



Morrisville

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Stormwater Management Plan

Town of Morrisville

NCS000465

March 2, 2023

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Part 1: Introduction

The purpose of this Stormwater Management Plan and Nutrient Management Strategy (SWMP-NMS) is to establish and define the means by which the Town of Morrisville will comply with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit, the requirements of the Neuse Nutrient Stormwater Rule (15A NCAC 02B .0711), 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 SWMP-NMS identifies the specific elements and minimum measures that the Town of Morrisville 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 MS4 Permit number NCS000465, as issued by NCDEQ. This permit covers activities associated with the discharge of stormwater and nutrients from the MS4 as owned and operated by the Town of Morrisville and located within the corporate limits of the Town of Morrisville. This SWMP-NMS also identifies the specific elements and minimum measures that the Town of Morrisville will develop, implement, enforce, evaluate, and report to the NCDEQ Division of Water Resources (DWR) to comply with the requirements of the Neuse Rule.

In preparing this SWMP-NMS, the Town of Morrisville has evaluated its MS4 and the permit requirements to develop a comprehensive 5-year SWMP-NMS that will meet the community's needs, address local water quality issues, and provide the minimum measures necessary to comply with the permit. The SWMP-NMS will be evaluated and updated annually to ensure that the elements and minimum measures it contains continue to adequately provide for permit and Neuse Rule compliance and the community's needs.

Once the SWMP-NMS is approved by NCDEQ and the Environmental Management Commission (EMC), all provisions contained and referenced in this SWMP-NMS, along with any approved modifications of the SWMP-NMS, are incorporated by reference into the permit and become enforceable parts of the permit. Any major changes to the approved SWMP-NMS will require resubmittal, review, and approval by NCDEQ, and may require a new public comment period depending on the nature of the changes.


Part 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 MS4 Permit, and that both the Division and the Environmental Protection Agency have NPDES MS4 Permit compliance and enforcement authority.

- I am a ranking elected official.
- I am a principal executive officer for the permitted MS4.
- I am a duly authorized representative for the permitted MS4 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.

Signature:	
Print Name:	Martha Paige
Title:	Town Manager
Signed this	<u>3rd</u> day of <u>August</u> 20 <u>23</u> .

Part 3: MS4 information

3.1 Permitted MS4 Area

This SWMP applies throughout the corporate limits of the Town of Morrisville, including all regulated activities associated with the discharge of stormwater from the MS4. The map below shows the corporate limits of the Town of Morrisville and the Extraterritorial Jurisdiction (ETJ), as of the date of this document. As the Town is located in both the Neuse and Cape Fear River basins, the Local Neuse Nutrient Management Strategy (Neuse Local Program) applies to the portions of the town located in the Neuse River Basin.

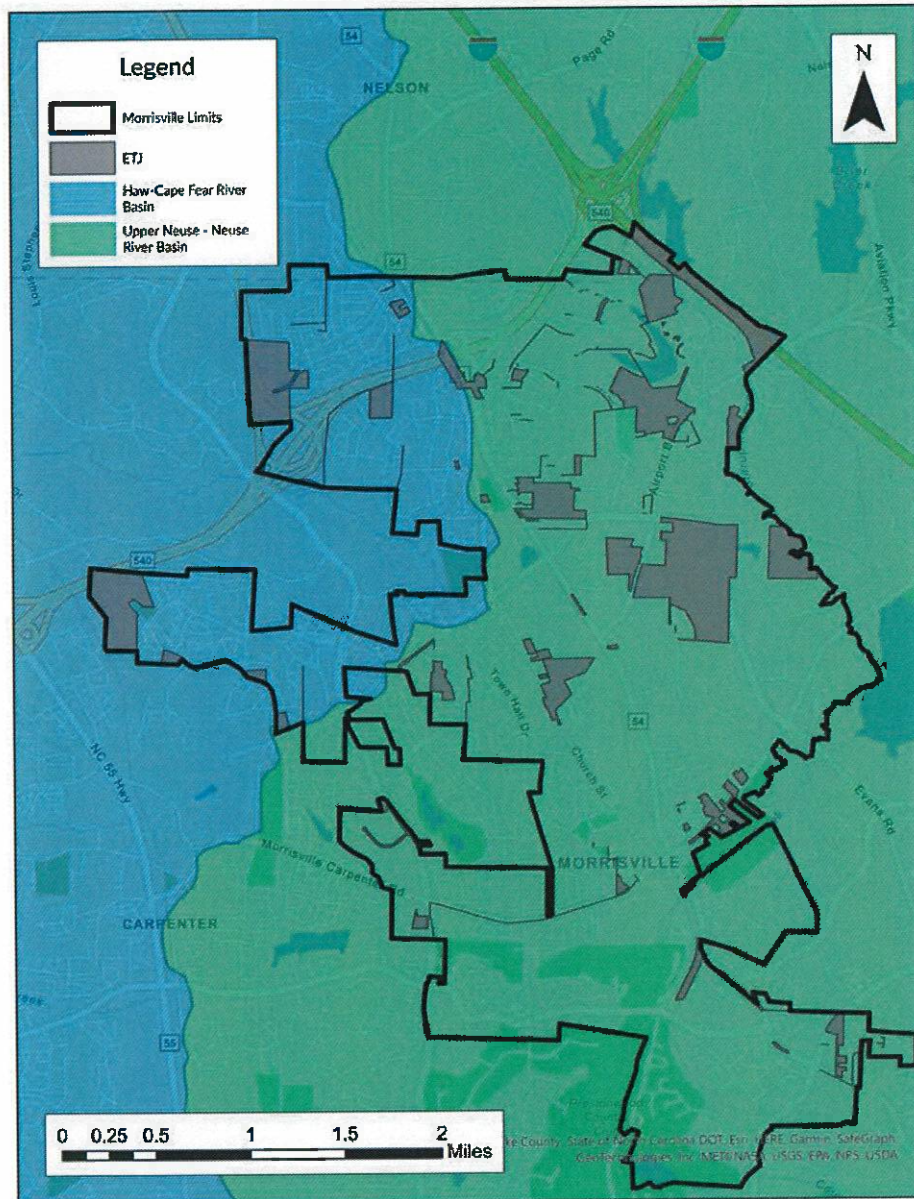


Figure 1: Town Limits, ETJ, and River Basins

3.2 Existing MS4 Mapping

Runoff from most of the earlier development (prior to 1999) in the Town flows directly to surface waters without any form of treatment. For developments since implementation of the Town's 1999 stormwater ordinance and first Phase II permit in 2005, runoff flows to various detention systems and other structural Stormwater Control Measures (SCMs) prior to entering the receiving streams.

The current MS4 mapping program includes the location of system components (including inlets, outfalls, pipes, and culverts), SCMs, waterbodies, major basins, and subbasins. Pipe Condition, flow direction, and pipe size are also included. This Publicly available information can be found online on the [Town of Morrisville Stormwater Map](#).

Mapping of the Town's storm system was updated in 2021. The Town estimates that approximately 99% of the MS4 area is mapped.

Table 1: Summary of Current MS4 Mapping

Percent of MS4 Area Mapped	99	%
No. of Major Outfalls* Mapped	74	total**

*An outfall is a point where the MS4 discharges from a pipe or other conveyance (e.g., a ditch) directly into surface waters. Major outfalls are required to be mapped to meet permit requirements. A major outfall is a 36-inch diameter pipe or discharge from a drainage area > 50-acres; and for industrial zoned areas a 12-inch diameter pipe or a drainage area \geq 2-acres.

3.3 Receiving Waters

The Town of Morrisville MS4 is located within the Upper Neuse - Neuse and Haw - Cape Fear River Basins and discharges directly into receiving waters as listed in Table 2 below. Applicable water quality standards listed below are compiled from the following NCDEQ sources:

- [Waterbody Classification Map](#)
- [Impaired Waters Map](#)
- [TMDL Map](#)
- Most recent NCDEQ Final [303\(d\) List](#)

