

**STORMWATER MANAGEMENT PLAN**  
**North Carolina Department of Transportation**  
**NCS000250**



November 3, 2023

## Revisions

This Stormwater Management Plan (TS4SMP) is a “living” document that can be updated and maintained as needed, but is typically updated on an annual basis. As required, a PDF copy of the TS4SMP is maintained online on NCDOT’s public Connect site.

NCDOT will notify the Division of Energy, Mineral, and Land Resources (DEMLR) in the North Carolina Department of Environmental Quality of any major modifications to the TS4SMP. After an update to the TS4SMP is approved by DEMLR or administratively approved 30 days after its submittal, NCDOT will create a replacement PDF and post it on NCDOT’s public Connect site.

Please note that minor changes such as typographical corrections or administrative edits to this TS4SMP do not require DEMLR review and approval or NCDOT signature/ recertification.

TS4SMP Revisions			
Revision Number	Revision Date	Approved Date	Revision Summary
0	July 29, 2022	August 28, 2022	Original TS4SMP submittal to DEMLR and administratively approved
1	November 3, 2023	December 18, 2023	Annual update, minor edits throughout, new Section 11 narrative; submitted to DEMLR
2	August 22, 2024	NCDEQ approval not required	Annual update, minor edits only (noted on Annual Report electronic portal upload form during submittal to DEMLR)

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## 1. Introduction

The purpose of this Stormwater Management Plan (TS4SMP) is to establish and define the means by which the North Carolina Department of Transportation (NCDOT) will comply with its National Pollutant Discharge Elimination System (NPDES) Transportation Separate Storm Sewer System (TS4) Permit and the applicable provisions of the Clean Water Act to meet the federal standard of reducing pollutants in stormwater runoff to the maximum extent practicable.

This TS4SMP identifies the specific elements and minimum measures that NCDOT will develop, implement, enforce, evaluate and report to the North Carolina Department of Environmental Quality (NCDEQ) Division of Energy, Minerals and Land Resources (DEMLR) in order to comply with the TS4 Permit number NCS000250, as issued by NCDEQ. This permit covers activities associated with the discharge of stormwater from the TS4 as owned and operated by and located within the rights of way (ROWs) of the NCDOT transportation systems.

In preparing this TS4SMP, NCDOT has evaluated its TS4 and the permit requirements to develop a comprehensive 5-year TS4SMP that will meet NCDOT's needs, address water quality issues and provide the minimum measures necessary to comply with the permit. The TS4SMP details NCDOT's stormwater management program, called the Highway Stormwater Program (HSP), including a discussion of funding, a narrative description of the program, specific and measurable goals for each program component, implementation schedule(s) and reporting metrics the TS4SMP will be evaluated and updated annually to ensure that the elements and minimum measures it contains continue to adequately provide for permit compliance and NCDOT's needs.

Once the TS4SMP is approved by NCDEQ<sup>1</sup>, all provisions contained and referenced in this TS4SMP, along with any approved modifications of the TS4SMP, are incorporated by reference into the permit and become enforceable parts of the permit. NCDOT documents minor changes in the TS4SMP. Any major changes to the approved TS4SMP will require resubmittal, review and approval by NCDEQ, and may require a new public comment period depending on the nature of the changes.

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<sup>1</sup>TS4SMP administratively approved by DEMLR if no response received within 90 days of receipt by DEMLR as per Section 3.1.4 of Permit.

## 2. Certification

By my signature below I hereby 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 fines and imprisonment for knowing violations.

I am also aware that the contents of this document shall become an enforceable part of the NPDES TS4 Permit, and that both NCDEQ and the United States Environmental Protection Agency have NPDES Permit compliance and enforcement authority.

- I am a ranking elected official.
- I am a principal executive officer for the permitted TS4.
- I am a duly authorized representative for the permitted TS4 and have attached the authorization made in writing by a principal executive officer or ranking elected official which specifies me as (*check one*):
  - A specific individual having overall responsibility for stormwater matters.
  - A specific position having overall responsibility for stormwater matters.

DocuSigned by:  
*J. R. Hopkins*  
Signature: \_\_\_\_\_  
1D46DA6425B6406  
Print Name: J. R. Hopkins \_\_\_\_\_  
Title: Secretary of Transportation  
Signed this \_\_\_\_\_ day of 20 \_\_\_\_\_. 12/28/2023

### 3 TS4 Information

#### 3.1 Permitted TS4 Area

This TS4SMP applies to the discharge of borrow pit wastewater and stormwater from construction activities and the NCDOT TS4 located statewide, including all regulated activities associated with the discharge of stormwater from the TS4 as described in Part I of the permit.

#### 3.2 Existing TS4 Outfall Mapping Program

The current TS4 Outfall Mapping Program includes explicit and implicit stormwater outfalls and Waters of the United States. Selected watersheds where an explicit inventory has been performed may have additional data collected. NCDOT maintains a map of implicit and explicit outfall inventories. Status of the mapping program is provided in the table below.

Table 3-1: Outfalls Inventoried Through PY2022	
Outfall Type	Total Outfalls in Inventory
Implicit Roadway Outfalls	116,737
Explicit Roadway Outfalls	1,974
Explicit Non-Roadway Facility with TS4 Operations Outfalls and Non-Roadway Industrial Facility Outfalls	669

#### 3.3 Receiving Waters

The NCDOT TS4 encompasses the entire state of North Carolina and is located within all River Basins. Applicable water quality standard related information can be found at the following NCDEQ sources:

- Waterbody Classification Map
- Impaired Waters and TMDL Map
- Most recent NCDEQ Final 303(d) List

The NCDOT TS4 is interconnected with other regulated MS4s and directly receives and discharges stormwater from and to these systems.

#### 3.4 Total Maximum Daily Loads

The Total Maximum Daily Loads (TMDLs) listed in Table 3-2 below have identified NCDOT as a significant contributor and assigned NCDOT a unique Waste Load Allocation (WLA). The table also indicates whether a Report of Findings has been approved by DEMLR.

<b>Table 3-2: Summary of USEPA-Approved TMDLs Identifying NCDOT as a Significant Contributor</b>			
<b>Water Body Name</b>	<b>Water Body ID</b>	<b>TMDL Pollutant(s) of Concern</b>	<b>Approved Report of Findings (Y/N)*</b>
Hills Bay Embayment (White Oak River)	20-(18)c4	Fecal Coliform	Y
Boathouse Creek	20-31	Fecal Coliform	Y

\* Reports of Findings (ROFs) were required in NCDOT’s previous 2010 and 2015 permits. A ROF includes an assessment of whether additional structural and/or non-structural BMPs are necessary to meet NCDOT’s WLA, or reduce the load to the maximum extent practicable, and a schedule of implementation.

**3.5 Endangered and Threatened Species and Critical Habitat**

Significant populations of threatened or endangered species and/or critical habitat have been identified within the regulated TS4 area. NCDOT performs site-specific assessments for threatened or endangered species for each construction project. NCDOT regularly confers with the US Fish and Wildlife Service and the NC Wildlife Resources Commission to identify species within the project corridor that require protection.

**3.6 Non-Stormwater Discharges**

The water quality impacts of non-stormwater discharges have been evaluated by NCDOT at NCDOT non-roadway facilities as summarized in Table 3-3 below. The unpermitted non-stormwater flows listed as incidental do not significantly impact water quality. While NCDOT does not perform residential and charity car washing activities, the Department believes that these activities may have a possible significant water quality impact. Street washwater is also deemed to have a possible water quality impact. There may be occasions where street washwater is generated in association with roadway or bridge maintenance activities. In those instances, NCDOT strives to collect and capture the street washwater during the maintenance activities.

Washwater associated with car washing that does not contain detergents or does not discharge directly into the TS4 is considered incidental. When performed by NCDOT, vehicle and equipment washing with detergents is directed to a wastewater treatment system, local Publicly Owned Treatment Works (POTW), collected for treatment or recycling, permitted by another NPDES permit, or other equivalent measure; or if sanitary sewer is not available then performed on a grassed or graveled area to prevent point source discharges of washwater into storm drains or surface waters. Detergents used by NCDOT are biodegradable with pH adjusted to be in the range of 6 to 9 standard units.

<b>Table 3-3: Non-Stormwater Discharges</b>	
<b>Non-Stormwater Discharge</b>	<b>Water Quality Impacts</b>
Water line and fire hydrant flushing	Incidental
Landscape irrigation	Incidental
Diverted stream flows	Incidental
Rising groundwater	Incidental



<b>Table 3-3: Non-Stormwater Discharges</b>	
<b>Non-Stormwater Discharge</b>	<b>Water Quality Impacts</b>
Uncontaminated groundwater infiltration	Incidental
Uncontaminated pumped groundwater	Incidental
Uncontaminated potable water sources	Incidental
Foundation drains	Incidental
Air conditioner or air compressor condensate without added chemicals	Incidental
Irrigation waters	Incidental
Springs	Incidental
Water from crawl space pumps	Incidental
Footing drains	Incidental
Lawn watering	Incidental
Residential and charity car washing	<b>Possible</b>
Flows from riparian habitats and wetlands	Incidental
Dechlorinated swimming pool discharges	Incidental
Street wash water	<b>Possible</b>
Routine external building wash down which does not use detergents	Incidental
Incidental windblown mist from cooling towers that collect on rooftops	Incidental
Flows from firefighting training without chemical additives or from firefighting activities	Incidental

### 3.7 Target Pollutants and Sources

those target pollutants identified above, NCDOT is not aware of other significant water quality issues within the permitted TS4 area.

As required by Permit paragraph 3.2.1, Table 3-5 below summarizes the water quality pollutants identified throughout Part 3 of this TS4SMP, the likely activities/sources/targeted audiences attributed to each pollutant, and identifies the associated TS4SMP program(s) that address each.

<b>Table 3-4: Summary of Target Pollutants and Sources</b>		
<b>Target Pollutant(s)</b>	<b>Likely Source(s)/ Target Audience(s)</b>	<b>TS4SMP Program Addressing Target Pollutant(s)/Audience(s)</b>
Sediment	Traveling Public, NCDOT Employees	Construction Program, Public Education & Outreach, Pollution Prevention & Good Housekeeping Program
Detergent	Traveling Public, NCDOT Employees	Pollution Prevention & Good Housekeeping Program, Illicit Discharge Detection & Elimination Program

<b>Table 3-4: Summary of Target Pollutants and Sources, continued</b>		
<b>Target Pollutant(s)</b>	<b>Likely Source(s)/ Target Audience(s)</b>	<b>TS4SMP Program Addressing Target Pollutant(s)/Audience(s)</b>
Litter	Traveling Public, School-aged Children, NCDOT Employees	Public Education & Outreach, Pollution Prevention & Good Housekeeping Program, Illicit Discharge Detection & Elimination Program
Illicit Discharges	General Public, NCDOT Employees	Public Education & Outreach, Pollution Prevention & Good Housekeeping Program, Illicit Discharge Detection & Elimination Program
Illegal Dumping	Traveling Public, NCDOT Employees	Public Education & Outreach, Pollution Prevention & Good Housekeeping Program, Illicit Discharge Detection & Elimination Program
Fecal Coliform/Bacteria	Traveling Public, School-aged Children, NCDOT Employees	Public Education & Outreach, Pollution Prevention & Good Housekeeping Program, Illicit Discharge Detection & Elimination Program; Post-Construction Stormwater Program
Nutrients	Traveling Public, NCDOT Employees	Public Education & Outreach, Pollution Prevention & Good Housekeeping Program, Illicit Discharge Detection & Elimination Program; Post-Construction Stormwater Program
Oil and Grease	Traveling Public, NCDOT Employees	Public Education & Outreach, Pollution Prevention & Good Housekeeping Program
Metals	Traveling Public, NCDOT Employees	Public Education & Outreach, Pollution Prevention & Good Housekeeping Program, Illicit Discharge Detection & Elimination Program; Post-Construction Stormwater Program

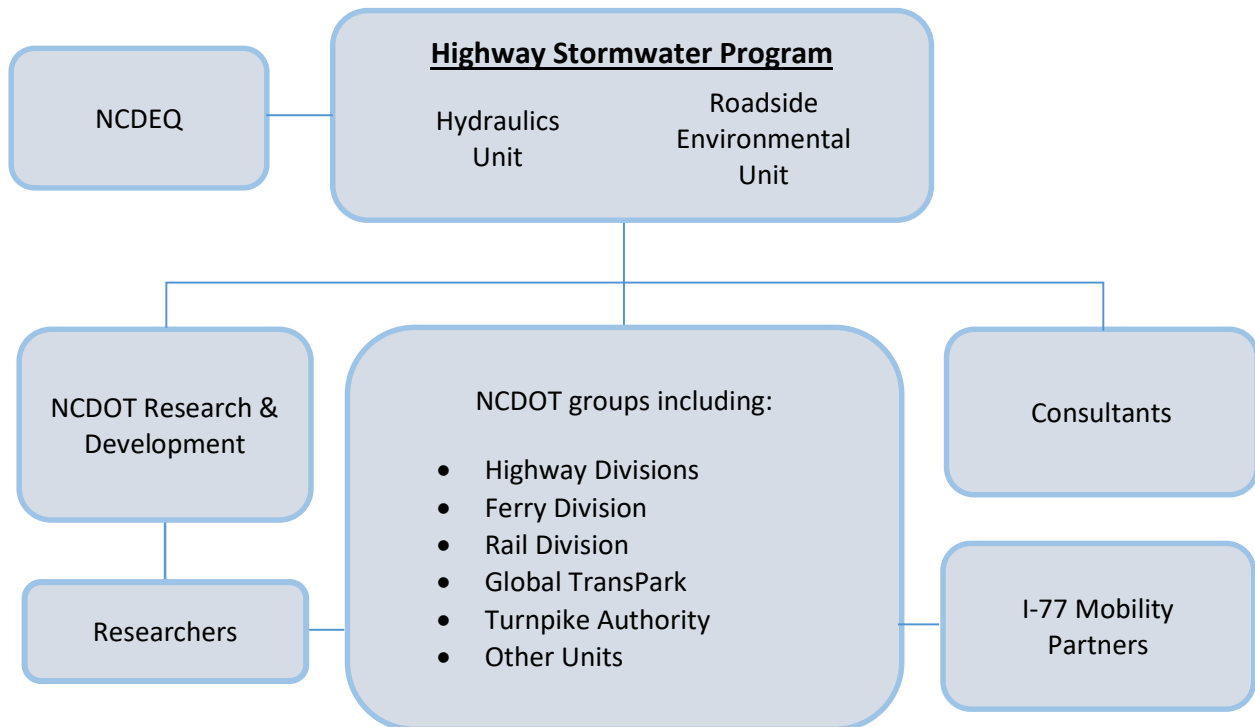
For simplicity, “NCDOT Employees” in Table 3-4 includes other entities serving on the behalf of the Department.

## 4 Stormwater Management Program Administration

### 4.1 Organizational Structure

NCDOT’s Highway Stormwater Program (HSP) is collaboratively managed by NCDOT’s Hydraulics Unit (HU) and Roadside Environmental Unit (REU) with support from others including NCDOT’s consultant partners, Division personnel, and Research & Development staff and researchers (see Figure 4-1). NCDOT utilizes private professional services firms to assist with HSP program planning and implementation. Additional NCDOT business units and sub-consultants are incorporated as needed to address unique project tasks or workloads. The HSP consultants facilitate a significant portion of the development of guidance documents and training material under the oversight of the HSP staff.

**Figure 4-1. HSP Collaborative Management Organization**



The HSP also receives in-field implementation support from other NCDOT staff, making it a NCDOT-wide initiative (See Table 4-1). With a few exceptions, the different program areas of the HSP shown in Table 4-1 effectively mirror the NPDES Permit sections. Each program area is led by technical staff in the business unit having the most responsibility and authority to implement the requirements, with support and implementation from other business units. Table 4-1 indicates the primary, supporting, and implementing business units by the respective P, S, and I letters in the matrix. A separate list of responsible positions is maintained by NCDOT.

STORMWATER MANAGEMENT PLAN

Table 4-1: Responsibility Matrix for NPDES Permit Compliance										
Permit Section	Description	HYDRO	REU	HWY DIV	RD	FD	NCGTP	DMV	NCTA	I-77 MP
2.1	Stormwater Management Program	P	P	I	I	I		I	I	I
3.1	General Requirements	P	P	I	I	I	I	I	I	I
3.2	Public Education and Outreach Program	P	P	I	I	I	I	I	I	
3.3	Public Involvement and Participation Program	P	P	I	I	I	I	I	I	
3.4.6-3.4.10	Illicit Discharge Detection and Elimination (IDDE) Program	S	P	I	I	I	I	I	I	I
3.4.1-3.4.5	TS4 Mapping (within the IDDE Program)	P	S	I			I			
3.5	Construction Site Runoff Control Program	S	P	I	I	I	I	I	I	I
3.6.1	BMP Retrofit Program	P	S	I	I	I	I			
3.6.2	BMP Toolbox	P	S	I	I	I	I		I	I
3.6.3	Post Construction Stormwater Program	P	S	I	I	I	I		I	I
3.7.1	Facilities Operation and Maintenance Program	S	P	I	I	I	I	I	I	I
3.7.2	Spill Response Program	S	P	I	I	I	I	I	I	I
3.7.3	TS4 Operation and Maintenance Program	S	P	I	I	I	I		I	I
3.7.4	SCM Inspection and Maintenance Program	S	P	I	I	I	I		I	I
3.7.5	Vegetation, Pesticide and Fertilizer Management		P	I	I	I	I	I	I	I
3.7.6	Vehicle and Equipment Maintenance Program		P	I	I	I	I	I	I	I
3.7.7	Litter Management Program	S	P	I	I	I	I	I	I	I
3.7.8	Fecal Coliform Reduction Program	S	P	I	I	I	I	I	I	I
3.8	Total Maximum Daily Load Program	P	S	I	I	I	I		I	I
3.9	Research and Program Assessment	P	P	I	I	I	I		I	I
4	Annual Program Review	P	P	I	I	I		I	I	I

P - Primary Lead      Hydro - Hydraulics Unit      RD - Rail Division      DMV - Division of Motor Vehicles  
 S - Supporting      REU - Roadside Environmental Unit      FD - Ferry Division      NCTA - NC Turnpike Authority  
 I - Implementer      HWY DIV - 14 Highway Divisions      NCGTP - NC Global TransPark      I-77 MP - I-77 Mobility Partners

**4.2 Program Funding and Budget**

In accordance with the issued permit, NCDOT maintains adequate funding and staffing to implement and manage the provisions of the TS4SMP and comply with the requirements of the NPDES MS4 Permit. The budget includes the permit administering and compliance fee, which is billed by DEMLR annually.

