.2.a.vi. No mention of MEP here and this is an unrealistic requirement that cannot always be obtained. For example, a bird flying overhead has the potential to cause bacteria to be deposited and washed off of the site.	<p>COUNTY REQUEST (12/10/2016): "Eliminate their potential" means to eliminate sources to the MEP. Further, the emphasis of this section is pathogens, therefore, activities should focus on eliminating human waste to the MEP.</p> <p>SCDHEC RESPONSE (12/17/2016): SEE SCDHEC RESPONSE IN 6. ABOVE</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): While there is mention of MEP in the SCDHEC response, it still reinforces the permit requirement. The second half of the response discounts MEP. The County requests that the use of MEP be applied to this permit requirement in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	See SCDHEC response in item 6. above		

No.	Critical Compliance Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
10.	Part IV.C.(pg.61)	C. Impaired Water Quality Monitoring Stations (WQMS)	This section implies that monitoring will be required at all outfalls in watersheds with a known impairment. This is overly burdensome and unnecessary.	<p>COUNTY REQUEST (12/10/2016): Compliance means, "monitoring only those outfalls determined to contribute directly, or indirectly, to the impairment."</p> <p>SCDHEC RESPONSE (12/17/2016): Part III.B provides the opportunity to establish a baseline to assess direct and indirect MS4 pollutant loads contributing to these impairments. In this way, the level of analytical monitoring effort necessary to demonstrate the effective implementation of the</p>

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			<p>WQBEL required in Part III.A to correct and improve WQMS impairments as required in Part IV.C can be discerned. <i>Correction and /or improvement of the alluded impairment is the measure of compliance for the WQMS in question.</i></p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The SCDHEC response implies that the permit language “provides the opportunity” to establish a baseline. However, the permit language <u>requires</u> monitoring at each outfall. These are contradicting statements and should be addressed in the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	Part III.B provides the opportunity to establish a baseline to assess direct and indirect MS4 pollutant loads contributing to these impairments. In this way, the level of analytical monitoring effort necessary to demonstrate the effective implementation of the WQBEL required in Part III.A to correct and improve WQMS impairments as required in Part IV.C can be discerned. Correction and/or improvement of the alluded impairment is the measure of compliance for the WQMS in question.	

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
11.	Part II.B.2.d.ii.(pg.9)	ii. BMP with the best pollutant removal performance shall be selected for post construction storm water management;	This section only allows consideration of highest pollutant removal. Setting the standard of BMP with the best pollutant removal performance discounts other practices that may be able to achieve the required results with less operation and maintenance, life cycle costs, more effective use of space, etc.	<p>COUNTY REQUEST (12/10/2016): For the purpose of this permit “best pollutant removal” considers the impact of operation and maintenance, life cycle costs, and other design and construction criteria and does not imply that a BMP with a higher removal efficiency should be selected over one that meets the design criteria, but has lower costs, more effective use of land, etc.</p> <p>SCDHEC RESPONSE (12/17/2016): Part II of the permit, the SWMP, is predicated on MEP standard. It means that if implemented to the MEP (Maximum Extent Practicable), and not the mep (minimum extent possible) pollutant loads from urban runoff discharges should not have a deleterious effect on receiving water quality. MEP consists of five elements: the effectiveness to address the pollutant(s) of concern, public acceptance, cost, technical feasibility, and compliance with Federal, State and local laws and regulations. The following link (NO ENDORSEMENT TO THE PRODUCT ADVERTISED) clearly illustrates the ‘balance’ of the MEP concept. https://www.youtube.com/watch?v=qsQPGVseIHM</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The response by SCHEC is adequate in addressing the County’s concerns on this permit requirement.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	Part II of the permit, the SWMP, is predicated on MEP standard. It means that if implemented to the MEP (Maximum Extent Practicable), and not the mep (minimum extent possible) pollutant loads from urban runoff discharges should not have a deleterious effect on receiving water quality. MEP consists of five elements: the effectiveness to address the pollutant(s) of concern, public acceptance, cost, technical feasibility, and compliance with Federal, State and local laws and regulations. The following link (NO ENDORSEMENT TO THE PRODUCT ADVERTISED) clearly illustrates the ‘balance’ of the MEP concept. https://www.youtube.com/watch?v=qsQPGVseIHM		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
12.	Part II.B.3.b.ii.(pg.16)	ii. Amount of soil disturbance must be limited to just the immediate area under repair,	Almost always need a larger area than "just the area under repair".	COUNTY REQUEST (12/10/2016): Immediate area means the area under construction and an appropriate adjacent area required to safely and properly complete construction.