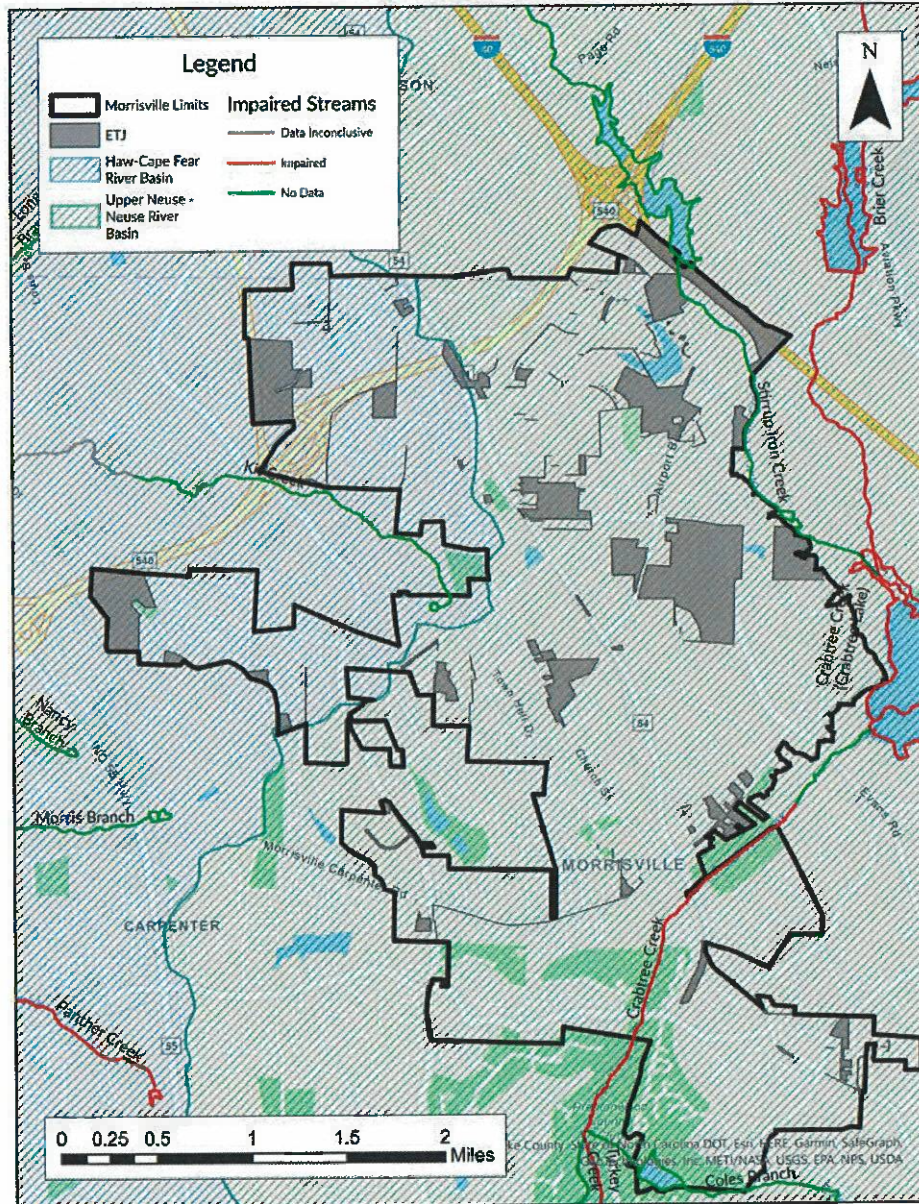


Figure 2: Town of Morrisville Receiving Waters

Table 2: Summary of MS4 Receiving Waters

Receiving Water Name	Stream Index / AU Number	Water Quality Classification	303(d) Listed Parameter(s) of Interest
Haw - Cape Fear River Basin (Jordan Lake)			
Kit Creek	16-41-1-17-2-(0.3)	C; NSW	N/A
Kit Creek	16-41-1-17-2-(0.7)	WS-IV; NSW	N/A
Upper Neuse - Neuse River Basin			
Brier Creek	27-33-4	C; NSW	PCB (Advisory, FC, NC)
Stirrup Iron Creek	27-33-4-2	C; NSW	N/A
Coles Branch	27-33-3	C; NSW	N/A
Crabtree Creek	27-33-(1)	C; NSW	Benthos (Nar, AL, FW)

C: Class C (Fishable/Swimmable Waters)
 NSW: Nutrient Sensitive Water
 WS-IV: Water Supply Watershed, Class IV
 PCB: Polychlorinated Biphenyl (PCB) Fish Tissue Advisory
 FC, NC: Fish Consumption, North Carolina Standard
 Benthos: Impaired Benthic Microorganism Community
 Nar: Narrative Standard
 AL: Aquatic Life
 FW: Fresh Waters

The above Data is from 2022 NC Category 5 Assessments ["2022 Final 303\(d\) List"](#) and NC Surface Water Classifications Map. From the 2022 303(d) Listing and Delisting Methodology for:

- Benthos: "Narrative criterion: Narrative criterion: Waters shall be suitable for aquatic life propagation and maintenance of biological integrity. NC uses benthic and fish community data to assess biological integrity. Biological integrity means the ability of an aquatic ecosystem to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities and functional organization similar to that of reference conditions."
- Fish Consumption: "Fish consumption was assessed based on site-specific fish consumption advisories developed using fish tissue data. Advisories and advice are developed by DHHS using fish tissue data collected by DWR and others. See <http://epi.publichealth.nc.gov/fish/current.html> for all advice and advisories."

The Town of Morrisville utilizes Public Education and Outreach BMPs - to provide information on water quality impairments in the Neuse River Basin and PCBs and nitrogen are target pollutants. The [Neuse River Subbasin Plan for Crabtree and Brier Creeks](#) and [Protecting Water Quality](#) supplement are used to guide BMPs.

3.4 MS4 Interconnection

The Town of Morrisville MS4 is interconnected with another regulated MS4 and receives/discharges stormwater into the Town of Cary. The number of interconnections leaving the Town of Morrisville MS4 have not been estimated; however, locations of outfalls within the Town of Morrisville ETJ are on the MS4 map and are part of the IDDE and MS4 inspections.

The MS4 also interconnects with the statewide NCDOT MS4 and includes:

- a. The interconnection is receiving stormwater from the NCDOT MS4. The number of interconnections is unknown.
- b. The interconnection is discharging stormwater into the NCDOT MS4. The number of interconnections is unknown.
- c. The Town of Morrisville MS4 mapping does include NCDOT MS4 outfalls.

3.5 Total Maximum Daily Loads (TMDLs)

The TMDL(s) listed in Table 3 below have been approved within the MS4 area, as determined by the map and list provided on the [NCDEQ Modeling & Assessment Unit web page](#). The table also indicates whether the approved TMDL has a specific stormwater Waste Load Allocation (WLA) for any watershed directly receiving discharges from the permitted MS4, and whether a Water Quality Recovery Program has been implemented to address the WLA.

The Statewide TMDL for mercury does not require any actions by the NPDES Stormwater Permittee because most mercury in stormwater comes from atmospheric deposition, but the Town utilizes BMPs - to provide information to the public.

While the Neuse River has a TMDL for nitrogen, the Town of Morrisville discharges to tributaries of the Neuse that do not have TMDLs. The Town of Morrisville utilizes Public Education and Outreach BMPs - to provide information on nitrogen in the Neuse River Basin. This SWMP-NMS also includes BMPs to implement the Neuse Local Program for the updated Neuse River Rules, which were adopted in April 2021.

Table 3: Summary of Approved TMDLs

Water Body Name	TMDL Pollutant(s) of Concern	Stormwater Waste Load Allocation (Y/N)	Water Quality Recovery Program (Y/N)
Statewide	Mercury	N	N
Neuse River	Nitrogen	N	N

3.6 Endangered and Threatened Species and Critical Habitat

Significant populations of threatened or endangered species and/or critical habitat may be identified within the regulated MS4 urbanized area. Based upon a review of the Endangered and Threatened Species and Species of Concern by County for North Carolina Map (no longer available online) and [Listed species believe to or known to occur in North Carolina list](#) as provided by the U.S. Fish and Wildlife Service, the species listed in Table 4 have the potential to occur within the regulated MS4 urbanized area. Of those species listed, Table 4 summarizes the species that may be significantly impacted by the quality of surface waters within their habitat.

Table 4: Potential Federally Listed Species/Habitat Impacted by Surface Water Quality

Scientific Name	Common name	Species Group	Federal Listing Status
<i>Haliaeetus leucocephalus</i>	Bald eagle	Vertebrate	BGPA
<i>Noturus furiosus</i>	Carolina madtom	Vertebrate	ARS
<i>Necturus lewisi</i>	Neuse River waterdog	Vertebrate	ARS
<i>Fusconaia masoni</i>	Atlantic pigtoe	Invertebrate	ARS
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	Invertebrate	E
<i>Lasmigona subviridis</i>	Green floater	Invertebrate	ARS
<i>Lindera subcoriacea</i>	Bog spicebush	Vascular Plant	ARS

BGPA: Bald And Golden Eagle Protection Act

ARS: At Risk Species

E: Endangered

3.7 Industrial Facility Discharges

The Town of Morrisville MS4 jurisdictional area includes the following industrial facilities which hold NPDES Industrial Stormwater Permits, as determined from the [NCDEQ Maps & Permit Data web page](#).

Table 5: NPDES Stormwater Permitted Industrial Facilities

Permit Number	Facility Name
NCG060408	Amazon.com Services LLC - DRT9
NCG070104	Adams Products Co- Morrisville
NCG080147	Waste Management of Raleigh Durham
NCG080391	Averitt Express Inc - Morrisville
NCG080476	XPO Logistics Freight, Inc. - NRD
NCG080601	Triangle Transit Authority - Bus Maintenance Facility
NCG080659	UPS Ground Freight, Inc.- Morrisville
NCG080974	Old Dominion Freight Line Inc - DRM

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Permit Number	Facility Name
NCG140266	Thomas Concrete Of Carolina Inc - Morrisville
NCG140307	Concrete Supply Co-Morrisville Plant
NCG140469	McCarthy RDU Concrete Batch Plant
NCG150067	NCNG Morrisville AASF #1
NCGNE0059	Airborne Express-RDU
NCGNE0110	AAA Cooper Transport
NCGNE0247	DHL Express
NCGNE0298	Southern Staircase
NCGNE0356	Estes Express Lines-Morrisville
NCGNE0447	Tekelec
NCGNE0628	YRC, Inc.-Morrisville
NCGNE0704	American Greenz
NCGNE0737	Eaton Satellite
NCGNE0931	Eaton Corp - Raleigh CMSC
NCGNE0949	Tekelec - Morrisville
NCGNE1123	Classic Graphics
NCGNE1129	American Greenz, Inc.
NCGNE1379	HZO Inc.
NCGNE1405	Integrated DNA Technologies - RTP
NCGNE1446	Circle Graphics - Innovation Ave

The Town of Morrisville utilizes Public Education and Outreach BMPs - to provide information to commercial/industrial audiences. Industrial outfalls are also inspected as part of the Illicit Discharge Detection and Elimination program BMP .