Funding for the HSP comes from a wide range of sources. Management and development of the HSP are predominately funded from two sources:

- 1) Work Breakdown Structure (WBS) 48797.1.1, 48797.1.2, and 48797.1.3 under Transportation Improvement Program (TIP) R-5968, and
- 2) WBS 51236.

Other business units that support compliance with stormwater regulations contribute funding to the HSP. Additionally, other sources of funds are periodically available. Table 4-2 summarizes sources of funding for the HSP.

<b>Table 4-2: HSP Funding Sources</b>
<b>TIP R-5968, “NPDES Permit, Retrofit Sites to Protect Water Quality”</b>
<ul style="list-style-type: none"> <li>• Source: State Transportation Program; 80% Federal, 20% State funds</li> <li>• Budget: \$3,000,000 annually from 2020-2029 per current State Transportation Improvement Program (STIP)</li> <li>• Uses: Staff salaries (predominately for Hydraulics Unit staff; other business units [such as the Divisions, Geotechnical Engineering Unit, Location and Surveys] use when working on BMP retrofits or other HSP tasks), material expenses for retrofit construction, administrative overhead charges, and program-wide consultant support.</li> <li>• Managed by: Hydraulics Unit</li> </ul>
<b>WBS 51236, “NPDES Stormwater BMP Structure”</b>
<ul style="list-style-type: none"> <li>• Source: Legislative line item</li> <li>• Budget: approximately \$1,300,000 annually</li> <li>• Uses: Staff salaries (predominately for REU staff, material expenses for publications for public education, administrative overhead charges, and miscellaneous compliance-related needs), significant or one-time maintenance tasks for stormwater BMPs, development of Stormwater Pollution Prevention Plans (SPPPs) BMPs and maintenance for water quality protection at maintenance facilities (such as installation or upgrade of salt storage equipment).</li> <li>• Managed by: Roadside Environmental Unit</li> </ul>

**4.3 Shared Responsibility**

NCDOT will share the responsibility to implement the following permit requirements, which are at least as stringent as the corresponding NPDES TS4 Permit requirement. NCDOT remains responsible for compliance if the other entity fails to perform the permit obligation and may be subject to enforcement action if neither NCDOT nor the other entity fully performs the permit obligation. Table 4-3 below summarizes who will be implementing the component, what the component program is called, the specific TS4SMP best management practice (BMP) or permit requirement that is being met by the shared responsibility, and whether a legal agreement to share responsibility is in place.

<b>Table 4-3: Shared Responsibilities</b>		
<b>TS4SMP BMP or Permit Requirement</b>	<b>Implementing Entity &amp; Program Name</b>	<b>Legal Agreement (Y/N)</b>
Permit Sections 2.1, 3.1, 3.4.6-3.4.10, 3.5, 3.6.2, 3.6.3, 3.7.1, 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.6, 3.7.7, 3.7.8, 3.8, 3.9, 4	I-77 Mobility Partners	Y

**4.4 Co-Permittees**

There are no other entities applying for co-permittee status under the NPDES TS4 permit number NCS000250 for NCDOT.

**4.5 Measurable Goals for Program Administration**

NCDOT will manage and report the following BMPs shown in Table 4-4 for the administration of the Stormwater Management Program.

<b>Table 4-4: Program Administration BMPs</b>				
<b>Permit Ref.</b>	<b>1.4: Annual Administering and Compliance Monitoring Fee</b> The Permittee shall pay the administering and compliance monitoring fee within 30 (thirty) days after being billed by the DEMLR. Failure to pay the fee in a timely manner in accordance with 15A NCAC 2H .0105(b)(4) may cause the Division to initiate action to revoke this permit and/or deny permit renewal.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>1</b>	<b>Annual Administering and Compliance Monitoring Fee</b>			
	1.4 Pay the annual administering and compliance monitoring fee.	1. Pay within 30 (thirty) days of being billed.	1. Annually, Permit Years 1-5	1. Yes/No
<b>Permit Ref.</b>	<b>1.5: Duty to Reapply</b> The Permittee is not authorized to discharge after the expiration date. In order to receive automatic authorization to discharge beyond the expiration date, the Permittee shall submit a permit renewal application and fees, as are required, no later than 180 days prior to the expiration date of this permit.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>2</b>	<b>Permit Renewal Application</b>			
	Certify and submit a permit renewal application package.	1. Certify the stormwater permit renewal application and submit to NCDEQ at least 180 days prior to permit expiration.	1 Permit Year 5	1. Date of permit renewal application submittal

<b>Table 4-4: Program Administration BMPs</b>				
<b>Permit Ref.</b>	<p><b>3.1.4, 2.4.1, 2.4.2, and 2.1.6 Seek approval of the TS4SMP and maintain a copy online.</b>                      The following permit sections apply to seeking and maintaining approval of the TS4SMP:</p> <p>3.1.4 The TS4SMP shall be submitted to DEMLR within ninety (90) days of permit issuance for DEMLR review and approval. The TS4SMP is deemed approved if no response is received from the DENLR within 90 days of receipt by the DEMLR.</p> <p>2.1.4 The Permittee shall notify DEMLR in writing of any planned major modifications to the TS4SMP. DEMLR will inform the Permittee within 30 days if approval of the modified TS4SMP is required.</p> <p>2.4.1 When specific changes to the program or TS4SMP are required by DEMLR in writing, the Permittee shall provide certification in writing to DEMLR that the changes have been made.</p> <p>2.4.2 DEMLR may notify the Permittee when the TS4SMP does not meet one or more of the requirements of the permit. Within ninety (90) days of such notice, the Permittee shall submit a plan and time schedule to DEMLR for modifying the TS4SMP to meet the requirements. DEMLR may approve the plan, approve a plan with modifications, or reject the proposed plan. Nothing in this paragraph shall be construed to limit DEMLR's ability to conduct enforcement actions for violations of this permit.</p> <p>2.1.6 The Permittee shall maintain an up-to-date version of this permit and the TS4SMP online in a manner that is accessible by DEMLR and the public.</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>3</b>	<b>Seek approval of the TS4SMP and maintain a copy online.</b>			
	3.1.4 Submit the TS4SMP to DEMLR within ninety (90) days of permit issuance for DEMLR review and approval. The TS4SMP is deemed approved if no response is received from the DEMLR within 90 days of receipt by the DEMLR.	1. Submit the TS4SMP to DEMLR within ninety (90) days of permit issuance.	1. Within ninety (90) days of permit issuance	1. Yes/No
	2.1.4 Notify DEMLR in writing of any planned major modifications to the TS4SMP. DEMLR will inform the Permittee within 30 days if approval of the modified TS4SMP is required.	2. If major modifications are needed, notify DEMLR in writing.	2. If needed	2. Needed and submitted/ Needed but not submitted/ Not needed

<b>Table 4-4: Program Administration BMPs</b>				
<b>Permit Ref.</b>	<b>3.1.4, 2.4.1, 2.4.2, and 2.1.6 Seek approval of the TS4SMP and maintain a copy online, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>3 cont.</b>	<b>Seek approval of the TS4SMP and maintain a copy online , continued</b>			
	2.4.1 When specific changes to the program or TS4SMP are required by DEMLR in writing, the Permittee shall provide certification in writing to DEMLR that the changes have been made.	3. Certify that changes required in writing by DEMLR have been made.	3. If needed	3. Needed and submitted/ Needed but not submitted/ Not needed
	2.4.2 When specific changes to the program or TS4SMP are required by DEMLR, the Permittee shall submit a plan and time schedule to DEMLR for modifying the TS4SMP to meet the requirements within 90 days.	4. Submit a plan to modify the TS4SMP within 90 days if changes are required by DEMLR.	4. If needed	4. Needed and submitted/ Needed but not submitted/ Not needed
2.1.6 Maintain an up-to-date version of the permit and the TS4SMP online in a manner that is accessible by DEMLR and the public.	5. Maintain an up-to-date version of the permit and TS4SMP on NCDOT's public facing website.	5. Continuously Permit Years 1-5	5. Yes/No	



Table 4-4: Program Administration BMPs				
Permit Ref.	<p><b>Part 3. Develop a TS4 Stormwater Management Plan</b></p> <p>This permit requires the full and proper implementation of a comprehensive stormwater management program to address and manage pollutants associated with stormwater runoff from the TS4 and covered facilities. To the extent allowable under State and local law, the Permittee must develop and implement a TS4SMP in accordance with Section 402(p)(3)(B)(iii) of the Clean Water Act. The purpose of the TS4SMP is to establish and define the means by which the Permittee will comply with this permit and with the applicable provisions of the Clean Water Act.</p> <p>3.1.1 The TS4SMP shall include, at a minimum, specific and measurable goals that define program elements to fully implement each of the six MCMs outlined herein: public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction site runoff control, post-construction controls, and pollution prevention and good housekeeping for TS4 operations, as well as any required Total Maximum Daily Load (TMDL) and/or Research Program requirements.</p> <p>3.1.3 The TS4SMP shall detail the Permittee’s Stormwater Management Program for the five-year term of the stormwater permit, including funding, a narrative description of the program, specific and measurable goals for each program component, implementation schedule(s) and reporting metrics.</p> <p>2.3.1 The Permittee shall clearly identify in the TS4SMP any qualifying alternative program components that will be utilized to meet specific permit requirements.</p>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
4	<b>Develop a TS4 Stormwater Management Plan</b>			
	3.1.1 Include specific and measurable goals that define program elements to fully implement each of the six MCMs, TMDLs and/or Research Program requirements.	1. Include specific and measurable goals in the TS4SMP for each program.	1. Upon TS4SMP development, Permit Year 1	1. Yes/No
	3.1.3 Detail the stormwater programs for five years, including funding, a narrative description of the program, specific and measurable goals for each program component, implementation schedule(s) and reporting metrics.	2. Include program details for the next five years.	2. Upon TS4SMP development, Permit Year 1	2. Yes/No
	2.3.1 Clearly identify in the TS4SMP any qualifying alternative program components that will be utilized to meet specific permit requirements.	3. If needed, include qualifying alternative program components in the TS4SMP.	3. Upon TS4SMP development, Permit Year 1	3. Needed and submitted/ Needed not submitted/ Not needed

<b>Table 4-4: Program Administration BMPs</b>				
<b>Permit Ref.</b>	<p><b>3.1.2 and 2.2.2 Other Administrative Requirements</b></p> <p>3.1.2 The Permittee shall maintain a list of positions responsible for implementing the provisions of this permit and the TS4SMP, including central office staff and division staff. The list shall include specific positions and a brief description of stormwater responsibilities and/or duties for each listed position.</p> <p>2.2.2 The Permittee shall maintain, and make available to the Division upon request, written procedures for implementing the MCMs, permit requirements, and TS4SMP. Written procedures shall identify specific action steps, schedules, resources, and responsibilities for implementing the MCMs. Written procedures can be free standing or, where appropriate, integrated into the TS4SMP.</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>5</b>	<b>Other Administrative Requirements</b>			
	3.1.2 Maintain a list of positions responsible for implementing the permit and TS4SMP. The list shall include specific positions and a brief description of stormwater responsibilities and/or duties for each listed position.	1. Maintain a list of roles and responsibilities for staff responsible for implementing the TS4SMP and permit.	1. Continuously, Permit Years 2-5	1. Yes/No
<b>6</b>	<b>Maintain written procedures</b>			
	2.2.2 The Permittee shall maintain, and make available to the Division upon request, written procedures for implementing the MCMs, permit requirements, and TS4SMP. Written procedures shall identify specific action steps, schedules, resources, and responsibilities for implementing the MCMs. Written procedures can be free-standing or, where appropriate, integrated into the TS4SMP.	1. Maintain written procedures for implementing the MCMs, permit requirements, and TS4SMP. Make available upon request.	1. Per schedules established in the TS4SMP	1. Yes/No

<b>Table 4-4: Program Administration BMPs</b>				
<b>Permit Ref.</b>	<p><b>2.1.1, 2.1.2, 4.1, and 4.2: Annual TS4SMP Review and Annual Report.</b></p> <p>2.1.1 The Permittee shall maintain adequate funding and staffing to implement and manage the provisions of the TS4SMP and meet the requirements of this permit.</p> <p>2.1.2 The Permittee shall evaluate the performance and effectiveness of the program components at least annually. Results shall be used by the Permittee to modify the program components as necessary to accomplish the intent of the permit.</p> <p>4.1 The Permittee shall review and update the TS4SMP as necessary, but at least on an annual basis, to identify compliance issues, necessary modifications, and improvements needed to maximize TS4SMP effectiveness.</p> <p>4.2 The Permittee shall submit an annual report to DEMLR by August 31 of each year. When required, a permit renewal application may be submitted in lieu of the annual report.</p> <p>The DEMLR may request additional reporting and/or monitoring information as necessary to evaluate the progress and results of the Permittee’s stormwater programs.</p> <p>The annual report shall document activities over the course of the fiscal year (July 1 – June 30) and include appropriate information to accurately describe the progress, status, and results of the permitted programs. At a minimum, the annual report shall:</p> <ul style="list-style-type: none"> <li>a) Assess compliance with the permit.</li> <li>b) Provide information on the establishment of appropriate legal authorities, inspections, and enforcement actions.</li> <li>c) Include specific annual reporting metrics identified in the TS4SMP</li> </ul>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>7</b>	<b>Annual TS4SMP Review and Annual Report</b>			
	4.1 Perform an annual review and update of the TS4SMP.	1. Review the TS4SMP to identify compliance issues, necessary modifications, and improvements needed to maximize TS4SMP effectiveness	1. Annually Permit Years 1-5	1. Yes/No
		2. Update the TS4SMP as needed to address deficiencies	2. Annually Permit Years 1-5	2. Needed and updated/ Needed, not updated/ Not needed
	2.1.1 Maintain adequate funding and staffing to implement and manage the provisions of the TS4SMP and meet the requirements of this permit.	3. Assess if the program is adequately funded and staffed.	3. Annually Permit Years 1-5	3. Yes/No

Table 4-4: Program Administration BMPs				
Permit Ref.	2.1.1, 2.1.2, 4.1, and 4.2: Annual TS4SMP Review and Annual Report, continued.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
7 cont.	<b>Annual TS4SMP Review and Annual Report, continued</b>			
	4.2 The Permittee shall submit an annual report to DEMLR by August 31 of each year. When required, a permit renewal application may be submitted in lieu of the annual report.	4. Request additional funding if needed	4. If needed	4. Needed and requested/ Needed, not requested/ Not needed
		5. Prepare, certify, and submit the annual report to DEMLR prior to August 31 each year. In year 5, a permit renewal application may be submitted in lieu of the annual report	5. Annually Permit Years 1-4	5. Yes/No

**5 PUBLIC EDUCATION AND OUTREACH PROGRAM**

NCDOT will implement a Public Education and Outreach Program to distribute educational materials to the traveling public and school-aged children about the impacts of stormwater discharges on water bodies and steps the traveling public can take to reduce pollutants in stormwater runoff.

The target audiences and identified pollutants listed in Part 3.9 of this TS4SMP, which will be addressed by the Public Education and Outreach Program, are summarized in Table 5-1 below. NCDOT will incorporate NCDOT employees and contractors into its Public Education and Outreach Program, as appropriate. In addition, NCDOT is required to inform the traveling public of certain pollutants as well as the hazards associated with illicit discharges and illegal dumping.

<b>Table 5-1: Summary of Target Pollutants &amp; Audiences</b>	
<b>Target Pollutants/Sources</b>	<b>Target Audience(s)</b>
Sediment	Traveling Public, NCDOT Employees
Detergent	Traveling Public, NCDOT Employees
Litter	Traveling Public, School-aged Children, NCDOT Employees
Illicit Discharges	Traveling Public, NCDOT Employees
Illegal Dumping	Traveling Public, NCDOT Employees
Fecal Coliform/Bacteria	Traveling Public, NCDOT Employees
Nutrients	Traveling Public, NCDOT Employees
Oil and Grease	Traveling Public, NCDOT Employees
Metals	Traveling Public, NCDOT Employees

NCDOT maintains a Public Education and Outreach Program to educate the public about the importance of stormwater quality, including awareness of the impacts of litter, sedimentation, chemical application, illicit discharges and illegal dumping, and other activities that may add pollutants to stormwater runoff. NCDOT encourages public involvement in stormwater quality programs and maintains diverse educational materials to engage and educate the public from different social, economic, and age groups. NCDOT maintains a public website that contains information intended to educate public users as well as stormwater educational materials. NCDOT uses social media posts to help educate the public on anti-litter and stormwater pollution prevention messages. NCDOT actively seeks partnerships with other state agencies and organizations with shared outreach goals. This includes public and private partnerships associated with Litter Management, such as NCDOT’s continued management of the Sponsor-A-Highway program that collects and disposes of litter from NC roadways. NCDOT also maintains a Connect NCDOT website for our business partners that provides more detailed content and key guidance documents such as NCDOT’s BMP Toolbox and the Erosion and Sediment Control Design and Construction Manual.

NCDOT continues to engage with various education partners/ organizations to promote stormwater pollution prevention awareness education for school-aged children. Examples include NCDOT’s continued involvement in the Wake County Summer Science, Technology, Engineering, and Math (STEM) Sessions for teachers where NCDOT provides information to teachers on how NCDOT manages

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stormwater runoff from its existing roadway and non-roadway facilities and ongoing construction projects, how NCDOT employs various stormwater pollution prevention practices, and what young citizens can do to protect NC waters. NCDOT also supplies stormwater educational materials directly to educators through various venues including teacher kits containing litter prevention and stormwater pollution prevention materials.

NCDOT will manage, implement, and report the following public education and outreach BMPs (See Table 5-2).

