2021 MS4 Annual Report

Norfolk State University

2021 MS4 Annual Report
Project No. 132887

12/15/2021

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prepared for

Norfolk State University
2021 MS4 Annual Report
Norfolk, Virginia

Project No. 132887

Revision 1
12/15/2021

prepared by

Burns & McDonnell Engineering Company, Inc.
Chesapeake, Virginia

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1.0 GENERAL INFORMATION

The general information for this annual report is as follows:

1. The permittee is Norfolk State University, and the permit number is VAR040097.
2. The reporting period for which the annual report is being submitted is from July 1, 2020 to June 30, 2021.
3. The MS4 Map and Information Table have been updated to reflect any change to the MS4 that occurred on or before June 30, 2021

NORFOLK STATE UNIVERSITY

NORFOLK STATE UNIVERSITY
ANNUAL MUNICIPAL SEPARATE STORM SEWER REPORT

5. *Signed certification in accordance with 4 VAC 50-60-370.*

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

12-13-20
Date

Signature

Terry Woodhouse, Director of Capital Planning and Improvements acting on behalf of Anton V. Kashiri, Associate Vice President Facilities Management.

3.0 MINIMUM CONTROL MEASURE

3.1 MCM 1 Public Education and Outreach

3.1.1 High Priority Issues

The following high priority issues were addressed by the permittee in the public education and outreach program:

1. Management Facility Bus Wash - Prevent oils and grease from entering the storm sewer system. Maintain bus wash water inlet structure to be tied into the sanitary sewer system.
2. Material Storage (Mulch, sand, dirt) - Prevent sediment and material being carried with storm runoff to storm sewer system. Design and construction of a material storage bays with E & S control measures.
3. BMP and Outfall maintenance - Prevent vegetative matter from depositing and accumulating in Stormwater Management Facilitates or draining to storm sewer system.

The next reporting year will reflect different activities as high priority issues were revised in the current MS4 program plan.

3.1.2 Strategies

The following strategies were used to communicate each high priority stormwater issue:

1. Show updated presentation to staff and students and other interested parties. An expanded program of training in 2021 will include police officers and students and additional faculty. NSU will target its staff members (110 +/-) for the next reporting year in hopes of increasing attendance 80% to 85%. Retain the services of a private consultant to aid in a presentation to staff to further educate them on the importunate of proper maintenance to protect the storm sewers.
2. NSU has created brochures that have been posted locally and on the University's website to help educated the students and employees on the importance of keeping the surroundings free of chemicals that can adversely affect the environment. Speaking engagements with the students take place at the start of each semester to ensure that campus rules are followed.
3. University staff plan to work with Spartan E-Daily staff to developing articles to include during the next permit year. Engage the students with emails and flyers. Speaking engagement students and faculty are also educated at the start of each semester to ensure that campus rules are followed.

The strategies used to communicate the high priority issues has also been adjusted to be specific to the new high priority issues identified in the MS4 program plan.

3.2 MCM 2 Public Involvement and Participation

3.2.1 Public Input

No input has been received from the public on the MS4 program, including stormwater complaints.

3.2.2 Website

The webpage has been updated several times, the current website with the most up to date information on the University's MS4 program and stormwater initiatives can be found at the address: https://www.nsu.edu/ehsrm.

3.2.3 Public Involvement Activities

The public involvement activities implemented by NSU include the following activities that were advertised in the Spartan E-Daily Web emails:

1. NSU joined the Elizabeth River Star Business designation, the biology students volunteered at the Elizabeth River Project Cleanups and restoration of oyster beds.
2. Earth Day activities were advertised for a Campus wide clean up, there were approximately 50 participates on 4/25/2020.

3.2.4 Metrics and Evaluations

A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality is provided for each activity.

1. Student participation in the Elizabeth River, River Star Program is shows a good understanding of the importance of keeping the Elizabeth River clean and helping to restore the oyster bed.
2. The number of trash bags were not logged this reporting cycle they will be in the future. Having approximately 50 students participate this year will help get the word out for the following years and other activities.