3.8 Non-Stormwater Discharges

The water quality impacts of non-stormwater discharges have been evaluated by the Town of Morrisville as summarized in Table 6 below. The unpermitted non-stormwater flows listed as incidental do not significantly impact water quality. The Town of Morrisville has evaluated residential and charity car washing and street washing for possible significant water quality impacts.

Wash water associated with car washing that does not contain detergents or does not discharge directly into the MS4 is considered incidental. However, these types of non-stormwater discharges that do contain detergents have been evaluated by the Town of Morrisville to determine whether they may significantly impact water quality. They were determined to be a possible cause of water quality impacts and will be addressed through Public Education and Outreach BMPs -.

Street sweeping in Morrisville utilizes a dry street sweeper and therefore street wash water is not considered a possible water quality impact.

The Division has not required that other non-stormwater flows be specifically controlled by the Town of Morrisville.

Table 6: Non-Stormwater Discharges

Non-Stormwater Discharge	Water Quality Impacts
Water Line And Fire Hydrant Flushing	Incidental
Landscape Irrigation	Incidental
Diverted Stream Flows	Incidental
Rising Groundwater	Incidental
Uncontaminated Groundwater Infiltration	Incidental
Uncontaminated Pumped Groundwater	Incidental
Uncontaminated Potable Water Sources	Incidental
Foundation Drains	Incidental
Air Conditioning Condensate	Incidental
Irrigation Waters	Incidental
Springs	Incidental
Water From Crawl Space Pumps	Incidental
Footing Drains	Incidental
Lawn Watering	Incidental
Residential And Charity Car Washing	Possible
Flows From Riparian Habitats And Wetlands	Incidental
Dechlorinated Swimming Pool Discharges	Incidental
Street Wash Water	Incidental
Flows From Firefighting Activities	Incidental

3.9 Target Pollutants and Sources

In addition to possible non-stormwater discharges identified above, the Town of Morrisville is not aware of other significant water quality issues within the permitted MS4 area.

Table 7 below summarizes the water quality pollutants identified throughout Part 3 of this SWMP-NMS, the likely activities/sources/targeted audiences attributed to each pollutant and identifies the associated SWMP-NMS program(s) that address each. In addition, the Town of Morrisville has evaluated schools, homeowners and businesses as target audiences that are likely to have significant stormwater impacts.

Table 7: Summary of Target Pollutants and Sources

Target Pollutant(s)	Likely Source(s)/Target Audience(s)	SWMP-NMS Program Addressing Target Pollutant(s)/Audience(s)
Litter/Yard Waste	Residential, Commercial/ Industrial, Schools, Municipal Operations	Public Education & Outreach, Public Involvement & Participation, Pollution Prevention and Good Housekeeping
PCBs	Residential, Commercial/ Industrial	Public Education & Outreach, Illicit Discharge Detection and Elimination
Nitrogen	Residential, Commercial/ Industrial, Municipal Operations	Public Education & Outreach, Public Involvement & Participation, Pollution Prevention and Good Housekeeping
Sediment	Construction, Commercial/ Industrial, Municipal Operations	Public Education & Outreach, Construction Site Runoff Control, Post-Construction Site Runoff Control, Pollution Prevention and Good Housekeeping
Car Washing	Residential, Commercial/ Industrial, Schools, Municipal Operations	Public Education & Outreach, Illicit Discharge Detection and Elimination, Pollution Prevention and Good Housekeeping
Fecal Coliform	Sewer Leaks, Failing Septic Systems, Pet Waste	Public Education & Outreach, Illicit Discharge Detection and Elimination
Fertilizer/Pesticides/ Herbicides	Residential, Commercial/ Industrial, Municipal Operations	Public Education & Outreach, Pollution Prevention and Good Housekeeping
Illicit Discharge/Illegal Dumping/Improper Disposal of Waste	Residential, Commercial/ Industrial, Municipal Operations	Public Education & Outreach, Illicit Discharge Detection and Elimination, Pollution Prevention and Good Housekeeping

Part 4: Stormwater Management Program Administration

4.1 Organizational Structure

The Town of Morrisville Stormwater Program is implemented through the Engineering Department overseen by the Town Engineer. The Stormwater Engineering Manager is responsible for day-to-day implementation of the Program. Figure 3 shows the organizational structure of the City and Table 8 provides a summary of the responsible positions for specific SWMP-NMS components.

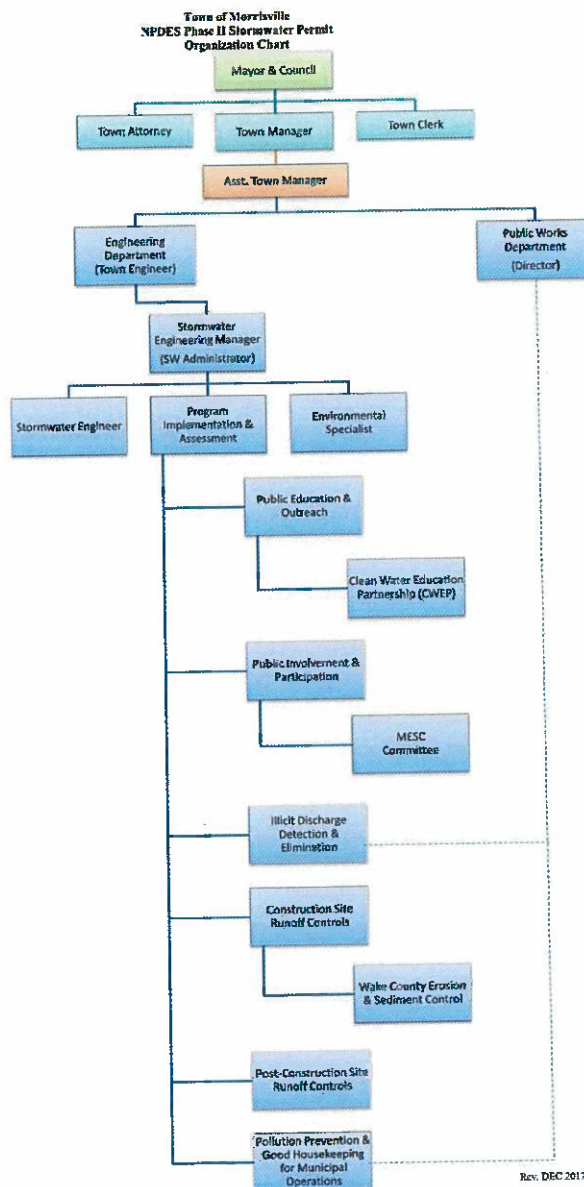


Figure 3: Town of Morrisville Organizational Structure

Table 8: Summary of Responsible Parties

SWMP-NMS Component	Responsible Position	Staff Name	Department
Stormwater Program Administration	Stormwater Engineering Manager	Ben Mills, P.E.	Engineering
SWMP-NMS Management	Stormwater Engineering Manager	Ben Mills, P.E.	Engineering
Public Education and Outreach	Environmental Specialist	Tony Victor	Engineering
Public Involvement and Participation	Environmental Specialist	Tony Victor	Engineering
Illicit Discharge Detection and Elimination	Environmental Specialist	Tony Victor	Engineering
Construction Site Runoff Control	Wake County Sedimentation and Erosion Control	Sean Springer	Wake County
Post-Construction Stormwater Management	Stormwater Engineer	Brad Gagnon	Engineering
Pollution Prevention/Good Housekeeping for Municipal Operations	Environmental Specialist	Tony Victor	Engineering
Municipal Facilities Operation and Maintenance Program	Environmental Specialist	Tony Victor	Engineering
Spill Response Program	Environmental Specialist	Tony Victor	Engineering
MS4 Operation and Maintenance Program	Stormwater Engineering Manager	Ben Mills, P.E.	Engineering
Municipal SCM Operation and Maintenance Program	Stormwater Engineering Manager	Ben Mills, P.E.	Engineering
Pesticide, Herbicide, and Fertilizer Management Program	Environmental Specialist	Tony Victor	Engineering
Vehicle and Equipment Cleaning Program	Stormwater Engineering Manager	Ben Mills, P.E.	Engineering
Pavement Management Program	Stormwater Engineering Manager	Ben Mills, P.E.	Engineering
Total Maximum Daily Load (TMDL)	Environmental Specialist	Tony Victor	Engineering

4.2 Program Funding and Budget

In accordance with the issued permit, the Town of Morrisville shall maintain adequate funding and staffing to implement and manage the provisions of the SWMP-NMS and comply with the requirements of the NPDES MS4 Permit. The budget includes the permit administration and compliance fee, which is billed by the Division annually.

The stormwater program is funded by a stormwater utility fee. The annual budget is approximately \$830,000.

4.3 Shared Responsibility

The Town of Morrisville will share the responsibility to implement the following minimum control measures, which are at least as stringent as the corresponding NPDES MS4 Permit requirement. The Town of Morrisville remains responsible for compliance if the other entity fails to perform the permit obligation and may be subject to enforcement action if neither the Town of Morrisville nor the other entity fully performs the permit obligation. Table 9 below summarizes who will be implementing the component, what the component program is called, the specific SWMP-NMS BMP or permit requirement that is being met by the shared responsibility, and whether or not a legal agreement to share responsibility is in place.