<b>Table 5-2: Public Education and Outreach BMPs</b>				
<b>Permit Ref.</b>	<b>3.2.1 and 3.2.2: Outreach to Targeted Audiences.</b> Identify the specific elements and implementation of a Public Education and Outreach Program to provide educational materials to the traveling public, or conduct equivalent outreach activities, about the impacts of stormwater discharges on water bodies and how the traveling public can reduce TS4 pollutants in stormwater runoff. The Permittee shall document the extent of exposure of each media, event or activity, including those elements implemented locally or through a cooperative agreement and, at a minimum, shall:  3.2.1 Evaluate the target pollutants, likely sources, and associated target audiences likely to have significant stormwater impacts to the TS4 and receiving waters. The traveling public and school-aged children shall be included as target audiences. Litter and pollutants resulting from vehicle operation and maintenance issues shall be included as target pollutants.  3.2.2 Provide stormwater educational information to identified audiences to reduce the potential for discharge of target pollutants through the TS4.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>8</b>	<b>Evaluate and Identify Target Pollutants, Likely Sources, and Associated Target Audiences</b>			
	3.2.1 Evaluate the target pollutants, likely sources, and associated target audiences likely to have significant stormwater impacts to the TS4 and receiving waters.	1. Evaluate identified targets to assess continued applicability.	1. Annually, Permit Years 1-5	1. Yes/No
		2. Update identified targets if needed.	2. Annually, Permit Years 1-5	2. Updated/ Not Needed
<b>9</b>	<b>Provide Educational Materials on Litter to School-Aged Children</b>			
	3.2.1 and 3.2.2 Provide educational materials that target school-aged children.	1. Make anti-litter packages available to teachers upon request.	1. Continuously, Permit Years 1-5	1. Number provided/ None were requested
		2. Make anti-litter materials targeting school-aged children available on NCDOT's website.	2. Continuously, Permit Years 1-5	2. Number of unique materials

<b>Table 5-2: Public Education and Outreach BMPs</b>				
<b>Permit Ref.</b>	<b>3.2.1 and 3.2.2: Outreach to Targeted Audiences, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>10</b>	<b>Provide Educational Materials on Litter to Traveling Public</b>			
	3.2.1 and 3.2.2 Provide educational materials regarding litter to users of NCDOT transportation systems.	1. Make hardcopies of anti-litter brochures available to the public.	1. Annually, Permit Years 1-5	1. Number of hardcopy brochures printed/ Additional copies not needed
2. Make anti-litter messaging materials for the public available on NCDOT’s website.		2. Continuously, Permit Years 1-5	2. Number of unique materials	
<b>11</b>	<b>Provide general stormwater quality educational materials to Traveling Public</b>			
	3.2.1 and 3.2.2 Provide general stormwater quality educational materials to users of NCDOT transportation systems.	1. Make stormwater quality educational materials available that discuss the pollutants of concern listed in Table 3.5.	1. Continuously, Permit Years 1-5	1. Number of unique materials
2. Develop additional or update existing educational materials to address metals, organics, and temperature.		2. Permit Year 3	2. Yes/No	

<b>Table 5-2: Public Education and Outreach BMPs</b>				
<b>Permit Ref.</b>	<p><b>3.2.3, 3.2.4 and 3.4.10 Web Site and Public Reporting:</b></p> <p>3.2.3 Provide and maintain a website designed to convey the TS4 stormwater program’s purpose and educational message(s). The website shall include information on stormwater, water quality, TS4 pollutants, NCDOT stormwater projects and activities, and how to report stormwater issues.</p> <p>3.2.4 Maintain and promote reporting mechanisms for the travelling public to identify and report littering, illicit discharges, illegal dumping.</p> <p>3.4.10 Provide a mechanism for the traveling public, NCDOT staff, and contractors to report illicit discharges and illegal dumping. The mechanism shall be publicized to facilitate reporting and shall be managed to provide rapid response by appropriately trained personnel. [NCDOT manages the reporting mechanism for internal and external audiences separately. The reporting mechanism for NCDOT staff and contractors is addressed in BMP 27.]</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>12</b>	<b>Maintain Public Education and Outreach materials online</b>			
	3.2.3 Maintain educational materials online.	1. Maintain educational materials regarding stormwater, water quality, TS4 pollutants, and NCDOT stormwater projects and activities online.	1. Continuously, Permit Years 1-5	1. Yes/No
<b>13</b>	<b>Maintain and promote reporting mechanisms for the travelling public to identify and report littering, illicit discharges, illegal dumping.</b>			
	3.2.4 and 3.4.10 Maintain and promote reporting mechanisms for the public to identify and report littering, illicit discharge, and illegal dumping.	1. Maintain reporting mechanisms through NCDOT’s Contact Us Citizen Action Request (CARs) website.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Maintain reporting mechanisms via telephone by maintaining contact information on NCDOT’s website.	2. Continuously, Permit Years 1-5	2. Yes/No
		3. Maintain reporting mechanisms via telephone through printed materials.	3. Continuously, Permit Years 1-5	3. Yes/No
4. Promote multiple reporting mechanisms.		4. Continuously, Permit Years 1-5	4. Yes/No	



## **6 Public Involvement and Participation Program**

This TS4SMP identifies the minimum elements and implementation of a Public Involvement and Participation Program that complies with applicable State, Tribal, and local public notice requirements.

NCDOT maintains a Public Involvement and Participation Program that provides the public with opportunities to offer input on stormwater, litter, or water quality related issues related to NCDOT's transportation systems. NCDOT follows the State, Tribal, and local public notice procedures that allow the public to comment on stormwater or water quality concerns during project-specific public meetings.

NCDOT maintains an online reporting system titled Citizen Action Requests (CARs) for the public to report drainage issues, culvert blockages, roadway debris, or other related issues. NCDOT documents and tracks reported items, responds in appropriate timely fashion, and publishes the CARs report results online. NCDOT also has a separate Swat-A-Litterbug online reporting system and encourages the public to report littering.

NCDOT also continues to operate its summer internship program that provides opportunities for young students/ professionals to actively participate in NCDOT's Highway Stormwater Program.

NCDOT continues to maintain an extensive Litter Management program, which includes the management of NCDOT's Adopt-A-Highway (AAH) which was established in 1988. Since then, tens of thousands of volunteers have reduced litter and saved taxpayers millions of dollars annually in roadside cleanup costs. NCDOT's AAH program has over 120,000 participants across the state with both civic and community groups, including schools, religious, social groups, professional organizations, as well as individuals and families. NCDOT continues to encourage public involvement in its AAH program via litter collection and disposal. NCDOT also administers a biannual Litter Sweep providing additional opportunities for other volunteers to participate in litter collection and removal from NCDOT roadways each spring and summer.

NCDOT will manage, implement, and report the following public involvement and participation BMPs (See Table 6-1).

<b>Table 6-1: Public Involvement and Participation BMPs</b>				
<b>Permit Ref.</b>	<b>3.3: Public Involvement and Participation Program.</b> The TS4SMP shall identify the specific elements for implementing, documenting and tracking a Public Involvement and Participation Program that complies with State and local public notice requirements and, at a minimum, shall:  3.3.1 Provide mechanisms for public input on stormwater issues and the stormwater program.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>14</b>	<b>Mechanisms for public input on stormwater issues and stormwater program</b>			
	3.3.1 Provide mechanisms for public input on stormwater issues and the stormwater program.	1. Provide opportunities to comment on stormwater during project-specific public meetings.	1. Continuously, Permit Years 1-5	1. Number of public meetings held
		2. Maintain NCDOT's Contact Us Citizen Action Request (CARs) website.	2. Continuously, Permit Years 1-5	2. Yes/No
		3. Maintain contact information on NCDOT's website.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Publish the monthly CARs report on NCDOT's website.	4. Continuously, Permit Years 1-5	4. Yes/No
<b>Permit Ref.</b>	<b>3.3.2: Volunteer Opportunities.</b> Provide volunteer opportunities to ongoing citizen participation, such as the Adopt-A-Highway and Litter Sweep Programs.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>15</b>	<b>Accept interns to participate in NCDOT's Highway Stormwater Program</b>			
	Accept interns to participate in NCDOT's Highway Stormwater Program.	1. Accept interns as feasible to participate in NCDOT's Highway Stormwater Program.	1. Annually, Permit Years 1-5	1. Number of interns/ Reason not feasible

<b>Table 6-1: Public Involvement and Participation BMPs</b>				
<b>Permit Ref.</b>	<b>3.3.2: Volunteer Opportunities.</b> Provide volunteer opportunities to ongoing citizen participation, such as the Adopt-A-Highway and Litter Sweep Programs.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>16</b>	<b>Continue the Adopt-A-Highway Program</b>			
	3.3.2 Manage the ongoing Adopt-A-Highway Program.	1. Encourage public participation in the Adopt-A-Highway (AAH) Program.	1. Continuously, Permit Years 1-5	1. Number of groups participating in the program
		2. Dispose of litter collected through the AAH Program.	2. Continuously, Permit Years 1-5	2. Quantity of litter collected
		3. Continue to recognize long term AAH volunteer groups.	3. Continuously, Permit Years 1-5	3. Number of recognitions made
		4. Maintain list of Litter Management Coordinators.	4. Continuously, Permit Years 1-5	4. Yes/No
<b>17</b>	<b>Continue the Statewide Litter Sweep Program</b>			
	3.3.2 Continue the Statewide Litter Sweep Program.	1. Continue public participation in litter pickup, including the biannual Litter Sweep Program.	1. Continuously, Permit Years 1-5	1. Report the number of volunteers
		2. Track the quantity of litter collected by volunteers.	2. Continuously, Permit Years 1-5	2. Document the quantity of litter collected
<b>18</b>	<b>Continue the Statewide Swat-A-Litterbug Program</b>			
	Continue the Statewide Swat-A-Litterbug Program.	1. Encourage the public to report littering through the Swat-A-Litterbug Program.	1. Continuously, Permit Years 1-5	1. Number of Swat-A-Litterbug reports submitted

## 7 Illicit Discharge Detection and Elimination Program

Although this section of the permit and TS4SMP includes several changes from the previous permit, NCDOT has already implemented several of the requirements. For example, NCDOT maintains a statewide map of primary routes, secondary roads, and bridges owned and operated by NCDOT. The map also includes surface waters and roadway crossings of surface waters, and is updated annually. Under its existing Stormwater System Inventory and Prioritization (SSIP) Program, NCDOT also maintains a Field Inventory Procedure (FIP) which includes procedures to inventory outfalls, inlets, conveyances and other assets in the stormwater drainage system. The FIP will need to be updated for the current permit requirements. However, it has been used in the past to implement field data collection in high priority watersheds. As of Permit Year 2021, NCDOT has field verified over 1,800 outfalls.

NCDOT will continue to look for illicit discharges, illegal dumping, or other potential stormwater pollutant concerns in conjunction with any inspections of major outfalls identified for field verified as part of its FIP.

NCDOT’s Illicit Discharge Detection and Elimination Program (IDDEP) was developed and implemented to detect and eliminate illicit discharges and illegal dumping into the NCDOT TS4. The program provides training on performing inspections, identifying illicit discharges and illegal dumping, and reporting them to NCDEQ. NCDOT maintains a tracking database and a standard point of contact for the program. NCDOT employees participate in training to help enable identification of potential illegal dumping and illicit discharges when performing other work on the NCDOT system, as well as instruction on reporting them to the IDDEP manager, who acts as the primary point of contact for the program.

NCDOT will continue to maintain an Illicit Discharge Detection and Elimination Program which shall, at a minimum, include the following illicit discharge detection and elimination BMPs (See Tables 7-1 and 7-2).

### 7.1 TS4 Mapping Program

Table 7-1: Illicit Discharge Detection and Elimination BMPs - TS4 Mapping Program				
Permit Ref.	<p><b>3.4.1 and 3.4.2: TS4 Mapping Program – GIS-based map of implicit outfalls and statewide base-map.</b> The TS4SMP shall identify the specific elements to develop and implement an Illicit Discharge Detection and Elimination (IDDE) Program to reduce the discharge of pollutants to surface waters. At a minimum, the Permittee shall:</p> <p>3.4.1 Maintain a GIS-based implicit stormwater outfall inventory which includes implicit outfalls from primary and secondary roadways.</p> <p>3.4.2 Develop and maintain a statewide base map of Permittee owned and operated primary routes, secondary roads, surface waters, and bridge and roadway crossings of surface waters.</p>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
19	<b>Maintain a GIS-based implicit stormwater outfall inventory</b>			
	3.4.1 Maintain a GIS-based implicit stormwater outfall inventory which includes implicit outfalls from primary and secondary roadways.	1. Maintain a process for deriving a GIS-based implicit stormwater outfall inventory.	1. Continuously, Permit Years 1-5	1. Yes/No

Table 7-1: Illicit Discharge Detection and Elimination BMPs - TS4 Mapping Program				
Permit Ref.	3.4.1 and 3.4.2: TS4 Mapping Program – GIS-based map of implicit outfalls and statewide base-map, continued.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
19 cont.	<b>Maintain a GIS-based implicit stormwater outfall inventory</b>			
		2. Implement the protocol to update the GIS-based implicit stormwater outfall inventory.	2. Annually, Permit Years 1-5	2. Yes/No
20	<b>Maintain a Statewide Base Map of the TS4</b>			
	3.4.2 Develop and maintain a statewide base map of Permittee owned and operated primary routes, secondary roads, surface waters, and bridge and roadway crossings of surface waters.	1. Develop a process for deriving a GIS-based statewide base map of Permittee owned and operated primary routes, secondary roads, surface waters, and bridge and roadway crossings of surface waters.	1. Permit Year 1	1. Yes/No
		2. Maintain a process for deriving a GIS-based statewide base map of Permittee owned and operated primary routes, secondary roads, surface waters, and bridge and roadway crossings of surface waters.	2. Continuously, Permit Years 2-5	2. Yes/No
		3. Implement the process to update the GIS-based base-map.	3. Annually, Permit Years 2-5	3. Yes/No

<b>Table 7-1: Illicit Discharge Detection and Elimination BMPs - TS4 Mapping Program</b>				
<b>Permit Ref.</b>	<p><b>3.4.3 and 3.4.5: TS4 Mapping Program – Develop, Implement, and Maintain a mapping program for TS4 conveyances and outfalls primary routes in Phase I MS4 permitted areas.</b></p> <p>3.4.3 Develop and implement a program for mapping TS4 conveyances and outfalls associated with primary routes which are located within Phase I MS4 permitted areas. The program, at a minimum, shall include mapping of major outfalls, bridge outfalls discharging directly to surface waters, and associated inlets, catch basins, conveyances, and flow directions.</p> <p>3.4.5 Establish a statewide TS4 mapping inventory to, at a minimum, include major outfalls and bridge outfalls discharging directly to surface waters, and associated inlets, catch basins, conveyances, and flow directions associated with primary routes which are located within Phase I MS4 permitted areas</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>21</b>	<b>Develop and implement a program for mapping TS4 conveyances and outfalls on primary routes in Phase I MS4 permitted areas</b>			
	3.4.3 Develop and implement a program for mapping TS4 conveyances and outfalls associated with primary routes which are located within Phase I MS4 permitted areas. The program, at a minimum, shall include mapping of major outfalls, bridge outfalls discharging directly to surface waters, and associated inlets, catch basins, conveyances, and flow directions.	1. Collaborate with Phase I MS4s to aggregate existing mapped/ inspected data.	1. Permit Years 1-2	1. Yes/No
		2. Develop a new geodatabase structure to include major outfalls, bridge outfalls discharging directly to surface waters, and associated inlets, catch basins, conveyances, and flow directions.	2. Permit Year 2	2. Yes/No
		3. Integrate Phase I MS4 aggregated data and NCDOT existing data into the geodatabase.	3. Permit Year 3	3. Yes/No
		4. Identify gaps in the assets, attributes, and footprint of available data and prioritize areas of TS4 field mapping in Phase I MS4 areas.	4. Permit Year 3	4. Yes/No

<b>Table 7-1: Illicit Discharge Detection and Elimination BMPs - TS4 Mapping Program</b>				
<b>Permit Ref.</b>	<b>3.4.3 and 3.4.5: TS4 Mapping Program, continued</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>21 cont.</b>	<b>Develop and implement a program for mapping TS4 conveyances and outfalls on primary routes in Phase I MS4 permitted areas, continued</b>			
		5. Update existing field inventory protocols and data collection application.	5. Permit Year 4	5. Yes/No
		6. Develop or update training materials regarding TS4 Mapping Program for NCDOT staff and contractors.	6. Permit Year 4	6. Yes/No
<b>22</b>	<b>Implement field data collection for TS4 Mapping Program</b>			
	Collect field data for priority areas.	1. Perform training for NCDOT Staff and Contractors performing field data collection.	1. Permit Year 5	1. Yes/No
		2. Initiate field data collection in current Phase I MS4 permitted areas.	2. Permit Year 5	2. Yes/No
<b>23</b>	<b>Establish a statewide TS4 mapping inventory</b>			
	3.4.5 Establish a statewide TS4 mapping inventory to, at a minimum, include major outfalls and bridge outfalls discharging directly to surface waters, and associated inlets, catch basins, conveyances, and flow directions associated with primary routes which are located within Phase I MS4 permitted areas.	1. Maintain the data collected in an inventory geodatabase.	1. Permit Year 5	1. Yes/No

Table 7-1: Illicit Discharge Detection and Elimination BMPs - TS4 Mapping Program				
Permit Ref.	<b>3.4.4: Process and Schedule for the TS4 Mapping Program</b> Modify the TS4SMP to include a process and schedule for the TS4 Mapping Program.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
24	<b>Modify the TS4SMP to include a process and schedule for the TS4 Mapping Program</b>			
	3.4.4 Modify the TS4SMP to include a process and schedule for the TS4 Mapping Program.	1. If the process or schedule above requires major updates, modify the TS4SMP to include a process and schedule for the TS4 Mapping Program.	1. As needed	1. Needed and modified/ Needed and not modified/ Not needed

7.2 IDDE Program

Table 7-2: Illicit Discharge Detection and Elimination BMPs - IDDE				
Permit Ref.	<b>3.4.7: IDDE Plan and Reporting</b> Maintain and implement a written IDDE Plan to detect and address illicit discharges, illegal dumping and any non-stormwater discharges identified as significant contributors of pollutants to the TS4. The plan shall provide standard procedures and documentation to:  a) Locate priority areas likely to have illicit discharges and illegal dumping that may impact surface waters or result in aquatic trash.  b) Identify illicit discharges and sources within the Permittee’s jurisdictional area.  c) Eliminate the source(s) of illicit discharge(s) resulting from NCDOT activities and non-roadway facilities.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
25	<b>Maintain a written IDDE Plan</b>			
	3.4.7 Maintain and implement a written IDDE Plan to detect and address illicit discharges, illegal dumping and any non-stormwater discharges identified as significant contributors of pollutants to the TS4. The plan will address the required components.	1. Update written IDDE Plan.	1. Permit Year 2	1. Yes/No/Partial
		2. Develop protocols to implement new procedures included in the updated IDDE Plan.	2. Permit Year 3	2. Yes/No/Partial
3. Update list of priority areas likely to have illicit discharges.		3. Permit Year 3	3. Yes/No/Partial	