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				<p>SCDHEC RESPONSE (12/17/2016): Measures described in II.B.3 of the permit are appropriate to control pollutants in storm water discharges associated with small linear construction activities like those found in road projects identified by this SWMP elements. The observed practice of stockpiling sediment alongside areas beyond “just the immediate area” under repair are indicative of sediment control practices that may be qualified as marginal at best. Land disturbing activities beyond “just the immediate area” under repair are; ineffective in addressing sediment; resulting sediment mounds, at the very least, create an eyesore; cubic yards resulting from unnecessary disturbance result in increasing costs; and, run counter to Federal, State and local requirements to properly control sediment. <i>Implementation of the SOP required in the permit will effectively address the lack of stormwater pollution prevention in road maintenance, BPJ (Best Professional Judgement).</i></p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The response by SCHEC is inadequate in addressing the County’s concerns on this permit requirement. The third cycle permit should include language that allows for the MEP standard to be applied to the entirety of Section II of the new permit, or the permit language should be revised in accordance with the comment provided above in the COUNTY REQUEST (12/10/2016).</p>
	SCDHEC FULL RESPONSE (12/17/2016):	Measures described in II.B.3 of the permit are appropriate to control pollutants in storm water discharges associated with small linear construction activities like those found in road projects identified by this SWMP elements. The observed practice of stockpiling sediment alongside areas beyond “just the immediate area” under repair are indicative of sediment control practices that may be qualified as marginal at best. Land disturbing activities beyond “just the immediate area” under repair are; ineffective in addressing sediment; resulting sediment mounds, at the very least, create an eyesore; cubic yards resulting from unnecessary disturbance result in increasing costs; and, run counter to Federal, State and local requirements to properly control sediment. Implementation of the SOP required in the permit will effectively address the lack of stormwater pollution prevention in road maintenance, BPJ.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
13.	Part II.B.7.c.iii.(e)(pg.25)	(e) An internal log documenting the results of all field screening performed shall be maintained. This shall include identification of direct and illicit discharges and a surveillance inspection program to effectively address high bacteria count concerns by eliminating all illicit sources to achieve the "effective prohibition" and "MEP" standards from Section 402(p)(3)(8) of the Clean Water Act and to be consistent with South Carolina Pollution Control Act, Title 48, Chapter I of the Code of Laws of South Carolina.	As noted in the IDDE section of the permit, it is not always possible to determine the source of an illicit much less eliminate it. This requirement will almost certainly cause the County to be in non-compliance with the permit from the effective date onward.	<p>COUNTY REQUEST (12/10/2016): While this section contains “eliminating all illicit inspections” it also contains the MEP standard. The County is required to identify and eliminate discharges containing high bacteria counts. Further all bacteria means “non-naturally” occurring pathogenic bacteria such as pet waste and human waste.</p> <p>SCDHEC RESPONSE (12/17/2016): Permits for discharges from municipal storm sewers may be issued on jurisdiction-wide basis; shall include a requirement to effectively prohibit illicit discharges; and shall require controls to reduce the discharge of pollutants to the MEP. For the third iteration of this, a phase I Medium MS4 NPDES stormwater permit, <i>field screening, including identification of direct and illicit discharges and a surveillance inspection program to effectively address high bacteria count concerns, to eliminate all illicit sources is the minimum level of effort expected to be implemented to achieve compliance with the "effective prohibition" and "MEP" standards from Section 402(p)(3)(B) of the Clean Water Act and to be consistent with South Carolina Pollution Control Act, Title 48, Chapter 1 of the Code of Laws of South Carolina.</i></p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The response by SCHEC is inadequate in addressing the County’s concerns on this permit requirement. The third cycle permit should include language that allows for the MEP standard to be applied to the entirety of Section II of the new permit, or the permit language should be revised in accordance with the comment provided above in the COUNTY REQUEST (12/10/2016).</p>