Table 9: Shared Responsibilities

SWMP-NMS BMP or Permit Requirement	Implementing Entity and Program Name	Legal Agreement (Y/N)
3.2.2 and 3.2.4 Outreach to Target Audiences, 3.3.2 Volunteer Opportunities	Clean Water Education Partnership (CWEP)	Y
3.5.1 - 3.5.4 Wake County Delegated SPCA Program	Wake County Sedimentation and Erosion Control	Y

4.4 Co-Permittees

There are no other entities applying for co-permittee status under the NPDES MS4 permit number NCS000465 for the Town of Morrisville. Table 10 summarizes contact information for each co-permittee.

Table 10: Co-Permittee Contact Information

Co-Permittee MS4 Name	Contact Person	Phone and E-Mail	Interlocal Agreement (Y/N)
N/A			

4.5 Measurable Goals for Program Administration

The Town of Morrisville will manage and report the following Best Management Practices (BMPs) for the administration of the Stormwater Management Program.

Table 11: Program Administration BMPs				
Permit Ref.	2.1.2 Program Implementation Measures to evaluate the performance and effectiveness of the SWMP-NMS 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 Stormwater Program.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
1.	Annual Self-Assessment			
	Evaluate the performance and effectiveness of the program components at least annually. Results shall be used to modify the program components as necessary to accomplish the intent of the Stormwater Program	1. Prepare, conduct, and document an annual evaluation of the program components	1. Annually – Permit Years 1 – 5	1. Yes/No
Permit Ref.	1.6: Permit Renewal Application Measures to submit a permit renewal application no later than 180 days prior to the expiration date of the NPDES MS4 permit.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
2.	Permit Renewal Application			
	Submit a permit renewal application package and Draft SWMP-NMS no later than 180 days prior to permit expiration	1. Draft SWMP-NMS applicable to the proceeding 5 years following permit re-issuance	1. Permit Year 5	1. Yes/No
2. Certify the stormwater permit renewal application (permit renewal application form and Draft SWMP-NMS for the next 5-year permit cycle) and submit to NCDEQ at least 180 days prior to permit expiration		2. Permit Year 5	2. Date of permit renewal application submittal	

Table 11: Program Administration BMPs

Permit Ref.	Neuse Local Program: Adequate Funding and Staffing			
Local Program activities to determine and maintain adequate funding and staffing to implement and manage the provisions of the Local Program and meet all requirements of the Neuse Stormwater Rules.				
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
	Funding and Staffing Evaluation			
3.	Review of Annual Self-Assessment to determine if more funding or staffing is needed to implement the SWMP-NMS or the Neuse Local Program	1. Determine whether additional funding or staff time are required to meet BMPs and if Neuse Local Program changes are needed	1. Annually - Permit Years 1 - 5	1. Yes/No
Permit Ref.	2.2.2 Minimum Control Measures			
The Permittee shall maintain, and make available to the Division upon request, written procedures for implementing the six minimum control measures. 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 Stormwater Management Plan				
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
	Minimum Control Measures			
4.	Create written procedures for implementing the six minimum control measures. They shall identify specific action steps, schedules, resources, and responsibilities for implementing the MCMs	1. Create all required written procedures	1. Permit Year 1	1. Yes/No
		2. Review all written programs and update as needed	2. Annually - Permit Years 2-5	2. Yes/No

Part 5: Public Education and Outreach Program

The Town of Morrisville will implement a Public Education and Outreach Program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and steps the public can take to reduce pollutants in storm water runoff.

The target audiences and identified pollutants listed in Part 3.9 of this SWMP-NMS, which will be addressed by the Public Education and Outreach Program, are summarized in Table 12 below. In addition, the Town of Morrisville is required to inform businesses and the general public of the hazards associated with illicit discharges, illegal dumping, and improper disposal of waste.

Table 12: Summary of Target Pollutants and Audiences

Target Pollutants/Sources	Target Audience(s)
Litter/Yard Waste	Residential, Commercial/ Industrial, Schools, Municipal Operations
PCBs	Residential, Commercial/ Industrial
Nitrogen	Residential, Commercial/ Industrial, Municipal Operations
Sediment	Construction, Commercial/ Industrial, Municipal Operations
Car Washing	Residential, Commercial/ Industrial, Schools, Municipal Operations
Fecal Coliform	Sanitary Sewer Owners, Septic System Owners, Pet Owners
Fertilizer/Pesticides/ Herbicides	Residential, Commercial/ Industrial, Municipal Operations
Illicit Discharge/Illegal Dumping/Improper Disposal of Waste	Residential, Commercial/ Industrial, Municipal Operations

The Town of Morrisville will manage, implement, and report the following Public Education and Outreach BMPs.

Table 13: Public Education and Outreach BMPs

BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
5.	Partnership with Clean Water Education Partnership (CWEP)			
	Continue to engage with CWEP for education and outreach initiatives that will be administered by CWEP. Initiatives will focus on residential, commercial, and school audiences. Target pollutants will include those listed in Tables 7 and 12	1. Maintain legal agreement with CWEP and review compliance with permit requirements as well as reviewing to determine if target pollutants or audiences should be revised	1. Annually – Permit Years 1 – 5	1. Yes/No/Status and report if revision is required
		2. Monitor CWEP activities to ensure partnership commitments are met during annual self-assessment	2. Annually – Permit Years 1 – 5	2. Yes/No
		3. Provide public education about yard waste/leaf litter as a target pollutant	3. Annually – Permit Years 1 – 5	3. Yes/No
<p>3.2.2 and 3.2.4: Outreach to Targeted Audiences Measures to identify the specific elements and implementation of a Public Education and Outreach Program to share educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and how the public can reduce pollutants in stormwater runoff. The permittee shall provide educational information to identified target audiences on pollutants/sources identified in Table 12 above and shall document the extent of exposure of each media, event, or activity, including those elements implemented locally or through a cooperative agreement.</p>				

Table 13: Public Education and Outreach BMPs

Table 13: Public Education and Outreach BMPs				
6.	Town-Sponsored Event or Festival			
	Conduct outreach activities addressing impacts of stormwater discharges on water bodies, actions the public can take to reduce those impacts, and overall understanding of stormwater management issues. Outreach activities include presentations, booth set-ups, etc. through educational programs or local events (e.g., Spring Fest or Morrisville's Green Day). Outreach materials include stormwater hotline and website information on educational materials	1. Develop or identify educational materials for residential, commercial, or school target audiences to distribute or present	1. Annually - Permit Years 1 - 5	1. Yes/No
		2. Staff a booth at the one event/festival chosen and present/distribute the information	2. Annually - Permit Years 1 - 5	2. Number of events, contact hours, and materials distributed
		3. Distribute information regarding Neuse River Nitrogen to target audiences	3. Permit Year 2	3. Number of events, contact hours, and materials distributed
7.	Local Neuse Program Education and Outreach			
	Develop educational materials to target residents, developers, and property owners' associations regarding the Local Neuse Nitrogen Program, including information about built-upon area (BUA) limits	1. Establish a developer stormwater resources section on the website so relevant materials are easily accessible for developers	1. Permit Year 2	1. Yes/No

Table 13: Public Education and Outreach BMPs

		<p>2. Prepare educational materials for developers specific to the requirements of Nutrient Management Strategy implementation. Include information on nutrient calculation guidance, minimum onsite stormwater requirements, nutrient targets, and nutrient offset procedures</p>	<p>2. Permit Year 2</p>	<p>2. Yes/No</p>
		<p>3. Post education and information resources for Property Owners Associations and the general public regarding BUA limits and the need for adequate SCM maintenance on the stormwater web page</p>	<p>3. Permit Year 2</p>	<p>3. Yes/No</p>

<p>Permit Ref.</p>	<p>2.1.7, 3.2.3 and 3.6.5(c): Web Site Measures to provide a web site designed to convey the program's message(s) and provide online materials including ordinances, or other regulatory mechanisms, or a list identifying the ordinances or other regulatory mechanisms, providing the legal authority necessary to implement and enforce the requirements of the permit and SWMP-NMS. The web page shall also provide developers with all relevant post-construction requirements, design standards, checklists and/or other materials.</p>
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Table 13: Public Education and Outreach BMPs

BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
8.	Stormwater Pages on Town Website			
	Continue to maintain the stormwater web pages with information regarding relevant ordinances, post-construction requirements, design standards, and resident-specific resources/programs. Provide a link to the MS4 permit and SWMP and hotline number. Update ordinances and post-construction requirements with Local Neuse Program Rules	1 Post the updated SWMP and permit	1. Permit year 1	1. Report the date posted
2. Maintain the web pages - update any broken links, upload new educational material		2. Annually - Permit Years 1 - 5	2. Yes/No	
Permit Ref.	3.2.5: Stormwater Hotline Measures for a stormwater hotline/helpline for the purpose of public education and outreach.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
9.	Stormwater Hotline			
	Continue to maintain the stormwater hotline that allows citizens to report illegal dumping into storm drainage systems, streams, or other stormwater related concerns. The hotline is advertised on the stormwater webpage. Develop and implement a method for documenting resolution of complaints/illicit discharges	1. Continue to publicize hotline in materials developed for the stormwater program and posting on stormwater web page	1. Annually - Permit Years 1 - 5	1. Yes/No
2. Use Access Stormwater Database to track the number and type of calls received and document resolutions of calls		2. Annually - Permit Years 1 - 5	2. Number and type of calls	

Part 6: Public Involvement and Participation Program

This SWMP-NMS identifies the minimum elements and implementation of a Public Involvement and Participation Program that complies with applicable State, Tribal and local public notice requirements. The Town of Morrisville will manage, implement, and report the following public involvement and participation BMPs.