<b>Table 7-2: Illicit Discharge Detection and Elimination BMPs - IDDE</b>				
<b>Permit Ref.</b>	<b>3.4.7: IDDE Plan and Reporting, continued</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>25 cont.</b>	<b>Maintain a written IDDE Plan, continued</b>			
		4. Continue to evaluate and assess the IDDE Program.	4. Annually, Permit Years 1-5	4. Yes/No/Partial
<b>26</b>	<b>Implement the IDDE Plan</b>			
	Implement the IDDE Plan	1. Identify illicit discharge and illegal dumping when performing other work on the NCDOT ROW.	1. Ongoing, Permit Year 1-5	1. Yes/No/Partial
		2. Verify illicit discharges and illegal dumps reported by NCDOT staff or the public.	2. As needed, Permit Years 1-5	2. Number of verified illicit discharges and illegal dumps
		3. Report verified discharges/ illegal dumping to appropriate NCDEQ Regional Office.	3. Ongoing as needed, Permit Years 1-5	3. Number of illicit discharges/ illegal dumping reports to NCDEQ
		4. Conduct dry weather outfall inspections.	4. As needed, Permit Years 2-5	4. Report number of outfalls inspected
		5. Eliminate the source(s) of an illicit discharge from NCDOT non-roadway facilities.	5. As needed, Permit Years 1-5	5. Number of illicit discharges from NCDOT non-roadway facilities eliminated/ None found

<b>Table 7-2: Illicit Discharge Detection and Elimination BMPs - IDDE</b>				
<b>Permit Ref.</b>	<p><b>3.4.6, 3.4.8, and 3.4.10: IDDE Reporting and Tracking.</b></p> <p>3.4.6 Maintain and implement standardized procedures and documentation for reporting illicit discharges and illegal dumping to the appropriate NCDOT staff, NCDEQ Regional Office and/or local government(s) having jurisdictional authority. Reporting shall be performed in a timely manner to facilitate enforcement by others, or other action to eliminate the illicit discharge or illegal dumping event.</p> <p>3.4.8 Provide a standardized mechanism for tracking and documenting each verified illicit discharge or illegal dumping event including date observed/ reported, reporting source (staff, public, contractor, etc.), the results of the investigation/ verification, and the date any verified event was reported to appropriate NCDOT staff, NCDEQ and/or local government having authority to resolve the event.</p> <p>3.4.10: Provide a mechanism for the traveling public, NCDOT staff, and contractors to report illicit discharges and illegal dumping. The mechanism shall be publicized to facilitate reporting and shall be managed to provide rapid response by appropriately trained personnel. [NCDOT manages the reporting mechanism for internal and external audiences separately. The reporting mechanism for the traveling public is addressed in BMP 13.]</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>27</b>	<b>Maintain IDDE reporting procedure</b>			
	3.4.6 Maintain and implement standardized procedures and documentation for reporting illicit discharges and illegal dumping to the appropriate NCDOT staff for verification.	1. Maintain a process for NCDOT staff and contractors to report observed IDDEs to appropriately trained NCDOT staff for verification.	1.Ongoing, Permit Year 1-5	1. Yes/No
		2. Maintain a process for IDDEs reported by the public to be submitted to appropriately trained NCDOT staff for verification.	2.Ongoing, Permit Year 1-5	2. Yes/No/Partial
		3. Appropriately trained NCDOT staff to verify reported IDDEs in a timely manner.	3.Ongoing, Permit Year 1-5	3. Yes/No/Partial

<b>Table 7-2: Illicit Discharge Detection and Elimination BMPs - IDDE</b>				
<b>Permit Ref</b>	<b>3.4.6, 3.4.8, and 3.4.10: IDDE Reporting and Tracking, continued</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>27 cont.</b>	<b>Maintain IDDE reporting procedure, continued</b>			
		4. Appropriately trained NCDOT staff to report verified IDDEs to NCDEQ Regional Office and/or local government(s) having jurisdictional authority in a timely manner.	4. Ongoing, Permit Year 1-5	4. Yes/No/Partial
<b>28</b>	<b>Maintain IDDE tracking procedure</b>			
	3.4.8 Maintain a standard IDDE tracking and documentation procedure for verified IDDE including date observed/ reported, reporting source (staff, public, contractor, etc.), the results of the investigation/ verification, and the date any verified event was reported to appropriate NCDOT staff, NCDEQ and/or local government having authority to resolve the event.	1. Update existing database of verified illicit discharges or illegal dumping	1. Permit Year 1	1. Yes/No
		2. Maintain database of verified illicit discharges or illegal dumping.	2. Ongoing, Permit Year 1-5	2. Yes/No
<b>29</b>	<b>Publicize reporting mechanism to NCDOT Staff and contractors</b>			
	3.4.10 Publicize reporting mechanism to NCDOT Staff and contractors.	1. Publicize the reporting mechanism to NCDOT Staff and contractors.	1. Ongoing, Permit Year 1-5	1. Yes/No

<b>Table 7-2: Illicit Discharge Detection and Elimination BMPs - IDDE</b>				
<b>Permit Ref.</b>	<b>3.4.9: Staff IDDE Training.</b> Train NCDOT staff and contractors who, as part of their normal job responsibilities, may observe an illicit discharge or illegal dumping. Training shall include how to identify, report, and document illicit discharges and illegal dumping. Each training event shall be documented, including the agenda/materials, date, and staff participating.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>30</b>	<b>Maintain IDDE training materials</b>			
	3.4.9 Maintain training materials on how to identify, report and document illicit discharges, illegal dumping.	1. Maintain training materials on how to identify, report and document illicit discharges, illegal dumping.	1. Annually, Permit Years 1-5	1. Yes/No/ Partial
2. Update training materials as necessary.		2. As needed, Permit Years 1-5	2. Need and updated/ Needed but not updated/ Not needed	
<b>31</b>	<b>Provide IDDE training for appropriate staff</b>			
	3.4.9 Train NCDOT staff and contractors who, as part of their normal job responsibilities, may observe an illicit discharge or illegal dumping.	1. Maintain “train the trainer” and staff training materials.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Provide “train the trainer” instruction to appropriate staff.	2. Annually, Permit Years 1-5	2. Yes/No
		3. Distribute materials for local trainers to train local staff.	3. Annually, Permit Years 1-5	3. Yes/No
		4. Maintain a tracking mechanism to document the “train the trainer” instruction, including the agenda/materials, date.	4. Annually, Permit Years 1-5	4. Yes/No
		5. Document date of “train the trainer” instruction and agenda.	5. Continuously, Permit Years 1-5	5. Number of training events
		6. Make training materials available to contractors if needed.	6. Continuously, Permit Years 1-5	6. Yes/No/Not needed
7. Evaluate if an update to or additional training resources is needed.		7. Annually, Permit Year 1-5	7. Yes/No/Not needed	

<b>Table 7-2: Illicit Discharge Detection and Elimination BMPs - IDDE</b>				
<b>Permit Ref.</b>	<b>3.4.9: Staff IDDE Training, continue</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>32</b>	<b>Provide IDDE training for appropriate contractors</b>			
		1. Provide training to appropriate contractors through the Level I or Level II ESC training.	1. Continuously, Permit Years 3-5	1. Yes/No

## **8 Construction Site Runoff Control Program**

In accordance with 15A NCAC 02H .0153, NCDOT relies upon the North Carolina Sedimentation Pollution Control Act (SPCA) of 1973 as a qualifying alternative program to meet a portion of the NPDES MS4 Permit requirements for construction site runoff control measures (See Table 8-1). The SPCA requirements include reducing pollutants in stormwater runoff from construction activities that result in land disturbance of greater than or equal to one acre, and includes any construction activity that is part of a larger common plan of development that would disturb one acre or more. Projects performed by others under a project-specific agreement with NCDOT to provide erosion and sediment control activities are also covered under this permit.

NCDOT implements its Construction Program to control potential impacts to water quality from land disturbance at construction sites and from borrow pit and waste pile activities. The Erosion and Sediment Control (ESC) Program, which was delegated to NCDOT by the Sedimentation Control Commission in February 1991, incorporates the applicable requirements of General Permit NCG010000 and includes implementation of appropriate erosion and sediment controls on construction projects. The delegation agreement allows for NCDOT to review and approve ESC plans based on compliance with SPCA, water quality regulations, and permit conditions associated with each project. The agreement also authorizes NCDOT to perform compliance inspections for land disturbing activities associated with highway construction. Although the Commission delegates compliance inspection to NCDOT, it did not grant enforcement authority. Since NCDOT cannot issue a fine to itself, a series of policies and procedures were developed to correct compliance issues with highway and maintenance construction projects. These include procedures for public input, daily and monthly project inspections, and corrective actions. NCDOT's Construction Program includes implementing and maintaining standard specifications and project special provisions, providing guidance on ESC/stormwater issues, performing inspections and monitoring of construction projects, maintaining NCDOT's reclamation process, and providing ESC/stormwater training materials to contractors/ consultants. NCDOT invests substantial financial resources into research efforts that will improve existing practices and procedures associated with NCDOT's construction activities. Two keystones of the program include ongoing training certifications and inspections.

The certification program provides the required personnel training to ensure compliance with ESC/stormwater provisions on NCDOT projects. NCDOT requires all contractors and consultants to have a certified supervisor and foreman to oversee operations on NCDOT projects to ensure compliance with SPCA as well as other environmental regulations. Three different levels of certifications are available, and each one must be renewed every three years.

NCDOT is responsible for two types of inspections on each project: NPDES Self-Monitoring and SPCA Self-Inspections. NPDES Self-Monitoring and SPCA Self-Inspections are conducted at least weekly or after 1.0" of rainfall by a project inspector under guidance from the office of the resident engineer for design-build or contract construction, or from the office of the county or district engineer for maintenance projects. If needed, construction activities on-site can be halted to address ESC issues. REU Field Operations staff inspects NCDOT projects monthly and completes an ESC/Stormwater Inspection Report. These weekly inspections by project inspectors and monthly REU inspections are used to ensure proper ESC measure installation, maintenance, and effectiveness as well as ground cover requirements. These reviews ensure the proper ESC measures are in place for the phase of grading, and that necessary field revisions are implemented to minimize the risk of sedimentation damage. Each project is evaluated for overall compliance with the NPDES permit, NCG010000, and SPCA.

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NCDOT operates under its exemption from the Mining Act for borrow pits provided all materials are used “in connection with the construction, repair, and maintenance” of our road system. Therefore, all provisions for ESC and stabilization with ground cover for waste/borrow sites fall under the conditions of NCDOT’s delegated program under the Mining Act and SPCA. Currently, NCDOT requires reclamation plans for all non-commercial waste/borrow sites. These plans address temporary erosion control, staged seeding and mulching, fertilizer topdressing, and permanent stabilization. Final inspections are conducted on all waste/borrow sites at project completion or prior to project completion if property owners elect to resume/commence agricultural land disturbing activities on the site(s). Reclamation sites that require dewatering operations will require an evaluation to determine setbacks to minimize the risk of impacts to adjacent jurisdictional areas. Effluent from dewatering operations will be monitored and the appropriate management procedures will be used to make sure NCDOT is following the applicable regulations.

<b>Table 8-1: Qualifying Alternative Program Components for Construction Site Runoff Control Program</b>			
<b>Permit Reference</b>	<b>State or Local Program Name</b>	<b>Legal Authority</b>	<b>Implementing Entity</b>
3.5.1 - 3.5.9	NCDOT Delegated SPCA Program*	15A NCAC Chapter 04, NCDEQ Approved Delegation	NCDOT

\* Guidance materials for NCDOT’s delegated SPCA Program can be found at NCDOT’s Connect site.

NCDOT also implements the following BMPs to meet NPDES MS4 Permit requirements, Table 8-2.

<b>Table 8-2: Construction Site Runoff Control BMPs</b>				
<b>Permit Ref.</b>	<p><b>3.5.1 and 3.5.5: Implement Delegated Program.</b></p> <p>3.5.1 Implement the NCDEQ Erosion and Sediment Control Program as delegated to NCDOT by the Sedimentation Control Commission in February 1991, and as may be subsequently amended. This program is authorized under the Sediment Pollution Control Act of 1973 and Chapter 4 of Title 15A of the North Carolina Administrative Code.</p> <p>3.5.5 Implement sediment and erosion control measures in keeping with the sediment and erosion control program delegated by the North Carolina Sediment Control Commission for borrow pit and waste pile projects, including activities at NCDOT ferry terminals associated with dredging activities and contractor owned or leased borrow pits associated with NCDOT projects.</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>33</b>	<b>Implement Delegated Program.</b>			
	3.5.1 Implement the NCDEQ Erosion and Sediment Control Program as delegated to NCDOT.	1. Seek re-delegation of the program.	1. Annually, Permit Years 1-5	1. Application submitted/ application not submitted
		2. Continue delegation of the program.	2. Annually, Permit Years 1-5	2. Program delegated/ Program not delegated

<b>Table 8-2: Construction Site Runoff Control BMPs</b>				
<b>Permit Ref.</b>	<b>3.5.2: Incorporate the requirements of NCG010000.</b> Implement the requirements of General Permit No. NCG010000, as issued April 1, 2019 and as may be subsequently amended. This condition supersedes the requirement to obtain a Certificate of Coverage under General Permit No. NCG010000 for each subject construction activity.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>33 cont.</b>	<b>Implement Delegated Program, continued</b>			
		3. Participate in an Audit of the program as directed by DEMLR.	3. Annually, Permit Years 1-5	3. Audit held/ Audit not required by DEMLR
<b>34</b>	<b>Incorporate the requirements of NCG010000 into NCDOT's delegated ESC Program</b>			
	3.5.2 Incorporate the requirements of NCG010000 into NCDOT's delegated ESC Program.	1. Develop a project-specific ESC plan incorporating the requirements of NCG010000 to be reviewed and approved by NCDOT.	1. Continuously, Permit Years 1-5	1. Number of ESC plans developed
		2. Maintain ESC program guidance on NCDOT website.	2. Continuously, Permit Years 1-5	2. Yes/No
		3. Maintain the NCDOT Erosion and Sediment Control Design and Construction Manual.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Maintain a program of routine inspections including NPDES Self-Monitoring and SPCA Self-Inspections.	4. Weekly, Permit Years 1-5	4. Yes/No
		5. Maintain program of compliance inspections at active construction sites.	5. Monthly, Permit Years 1-5	5. Yes/No
		6. Maintain a database of inspections and corrective actions.	6. Continuously, Permit Years 1-5	6. Yes/No
		7. Issue corrective actions in response to inspections.	7. As Needed, Permit Years 1-5	7. Yes/No
		8. Halt construction activities in response to inspections.	8. As Needed, Permit Years 1-5	8. Yes/No



<b>Table 8-2: Construction Site Runoff Control BMPs</b>				
<b>Permit Ref.</b>	<b>3.5.3: Waste Management.</b> Require construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>35</b>	<b>Construction Site Waste Management</b>			
	3.5.3 Construction site operators must control waste from such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.	1. Maintain guidance on waste disposal from NCDOT construction sites.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Require construction site operators to control waste from construction sites.	2. Continuously, Permit Years 1-5	2. Yes/No
<b>Permit Ref.</b>	<b>3.5.4: Means to notify of issues.</b> Provide and promote a means for staff, contractors, and the public to notify the appropriate authorities of observed erosion, sedimentation, or construction waste issues.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>36</b>	<b>Provide and promote a means to notify of issues</b>			
	3.5.4 Provide a means for staff, contractors, and the public to report observed erosion and sedimentation problems.	1. Maintain NCDOT’s Contact Us Citizen Action Request (CARs) website.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Observations by the public are routed to trained NCDOT staff.	2. Continuously, Permit Years 1-5	2. Yes/No
		3. Train appropriate NCDOT Staff and contractors to notify site-specific staff as part of Construction Program training.	3. Continuously, Permit Years 1-5	3. Yes/No

<b>Table 8-2: Construction Site Runoff Control BMPs</b>				
<b>Permit Ref.</b>	<p><b>1.2, 3.5.6, and 3.5.7: Manage ESC on Borrow Pits and Waste Pile Projects.</b></p> <p>1.2 (second paragraph) Waste pile activities shall be covered under this permit unless the site requires a permit from the Division of Waste Management. If a Division of Waste Management permit is required, the facility also must obtain facility coverage under a separate NPDES industrial stormwater permit.</p> <p>3.5.6 Implement Reclamation Plans in keeping with the Reclamation Program established by the North Carolina Mining and Energy Commission for borrow pit and waste pile projects, including activities at NCDOT ferry terminals associated with dredging activities and contractor-owned or leased borrow pits associated with NCDOT projects.</p> <p>3.5.7 Implement borrow pit discharge management including appropriate measures to treat borrow pit wastewater, inspections and maintenance, training field personnel overseeing borrow pit operations, and evaluating and implementing appropriate new/innovative technologies.</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>37</b>	<b>Manage ESC on Borrow Pits and Waste Pile Projects</b>			
	<p>3.5.6 Manage ESC on Borrow Pits and Waste Pile Projects including activities at NCDOT ferry terminals associated with dredging activities and contractor-owned or leased borrow pits associated with NCDOT projects.</p> <p>Note: A non-commercial borrow pit or waste pile is a location that only supports NCDOT operations and does not sell materials to non-NCDOT entities.</p>	1. Maintain policies to implement ESC measures on non-commercial borrow pits/waste piles.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Develop and implement an approved reclamation plan on non-commercial borrow pit/waste pile projects. The reclamation measures utilized shall be in keeping with the reclamation program established by the North Carolina Mining and Energy Commission.	2. Continuously, Permit Years 1-5	2. Number of reclamation plans implemented
		3. Maintain policies to implement appropriate management measures to treat borrow pit discharges for given conditions.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Inspect and maintain borrow pit sites.	4. Continuously, Permit Years 1-5	4. Yes/No
		5. Maintain training material and instruct field personnel overseeing borrow pit operations.	5. Continuously, Permit Years 1-5	5. Yes/No