3.2.5 MS4 Collaboration

1. The permittee did not collaborate with any other MS4 permittees during the reporting year.

3.3 MCM 3 Illicit Discharge Detection and Elimination

1. There were no illicit discharges reported or detected in this reporting year.

3.4 MCM 4 Construction Site Stormwater Runoff Control

1. There were no construction activities on campus in this reporting year.
2. A dry and wet weather inspection was performed for the 11 outfalls. All were found to be in good condition.

3.5 MCM 5 Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands

1. A dry and wet weather inspection was performed for the 18 BMPs. All were found to be in good condition.
2. No significant maintenance, repair, or retrofit activities performed this permit year.
3. All BMPs are reported in the DEQ Warehouse submitted September 10, 2020.
4. Three BMPs are anticipated to be retrofitted during the next reporting period. The construction projects are currently out for bid.

3.6 MCM 6 Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee Within the MS4 Service Area

1. The SWPPP that was developments for the Maintenance Facility Activities in October 2015 was updated due to comments made in the January 2021 DEQ Audit, otherwise, no changes were made in the reporting year. Generally, changes that were made include bring the SWPPP up to date and updating University information.
2. No new turf and landscape nutrient management plans were developed in this reporting year.
3. A Stormwater Standard Operating Procedure was developed and will be implemented in the next reporting year.
4. See the below for the training events and the number of employees that were in attendance.

Training Date	Number of Employees in Attendance
9/9/2020	5
10/14/2020	1
11/11/2020	2
1/13/2021	6
2/10/2021	3
3/10/2021	4
4/14/2021	3
5/5/2021	8
5/12/2021	3
6/9/2021	62

5. The objective of the training event. Storm water information is part of Orientation; Grounds, Housekeeping and Maintenance attend storm water specific training

4.0 EVALUATION OF MS4 PROGRAM IMPLEMENTATION

4.1 MCM Reviews

The MS4 program was updated due to a DEQ Audit in the early part of 2021. Most of the MCMs were changed to align with the minimum control measures (MCM) described in Part I E of the General Permit.

4.1.1 MCM 1 Public Education and Outreach

The high priority issues from the reporting year were found to be in good standings and do not need the attention that they previously did.

1. The Management Facility Bus Wash was replaced as a high priority issue after be found that general maintenance and implementing current standard practices was only required. I was replaced with the installing interpretive signage at each BMP on campus.
    a. The signage will explain the importance of each BMP, how it is maintained and where to find more information about the programs the University has created for stormwater management. It is important for the community to understand the importance of each BMP and how they need to be maintained in order to keep the University's stormwater system clean and compliant.

2. The Material Storage for mulch sand and dirt that is stored on campus has been moved to a lower priority. The University has made improvements to the storage by separating each material with concrete blocking and "gutter buddies" to prevent runoff into the street and storm drains. It was replaced with making sure that the community understands the effects that vehicle fluids could have on the environment. The University owns and maintains several fleet vehicles and maintenance equipment that are stored in campus along with several employee and student parking lots. Targeting vehicle fluids as a high priority issue will help University's students, faculty, and staff to become aware of the threat that automotive fluids pose to the health of the waterways.
    a. NSU has created brochures that have been posted locally and on the University's website to help educated the students and employees on the importance of keeping the surroundings

free of chemicals that can adversely affect the environment. Speaking engagements with the students take place at the start of each semester to ensure that campus rules are followed.

3. BMP and Outfall maintenance while still an issue that the University will strive to maintain it has been downgraded due to bi-weekly inspections and minimum monthly maintenance. Ongoing training for the University on general maintenance for the BMPs will also help keep this from being a larger issue. Trash and debris collection and recycling has been moved to a higher priority. Any liter has the potential to find its way into the surrounding and can adversely affect the environment. Specifically, from the NSU campus, trash and debris can collect in the stormwater BMPs, the stormwater system and eventually make its way into the Chesapeake Bay and have an impact on seagrasses and fish wildlife. This is a high priority issue because liter can have an adverse effect on the environment and needs to be stopped at its source.
    a. Providing the students with the information about proper disposal of litter, debris and other items will help keep the campus clean and debris from reaching the stormwater system and ultimately the environment. Engage the students with emails and flyers. Speaking engagement students and faculty are also educated at the start of each semester to ensure that campus rules are followed.