Table 14: Public Involvement and Participation BMPs				
Permit Ref.	3.3.1: Public Input Mechanisms for public involvement that provide for input on stormwater issues and the stormwater program.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
10.	Stormwater Pages on Town Website			
	Continue to maintain the stormwater web pages with information regarding relevant ordinances, post-construction requirements, design standards, and resident-specific resources/programs. Provide a link to the MS4 permit and SWMP and hotline number. Update ordinances and post-construction requirements with Local Neuse Program Rules (see BMP 8)	1. Maintain the web pages - update any broken links, upload new educational material	1. Annually - Permit Years 1 - 5	1. Yes/No
11.	Stormwater Hotline			
	Maintain the stormwater hotline for citizens to ask stormwater questions and report stormwater issues. Train the hotline operator and identify and train after-hours personnel to direct stormwater calls. The hotline number will be advertised on the stormwater webpage (see BMP 9)	1. Continue to publicize hotline in materials developed for the stormwater program and posting on stormwater web page	1. Annually - Permit Years 1 - 5	1. Yes/No
Permit Ref.	3.3.2: Volunteer Opportunities Measures to provide volunteer opportunities designed to promote ongoing citizen participation.			

Table 14: Public Involvement and Participation BMPs

BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
12.	Town-Sponsored Volunteer Opportunities			
	Plan and implement one Town-sponsored volunteer opportunity (in person or virtually) such as stream cleanups and monitoring, NC Big Sweep, or Earth Day activities at least once a year. Residential, commercial, and school audiences will be targeted with special emphasis on civic groups, large employers, and large trade associations	1. Develop or identify one volunteer activity that addresses a target pollutant or pollutants	1. Annually – Permit Years 1 – 5	1. Yes/No
		2. Coordinate and host the activity	2. Annually – Permit Years 1 – 5	2. Number of events, participants, and how many bags of waste collected (if applicable)

Part 7: Illicit Discharge Detection and Elimination Program

The Town of Morrisville will develop, manage, implement, document, report and enforce an Illicit Discharge Detection and Elimination Program which shall, at a minimum, include the following illicit discharge detection and elimination BMPs.

Table 15: Illicit Discharge Detection and Elimination BMPs				
Permit Ref.	3.4.1: MS4 Map Measures to develop, update and maintain a municipal storm sewer system map including stormwater conveyances, flow direction, major outfalls and waters of the United States receiving stormwater discharges.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
13.	Update MS4 Map			
	Continue to maintain the MS4 map with information including stormwater conveyances, outfalls, and receiving waters. Update the map annually with newly identified or constructed stormwater infrastructure. Update the map with Local Neuse Program requirements	1. Maintain a current map showing major outfalls and receiving streams	1. Annually - Permit Years 1 - 5	1. Yes/No
Permit Ref.	3.4.2: Regulatory Mechanism Measures to provide an IDDE ordinance or other regulatory mechanism that provides legal authority to prohibit, detect, and eliminate illicit connections and discharges, illegal dumping, and spills into the MS4, including enforcement procedures and actions.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
14.	Maintain Legal Authority			
	The Town's stormwater ordinance (UDO Sec. 7.6.2 & 7.6.4) provides legal authority to prohibit, detect, and eliminate illicit connections and discharges, illegal dumping, and spills into the MS4, including enforcement procedures and actions	1. Maintain and review IDDE ordinance	1. Annually - Permit Years 1 - 5	1. Yes/No

Table 15: Illicit Discharge Detection and Elimination BMPs

BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
15.	3.4.3: IDDE Plan Measures to 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 MS4. The plan shall provide standard procedures and documentation to:			
	<ul style="list-style-type: none"> a) Locate priority areas likely to have illicit discharges, b) Conduct routine dry weather outfall inspections, c) Identify illicit discharges and trace sources, d) Eliminate the source(s) of an illicit discharge, and e) Evaluate and assess the IDDE Program. 			
	IDDE Plan Document			
	Develop comprehensive written IDDE SOP document that reports inspection requirements, priority areas and inspection frequencies, illicit discharge identification and tracking, methods to resolve discharges and follow-up, and evaluation and assessment criteria	1. Develop a method for identifying/reporting illicit discharges from sanitary sewer overflows or failing septic systems	1. Permit Year 1	1. Yes/No
		2. Develop criteria for identifying chronic violators and "hot spots" by owner/operator and location	2. Permit Year 1	2. Yes/No
		3. Identify priority areas for inspections	3. Permit Year 1	3. Yes/No
4. Document outfall inspection frequencies that allows for 100% of outfalls to be inspected through permit cycle		4. Annually - Permit Years 1 - 5	4. Number and percent of outfalls inspected (%/# completed)	
5. Train staff to perform inspections		5. Annually - Permit Years 1 - 5	5. Number of staff trained	
16.	Annual IDDE Plan Evaluation			

Table 15: Illicit Discharge Detection and Elimination BMPs

	Perform an annual evaluation of IDDE Plan implementation and effectiveness. Review documentation to identify chronic violators	1. Evaluate the plan with Town Stormwater Engineering Manager. Review IDDE reports and inspections to identify chronic violators, issues, and/or "hot-spot" areas according to the criteria identified in the IDDE Plan	1. Annually - Permit Years 1 - 5	1. Yes/No
Permit Ref.	3.4.4: IDDE Tracking Measures for tracking and documenting the date(s) an illicit discharge, illicit connection or illegal dumping was observed, the results of the investigation, any follow-up of the investigation, the date the investigation was closed, the issuance of enforcement actions, and the ability to identify chronic violators.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
	Track and Document IDDE Investigations			
17.	Maintain the existing IDDE tracking database	1. Continue to track violations in the database	1. Continuously	1. Number of illicit discharges identified
Permit Ref.	3.4.5: Staff IDDE Training Measures to provide training for municipal staff and contractors who, as part of their normal job responsibilities, may observe an illicit discharge, illicit connection, illegal dumping, or spills. Training shall include how to identify and report illicit discharges, illicit connections, illegal dumping, and spills. Each staff training event shall be documented, including the agenda/materials, date, and number of staff participating.			
	A	B	C	D

Table 15: Illicit Discharge Detection and Elimination BMPs

BMP No.	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
18.	Staff Training			
	Continue to provide training to appropriate municipal staff of indicators of potential illicit discharges/ connections and illegal dumping and the appropriate avenues through which to report suspected illicit discharge	1. Continue to train staff with Illicit Discharge & Detection responsibilities or the potential to discover an illicit discharge during routine work activities annually	1. Annually - Permit Years 1 - 5	1. Training date, and number of attendees
2. Train new staff that will be part of the IDDE program		2. During new staff on-boarding	2. Number of attendees	
Permit Ref.	3.4.6: IDDE Reporting Measures for the public and staff to report illicit discharges, illegal dumping, and spills. The mechanism shall be publicized to facilitate reporting and shall be managed to provide rapid response by appropriately trained personnel.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
19.	Stormwater Pages on Town Website			
	Continue to maintain the stormwater web pages with information regarding relevant ordinances, post-construction requirements, design standards, and resident-specific resources/programs. Provide a link to the MS4 permit and SWMP and hotline number. Update ordinances and post-construction requirements with Local Neuse Program Rules (see BMP 8)	1. Maintain the web pages - update any broken links, upload new educational material	1. Annually - Permit Years 1 - 5	1. Yes/No
20.	Stormwater Hotline			

Table 15: Illicit Discharge Detection and Elimination BMPs

<p>Maintain the stormwater hotline for citizens to ask stormwater questions and report stormwater issues. Train the hotline operator and identify and train after-hours personnel to direct stormwater calls. The hotline number will be advertised on the stormwater webpage (see BMP 9)</p>	<p>1. Continue to publicize hotline in materials developed for the stormwater program and posting on stormwater web page</p>	<p>1. Annually - Permit Years 1 - 5</p>	<p>1. Yes/No</p>
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Part 8: Construction Site Runoff Control Program

In accordance with 15A NCAC 02H .0153, the Town of Morrisville 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. 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. The state SPCA Program is either delegated to a city/town, delegated to a county, or implemented by NCDEQ in non-delegated areas.

Table 16: Qualifying Alternative Program Components for Construction Site Runoff Control Program

Permit Reference	State or Local Program Name	Legal Authority	Implementing Entity
3.5.1 - 3.5.4	Wake County Delegated SPCA Program*	15A NCAC Chapter 04, NCDEQ Approved Delegation, Interlocal Agreement/Joint Resolution, Local Ordinance	Wake County

* The local delegated SPCA Program ordinance(s)/regulatory mechanism(s) can be found at: [Wake County - Sedimentation and Erosion Control](#).

The Town of Morrisville also implements the following BMPs to meet NPDES MS4 Permit requirements.

Table 17: Construction Site Runoff Control BMPs				
Permit Ref.	3.5.6: Public Input Measures to provide and promote a means for the public to notify the appropriate authorities of observed erosion and sedimentation problems.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
21.	Municipal Staff Training			
	Train municipal staff who receive calls from the public on the protocols for referral and tracking of construction site runoff control complaints vs. illicit discharge reporting	1. Train stormwater staff on proper handling of construction site runoff control complaints vs. illicit discharge reporting	1. Annually – Permit Years 1 - 5	1. Number of staff trained
22.	Stormwater Hotline and Alternative Reporting Methods			

Table 17: Construction Site Runoff Control BMPs

	Continue to provide and promote the Stormwater Hotline and link to the Wake County sedimentation and erosion control hotline to provide a method to notify the appropriate authorities of observed erosion and sedimentation problems	1. Continue to publicize hotline in materials developed for the stormwater program and posting on stormwater web page	1. Annually - Permit Years 1 - 5	1. Yes/No
		2. Publicize Wake County's sediment hotline on stormwater web page	2. Permit Year 1	2. Yes/No
Permit Ref.	3.5.5: Waste Management Measures to require construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impact to water quality.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
The requirements are fully met by the Wake County Sedimentation and Erosion Control Program.				