<b>Table 8-2: Construction Site Runoff Control BMPs</b>				
<b>Permit Ref.</b>	<b>1.2, 3.5.6, and 3.5.7: Manage ESC on Borrow Pits and Waste Pile Projects, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>37 cont.</b>	<b>Manage ESC on Borrow Pits and Waste Pile Projects, continued</b>			
		6. Evaluate and implement appropriate new/innovative technologies.	6. Continuously, Permit Years 1-5	6. Yes/No
		7. If a Division of Waste Management permit is required, obtain facility-specific coverage under a separate NPDES industrial stormwater permit.	7. As needed, Permit Years 1-5	7. Needed and acquired/ Needed and not acquired/ Not needed
<b>Permit Ref.</b>	<b>3.5.8: Maintain a list of projects subject to Delegated Program and NCG010000</b> Maintain a current list of construction projects, borrow pits, waste piles, and dredge spoil piles subject to the delegated Erosion and Sediment Control Program and General Permit No. NCG010000 requirements.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>38</b>	<b>Maintain a list of projects subject to Delegated Program and NCG010000</b>			
	3.5.8 Maintain a current list of construction projects, borrow pits, waste piles, and dredge spoil piles subject to the delegated Erosion and Sediment Control Program and General Permit No. NCG010000 requirements.	1. Develop a process to generate a list of projects subject to Delegated Program and NCG010000.	1. Permit Year 1	1. Yes/No
2. Maintain a list of projects subject to the delegated Erosion and Sediment Control Program and General Permit No. NCG010000 requirements.		2. Continuously, Permit Years 1-5	2. Number of projects	

<b>Table 8-2: Construction Site Runoff Control BMPs</b>				
<b>Permit Ref.</b>	<b>3.5.9 Construction Activity Training</b> Provide or require equivalent stormwater pollution awareness training for appropriate NCDOT personnel and contractors involved in construction activities. Training shall include general stormwater awareness, NPDES stormwater permit NCG010000 implementation, construction site waste management protocols, identification of stormwater pollution potential, appropriate spill response actions and contacts for reporting spills and illicit discharges/illegal dumping.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>39</b>	<b>Provide training on erosion and sediment control (ESC) to appropriate staff</b>			
	3.5.9 Provide or require equivalent stormwater pollution awareness training for appropriate NCDOT personnel and contractors involved in construction activities.	1. Train NCDOT staff on implementation of appropriate ESC design and applicable components of NCG010000.	1. Continuously, Permit Years 1-5	1. Number of staff with Level III ESC/SW Certification
		2. Require appropriate contractors to be trained on implementation of appropriate ESC design and applicable components of NCG010000.	2. Continuously, Permit Years 1-5	2. Yes/No
		3. Provide construction staff with training on general stormwater awareness, waste management identification of stormwater pollution potential, appropriate spill response actions.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Document date of training, names of staff trained, and agenda.	4. Continuously, Permit Years 1-5	4. Number of training events
		5. Make training materials available to contractors.	5. Continuously, Permit Years 1-5	5. Yes/No

## 9 Post-Construction Controls

This TS4SMP identifies the specific elements to protect water quality, reduce pollutant loading, and minimize post-construction impacts to water quality. NCDOT will continue to implement Post-Construction Controls through several programs. The goal of these programs is to minimize water quality impacts utilizing a combination of structural stormwater control measures (SCMs) and/or non-structural BMPs appropriate for the NCDOT. The programs and their targeted efforts include:

- The BMP Retrofit Program, which incorporates both structural and non-structural stormwater retrofits to address pollutant loading from existing NCDOT activities and to evaluate new stormwater controls. Retrofits implemented under the program are not associated with meeting the requirements of any other NCDEQ program unless otherwise allowed. Each year, potential sites are evaluated and selected for retrofits under this program. The Retrofits Program collaborates with the Research and BMP Toolbox Programs to design, construct, and assess new and innovative BMP types or components.

In 2018, NCDOT developed a plan which envisioned a new program designed to identify potential locations for retrofit BMPs. Named the Retrofit Opportunity Site Selection (ROSS), the program is anticipated to improve the efficiency of delivering the Retrofit Program by removing retrofit site selection from the critical path. Recently NCDOT made substantial progress in developing the mobile field applications along with the geodatabase schema designed to store the program's data. Testing and training of field crews are in the planning stages.

- The BMP Toolbox, which aids in the siting, design, and construction of stormwater quality BMPs with guidance on the suitability of each for NCDOT applications. NCDOT continues to evaluate other BMP technologies to assess their practical need in the NCDOT TS4 and inclusion in the BMP Toolbox. The Toolbox Program works collaboratively with the NCDOT's Research and Retrofits Programs to evaluate research on existing and new BMP types for potential manual inclusion. If considered for inclusion, proprietary BMPs will be evaluated in keeping with the current NCDEQ policy on new stormwater treatment technologies.

NCDOT continues to make the Toolbox and related materials, such as the BMP Decision Support Matrix, available to design engineers within NCDOT and for professional engineering firms (PEFs) and other business partners which provide design services, by posting the documents on its Connect website.

- The Post-Construction Stormwater Program (PCSP), which is designed to promote improvements to stormwater runoff from new NCDOT development and redevelopment for new BUA. The PCSP requires structural and non-structural best management practices to protect water quality, reduce pollutant loading, and minimize post-construction impacts to water quality. The PCSP defines how post-construction controls in the approved BMP Toolbox should be implemented for projects and describes a training program for NCDOT staff and contractors to implement the BMP Toolbox and to incorporate watershed quality strategies.

In 2021, NCDOT initiated the Project Delivery (IPD), an agency-wide initiative to improve the processes of designing and implementing NCDOT activities. Historically, stormwater management decisions have occurred in the latter part of project development, which can result in project delays and increased costs. By integrating stormwater management

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decisions into the IPD workflow, NCDOT has moved some of the stormwater management decisions steps up in the process, which has been documented in the Project Delivery Network (PDN). The HSP will continue to solidify these processes in the PCSP update planned for release by June 2022.

The PCSP also develops additional tools to guide and document BMP design. For example, the Stormwater Management Plan (SMP), used to document stormwater management efforts, has been updated to include an automated stormwater control summary table for inclusion in construction plans. This will help aid in the transition of stormwater controls from design through construction and into the inspection and maintenance phase of its life cycle.

NCDOT has existing requirements for implementation of its NPDES TS4 post-construction requirements. These existing requirements are defined in guidance, manuals and/or standard operating procedure(s) as summarized in Table 9-1 below. In addition to the Post-Construction Control programs listed above, NCDOT also utilizes guidance, manuals, and/or standard operating procedure(s) from its Erosion and Sediment Control, Pesticide and Fertilizer Management, and SCM Inspection and Maintenance Programs as well as other NCDOT documents to guide minimization of water quality impacts from post-construction activities, as noted in the table below.

<b>Table 9-1: Summary of Existing Post-Construction Program Elements</b>		
<b>Existing Post-Construction Program Elements</b>	<b>Document Title(s)</b>	<b>Date Document Adopted</b>
3.6.1 BMP Retrofit Program	Retrofit Opportunity Site Selection (ROSS) protocol	Planned 2023
3.6.2 BMP Toolbox	Stormwater Best Management Practices Toolbox and associated tools	2008; updated 2014; planned update 2022
3.6.3(a) Toolbox implementation	PCSP Manual and associated tools	2014; updated 2022
3.6.3(a) Toolbox implementation	Stormwater Management Plan (SMP)	2018; updated 2022
3.6.3(a) Toolbox implementation	Preliminary Stormwater Management Plan (pSMP)	2022
3.6.3(a) Toolbox implementation	North Carolina Stochastic Empirical Loading and Dilution Model (NC-SELDM) Catalog	2021
3.6.3 Designs that provide adequate stormwater control measures	Guided Reduction of Excess Environmental Nutrients (GREEN) Stormwater Management Program – Jordan Lake Watershed	2012
3.6.3 Designs that provide adequate stormwater control measures	GREEN Stormwater Management Program – Falls Lake Watershed	2013
3.6.3 Designs that provide adequate stormwater control measures	Jordan/Falls Lake Stormwater Nutrient Loading Accounting Tool	2014
3.6.3 Designs that provide adequate stormwater control measures	Environmental Sensitivity Map (ESM)	2008
3.5.1 Implement erosion and sediment controls	Best Management Practices for Construction and Maintenance Activities	2003

Table 9-1: Summary of Existing Post-Construction Program Elements, continued		
Existing Post-Construction Program Elements	Document Title(s)	Date Document Adopted
3.5.1 Implement erosion and sediment controls	Erosion and Sediment Control Design and Construction Manual	2015
3.7.5 TS4 Vegetation, Pesticide and Fertilizer Management Program	Vegetation Management Manual	2000; updated 2017
3.7.4 SCM Inspection and Maintenance Program	SCM Inspection and Maintenance Manual	2010; updated 2015; updated 2022
3.6.3 Designs that provide adequate stormwater control measures	Guidelines for Drainage Studies & Hydraulic Design	2016; updated 2022

The annual reporting metrics for the post construction program are provided in Tables 9-2 through 9-4 below.

**9.1 BMP Retrofit Program**

Table 9-2: Post Construction Control BMPs - BMP Retrofit Program				
Permit Ref.	<p><b>3.6.1: Implement a BMP Retrofit Program.</b></p> <p>Maintain a BMP Retrofit Program to address pollutant loading from existing NCDOT roadway and non-roadway facilities. NCDOT will not be credited under this permit with retrofits implemented to address other NCDEQ regulations unless otherwise allowed by NCDEQ or regulations. The Permittee may partner with other entities to implement new retrofits outside of NNCDOT-owned and operated property. The Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Complete a total of seventy (70) retrofits over the 5-year term of this permit.</li> <li>b) Maintain a retrofit inventory tracking system.</li> <li>c) Implement a replacement retrofit for any retrofit completed after the effective date of this permit and subsequently removed from service.</li> <li>d) Maintain approved construction drawings and as-built plans consistent with the permit requirement under 3.6.3(d) below for each structural retrofit established under this permit.</li> </ul>			
	BMP No.	A	B	C
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
40	<b>Identify Potential Retrofit Locations</b>			
	Identify potential locations to retrofit that address pollutant loading.	1. Maintain a database of potential retrofit locations.	1. Continuously, Permit Years 1-5	1. Yes/No
2. Add new locations identified each year to database.		2. Continuously, Permit Years 1-5	2. Number of new locations added to database and total number of locations	

Table 9-2: Post Construction Control BMPs - BMP Retrofit Program				
Permit Ref.	3.6.1: Implement a BMP Retrofit Program, continued.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
41	<b>Complete Retrofits</b>			
	3.6.1.a Complete a total of 70 retrofits over the 5-year term of this permit. Maintain a retrofit inventory tracking system.	1. Design and construct or implement retrofits appropriate for the identified pollutants of concern. More than one retrofit can be located at one location.	1. Continuously, Permit Years 1-5	1. Number of retrofits completed within the permit year and the total number of retrofits over all permit terms
		2. Maintain a retrofit inventory tracking system. Track status of retrofits.	2. Continuously, Permit Years 1-5	2. Number of retrofits in development within the permit year
		3. Incorporate finished SCM retrofits into the I&M program.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Verify 70 retrofits are completed within the 5-year term of the permit.	4. Once, Permit Year 5	4. Yes/No
42	<b>Replace Retrofits that have been removed</b>			
	3.6.1.b Implement a replacement retrofit for any retrofit completed after the effective date of this permit and subsequently removed from service.	1. Evaluate if any previously credited retrofits have been removed from service.	1. Annually, Permit Years 1-5	1. Number of retrofits removed within the permit year
		2. Develop a procedure to identify existing retrofits that are to be removed when planning a new project.	2. Permit Year 2	2. Yes/No
		3. Initiate a plan for a new retrofit for each applicable retrofit removed.	3. As needed, Permit Years 1-5	3. Number of replacement retrofits initiated within the permit year
		4. Update retrofit inventory tracking system with replacement retrofits.	4. As needed, Permit Years 1-5	4. Needed and updated/ Needed but not updated/ Not Needed



Table 9-2: Post Construction Control BMPs - BMP Retrofit Program				
Permit Ref.	3.6.1: Implement a BMP Retrofit Program, continued.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
43	<b>Maintain approved construction drawings and as-built plans</b>			
	3.6.1.d Maintain approved construction drawings and as-built plans consistent with the permit requirement under 3.6.3(d) below for each structural retrofit established under this permit.	1. Maintain approved construction drawings and as-built plans consistent with the permit requirement under 3.6.3(d) for each structural retrofit established after the effective date of this permit.	1. Continuously, Permit Years 4-5	1. Yes/No

9.2 BMP Toolbox

Table 9-3: Post Construction Control BMPs - BMP Toolbox				
Permit Ref.	<b>3.6.2 BMP Toolbox:</b> <ol style="list-style-type: none"> <li>The permittee shall maintain and implement the April 2014 NCDOT Stormwater BMP Toolbox and subsequent approved revisions to provide design guidance for post-construction stormwater control measures that are appropriate for linear roadway system application.</li> <li>The BMP Toolbox shall include appropriate uses/anticipated applications, design criteria, and shall aid in the siting and construction of stormwater quality BMPs.</li> <li>The permittee shall review, and update if appropriate, the NCDOT Stormwater BMP Toolbox once per permit term to include new BMP types, design components and guidance.</li> <li>The permittee shall obtain Division approval of any proposed revisions to the NCDOT Stormwater BMP Toolbox prior to implementation.</li> </ol>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
44	<b>Maintain a BMP Toolbox</b>			
	3.6.2.a and 3.6.2.b Maintain a BMP Toolbox to provide design guidance for post-construction stormwater control measures appropriate for a linear highway system and aid in siting and construction of BMPs.	1. Review and evaluate if the BMP Toolbox needs to include new BMP types, design components and guidance, if needed.	1. Permit Year 1	1. Yes/No

Table 9-3: Post Construction Control BMPs - BMP Toolbox				
Permit Ref.	3.6.2 BMP Toolbox, continued			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
44 cont.	<b>Maintain a BMP Toolbox, continued</b>			
	The Toolbox will include appropriate uses/ anticipated applications and design criteria.	2. Evaluate new BMP types and design elements and recent research to assess if the existing Toolbox needs to be updated.	2. Annually, Permit Years 1-5	2. Yes/No new BMP types applicable/ New BMP types were not evaluated
		3. Update the Toolbox as necessary.	3. Periodically, when determined necessary	3. Toolbox updated/ Toolbox update underway/ Update not necessary
		4. Submit proposed revised or new sections of the BMP Toolbox to NCDEQ for approval prior to implementation.	4. Periodically, when update is determined necessary	4. Toolbox updated and submitted/ Toolbox update underway but not yet submitted/ No updates or submission

9.3 Post-Construction Stormwater Program

Table 9-4: Post Construction Control BMPs - Post-Construction Stormwater Program				
Permit Ref.	<p><b>3.6.3: Implement a PCSP.</b>                      Maintain a Post-Construction Stormwater Program (PCSP) to manage stormwater from new NCDOT development and redevelopment for new built upon area by requiring structural and non-structural BMPs to protect water quality, reduce pollutant loading, and minimize post-construction impacts to water quality. The Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Define implementation of the approved NCDOT BMP Toolbox in the PCSP Manual.</li> <li>b) Make relevant guidance, post-construction requirements, design standards/guidance, checklists, and/or other materials available to staff and contractors.</li> <li>c) Submit proposed updates to the PCSP to the Division for approval prior to implementation.</li> <li>d) Define and implement a standard policy for preparing and maintaining structural stormwater control measure (SCM) construction drawings and as-built plans on file.</li> </ul>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
45	<b>Develop and maintain guidance for BMP Toolbox implementation and post-construction requirements</b>			
	3.6.3.a Define implementation of the approved NCDOT BMP Toolbox and post-construction SCMs in the PCSP Manual.	1. The PCSP manual defines workflows for implementation of the approved NCDOT BMP Toolbox.	1. Continuously, Permit Years 1-5	1. Yes/No/ Partial
	3.6.3.b Make relevant guidance, post-construction requirements, design standards/guidance, checklists, and/or other materials available to staff and contractors.	2. Review PCSP to determine if updates are needed.	2. Annually, Permit Years 2-5	2. Yes/No
	3.6.3.c Submit proposed updates to the PCSP to the Division for approval prior to implementation.	3. Submit proposed revisions to the PCSP to NCDEQ for approval prior to implementation.	3. Periodically, when updated	3. PCSP updated and submitted/ PCSP update underway but not yet submitted/ No updates or submission
		4. Review non-PCSP post-construction guidance to determine if updates are needed.	4. Annually, Permit Years 2-5	4. Yes/No

Table 9-4: Post Construction Control BMPs - Post-Construction Stormwater Program				
Permit Ref.	3.6.3: Implement a PCSP, continued.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
45 cont.	<b>Develop and maintain guidance for BMP Toolbox implementation and post-construction requirements, continued</b>			
		5. Update non-PCSP post-construction guidance as needed.	5. Periodically, as needed	5. Needed and updated/Needed but not updated/Not needed
46	<b>Make guidance available</b>			
	3.6.3.b Make relevant guidance, post-construction requirements, design standards/guidance, checklists, and/or other materials available to staff and contractors.	1. Maintain a current version of the Post-Construction Stormwater Program (PCSP) Manual online.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Maintain a current version of the BMP Toolbox Manual online.	2. Continuously, Permit Years 1-5	2. Yes/No
		3. Maintain a current version of the SCM Inspection and Maintenance Manual online.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Maintain current versions of other stormwater-related design standards and guidance online.	4. Continuously, Permit Years 1-5	4. Yes/No

Table 9-4: Post Construction Control BMPs - Post-Construction Stormwater Program				
Permit Ref.	3.6.3: Implement a PCSP, continued.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
47	<b>Standard Policy for drawings and as-built plans</b>			
	3.6.3.d Define and implement a standard policy for preparing and maintaining structural stormwater control measure (SCM) construction drawings and as-built plans on file.	1. Develop the policy and process for maintaining SCM construction drawings and as-built plans on file.	1. Permit Year 2	1. Yes/No/Partial
		2. Identify the database or repository for the construction drawings and as-built plans.	2. Permit Year 2	2. Yes/No
		3. Provide training to NCDOT Staff on maintaining the construction drawings and as-built plans.	3. Permit Year 3	3. Yes/No/Partial
		4. Implement the policy and process for all new SCMs.	4. Permit Year 3	4. Yes/No/Partial

## 10 Pollution Prevention and Good Housekeeping Programs

This TS4SMP provides a comprehensive pollution prevention and good housekeeping strategy for NCDOT's facilities and operations. Pollution prevention and good housekeeping is accomplished through the implementation of seven required programs, which collectively address the ultimate goal of preventing or reducing pollutant runoff from TS4 operations such as rest area maintenance, fleet and building maintenance, new construction and land disturbances, and transportation storm sewer system maintenance. Pollution prevention and good housekeeping for municipal operations includes the following programs:

- TS4 Facilities Operation and Maintenance Program
- TS4 Spill Response Program
- TS4 Operation and Maintenance Program
- TS4 SCM Operation and Maintenance Program
- TS4 Fertilizer, Pesticide and Fertilizer Management Program
- TS4 Vehicle and Equipment Maintenance Program
- TS4 Litter Management Program
- TS4 Fecal Coliform Reduction Program

NCDOT's TS4 Facilities Operation and Maintenance Program involves maintaining and implementing a site-specific Stormwater Pollution Prevention Plan (SPPP) for each non-roadway industrial facility and non-roadway facility with TS4 operations. NCDOT SPPPs describe potential pollution sources at each facility and provide BMPs to minimize potential impacts on stormwater runoff. The Spill Prevention Control and Countermeasure (SPCC) Plan requirements of Title 40 of the Code of Federal Regulations, part 112 (40 CFR 112) have been fully integrated into the SPPPs to emphasize oil spill prevention and response practices at appropriate NCDOT facilities. NCDOT performs inspections and routine maintenance and provides staff training on general stormwater awareness and implementing pollution prevention and good housekeeping practices.