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<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	Permits for discharges from municipal storm sewers may be issued on jurisdiction-wide basis; shall include a requirement to effectively prohibit illicit discharges; and shall require controls to reduce the discharge of pollutants to the MEP. For the third iteration of this, a phase I Medium MS4 NPDES stormwater permit, field screening, including identification of direct and illicit discharges and a surveillance inspection program to effectively address high bacteria count concerns, to eliminate all illicit sources is the minimum level of effort expected to be implemented to achieve compliance with the "effective prohibition" and "MEP" standards from Section 402(p)(3)(B) of the Clean Water Act and to be consistent with South Carolina Pollution Control Act, Title 48, Chapter 1 of the Code of Laws of South Carolina.
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No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
14.	Part II.B.7.g.iv.(pg.27)	iv. Permittees will detect and address all infiltration, inflow and cross connections through the Public Sewer Districts (PSD) in the MS4. Previously unknown problems shall be addressed upon discovery. Advise appropriate utility owner of violation if constituents common to wastewater contamination are discovered in the MS4 during field screening or routine system inspections.	Unrealistic to address all infiltration etc., further, this is a function of the sanitary sewer provider.	<p><u>COUNTY REQUEST (12/10/2016):</u> It is expected that the County will work with public sewer districts within Richland County to detect and address infiltration, inflow, and cross connections to the MEP.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> One of the regulatory requirements of the Illicit Discharges and Improper Disposal element of the SWMP is to detect and remove (or require the discharger to the MS4 to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The Illicit Discharges and Improper Disposal element shall include controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response by SCHEC is adequate in addressing the County's concerns on this permit requirement assuming the third cycle permit will apply the MEP standard to this requirement and/or the entirety of Section II of the permit.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	One of the regulatory requirements of the Illicit Discharges and Improper Disposal element of the SWMP is to detect and remove (or require the discharger to the MS4 to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The Illicit Discharges and Improper Disposal element shall include controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification

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15.	Part II.B.9.c.v.(d)(pg.36)	(d) Retain at least one Certified Stormwater Operator/Inspector on staff at all times (these individuals shall be either field supervisors, heavy equipment operators actively involved in County earth moving activities, or engineering staff responsible for specifying erosion control measures for Permittees activities).	The County has no control on when people leave employment. Even if the County hires several certified inspectors, it is conceivable that they could all leave at one time leaving the County non-compliant. There should be some time allowance to provide for hiring of staff.	<p>COUNTY REQUEST (12/10/2016): SCDHEC realizes that the County may have periods of time without a Certified Stormwater Operator/Inspector on staff. During such times the County must proceed with training of existing staff or be actively engaged in the hiring process of appropriately trained replacement staff to replace the unfilled position in a timely manner.</p> <p>SCDHEC RESPONSE (12/17/2016): Municipalities must secure resources to comply with permit conditions and to implement the storm water program. The storm water program shall include the staff required to implement the program. BMP, control techniques, and proper system design and engineering methods are all integral part of this element. It makes it paramount to count on qualified and certified personnel. When found deficient, as the Department audit for this element demonstrated, the necessary resources to implement this element shall be met. <i>Audit recommendations are expected to be fully addressed. Training and retention requirements are expected to be met.</i></p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The response by SCHEC is adequate in addressing the County's concerns on this permit requirement assuming the third cycle permit will apply the MEP standard to this requirement and/or the entirety of Section II of the permit.</p>
	SCDHEC FULL RESPONSE (12/17/2016):	Municipalities must secure resources to comply with permit conditions and to implement the storm water program. The storm water program shall include the staff required to implement the program. BMP, control techniques, and proper system design and engineering methods are all integral part of this element. It makes it paramount to count on qualified and certified personnel. When found deficient, as the Department audit for this element demonstrated, the necessary resources to implement this element shall be met. Audit recommendations are expected to be fully addressed. Training and retention requirements are expected to be met.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
16.	Part III.A.2.a.i.(pg.48)	i. Pollutants (including floatables) from all conveyances (including roadways) must be controlled. It must be demonstrated that removal efficiency of oxygen depleting pollutants for BMP implemented to this effect must approximate the WLA I WQS.	Will not be possible to have this apply to all conveyances Confusing language.	<p>COUNTY REQUEST (12/10/2016):</p> <ol style="list-style-type: none"> This section should only reference dissolved oxygen issues. Consider deleting "(including floatables) as a minor permit modification. SCDHEC realizes that controlling pollutants from all conveyances including roadways is unreasonable. The MEP standard should apply to this section. Issue a minor permit modification such that the second sentence reads, "The removal efficiencies of BMPs for oxygen depleting pollutants must approximate the WLA/WQs, to the MEP". <p>SCDHEC RESPONSE (12/17/2016): As stated in the answer to comments 7, 8 & 9, above, Part II of the permit deals with the implementation of the SWMP. Proper implementation of the SWMP is predicated on the MEP standard. Adverse water quality impacts makes it necessary to develop water quality-based non-numeric effluent limitations (WQBEL) to ensure that water quality standards are protected and that applicable provisions of the CWA are met. WQBEL contained in part III.2.a of the permit must be implemented to effectively address impairments where DO is the POC. Illicit discharges of sewage and seepage are expected to be completely eradicated for reaches adversely impacted by E.coli.</p> <p>COUNTY COUNTER RESPONSE (1/1/2021): The response provides conflicting resolution. One portion says that MEP applies, but the next sentence uses the absolute phrase "completely eradicated". It may not be possible to completely eradicate illicit</p>