Part 9: Post-Construction Site Runoff Control Program

This SWMP-NMS identifies the minimum elements to develop, implement and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including commercial or industrial projects less than one acre or projects that are part of a larger common plan of development or sale, that are located within the Town of Morrisville and discharge into the MS4. These elements are designed to minimize water quality impacts utilizing a combination of structural SCMs and/or non-structural BMPs appropriate for the community and ensure adequate long-term operation and maintenance of SCMs.

This part of the Neuse Local Program identifies the elements being used to develop, implement, and enforce a program to reduce nutrients in stormwater runoff from new development projects and development expansions. These elements meet the requirements set forth in the Neuse Stormwater Rule (15A NCAC 02B .0711). These elements are designed to minimize water quality impacts through a combination of structural SCMs and nutrient offset buy-downs, and to ensure adequate long-term operation and maintenance of SCMs.

In accordance with 15A NCAC 02H .0153 and .1017, the Town of Morrisville implements the following State post-construction program requirements, which satisfy the NPDES Phase II MS4 post-construction site runoff control requirements as Qualifying Alternative Programs (QAPs) in the MS4 area(s) where they are implemented.

Table 18: Qualifying Alternative Program(s) for Post-Construction Site Runoff Control Program

State QAP Name	State Requirements	Local Ordinance / Regulatory Mechanism Reference
Water Supply Watershed (WS-IV)	15A NCAC 2B .0620 - .0624	UDO Article 7
Neuse River Basin Nutrient Sensitive (NSW) Management Strategy	15A NCAC 2B .0235/ 15A NCAC 02B .0711	UDO Update in Process

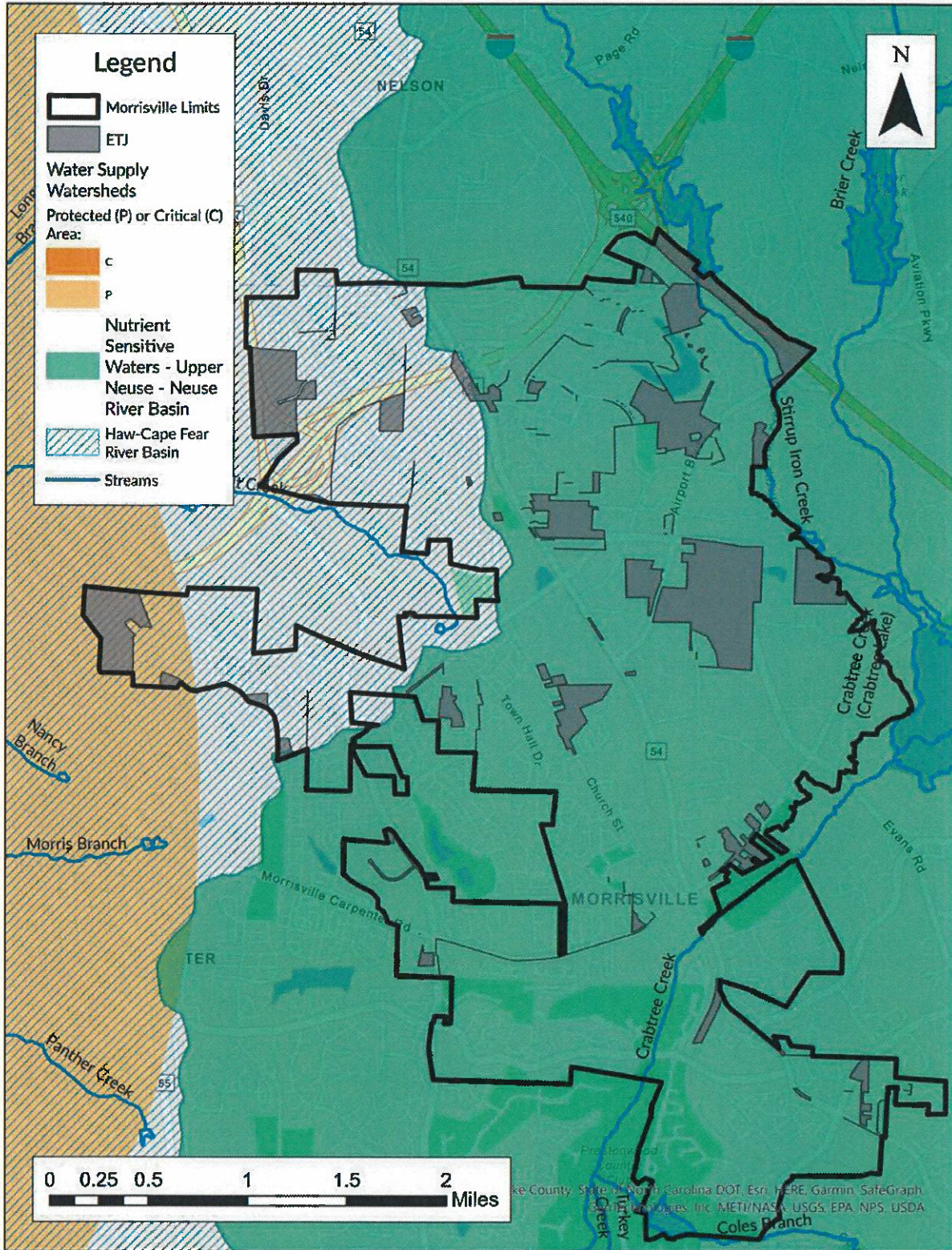


Figure 4: Town of Morrisville Post-Construction Programs

The post-construction program applies throughout the Town limits, but not the ETJ. The Neuse Local Program applies to the portions of the town located in the Neuse River Basin. Built-upon area (BUA) for new projects and BUA additions will be tracked by recording through EnerGov.

The Town of Morrisville has existing requirements other than Qualifying Alternative Program(s) for implementation of the NPDES Phase II MS4 post-construction program requirements. These existing requirements are codified in local ordinance(s), and implementation is further defined in guidance, manuals and/or standard operating procedure(s) as summarized in Table 19 below.

Table 19: Summary of Existing Post-Construction Program Elements

Permit Requirements for Plan Review and Approval	Municipal Ordinance/Code Reference(s) and/or Document Title(s)	Date Adopted
3.6.2(a) Authority	Sec. 7.2.2 (UDO)	9/1/2020
3.6.3(a) & 15A NCAC 02H.0153(c) Federal, State & Local Projects	Sec. 7.1.4 (UDO) / Ord. No. 2016-004	4/1/2016
3.6.3(b) Plan Review	Sec. 7.1.4 (UDO) / Ord. No. 2016-004	4/1/2016
3.6.3(c) Operations and Maintenance (O&M) Agreement	Sec. 7.4.2.A (UDO) / Ord. No. 2016-054	11/22/2016
3.6.3(d) O&M Plan	Sec. 7.4.2.A (UDO) / Ord. No. 2016-054	11/22/2016
3.6.3(e) Deed Restrictions/Covenants	Sec 7.3.1 (UDO)	9/1/2020
3.6.3(f) Access Easements	Sec. 7.4.8 (UDO)	9/1/2020
Permit Requirements for Inspections and Enforcement	Municipal Ordinance/Code Reference(s) and/or Document Title(s)	Date Adopted
3.6.2(b) Documentation	Sec. 7.4.3 & Sec. 7.4.6 (UDO)	9/1/2020
3.6.2(c) Right of Entry	Sec. 7.4.3.A/B (UDO)	9/1/2020
3.6.4(a) Pre-CO Inspections	Sec. 7.2.3.D/E (UDO) / Ord. No. 2016-004	4/1/2016
3.6.4(b) Compliance with Plans	Sec. 7.2.3.D (UDO) / Ord. No. 2016-004	4/1/2016
3.6.4(c) Annual SCM Inspections	Sec. 7.4.1.B (UDO)	9/1/2020
3.6.4(d) Low Density Inspections	See BMP 35	See BMP 35
3.6.4(e) Qualified Professional	Sec. 7.4.1.B (UDO)	9/1/2020
Permit Requirements for Fecal Coliform Reduction	Municipal Ordinance/Code Reference(s) and/or Document Title(s)	Date Adopted
3.6.6(a) Pet Waste	See BMP 39	See BMP 39
3.6.6(b) On-Site Domestic Wastewater Treatment	NCGS 130A-335(e)	7/1/1982

The annual reporting metrics for the post construction program are provided in Table 20: Post Construction Site Runoff Control BMPs below.

Table 20: Post Construction Site Runoff Control BMPs	
Permit Ref.	3.6.5(a), 3.6.5(b), and 4.1.3: Minimum Post-Construction Reporting Requirements Measures to document activities over the course of the fiscal year (July 1 - June 30) including appropriate information to accurately describe progress, status, and results.