NCDOT's TS4 Spill Response Program focuses on minimizing spills from NCDOT facilities and operations. NCDOT maintains spill prevention and response procedures and trains staff involved in handling hazardous substances.

NCDOT maintains an extensive TS4 Operation and Maintenance Program for its TS4 collection system, which includes storm drainage catch basins, inlets, and conveyances. NCDOT's TS4 Operation and Maintenance Program involves standard practices that minimize pollutants from entering NCDOT's TS4 collection system from its roadways and non-roadway facilities. NCDOT Division staff and contactors perform inspections of NCDOT's TS4 collection system to identify maintenance needs and they perform both scheduled and non-scheduled system maintenance activities when needed. For example, NCDOT conducts street sweeping at specific designated areas along NCDOT's ROW. NCDOT maintains appropriate mechanisms for the public to report drainage issues, culvert blockages, or other concerns along NCDOT roadways. NCDOT tracks and documents TS4 system maintenance activities. NCDOT also provides training on stormwater awareness and pollution prevention to NCDOT staff that maintain NCDOT's TS4 collection system.

NCDOT maintains a SCM Inspection and Maintenance (I&M) Program to aid in the inspection, operation, and maintenance of TS4 owned, operated, and/or maintained SCMs that are installed for compliance with NCDOT's PCSP. NCDOT maintains and updates a SCM I&M Manual, which includes written

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procedures outlining the inspection and maintenance of SCMs, inspection checklists and instructions for routine and non-routine maintenance. The program assists NCDOT in better managing their stormwater infrastructure assets. When new SCMs are added to the BMP Toolbox, the I&M Program evaluates them for inspection and maintenance needs and updates the SCM I&M Manual if needed. The program also oversees a comprehensive database system called the Stormwater Control Management System (SCMS), which maintains an inventory of NCDOT's SCMs and tracks their inspection and maintenance records. The I&M Program provides related training for staff and contractors in coordination with other HSP program areas.

NCDOT maintains a TS4 Pesticide and Fertilizer Management Program. NCDOT's Roadside Vegetation Management Section and Division Roadside Environmental staff manages application of pesticides, fertilizers, and other vegetation management materials to minimize pollutant potential of stormwater runoff. NCDOT implements appropriate pest control practices through consultation with the North Carolina Department of Agriculture & Consumer Services (NCDA&CS) and North Carolina State University (NC SU), using appropriate vegetation management materials (only those approved by USEPA or NCDA&CS), updating NCDOT's Vegetation Management Manual as new technology and procedures are developed, and providing routine training to staff and contractors. Vegetation management training includes pollution prevention; the appropriate chemical use, storage, and handling practices used by NCDOT; and vegetation management applicator certification requirements.

NCDOT maintains its TS4 Vehicle and Equipment Maintenance Program to make sure its vehicles and equipment are fully functional and safe to operate as well as to prevent and minimize contamination of stormwater runoff from areas used for TS4 vehicle and equipment maintenance activities. NCDOT has an extensive preventative maintenance (PM) program managed by NCDOT's Equipment Unit for state owned and operated vehicles and equipment. The PM program involves NCDOT staff and/or contractors performing and documenting regular inspections and tests of its vehicles and equipment and operational systems whose failure has a potential to release pollutants into the environment. The PM program is designed to reduce vehicle and equipment breakdowns and failures by making proper and timely adjustments, repair, or replacement of equipment or parts. NCDOT's PM standard operating procedures include both run-time preventative maintenance and other regularly scheduled inspections, cleaning, and minor repairs of vehicles and equipment to prevent and minimize fluid leaks that could contaminate stormwater runoff. NCDOT Equipment Unit staff are trained in proper PM procedures, as well as pollution prevention and good housekeeping practices.

NCDOT maintains a robust TS4 Litter Management Program. This program is managed and implemented statewide by NCDOT's Roadside Environmental Unit, Litter Management staff, Division Roadside Environmental Engineers and staff, Division maintenance personnel, and NCDOT contractors and volunteers. While NCDOT is not the responsible party for litter on its transportation systems, NCDOT implements measures to control litter and debris associated with vehicles. NCDOT maintains policies and procedures to address litter on NCDOT-owned roads and parking lots within NCDOT right-of-way (ROW) and at NCDOT non-roadway facilities. NCDOT HSP and Litter Management strategies include BMPs to reduce litter in stormwater runoff from NCDOT roadways and non-roadway facilities. NCDOT utilizes NCDOT Forces and Contract Litter Removal services to collect and dispose of litter and debris from NCDOT ROW. NCDOT maintains appropriate mechanisms for the public to report litter or debris along our roadways. NCDOT also develops and promotes anti-litter messaging, provides anti-litter educational content to the public, and leverages numerous volunteers to assist with litter removal efforts. NCDOT has scheduled litter collection efforts such as the biannual Litter Sweep, quarterly Adopt-A-Highway collections by volunteer groups, and monthly or otherwise regularly scheduled Contract

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Litter Removal or Sponsor-A-Highway collections. NCDOT tracks and documents these litter removal activities.

NCDOT maintains a TS4 Fecal Coliform Reduction Program that includes various measures to control or minimize, to the maximum extent practicable, sources of fecal coliform from NCDOT non-roadway facilities. NCDOT has installed and maintains numerous Pet Waste Stations at NCDOT Rest Areas, Welcome Centers, and Ferry Terminals for the public to use. NCDOT also has procedures to manage on-site domestic wastewater treatment systems and processes to connect sanitary discharges to public owned treatments works, if feasible.

NCDOT will manage, implement, and report the pollution prevention and good housekeeping BMPs as specified in Table 10-1 through Table 10-8 below for each required program.

<b>Table 10-1: Pollution Prevention and Good Housekeeping BMPs - Facilities Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<p><b>3.7.1: Facilities Operation and Maintenance Program.</b>                      The Permittee shall manage and operate facilities with stormwater pollution potential to minimize the potential for polluted stormwater discharges. The Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Maintain a current inventory of non-roadway facilities that are owned and operated by the Permittee and have the potential for generating polluted stormwater runoff. The inventory shall also specifically identify and include each facility that is subject to NPDES industrial stormwater permitting.</li> <li>b) Establish and implement specific frequencies, schedules, and standard documentation for facility inspections and routine maintenance.</li> <li>c) Provide annual staff training for facility staff on general stormwater awareness, implementing pollution prevention and good housekeeping practices, spill response, preventative maintenance, and identifying and reporting illicit discharges and illegal dumping.</li> <li>d) NCDOT non-roadway facilities with TS4 operations will maintain and implement site-specific Stormwater Pollution Prevention Plan (SPPP) to address good housekeeping and pollution prevention from their operations.</li> <li>e) Develop, maintain, and implement requirements in accordance with the current NPDES industrial stormwater general permit applicable to each facility which is subject to NPDES industrial stormwater permitting. This condition supersedes the requirement to obtain an NPDES industrial stormwater general permit Certificate of Coverage for each subject facility.</li> </ul>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>48</b>	<b>Maintain an Inventory of Non-roadway Facilities</b>			
	3.7.1.a Maintain an inventory of non-roadway facilities with the potential to contribute pollution to stormwater runoff. The inventory shall also specifically identify and include each facility that is subject to NPDES industrial stormwater permitting.	1. Develop list of non-roadway facilities (as listed in paragraph 1.1.4 of the permit).	1. Permit Year 1	1. Yes/No



<b>Table 10-1: Pollution Prevention and Good Housekeeping BMPs - Facilities Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.1: Facilities Operation and Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>48 cont.</b>	<b>Maintain an Inventory of Non-roadway Facilities, continued</b>			
		2. Identify non-roadway industrial activities (as listed in paragraph 1.1.4 of the permit) which are subject to NPDES industrial stormwater permitting.	2. Annually, Permit Years 1-5	2. Yes/No
		3. Review non-roadway facilities inventory to confirm its up to date.	3. Annually, Permit Years 2-5	3. Number of non-roadway facilities
<b>49</b>	<b>Facility Inspections and Routine Maintenance</b>			
	3.7.1.b Establish and implement specific frequencies, schedules, and standard documentation for facility inspections and routine maintenance.	1. Establish inspection frequencies for each site in the site-specific SPPP.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Continue the facility inspection program, including daily, monthly, semi-annual and annual inspections as included in the SPPP for each applicable facility.	2. Continuously, Permit Years 1-5	2. Yes/No
		3. Document semi-annual and annual compliance inspections.	3. Annually, Permit Years 1-5	3. Number of inspections
		4. Maintain a program to perform routine maintenance of material handling areas and stormwater systems at applicable non-roadway facilities.	4. Continuously, Permit Years 1-5	4. Yes/No
		5. Maintain preventative maintenance program of facility equipment and systems.	5. Continuously, Permit Years 1-5	5. Yes/No
		6. Maintain a program to perform maintenance if indicated during inspection, as needed.	6. As needed, Permit Years 1-5	6. Yes/No

<b>Table 10-1: Pollution Prevention and Good Housekeeping BMPs - Facilities Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.1: Facilities Operation and Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>50</b>	<b>Provide training to facilities staff</b>			
	3.7.1.c Provide annual staff training for facility staff on general stormwater awareness, implementing pollution prevention and good housekeeping practices, spill response, preventative maintenance, and identifying and reporting illicit discharges and illegal dumping.	1. Maintain “train the trainer” and staff training materials.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Provide “train the trainer” instruction to appropriate staff.	2. Annually, Permit Years 1-5	2. Yes/No
		3. Distribute materials for local trainers to train local staff.	3. Annually, Permit Years 1-5	3. Yes/No
		4. Maintain a tracking mechanism to document the “train the trainer” instruction, including the agenda/materials, date.	4. Annually, Permit Years 1-5	4. Yes/No
		5. Document date of “train the trainer” instruction and agenda.	5. Continuously, Permit Years 1-5	5. Number of training events
		6. Make training materials available to contractors if needed.	6. Continuously, Permit Years 1-5	6. Yes/No/Not needed
		7. Evaluate if an update to or additional training resources is needed.	7. Annually, Permit Year 1-5	7. Yes/No/Not needed
<b>51</b>	<b>Develop, maintain, and implement SPPPs NCDOT non-roadway facilities with TS4 operations</b>			
	3.7.1.d NCDOT non-roadway facilities with TS4 operations will maintain and implement a site-specific Stormwater Pollution Prevention Plan (SPPP) to address good housekeeping and pollution prevention from their operations, and should include inspections.	1. Implement SPPPs following USEPA and NCDEQ guidance for stormwater pollution prevention and BMPs.	1. Continuously, Permit Years 1-5	1. Yes/No
2. For new activities or facilities, the SPPP shall be developed and implemented prior to operation.		2. Continuously, Permit Years 1-5	2. Yes/No/Not needed	

<b>Table 10-1: Pollution Prevention and Good Housekeeping BMPs - Facilities Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.1: Facilities Operation and Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>51 cont.</b>	<b>Develop, maintain, and implement SPPPs NCDOT non-roadway facilities with TS4 operations, continued</b>			
	Non-roadway facilities with TS4 operations are inspected as part of the SPPP and/or Paragraph 3.7.6 in lieu of NCG080000 requirements for stormwater point source discharges from like industrial activities, as deemed to be similar by DEMLR.	3. Maintain a tracking system for SPPP implementation.	3. Continuously, Permit Years 1-5	3. Yes/No
<b>52</b>	<b>Implement General Permit Requirements for non-roadway industrial activities</b>			
	3.7.1.e Develop, maintain, and implement requirements in accordance with the current NPDES industrial stormwater general permit applicable to each facility which is subject to NPDES industrial stormwater permitting. This condition supersedes the requirement to obtain an NPDES industrial stormwater general permit Certificate of Coverage for each subject facility.	1. Assess required facilities and identify needs.	1. Permit Year 1	1. Yes/No
		2. Update the SPPP for the NC Global TransPark to include applicable requirements of NCG150000.	2. Permit Year 2	2. Yes/No
		3. Update the SPPP for the existing asphalt plant to include applicable requirements of NCG160000.	3. Permit Year 2	3. Yes/No
		4. Update the SPPP for Manns Harbor State Shipyard to include applicable requirements of NCG190000.	4. Permit Year 3	4. Yes/No
		5. Update the SPPP for Raleigh Railcar & Locomotive Maintenance Facility to include applicable requirements of NCG080000.	5. Permit Year 3	5. Yes/No

<b>Table 10-1: Pollution Prevention and Good Housekeeping BMPs - Facilities Operation and Maintenance Program</b>				
Permit Ref.	<b>3.7.1: Facilities Operation and Maintenance Program</b>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
52 cont.	<b>Implement General Permit Requirements for non-roadway industrial activities, continued</b>			
		6. Include applicable requirements of NCG080000 in the SPPP for Charlotte Railcar & Locomotive Maintenance Facility prior to operation.	6. As needed, prior to operation	6. Not yet needed/Yes

<b>Table 10-2: Pollution Prevention and Good Housekeeping BMPs - Spill Response Program</b>				
Permit Ref.	<b>3.7.2: Spill Response Program.</b> The Permittee shall implement a spill response program for non-roadway NCDOT facilities that are owned and operated by the Permittee. The Permittee shall:  <ul style="list-style-type: none"> <li>a) Evaluate facilities to determine the potential for spills and associated impacts to the TS4 and surface waters.</li> <li>b) Maintain a current inventory of facilities that store and/or use materials that have the potential to contaminate stormwater runoff or surface waters if spilled.</li> <li>c) Maintain and implement written spill response procedures.</li> <li>d) Provide annual spill response training for facility staff.</li> </ul>			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
53	<b>Identify and Inventory non-roadway facilities with the potential to contaminate stormwater runoff or surface waters from spills</b>			
	3.7.2.a Evaluate facilities to determine the potential for spills and associated impacts to the TS4 and surface waters.	1. Develop a procedure to evaluate non-roadway facilities for the potential for spills and associated impacts to the TS4 and surface waters.	1. Permit Year 2	1. Yes/No
	3.7.2.b Maintain a current inventory of facilities that store and/or use materials that have the potential to contaminate stormwater runoff or surface waters if spilled.	2. Implement a procedure to evaluate facilities.	2. Annually, Permit Years 3-5	2. Yes/No

Table 10-2: Pollution Prevention and Good Housekeeping BMPs - Spill Response Program				
Permit Ref.	3.7.2: Spill Response Program, continued			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
53 cont.	<b>Identify and Inventory non-roadway facilities with the potential to contaminate stormwater runoff or surface waters from spills, continued</b>			
		3. Identify which non-roadway facilities that store and/or use materials having the potential to contaminate stormwater runoff or surface waters if spilled.	3. Annually, Permit Years 3-5	3. Yes/No
54	<b>Spill Response Procedures</b>			
	3.7.2.c Maintain and implement written spill response procedures.	1. Maintain written spill response procedures.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Evaluate the spill response procedures and update if needed.	2. Annually, Permit Years 1-5	2. Yes/No/Update not needed
		3. Implement spill response procedures.	3. As needed, Permit Years 1-5	3. Needed and implemented/ Needed but not implemented/ Not needed
55	<b>Provide spill response training to appropriate staff</b>			
	3.7.2.d Provide annual spill response training for facility staff who will respond to facilities that store and/or use materials that have the potential to contaminate stormwater runoff or surface waters if spilled.	1. Maintain “train the trainer” and staff training materials.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Provide “train the trainer” instruction to appropriate staff.	2. Annually, Permit Years 1-5	2. Yes/No
		3. Distribute materials for local trainers to train local staff.	3. Annually, Permit Years 1-5	3. Yes/No

<b>Table 10-2: Pollution Prevention and Good Housekeeping BMPs - Spill Response Program</b>				
<b>Permit Ref.</b>	<b>3.7.2: Spill Response Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>55 cont.</b>	<b>Provide spill response training to appropriate staff, continued</b>			
		4. Maintain a tracking mechanism to document the “train the trainer” instruction, including the agenda/ materials, date.	4. Annually, Permit Years 1-5	4. Yes/No
		5. Document date of “train the trainer” instruction and agenda.	5. Continuously, Permit Years 1-5	5. Number of training events
		6. Make training materials available to contractors if needed.	6. Continuously, Permit Years 1-5	6. Yes/No/Not needed
		7. Evaluate if an update to or additional training resources are needed.	7. Annually, Permit Year 1-5	7. Yes/No/Not needed

<b>Table 10-3: Pollution Prevention and Good Housekeeping BMPs - TS4 Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<p><b>3.7.3: TS4 Operation and Maintenance Program.</b>                      The operation and maintenance of the roadway stormwater collection system shall include a program for reducing or eliminating the discharge of stormwater pollutants including particulates, sediment, litter, and debris. The Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Develop and implement standard protocols for identifying and addressing high priority areas which have potential for discharge of pollutants to surface waters.</li> <li>b) Implement BMPs to reduce or eliminate the discharge of pollutants from high priority areas. BMPs may include capture technologies; storm drain inlet grate design to minimize the entry of pollutants into the storm sewer system; roadway sweeping; litter and debris removal; catch basin and inlet inspections and cleaning, or other appropriate practices.</li> <li>c) Establish, maintain and implement specific frequencies, schedules, and standard documentation for inspection, operation, and maintenance of the TS4.</li> <li>d) Train maintenance staff and contractors on stormwater awareness and pollution prevention, performing TS4 inspections, identifying and reporting issues, and maintaining the collection system including catch basins, inlets, outfalls and conveyances.</li> </ul>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>56</b>	<b>Develop and implement standard protocols for identifying and addressing high-priority areas</b>			
	3.7.3.a Develop and implement standard protocols for identifying and addressing high priority areas which have potential for discharge of pollutants to surface waters.	1. Develop protocols for identifying high priority areas which have potential for discharge of pollutants to surface waters.	1. Permit Year 2	1. Yes/No
		2. Implement protocol to identify high priority areas	2. Permit Year 3	2. Yes/No
		3. Develop protocols for selecting BMPs to address high priority areas, including prioritizing specific areas with highest potential impacts	3. Permit Year 3	3. Yes/No
		4. Develop training on standard protocols for identifying and addressing high priority areas	4. Permit Year 3	4. Yes/No