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				discharges and still meet MEP standards. The County requests that the MEP standard be applied to the entirety of Section III of the third cycle permit, or the permit language should be revised in accordance with the comments provided above in the COUNTY REQUEST (12/10/2016). The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	As stated in the answer to comments 7, 8 & 9, above, Part II of the permit deals with the implementation of the SWMP. Proper implementation of the SWMP is predicated on the MEP standard. Adverse water quality impacts makes it necessary to develop water quality-based non-numeric effluent limitations (WQBEL) to ensure that water quality standards are protected and that applicable provisions of the CWA are met. WQBEL contained in part III.2.a of the permit must be implemented to effectively address impairments where DO is the POC. Illicit discharges of sewage and seepage are expected to be completely eradicated for reaches adversely impacted by E.coli.		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
17.	Part III.A.2.a.iii.(a)(pg.48)	(a) BMP with the best removal performance for oxygen depleting substances must be implemented to the MEP.	This phrase is used throughout this section and leaves no room for other considerations such as cost, safety, efficiency etc. Even though a BMP may meet the requisite criteria, only the one with the best removal performance can be used.	<p><u>COUNTY REQUEST (12/10/2016):</u> For the purpose of this permit “best pollutant removal” considers the impact of operation and maintenance, life cycle costs, and other design and construction criteria and does not imply that a BMP with a higher removal efficiency should be selected over one that meets the design criteria, but has lower costs.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> SEE SCDHEC RESPONSE IN 16. ABOVE</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u> The response by SCHEC is inadequate in addressing the County’s concerns on this permit requirement. The third cycle permit should include language that allows for the MEP standard to be applied to the entirety of Section III of the current permit, or the permit language should be revised in accordance with the comment provided above in the COUNTY REQUEST (12/10/2016). The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.</p>
	<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	SEE SCDHEC RESPONSE IN 16. ABOVE		

No.	Critical Absolute Language Issues (Red Comments)			
	Permit Section	Permit Language	Comment	Proposed Clarification
18.	Part III.A.2.b.vii.(pg.51)*	vii. All illicit discharges of sewage and /or seepage must be detected and eliminated. These include dry and wet weather overflows from sanitary sewers, infiltration of seepage	Impossible/unrealistic requirement	<p><u>COUNTY REQUEST (12/10/2016):</u> This section is subject to the MEP standard. It is also recognized that the County does not have authority over all Public Sewer Districts in the County.</p> <p><u>SCDHEC RESPONSE (12/17/2016):</u> SEE SCDHEC RESPONSE IN 16. ABOVE</p> <p><u>COUNTY COUNTER RESPONSE (1/1/2021):</u></p>

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	from sanitary sewers and from septic tanks. The "effective prohibition" in 402(p)(3)(B)(ii) of the CWA is applicable to these non-stormwater discharges. Fully documenting the total eradication of these discharges is required.		The County requests that the MEP standard will be applied to the entirety of Section III of the third cycle permit. The County has included revised Part III, IV, and V sections of the permit as a part of the permit renewal package that would adequately address this issue if the sections were included in the third permit cycle.
<u>SCDHEC FULL RESPONSE (12/17/2016):</u>	SEE SCDHEC RESPONSE IN 16. ABOVE		

<i>Basis for Performance Standard</i>	<i>Description</i>	<i>Performance Standard</i>
Rainfall	Minimum storm volume to be retained on site.	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 Incentives for Redeveloped Sites in Part II.B.2.j.i, above.
Rainfall	Minimum storm size to be retained on site	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 95th percentile rainfall event"]. This objective must be accomplished by the use of infiltration, evapotranspiration and/or harvest and reuse of rainwater. The 95th 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.
Recharge/Runoff	Hydrologic Analysis	Design, construct, and maintain stormwater management practices that preserve the pre- development runoff conditions following construction. The post-construction rate, runoff volume, peak flow, 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 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.
Recharge	Groundwater Recharge Requirements	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: <ul style="list-style-type: none"> • 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 • Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater discharges volume from pre-construction to post-construction for the two-year storm is infiltrated.