Table 20: Post Construction Site Runoff Control BMPs

BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
23.	Standard Reporting			
	Implement standardized tracking, documentation, inspections, and reporting mechanisms to compile appropriate data for the annual self-assessment process. Data shall be provided for each Post-Construction/ Qualifying Alternative Program being implemented as listed in Tables 18 and 19	1. Track number of low-density plan reviews performed	1. Continuously - Permit Years 1 - 5	1. Number of plan reviews performed for low density
		2. Track number of low-density plans approved	2. Continuously - Permit Years 1 - 5	2. Number of plan approvals issued for low density
		3. Maintain a current inventory of projects and constructed SCMs including SCM type, location, and last inspection date	3. Continuously - Permit Years 1 - 5	3. Number and type of SCMs added to the inventory
		4. Track number of SCM inspections performed	4. Continuously - Permit Years 1 - 5	4. Number of SCM inspections
		5. Track number of low-density inspections performed	5. Continuously - Permit Years 1 - 5	5. Number of low-density projects inspected
6. Track number of low-density enforcement actions taken		6. Continuously - Permit Years 1 - 5	6. Number of enforcement actions issued	
24.	Standard Nutrient Management Strategy Reporting			
		1. Track number of NMS-subject plans approved in past year	1. Continuously - Permit Years 1 - 5	1. Number of plan approvals issued for NMS-subject developments in the past year

Table 20: Post Construction Site Runoff Control BMPs

	Implement standardized tracking, documentation, inspections and reporting mechanisms to compile appropriate data for the annual self-assessment process for the Neuse Nutrient Management Strategy (NMS)	2. Maintain a current inventory of developments and lots with BUA limits	2. Continuously - Permit Years 1 - 5	2. Number of developments with BUA limits added to inventory in the past year
25.	Input data used for the calculation of nutrient export and reduction by SCMs for all development sites subject to .0711 will be collected for the year and submitted as an appendix for the Local Program's Annual Report	1. Export SNAP input data from each development upon approval	1. Continuously - Permit Years 1 - 5	1. Nutrient calculation input data for all developments and expansions subject to the Neuse Stormwater Rule submitted to NCDEQ by October 30 of each year
		2. Provide adjusted SNAP input data from each development where completed landcovers are different from what was permitted	2. Annually - Permit Years 1 - 5	2. Nutrient calculation data for these developments and a notice for which data are to be replaced
Permit Ref.	2.3 and 3.6: Qualifying Alternative Program(s) Measures to develop, implement and enforce additional BMPs in order to comply with the QAP state program requirements.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
The QAP requirements are fully met by the existing QAP for post-construction, see references provided in Table 18 and additional Neuse Local Program BMPs described herein.				
Permit Ref.	3.6.2: Legal Authority Measures to maintain adequate legal authorities through ordinance or other regulatory mechanism to: (a) review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed, implemented, and maintained, (b) request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Post-Construction Stormwater Management Program, and (c) enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance with the Post-Construction Stormwater Management Program.			
	A	B	C	D

Table 20: Post Construction Site Runoff Control BMPs

BMP No.	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
Nutrient Management Strategy Requirements Specified in Ordinance				
26.	Adopt a Neuse Nutrient Management Strategy through the Town's Unified Development Ordinance	1. Establish nutrient targets through ordinance revision	1. Permit Year 1	1. Yes/No
Authority to Review Federal, State, and Local Government Plans				
27.	Ensure local ordinance specifically requires compliance with Nutrient Management Strategy by Federal, State, and Local government projects	1. Revise code to require Federal, State, and local government projects to comply with post construction requirements unless subject to its own NPDES MS4 permit or qualifying alternative program	1. Permit Year 1	1. Yes/No
28.	Legal Authorities for Development Plans and Plan Review			

Table 20: Post Construction Site Runoff Control BMPs

	Provide adequate legal authorities designed to meet the objectives of the Post-Construction Site Runoff Controls Stormwater Management program, including the ability to request stormwater plans, conduct development design reviews and approvals, review and approve O&M Plans and Agreements for all SCMs, requiring deed restrictions and protective covenants for SCMs, and requiring recordation of BUA limits for projects and individual lots within	1. Establish legal authority through code revision	1. Permit Year 1	1. Yes/No
	SCM Minimum Design Criteria Specified			
29.	Ensure the local ordinance or local SCM design manual specifically refers to the State's Minimum Design Criteria	1. Revise code to specify State Minimum Design Criteria for SCM design if required	1. Permit Year 1	1. Yes/No
Permit Ref.	3.6.3: Plan Review and Approval Measures to maintain plan review and approval authority, standards and procedures to: (a) Require Federal, State, and local government projects to comply with Post-Construction Program requirements throughout the entire MS4 permitted area, unless the entity is subject to its own NPDES MS4 permit or a qualifying alternative program, (b) Conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre, and sites that disturb less than one acre that are part of a larger common plan of development or sale for compliance with 15A NCAC 02H .1017 and the qualifying alternative programs that apply within your jurisdiction, (c) Ensure that each project has an Operation and Maintenance Agreement that complies with 15A NCAC 02H .1050(12), (d) Ensure that each project has an Operation and Maintenance Plan that complies with 15A NCAC 02H .1050(13), (e) Ensure that each project has recorded deed restrictions and protective covenants, that require the project to be maintained consistent with approved plans, and (f) Ensure that each SCM and associated maintenance accesses be protected in a permanent recorded easement per 15A NCAC 02H 1050 (9) and (10).			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
30.	Review Federal, State, and Local Government Development Plans			

Table 20: Post Construction Site Runoff Control BMPs

	Ensure development plans are reviewed for any Federal, State, and Local government projects within the jurisdiction, unless entity has its own MS4 permit	1. Ensure review process includes Federal, State, and Local Government	1. Permit Year 1	1. Yes/No
Review Plans for Compliance with Nutrient Management Strategy				
31.	Conduct site plan reviews of all new development and development expansions for compliance with the stormwater treatment and nutrient reduction requirements in 15A NCAC 02B .0711 or .0731, including reviews of nutrient calculations using a DWR-approved calculation tool	1. Establish application intake and review procedures	1. Permit Year 1	1. Yes/No
Require Recordation of BUA Limits on Deeds or Plats				
32.	Ensure that for lots in developments with a Common Plan of Development that a BUA limit, based on the approved stormwater plan, is recorded with either the deed or plat	1. Establish legal authority through code revision	1. Permit Year 1	1. Yes/No
Plan Review Staff Training on Nutrient Calculator Tool				
33.	Ensure all plan review staff have gone through DWR-provided plan reviewer training for the approved nutrient calculator	1. All current plan review staff participate in live online training for calculator tool	1. Permit Year 1	1. Number of review staff that attended live online training
		2. Plan review staff who were unable to attend live online workshop view recording of training	2. As Needed	2. Number of review staff that viewed recording of training that year
34.	SCM Transfer Process			

Table 20: Post Construction Site Runoff Control BMPs

	Ensure that each SCM reviewed has an Operation and Maintenance Agreement, an Operation and Maintenance Plan, appropriate recorded deed restrictions and protective covenants, and a maintenance and accesses easement	1. Continue to review site plans for SCM compliance	1. Continuously	1. Number of SCMs permitted annually
		2. Ensure annual SCM inspections are performed by the appropriate responsible party	2. Annually – Permit Years 1 – 5	2. Yes/No
Permit Ref.	3.6.4: Inspections and Enforcement Measures to maintain inspection and enforcement authority, standards, and procedures to: (a) Conduct post-construction inspections prior to issuing a Certificate of Occupancy or a Temporary Certificate of Occupancy. Alternatively, the project owner may provide a surety bond to guarantee compliance with the approved plan(s), (b) Ensure that the project has been constructed in accordance with the approved plan(s), (c) Ensure annual inspection of each permitted SCM to ensure compliance with the approved Operation and Maintenance Agreement, (d) Ensure inspection of low-density projects at least once during the permit term, and (e) Require that inspections be conducted by a qualified professional.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
	Low-Density Inspections			
35.	Revise existing ordinance to specifically require inspection of low-density projects and continue to require annual SCM inspections	1. Revise code to require inspection of low-density projects at least once during the permit term by a qualified professional	1. Permit Year 4	1. Code reference and date adopted
		2. Conduct inspection of low-density projects once per a permit term and document any follow-up	2. Permit Year 5	2. Number of low-density inspections performed
Permit Ref.	3.6.5: Documentation Measures to maintain adequate documentation and standardized inspection and tracking mechanisms to: (a) Maintain an inventory of post-construction SCMs and low-density projects, (b) Document, track and maintain records of inspections and enforcement actions. Tracking shall include the ability to identify chronic violators, and (c) Make available to developers all relevant ordinances, post-construction requirements, design standards, checklists, and/or other materials.			
	A	B	C	D

Table 20: Post Construction Site Runoff Control BMPs

BMP No.	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
Inventory of Low-Density Projects				
36.	Develop an inventory of low-density projects to be utilized for inspections and tracking	1. Establish list of existing low-density projects	1. Permit Year 4	1. Number of low-density projects inventoried
Inventory of Developments and Lots with BUA Limits				
37.	Develop and maintain a comprehensive inventory of projects that have BUA limits tied to their stormwater management or nutrient loading requirements to be used when reviewing new development plans. Develop and maintain a database BUA limits on developments and individual lots within, with BUA limits based on their approved stormwater plans. Actual BUA amounts are updated as new development is approved for and occurs on individual lots	1. Establish a list of developments with BUA limits	1. Permit Year 4	1. Yes/No
		2. Establish a list of parcels or lots with BUA limits	2. Permit Year 4	2. Yes/No
		3. Add developments and lots within to the list when project as-builts are approved	3. Permit Years 4-5	3. Total number of developments and lots
Inspection Tracking				
38.	Track the results of regular post-construction SCM and low-density/BUA inspections to provide documentation and the ability to identify chronic violators	1. Establish inspection tracking mechanism for low-density/BUA tracking	1. Permit Year 4	1. Yes/No
		2. Continue to track SCM inspections and start tracking low-density inspections	2. Permit Years 4-5	2. Yes/No

Table 20: Post Construction Site Runoff Control BMPs

Permit Ref.	3.6.6: Fecal Coliform Reduction Measures to control, to the maximum extent practicable, sources of fecal coliform per 15A NCAC 02H .1017(7). At a minimum, the program shall include: (a) A pet waste management component, which may be achieved by revising an existing litter ordinance, and (b) An on-site domestic wastewater treatment system component, if applicable, which may be coordinated with local county health department, to ensure proper operation and maintenance of such systems.			
	A	B	C	D
BMP No.	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
39.	Ordinance for Fecal Coliform Reduction			
	Adopt an appropriate ordinance with a pet waste management component	1. Establish legal authority through code revision	1. Permit Year 4	1. Yes/No

Part 10: Pollution Prevention and Good Housekeeping Programs

This SWMP-NMS provides a comprehensive pollution prevention and good housekeeping strategy for the Town of Morrisville municipal 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 municipal operations such as parks and open space maintenance, fleet and building maintenance, new construction and land disturbances, and municipal storm sewer system maintenance.