<b>Table 10-3: Pollution Prevention and Good Housekeeping BMPs - TS4 Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.3: TS4 Operation and Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>57</b>	<b>Implement BMPs to reduce or eliminate the discharge of pollutants from high-priority areas.</b>			
	3.7.3.b Implement BMPs to reduce or eliminate the discharge of pollutants from high-priority areas. BMPs may include capture technologies; storm drain inlet grate design to minimize the entry of pollutants into the storm sewer system; roadway sweeping; litter and debris removal; catch basin and inlet inspections and cleaning, or other appropriate practices.	1. Establish a schedule to implement BMPs requiring significant design and funding for prioritized locations.	1. Permit Year 4	1. Yes/No
		2. Perform road sweeping activities in selected areas	2. Continuously, Permit Years 1-5	2. Documented lane miles swept
		3. Perform litter and debris removal activities in selected areas.	3. Continuously, Permit Years 1-5	3. Yes /No (pounds of litter to be included in total amount collected)
		4. Initiate implementation of BMPs requiring significant design and funding for prioritized locations.	4. Continuously, Permit Years 4-5	4. Yes/No
		5. Implement BMPs based on an established schedule.	5. Continuously, Permit Years 4-5	5. Number of BMPs implemented
<b>58</b>	<b>Maintain the TS4 collection system</b>			
	3.7.3.c Establish, maintain, and implement specific frequencies, schedules, and standard documentation for inspection, operation, and maintenance of the TS4.	1. Establish specific frequencies and schedules for inspections, operation, and maintenance of the TS4, based on prioritization of roadway facility type and potential for impact to water quality.	1. Permit Year 2	1. Yes/No



<b>Table 10-3: Pollution Prevention and Good Housekeeping BMPs - TS4 Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.3: TS4 Operation and Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>58 cont.</b>	<b>Maintain the TS4 collection system, continued</b>			
		2. Establish standard documentation for inspection, operation, and maintenance of the TS4.	2. Permit Year 2	2. Yes/No
		3. Update existing training on inspecting, maintaining, and documenting maintenance on the collection system including catch basins, inlets, outfalls and conveyances.	3. Permit Years 3-5	3. Yes/No/ Updates were not necessary
		4. Perform current practices of scheduled maintenance on the TS4 collection system on an established schedule.	4. Continuously, Permit Years 1-3	4. Yes/No
		5. Integrate new practices into scheduled maintenance on the TS4 collection system on an established schedule.	4. Continuously, Permit Years 4-5	4. Yes/No
		6. Perform unscheduled maintenance on the TS4 collection system based on maintenance needs identified after significant storm events, citizen complaints, or as identified during other operations.	6. Continuously, Permit Years 1-5	6. Yes/No

<b>Table 10-3: Pollution Prevention and Good Housekeeping BMPs - TS4 Operation and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.3: TS4 Operation and Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>59</b>	<b>Provide operation and maintenance training</b>			
	3.7.3 d Train maintenance staff and contractors on stormwater awareness and pollution prevention, performing TS4 inspections, identifying and reporting issues, and maintaining the collection system including catch basins, inlets, outfalls and conveyances.	1. Train appropriate staff on stormwater awareness pollution prevention training in conjunction with the facility where staff are located.	1. Annually, Permit Years 1-5	1. Yes/No
		2. Train appropriate staff on performing TS4 inspections, identifying and reporting issues.	2. Annually, Permit Years 1-5	2. Yes/No
		3. Train appropriate staff on maintaining the collection system including catch basins, inlets, outfalls and conveyances.	3. Annually, Permit Years 1-5	3. Yes/No
		4. Develop a procedure to implement training requirements for applicable contractor staff.	4. Permit Year 4	4. Yes/No
		5. Implement contractor training procedures	5. Permit Year 5	5. Yes/No
		6. Integrate updated protocols into annual training as new protocols become available.	6. As needed	6. Yes/No/Not needed
		7. Review training materials annually	7. Annually, Permit Years 1-5	7. Yes/No
		8. Update guidance as needed.	8. Periodically as needed	8. Need and updated/ Needed but not updated/ Not needed

<b>Table 10-4: Pollution Prevention and Good Housekeeping BMPs - SCM Inspection and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.4: TS4 SCM Inspection and Maintenance Program.</b> Measures to manage NCDOT owned, operated, and/or maintained SCMs. The permittee shall: a) Maintain a current inventory of SCMs. b) Inspect and maintain each SCM in accordance with appropriate operation & maintenance criteria for the device, which shall include specific frequencies, schedules, and standard documentation. c) Train SCM inspection and maintenance staff and contractors on inspection, operation, and maintenance of SCMs.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>60</b>	<b>Maintain an SCM Inventory</b>			
	3.7.4.a Maintain an SCM Inventory.	1. Maintain an SCM Inventory to include, at a minimum, the SCM location and type.	1. Continuously, Permit Years 1-5	1. Yes/No
2. Update inventory with newly constructed SCMs as needed.		2. Continuously, Permit Years 1-5	2. Number of SCMs in inventory	
<b>61</b>	<b>Perform inspections and maintenance on SCMs</b>			
	3.7.4.b Inspect and maintain each SCM in accordance with appropriate operation & maintenance criteria for the device, which shall include specific frequencies, schedules, and standard documentation.	1. Maintain the SCM I&M Manual, including written procedures and criteria for the inspection and maintenance of SCMs.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Evaluate if the SCM I&M Manual needs to be updated.	2. Annually, Permit Years 1-5	2. Yes and updated/ Yes but not updated/ Update not needed
		3. Perform inspections and maintenance on SCMs in accordance with I&M Manual.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Inspect newly constructed SCMs.	4. Continuously, Permit Years 1-5	4. Number of new projects inspected
		5. Track inspections and maintenance of the SCMs in the inventory.	5. Annually, Permit Years 1-5	5. Yes /No

<b>Table 10-4: Pollution Prevention and Good Housekeeping BMPs - SCM Inspection and Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.4: TS4 SCM Inspection and Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>62</b>	<b>Provide training to staff performing SCM inspections</b>			
	3.7.4.c Train SCM inspection and maintenance staff and contractors on inspection, operation, and maintenance of SCMs.	1. Maintain training materials on the SCM I&M Program and how to perform and document inspections and operation.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Provide training on the SCM I&M Program and how to perform and document inspections and operation.	2. Annually, Permit Years 1-5	2. Number of staff trained
		3. Make training materials available to contractors if needed.	3. Continuously, Permit Years 1-5	3. Yes/No/Not needed
		4. Document date of training, names of staff trained, and agenda.	4. Continuously, Permit Years 1-5	4. Number of training events

<b>Table 10-5: Pollution Prevention and Good Housekeeping BMPs - Vegetation, Pesticide and Fertilizer Management Program</b>				
<b>Permit Ref.</b>	<p><b>3.7.5: Vegetation, Pesticide and Fertilizer Management Program.</b>                      The Permittee shall manage landscape chemical usage to minimize the potential for polluted stormwater discharges. The Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Provide annual training for vegetation management personnel, and train or require equivalent training for vegetation management contractors. Training shall consist of appropriate uses and applications of pest control products (chemical agents) and shall also cover proper mowing techniques; appropriate spill response and reporting; label-specific uses, storage and handling of landscape products, tools and equipment; and the potential for water quality impacts.</li> <li>b) Use biological control measures as sanctioned by North Carolina Department of Agriculture &amp; Consumer Services (NCDQ&amp;CS).</li> <li>c) Utilize only EPA and/or NCDA&amp;CS approved pesticide and fertilizer products, and apply them in accordance with the manufacturer's directions, labels, and restrictions.</li> <li>d) Maintain compliance with applicable Pesticide Applicator licensing requirements.</li> </ul>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>63</b>	<b>Provide training to vegetation management personnel</b>			
	3.7.5.a Provide annual training for vegetation management personnel, and train or require equivalent training for vegetation management contractors. Training shall consist of appropriate uses and applications of pest control products (chemical agents) and shall also cover proper mowing techniques; appropriate spill response and reporting; label-specific uses, storage and handling of landscape products, tools and equipment; and the potential for water quality impacts.	1. Staff responsible for managing the application of pesticides will maintain certification by the North Carolina Department of Agriculture and Consumer Services (NCDA&CS) to include appropriate uses and applications of pest control products (chemical agents), label-specific uses, storage and handling of landscape products and the potential for water quality.	1. Continuously, Permit Years 1-5	1. Number of staff certified
	3.7.5.d Maintain compliance with applicable Pesticide Applicator licensing requirements.	2. Maintain training materials to supplement certification training, as needed.	2. Continuously, Permit Years 1-5	2. Yes/No

<b>Table 10-5: Pollution Prevention and Good Housekeeping BMPs - Vegetation, Pesticide and Fertilizer Management Program</b>				
<b>Permit Ref.</b>	<b>3.7.5: Vegetation, Pesticide and Fertilizer Management Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>63 cont.</b>	<b>Provide training to vegetation management personnel, continued</b>			
		3. Provide general training on pollution prevention and chemical use, storage and handling, spill response and the potential for water quality for staff involved in application of pesticides and fertilizers.	3. Annually, Permit Years 1-5	3. Number of staff trained
		4. Provide training on proper mowing techniques, tools and equipment; and the potential for water quality impacts to staff performing associated duties.	4. Annually, Permit Years 1-5	4. Number of staff trained
		5. Make training materials available to contractors if needed.	5. Continuously, Permit Years 1-5	5. Yes/No/Not needed
		6. Document date of training, names of staff trained, and agenda.	6. Continuously, Permit Years 1-5	6. Number of training events
	7. Require equivalent training for vegetation management contractors through contract language.	7. Continuously, Permit Years 2-5	7. Yes/No	

<b>Table 10-5: Pollution Prevention and Good Housekeeping BMPs - Vegetation, Pesticide and Fertilizer Management Program</b>				
<b>Permit Ref.</b>	<b>3.7.5: Vegetation, Pesticide and Fertilizer Management Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>64</b>	<b>Implement appropriate pest control methods and practices</b>			
	3.7.5.b Use biological control measures as sanctioned by North Carolina Department of Agriculture & Consumer Services (NCDA&CS).	1. Continue to consult with NCDA&CS and North Carolina State University (NCSU), as needed, in selecting appropriate pest control methods and implementation practices.	1. As Needed, Permit Years 1-5	1. Yes/No/Not needed
	3.7.5.c Utilize only EPA and/or NCDA&CS approved pesticide and fertilizer products, and apply them in accordance with the manufacturer's directions, labels, and restrictions.	2. Maintain and update the NCDOT Roadside Vegetation Management Manual as new methods and practices are adopted.	2. As Needed, Permit Years 1-5	2. Yes/No/Updated not needed
		3. Restrict pesticide and fertilizer usage to those materials approved by EPA/NCDA&CS. Pesticide and fertilizer shall be used in accordance with label restrictions.	3. Continuously, Permit Years 1-5	3. Yes/No

<b>Table 10-6: Pollution Prevention and Good Housekeeping BMPs - Vehicle and Equipment Maintenance Program</b>				
<b>Permit Ref.</b>	<p><b>3.7.6: Vehicle and Equipment Maintenance Program.</b>                      The Permittee shall maintain a Vehicle and Equipment Maintenance Program to prevent and minimize contamination of stormwater runoff from TS4 vehicle and equipment maintenance and/or cleaning activities. The Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Perform routine inspections of facilities, vehicles, and equipment, and establish specific frequencies, schedules, and documentation for inspections, and re-inspections when issues are identified.</li> <li>b) Provide annual staff training for facility staff on general stormwater awareness, implementing pollution prevention and good housekeeping practices, spill response, preventative maintenance, and identifying and reporting illicit discharges and illegal dumping.</li> </ul>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>65</b>	<b>Conduct inspections and preventative maintenance on vehicles and equipment</b>			
	3.7.6.a Perform routine inspections of facilities, vehicles, and equipment, and establish specific frequencies, schedules, and documentation for inspections, and re-inspections when issues are identified.	1. Establish specific frequencies, schedules, and documentation procedures for inspections, and re-inspections of facilities, vehicles, and equipment when issues are identified.	1. Permit Year 2	1. Yes/No
		2. Maintain procedures to inspect active vehicles and equipment in NCDOT's fleet for maintenance needs.	2. Continuously, Permit Years 2-5	2. Yes/No
		3. Implement documentation procedures for inspections and re-inspections.	3. Permit Year 2	3. Yes/No
		4. Establish facility inspection frequencies and practices if not already included in SPPPs under Paragraph 3.7.1.	4. Continuously, Permit Years 1-5	4. Yes/No/All facilities covered under 3.7.1.
		5. Provide preventative maintenance on active vehicles and equipment in NCDOT's fleet.	5. Continuously, Permit Years 1-5	5. Yes/No



<b>Table 10-6: Pollution Prevention and Good Housekeeping BMPs - Vehicle and Equipment Maintenance Program</b>				
<b>Permit Ref.</b>	<b>3.7.6: Vehicle and Equipment Maintenance Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>66</b>	<b>Provide training to staff maintaining vehicles and equipment</b>			
	3.7.6.b Provide annual staff training for facility staff on general stormwater awareness, implementing pollution prevention and good housekeeping practices, spill response, preventative maintenance, and identifying and reporting illicit discharges and illegal dumping.	1. Perform training on general stormwater awareness, implementing pollution prevention, good housekeeping practices and spill response in conjunction with training for facility staff.	1. Continuously, Permit Years 2-5	1. Yes/No
		2. Perform training on identifying and reporting illicit discharges and illegal dumping in conjunction with training for facility staff.	2. Continuously, Permit Years 2-5	2. Yes/No
		3. Perform training on preventative maintenance.	3. Continuously, Permit Years 2-5	3. Yes/No
		4. Maintain training materials.	4. Continuously, Permit Years 2-5	4. Yes/No

<b>Table 10-7: Pollution Prevention and Good Housekeeping BMPs - Litter Management Program</b>				
<b>Permit Ref.</b>	<p><b>3.7.7: Litter Management Program.</b>                      The Permittee shall maintain a Litter Management Program to prevent and minimize the discharge of litter from the NCDOT right-of-way. The Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Continue to implement litter management programs to collect litter and debris and minimize discharges to surface waters.</li> <li>b) Establish and implement standard processes and documentation for routine litter inspections and removal, performed at a minimum of quarterly, and including identification of high priority areas that will receive more frequent inspections, removal and/or BMPs.</li> <li>c) Utilize TS4 mapping efforts to support decisions on identification of high priority areas and implementation of BMPs to prevent the discharge of litter to surface waters.</li> <li>d) Implement BMPs to reduce or eliminate the discharge of litter and debris from high priority areas. BMPs may include capture technologies; storm drain inlet grate design to minimize the entry of litter and debris into the storm sewer system; litter and debris removal; catch basin and inlet inspections and cleaning, or other appropriate practices.</li> </ul>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>67</b>	<b>Continue to implement litter management programs</b>			
	3.7.7.a Continue to implement litter management programs to collect litter and debris and minimize discharges to surface waters.	1. Use NCDOT Forces to collect litter/debris.	1. Continuously, Permit Years 1-5	1. Document quantity of litter/debris collected
		2. Use Contract Litter Removal services to collect litter/debris.	2. Continuously, Permit Years 1-5	2. Document quantity of litter/debris collected
		3. Continue Adopt-A-Highway Program.	3. Continuously, Permit Years 1-5	3. Document quantity of litter/debris collected
		4. Continue Sponsor-A-Highway Program.	4. Continuously, Permit Years 1-5	4. Document quantity of litter/debris collected
		5. Continue Swat-A-Litterbug Program.	5. Continuously, Permit Years 1-5	5. Number of Swat-A-Litterbug reports mailed out
		6. Dispose of litter collected through litter management programs.	6. Continuously, Permit Years 1-5	6. Quantity of total litter/debris collected

Table 10-7: Pollution Prevention and Good Housekeeping BMPs - Litter Management Program				
Permit Ref.	3.7.7: Litter Management Program, continued			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
68	<b>Establish routine litter inspections and removal</b>			
	3.7.7.b Establish and implement standard processes and documentation for routine litter inspections and removal, performed at a minimum of quarterly, and including identification of high priority areas that will receive more frequent inspections, removal and/or BMPs.  3.7.7.c Utilize TS4 mapping efforts to support decisions on identification of high priority areas and implementation of BMPs to prevent the discharge of litter to surface waters.	1. Establish standard processes for routine litter inspections and removal to be performed quarterly.	1. Permit Year 1	1. Yes/No
		2. Establish processes for documentation of routine litter inspections and removal.	2. Permit Year 1	2. Yes/No
		3. Implement standard processes and documentation for routine litter inspections and removal, performed at a minimum of quarterly.	3. Continuously, Permit Years 1-5	3. Document quantity of litter/debris collected
		4. Coordinate with NCDOT Division Staff to identify high priority areas where litter and debris may enter surface waters.	4. Continuously, Permit Years 1-5	4. Yes/No
		5. Utilize TS4 mapping efforts to support decisions on identification of high priority areas and implementation of BMPs to prevent the discharge of litter to surface waters.	5. Permit Year 5	5. Yes/No
		6. Implement more frequent inspections and litter removal in high priority areas.	6. On established schedule, Permit Years 4-5	6. Yes/No

<b>Table 10-7: Pollution Prevention and Good Housekeeping BMPs - Litter Management Program</b>				
<b>Permit Ref.</b>	<b>3.7.7: Litter Management Program, continued</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>69</b>	<b>Implement BMPs to reduce or eliminate the discharge of litter and debris from high priority areas.</b>			
	3.7.7.d Implement BMPs to reduce or eliminate the discharge of litter and debris from high priority areas. BMPs may include capture technologies; storm drain inlet grate design to minimize the entry of litter and debris into the storm sewer system; litter and debris removal; catch basin and inlet inspections and cleaning, or other appropriate practices.	1. Establish a schedule to implement BMPs requiring significant design and funding for prioritized locations.	1. Permit Year 3	1. Yes/No
		2. Perform road sweeping activities in selected areas.	2. Continuously, Permit Years 2-5	2. Document lane miles swept
		3. Perform litter and debris removal activities in prioritized areas.	3. Continuously, Permit Years 1-5	3. Yes /No (volume of litter to be included in total amount collected)
		4. Initiate implementation of BMPs requiring significant design and funding for prioritized locations.	4. Continuously, Permit Years 4-5	4. Number of BMPs implemented
		5. Implement BMPs based on an established schedule.	5. Continuously, Permit Years 4- 5	5. Yes/No