Pollution prevention and good housekeeping for municipal operations includes the following programs:

1. Municipal Facilities O&M Program
2. Spill Response Program
3. MS4 O&M Program
4. Municipal SCM O&M Program
5. Pesticide, Herbicide and Fertilizer Management Program
6. Vehicle and Equipment Maintenance Program
7. Pavement Management Program

The Town of Morrisville will manage, implement, and report the pollution prevention and good housekeeping BMPs as specified in Table 21 below for each required program.

Table 21: Pollution Prevention and Good Housekeeping BMPs				
Permit Ref.	3.7.1: Municipal Facilities Operation and Maintenance Program Measures to manage facilities that are owned and operated by the permittee and have the potential for generating polluted stormwater runoff. The permittee shall maintain a current inventory of municipal facilities; perform facility inspections and routine maintenance; establish specific frequencies, schedules, and standard documentation; provide staff training on general stormwater awareness and implementing pollution prevention and good housekeeping practices			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
40.	Inventory of Municipal Facilities			
	Maintain an up-to-date inventory of municipal facilities with potential to generate polluted runoff	1. Maintain and update inventory as needed when facilities are added or closed	1. Annually - Permit Years 1 - 5	1. Yes/No

Table 21: Pollution Prevention and Good Housekeeping BMPs

Table 21: Pollution Prevention and Good Housekeeping BMPs				
41.	Facility Inspections			
	Establish inspection frequencies and continue to inspect Town-owned facilities with the potential to pollute stormwater. Track corrective actions and document resolutions when problems are identified	1. Establish an SOP/plan for facility inspections, including an inspection schedule, inspection report documentation, and tracking system	1. Permit Year 2	1. Yes/No
2. Perform inspections according to the SOP/plan		2. Annually - Permit Years 1 - 5	2. Number of inspections performed	
42.	Staff Training			
	Develop or identify a staff training program and provide to public works department employees. Ensure training targets litter/yard waste, nitrogen, sediment, car washing, fertilizer/pesticides/herbicides, and illicit discharges	1. Continue to document a training program for relevant Town staff on pollution prevention and good housekeeping practices	1. Annually - Permit Years 1 - 5	1. Training date and number of attendees
Permit Ref.	3.7.2: Spill Response Program Measures for facilities and operations that store and/or use materials that have the potential to contaminate stormwater runoff if spilled. The permittee shall maintain written spill response procedures and train staff on spill response procedures.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
43.	Inventory of Facilities with Spill Potential			
	Maintain a list of Town facilities and operations storing materials that would be a pollutant if spilled and introduced to the stormwater system and classify by hazard and quantity	1. Update list of Town facilities and operations with spill potential when facilities or operations are changed	1. When necessitated by changes in facilities or operations	1. Yes/No
44.	Spill Response SOP			

Table 21: Pollution Prevention and Good Housekeeping BMPs

	Maintain spill response procedures as part of the PPGH Plan and train staff on procedures as well as have an organized vehicle spill cleanup response to prevent pollutants from vehicular accidents from entering the storm drain system	1. Train staff at facilities with potential for high hazard spills in first response actions and reporting procedures	1. Annually – Permit Years 1 – 5	1. Training date, and number of attendees
		2. Annually review and update spill response SOP to identify new polluting materials or processes	2. Annually – Permit Years 1 – 5	2. Yes/No
Permit Ref.	3.7.3: MS4 Operation and Maintenance Program Measures to minimize pollutants in the stormwater collection system. The permittee shall provide operation and maintenance staff training on stormwater awareness and pollution prevention, perform MS4 inspections, maintain the collection system including catch basins and conveyances; and establish specific frequencies, schedules, and standard documentation.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
45.	MS4 System Operation and Maintenance Plan			
	Develop and maintain a proactive plan for MS4 system maintenance, requiring regular inspections and maintenance. Verify, document, and prioritize maintenance activities identified by inspections or citizen reports	1. Develop an SOP that includes proactive inspection schedules, standard documentation, staff responsibilities, and proper maintenance training	1. Permit Year 1	1. Yes/No
2. Perform regular inspections in accordance with the SOP		2. Following schedule established in SOP, once SOP and tracking system are established	2. Number of inspections documented	
Permit Ref.	3.7.4: Municipal SCM Operation and Maintenance Program Measures to manage municipally owned, operated, and/or maintained structural stormwater control measures (SCMs) that are installed for compliance with the permittee’s post-construction program. The permittee shall maintain a current inventory of SCMs, perform SCM inspections and maintenance, and shall establish specific frequencies, schedules, and documentation.			
	A	B	C	D

Table 21: Pollution Prevention and Good Housekeeping BMPs

BMP No.	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
SCM Inspections and Maintenance				
46.	Maintain an inventory of municipally owned structural SCMs. Continue to perform and document regular inspection and maintenance of municipally owned structural SCMs according to the O&M plans developed for all municipally owned SCMs	1. Update the map when new Town-owned SCMs are constructed	1. Annually – Permit Years 1 – 5	1. Number of Town-owned SCMs added to the map
		2. Maintain NC SCM Inspections and Maintenance Certification for appropriate personnel	2. Continuously	2. Number of staff members with active certification
		3. Perform inspections and maintenance according to O&M plan for each SCM	3. Annually – Permit Years 1 – 5	3. Number of Town-owned SCMs inspected
Permit Ref.	3.7.5: Pesticide, Herbicide and Fertilizer Management Program Measures to minimize water quality impacts from the use of landscape chemicals. The permittee shall provide routine pollution prevention and chemical use, storage, and handling training, and shall ensure compliance with permits and applicator certifications.			
BMP No.	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation	D Annual Reporting Metric
Applicator Licensing				
47.	Continue to require City staff who apply landscape chemicals to maintain applicator licenses	1. Continue to require staff training in pollution prevention and chemical use, storage and handling	1. Annually – Permit Years 1 – 5	1. Number of staff trained
		2. Maintain a list of certified employees and update annually to track certifications	2. Annually – Permit Years 1 – 5	2. Number of certified employees
		3. Maintain a list of certified contractors and update annually to track certifications	3. Annually – Permit Years 1 – 5	3. Number of certified contractors

Table 21: Pollution Prevention and Good Housekeeping BMPs

BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
Permit Ref.	3.7.6: Vehicle and Equipment Maintenance Program Measures to prevent and minimize contamination of stormwater runoff from areas used for municipal vehicle and equipment maintenance and/or cleaning. The permittee shall ensure that municipal industrial facilities subject to NPDES industrial permitting comply with those permit requirements, provide routine pollution prevention training to staff, perform routine inspections, and establish specific frequencies, schedules, and documentation.			
48.	Vehicle and Equipment Maintenance Facility Inspection			
	Ensure NPDES industrial facilities comply with permitting requirements. Determine if Spill Prevention, Control, and Countermeasure (SPCC) Plans are required for any facility	1. Review industrial NPDES facilities annually for industrial permit compliance and note if any changes to the industrial plans or processes are required	1. Annually – Permit Years 1 – 5	1. Yes/No and any changes required
Permit Ref.	3.7.7: Pavement Management Program Measures to reduce pollutants in stormwater runoff from municipally owned streets, roads, and parking lots within the permittee's corporate limits. The permittee shall implement measures to control litter, leaves, debris, particulate and fluid pollutants associated with vehicles, and establish specific frequencies, schedules, and documentation.			
Permit Ref.	3.7.7: Pavement Management Program Measures to reduce pollutants in stormwater runoff from municipally owned streets, roads, and parking lots within the permittee's corporate limits. The permittee shall implement measures to control litter, leaves, debris, particulate and fluid pollutants associated with vehicles, and establish specific frequencies, schedules, and documentation.			
BMP No.	A	B	C	D
	Description of BMP	Measurable Goal(s)	Schedule for Implementation	Annual Reporting Metric
49.	Street Sweeping			
	Maintain an agreement that includes street sweeping following a regular schedule in order to reduce pollutants from Town maintained streets and parking lots	1. Develop an SOP, including a schedule and plan to document	1. Permit Year 1	1. Yes/No
		2. Implement SOP and documentation	2. Annually – Permit Years 2 – 5	2. Total tonnage or miles swept
50.	Leaf Collection			
	Monitor leaf collection activities by a public works contractor and provide public education about yard waste	1. Monitor leaf collection contractor activities	1. Annually – Permit Years 1 – 5	1. Total number of collections by contractor