<b>Table 10-8: Pollution Prevention and Good Housekeeping BMPs - Fecal Coliform Reduction Program</b>				
<b>Permit Ref.</b>	<p><b>3.7.8: Fecal Coliform Reduction Program.</b>                      The Permittee shall control, to the maximum extent practicable, sources of fecal coliform from NCDOT non-roadway facilities. At a minimum, the Permittee shall:</p> <ul style="list-style-type: none"> <li>a) Maintain pet waste management measures at NCDOT rest areas and ferry terminals.</li> <li>b) Connect on-site septic systems at NCDOT non-roadway facilities to publicly owned treatment works (POTWs) where feasible; or properly operate and maintain the on-site septic system. Proper operation and maintenance for septic systems shall include staff training on general stormwater awareness, impacts of fecal coliform in receiving waters, and how to properly operate and maintain the septic system.</li> </ul>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>71</b>	<b>Connect sanitary discharges to POTWs</b>			
	3.7.8.b Connect on-site septic systems at NCDOT non-roadway facilities to publicly owned treatment works (POTWs) where feasible; or properly operate and maintain the on-site septic system.	1. Operate and maintain on-site domestic wastewater treatment systems in accordance with manufacturer’s and State guidance.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Connect existing on-site domestic wastewater treatment systems to a POTW when available.	2. Annually, Permit Years 1-5	2. Yes/No

<b>Table 10-8: Pollution Prevention and Good Housekeeping BMPs - Fecal Coliform Reduction Program</b>				
<b>Permit Ref.</b>	<b>3.7.8: Fecal Coliform Reduction Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>71 cont.</b>	<b>Connect sanitary discharges to POTWs, continued</b>			
	3.7.8.b Proper operation and maintenance for septic systems shall include staff training on general stormwater awareness, impacts of fecal coliform in receiving waters, and how to properly operate and maintain the septic system.	3. Perform training on general stormwater awareness and impacts of fecal coliform in receiving waters in conjunction with training for facility staff.	3. Continuously, Permit Years 1-5	3. Yes/No
		4. Develop training for appropriate staff on how to properly operate and maintain the septic system.	4. Permit Year 2	4. Yes/No
		5. Provide training for appropriate staff on how to properly operate and maintain the septic system.	5. Continuously, Permit Years 3-5	5. Yes/No

## 11 Total Maximum Daily Load Program

As part of its current Total Maximum Daily Load (TMDL) Program, NCDOT has developed and implemented a process to address impaired waters identified in TMDLs. The TMDL Program relies heavily on data that is collected under the Research Program to inform pollutant loading and water quality and watershed modeling decisions. TMDL compliance is supported through many of the programs described in this TS4SMP including the Retrofit Program and its efforts to identify suitable locations for stormwater retrofits and successfully implement controls that achieve NCDOT's WLAs. NCDOT has collaborated with NCDWR's Modeling and Assessment Branch, including recently providing support the modeling studies addressing impairments in the Turkey Creek and Virginia Creek watersheds, developing partnerships in the Walnut Creek watershed, and involvement in nutrient and watershed modeling studies throughout the state.

When subject to Part 3.8.1 requirements in a TMDL watershed, NCDOT task managers will review a list of potential actions (the "TMDL Water Quality Improvement Strategies Checklist"), evaluate the practicability of each item, and develop a course of action best suited to the unique conditions present in the watershed. This evaluation begins with a cursory watershed assessment of NCDOT's road and nonroad facilities in the watershed, potential pollutant sources, and supporting maps. The watershed assessment guides NCDOT's task managers in selecting appropriate actions from the TMDL Water Quality Improvement Strategies Checklist. NCDOT has developed a system for tracking actions taken to address permit requirements and the water quality improvement strategies taken by NCDOT will be documented as part of that system.

The list of actions to be considered when NCDOT is subject to Part 3.8.1 in a TMDL watershed (the "TMDL Water Quality Improvement Strategies Checklist") follows. Compliance under Part 3.8.1 of the permit is achieved when the TMDL Water Quality Improvement Strategies checklist is marked complete, the annual reporting metric for each TMDL-related item is marked "Yes" and associated memos documenting decisions are prepared. The process for achieving compliance is illustrated in Figure 11-1 .

### **BMP Retrofit Program**

- Review the ROSS geospatial database to determine if retrofit opportunities have already been identified in the watershed.
- If the ROSS Program has not been implemented in the watershed, evaluate if implementation of the program in the watershed is appropriate.
- If appropriate, run the ROSS program to evaluate opportunities for project development and implement, as appropriate.
- Track/Report through the BMP Retrofit Program and Annual Report.

### **Facilities Operation and Maintenance Program**

- Review SPPPs for facilities located in the watershed to determine if BMPs are needed for the TMDL pollutant(s).
- Confirm relevant training on the pollutant(s) of concern has been provided to facility staff.

### **Fecal Coliform Reduction Program**

- Review SPPPs for facilities located in the watershed to ensure that actions to properly maintain septic systems are being conducted and that pet waste management measures are being implemented at ferry terminals and rest areas.

### **Illicit Discharge Detection and Elimination Program (IDDEP)**

- Confirm that an illicit discharge assessment has been performed at NCDOT non-roadway facilities in the TMDL watershed.

**Litter Management Program**

- Confirm that litter collection efforts are ongoing in the watershed. If not, coordinate with Division Litter Manager to determine if adding a route is practicable.

**Post-Construction Stormwater Program**

- Follow the existing PCSP program and decision support matrix to implement the PCSP in TMDL watersheds.

**Public Education and Outreach Program**

- Evaluate opportunities to provide additional education in the TMDL watershed.

**Public Involvement and Participation Program**

- Evaluate opportunities to provide additional public involvement and participation to address potential sources of the pollutant of concern.

**SCM Inspection and Maintenance Program**

- Review existing SCMs located within the watershed to identify SCMs with low LOS ratings (D or F) and prioritize needed maintenance to ensure SCMs are fully functional and operating with optimum performance.

**Total Maximum Daily Load Program**

- Perform a watershed assessment to characterize NCDOT area within the TMDL watershed and potential pollutant sources to guide other program areas in addressing the pollutant of concern.
- Update the TMDL tracking database.

**TS4 Mapping (within the IDDE Program)**

- As part of the watershed assessment, compile existing TS4 mapping data, including any existing implicit/explicit outfalls that have been identified, to inform decisions.

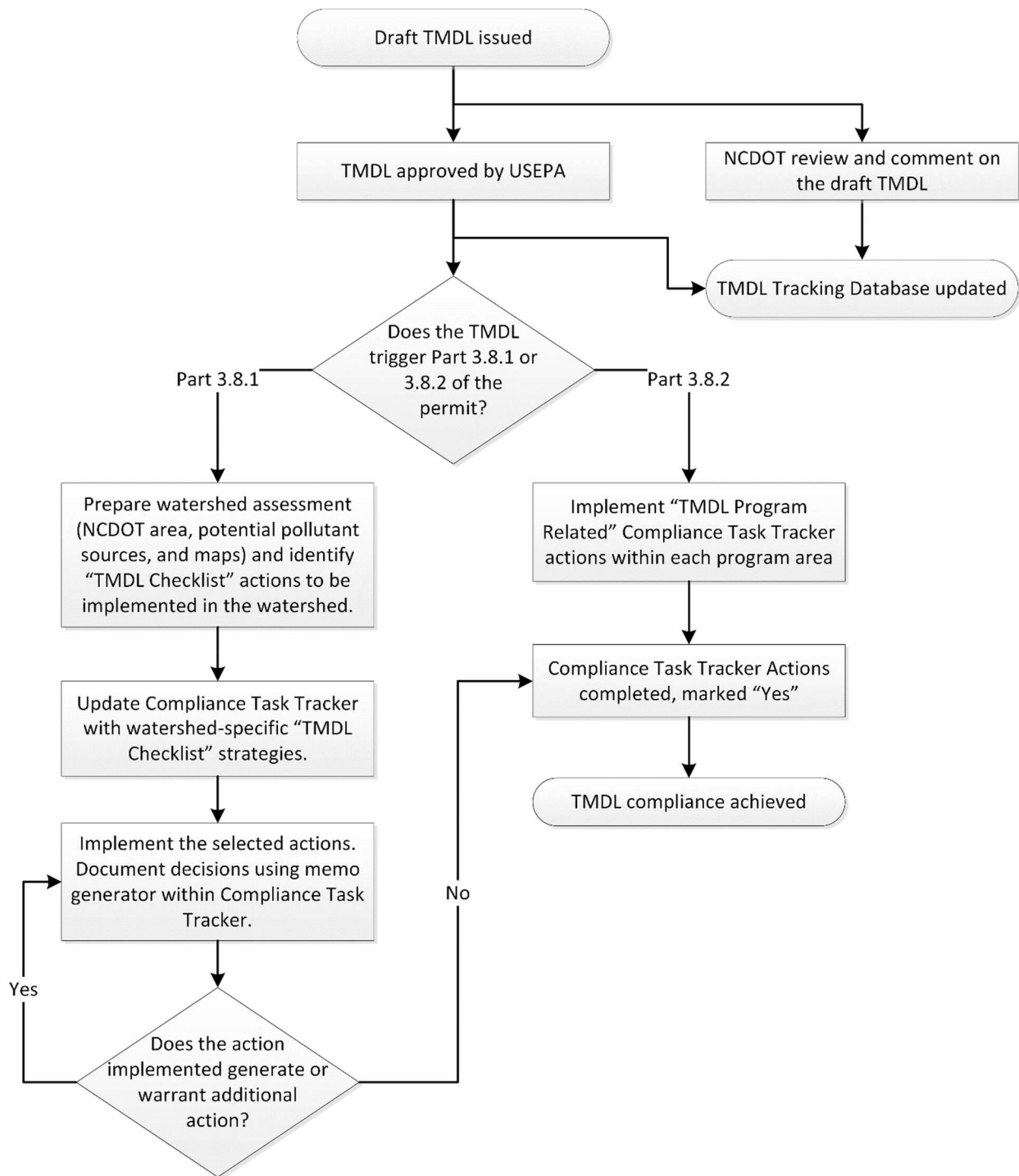
**TS4 Operation and Maintenance Program**

- Evaluate current TS4 operation and maintenance programs within the watershed, including routine or scheduled programs, and provide recommendations regarding whether increases or targeted specific actions are warranted or practicable within the watershed.

In addition to the TMDL Water Quality Improvement Strategies checklist, NCDOT has developed a process for evaluating existing NCDOT strategies used to reduce pollutant(s) of concern in all TMDL watersheds. The evaluation begins with a geospatial characterization of existing and planned NCDOT activities and BMPs performed under the permit in TMDL watersheds. NCDOT spatial datasets and supporting information related to BMP retrofit locations, illicit discharges, litter management, facility operation and management, fecal coliform reduction activities, transportation improvement projects, BMP inspection and maintenance, TS4 mapping, and other program activities are incorporated into this analysis. These NCDOT activities are assessed in the context of the TMDL pollutant of concern and various other watershed and waterbody features to provide NCDOT with a high-level characterization of existing practices in TMDL watersheds and identify potential gaps or opportunities that may exist for NCDOT to tailor and/or expand BMPs under the permit.



Figure 11-1. NCDOT TMDL Compliance Strategy under Part 3.8 of the NPDES Stormwater Permit



NCDOT maintains a database of TMDLs applicable to its discharges. NCDOT will manage, implement and report the TMDL Program BMPs as specified in Table 11-1 below.

<b>Table 11-1: Total Maximum Daily Load Program</b>				
<b>Permit Ref.</b>	<p><b>3.8: Total Maximum Daily Load Program.</b>                      The Permittee shall develop and implement a TMDL program. At a minimum, the Permittee shall:</p> <p>3.8.1 For EPA-approved TMDLs that specifically name the Permittee as a significant contributor and assigns a unique WLA to the Permittee that is separate from other sources, develop and implement water quality improvement strategies.</p> <p>3.8.2 For approved TMDLs that have no EPA-approved WLA which specifically assigns a unique WLA to the Permittee, evaluate strategies and tailor and/or expand BMPs within the scope of this permit to reduce the TMDL pollutant(s) of concern in the named watershed(s) to the maximum extent practicable.</p> <p>3.8.3 Describe any strategies and tailored and/or expanded measures in the TS4SMP.</p>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>72</b>	<b>Track EPA-approved TMDLs</b>			
	Track EPA-approved TMDLs.	1. Maintain a TMDL Tracking Database to track TMDLs that have been issued.	1. Continuously, Permit Years 1-5	1. Updated/Not updated/ Update not needed since no new TMDLs were issued

Table 11-1: Total Maximum Daily Load Program				
Permit Ref.		3.8: Total Maximum Daily Load Program, continued.		
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
73	<b>Address TMDLs where NCDOT is named as a significant contributor and is assigned a unique WLA</b>			
	3.8.1 For EPA-approved TMDLs that specifically name the Permittee as a significant contributor and assigns a unique WLA to the Permittee that is separate from other sources, develop and implement water quality improvement strategies.	1. Track the number and status of TMDLs where NCDOT is named as a significant contributor and a unique WLA is assigned to NCDOT.	1. Annually, Permit Years 1-5	1. Number of applicable TMDLs
		2. Develop a site-specific water quality improvement strategy.	2. As needed, Permit Years 1-5	2. Number of new site-specific strategies developed within permit year/ New strategy in development/ Provisions for 3.8.1 were not triggered
3. Implement actions described in site-specific water quality improvement strategies		3. Annually, Permit Years 1-5	3. Number of site-specific improvement strategies under which implementation activities took place	

Table 11-1: Total Maximum Daily Load Program				
Permit Ref.	3.8: Total Maximum Daily Load Program, continued.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
74	<b>Address TMDLs where NCDOT is not assigned a unique WLA</b>			
	3.8.2 For approved TMDLs that have no EPA-approved WLA which specifically assigns a unique WLA to the Permittee, evaluate strategies and tailor and/or expand BMPs within the scope of this permit to reduce the TMDL pollutant(s) of concern in the named watershed(s) to the maximum extent practicable (MEP).	1. For new projects, evaluate implementation of the BMP Toolbox and other design guidance tools to address water quality pollutants of concern to the MEP.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. To address existing assets, develop procedures to apply protocols for identifying high priority areas under the TS4 Operation and Maintenance Program to TMDL watersheds.	2. Permit Year 4	2. Yes/No
		3. Develop protocols for selecting BMPs to address high priority areas in TMDL watersheds, including prioritizing specific areas with highest potential impacts.	3. Permit Year 4	3. Yes/No
4. Develop training on standard protocols for identifying and addressing high priority areas in TMDL watersheds.		4. Permit Year 4	4. Yes/No	

<b>Table 11-1: Total Maximum Daily Load Program</b>				
<b>Permit Ref.</b>	<b>3.8: Total Maximum Daily Load Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>74 cont.</b>	<b>Address TMDLs where NCDOT is not assigned a unique WLA, continued</b>			
		5. Utilize TS4 mapping efforts to support decisions on identification of high priority areas and implementation of BMPs to prevent the discharge of litter to surface waters.	5. Permit Year 5	5. Yes/No
<b>75</b>	<b>Describe any strategies and tailored and/or expanded measures</b>			
	3.8.3 Describe any strategies and tailored and/or expanded measures in the TS4SMP.	1. Strategies implemented within the reporting period are described in the annual report.	1. Annually, Permit Years 1-5	1. Yes/No

## 12 Research Program

NCDOT’s Research Program’s primary mission is to support all aspects of the HSP through development of practical solutions to stormwater management. NCDOT conducts research with faculty and staff at state universities or other designated institutions that result in independent quantitative assessment of stormwater from NCDOT’s permitted activities and/or measure SCM effectiveness. NCDOT also conducts research to enhance or improve existing practices, and to develop new methods or processes to meet future permit requirements. As part of the program, NCDOT maintains a Research Plan that describes the processes to request funding, to evaluate effectiveness of SCMs and to identify research needs.

NCDOT will manage, implement, and report the Research Program BMPs as specified in Table 12-1 below.

<b>Table 12-1: Research Program</b>				
<b>Permit Ref.</b>	<b>3.9: Research Program.</b> The Permittee shall implement a Research Program. At a minimum, the Permittee shall:  3.9.1 Implement a Research Program to facilitate research to enhance or improve existing practices or develop new methods or processes to meet TS4 permit requirements.  3.9.2 Conduct research with faculty and staff at state universities or other independent institutions that result in impartial quantitative assessment of stormwater from NCDOT permitted activities and/or measure structural BMP effectiveness.			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>76</b>	<b>Facilitate Research</b>			
	3.9.1 Implement a Research Program to facilitate research to enhance or improve existing practices or develop new methods or processes to meet TS4 permit requirements.	1. Maintain a Research Plan addressing research needs for the permit requirements.	1. Continuously, Permit Years 1-5	1. Yes/No
		2. Assess needs and identify potential research projects.	2. Annually, Permit Years 1-5	2. Yes/No
		3. Evaluate the Research Plan to determine if updates are needed.	3. Annually, Permit Years 1-5	3. Yes/No
		4. Update the Research Plan	4. As needed	4. Needed and updated/ Needed and not updated/ Not needed

<b>Table 12-1: Research Program</b>				
<b>Permit Ref.</b>	<b>3.9: Research Program, continued.</b>			
<b>BMP No.</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Description of BMP</b>	<b>Measurable Goal(s)</b>	<b>Schedule for Implementation</b>	<b>Annual Reporting Metric</b>
<b>77</b>	<b>Conduct Research</b>			
	3.9.2 Conduct research with faculty and staff at state universities or other independent institutions that result in impartial quantitative assessment of stormwater from NCDOT permitted activities and/or measure structural BMP effectiveness.	1. Perform or sponsor research in accordance with Research Plan.	1. Continuously, Permit Years 1-5	1. Number of active research projects related to the permit
		2. Complete the Research and Development Close Out Implementation Plan form for NCDOT’s Research and Development Program.	2. As needed, Permit Years 1-5	2. Yes, form completed/ Form not completed/ No new research completed this year