4.1.2 MCM 2 Public Involvement and Participation

1. Installing markers on the storm drains on the stormwater is an ongoing initiative to keep the students in volved and aware of where the stormwater runoff is transported.
    a. Students and volunteers are encouraged to participation and recognition of the stormwater management system. The number of markers placed and the participants in the event can be recorded for the annual report.

2. The Elizabeth River Star Program is an on-going program and will be encouraged throughout the year.

3. Students are being advised not to change any of the fluids used in their motor vehicles while on campus. These include motor oil, transmission fluid, anti-freeze, gasoline or diesel and windshield washer fluids.
    a. Informing students on the risks to the environment will help minimize the accumulations of drippings and stains in parking lots and campus streets that can become part of stormwater runoff. A street and parking lot inspection day can be set up to have volunteers inspect the parking area for fluids and report them to the University staff for proper clean up.

4. Students have been advised to utilize good housekeeping practices while on campus. This includes not littering, throwing away cigarette butts and keeping trash disposal areas clean.
    a. The University has advertised an Earth Day event each year and while this will be a good time to get public involvement the University will also organize other events such as a trash pickup event and move out day disposal. Having the public involvement will help increase the understanding that removing debris at the source will keep out stormwater system clean and running effectively. The number of trash bags that are collected will be tracked and reported in the annual report.

5. The University's website is a source of information on the other local programs (conducted through private interest groups and the City of Norfolk) aimed at improving water quality. The website allows the public the opportunity to help improve the local water quality.

6. The University's website is a source of information on the status of the MS4 Program and all annual reports. Public suggestions to the MS4 program will be vetted and taken into consideration for incorporation into the next review cycle. The website provides the public accessibility to the permit. Increase their knowledge of stormwater regulations and NSU's efforts to improve the local water quality.

7. During the most recent pandemic, the University has continuously evaluated means to educate the students and employees on stormwater pollution prevention. They work closely with Spartan E-daily, Campus Announcements and utilize their closed-circuit TV channel.
    a. Electronic advertising will help provide a safe environment to disseminate information about improving the local water quality and how to create a cleaner campus.

4.1.3 MCM 3 Illicit Discharge Detection and Elimination

Norfolk State University (NSU) is committed to the environmental safety and protection of the campus community. This policy contains detailed information regarding requirements for MS4 storm system maintenance.

1. Equipment maintenance will also be a area where illicit discharges have the potential to occur. The University is implementing standard operating procedures and guidelines for the maintenance of equipment coupled with training to prevent any unwanted discharge.
    a. To make equipment operators more accountable for the cleanliness of the equipment and reduce the possibility of petrochemical residue and debris entering the stormwater sewer system Motor vehicle refueling.

2. The University has an underground gasoline storage tank for use in state vehicles. To reduce this area as a possible point source of pollution, refueling of most of those vehicles is performed by the vehicle maintenance staff that have received training. The nozzle has been replaced with one that will close automatically; access to the hose is restricted by locking the nozzle in place, turning off the gasoline pump and restricting refueling to a few hours in the morning when the mechanic is available to oversee the procedure.
    a. This will prevent overflow spills on the pavement that would allow gasoline to enter the stormwater drains, staining the pavement, and reducing the risk of fire.

3. The University has contracted with a consultant to assist with a nutrient management program. The program includes soil tests, assessments of vegetation and specified application amounts.
    a. The program will help to maintain healthy lawns and plantings while reducing spillage on pavements that can enter stormwater inlets and adversely affect marine life.

4. Procedures to detect and address non-stormwater discharges, will include the training the facilities groundskeepers and tradesmen how to identify and report illegal dumping. These individuals are to report observations and incidents that could result in illicit discharges, or conditions that could result in non-stormwater contamination. In addition to these detection methods, the main outfall from campus has a large screen that prevents solids from entering connecting sewers. The University will coordinate with the city to assure this structure remains functional.

5. A formal proposal has been drafted advising the campus community that discharge of any materials, solid or liquid other than water into stormwater inlets is prohibited and infractions shall be subject to appropriate fines and/or penalties.
    a. Proposals of this nature shall be reviewed by the University senior administrators and legal counsel. Enforcement shall include University Police, and if student(s) are involved, summons may be issued to appear before a committee.

6. Removal of grease and oil accumulations from parking lots will require the use of pressure-washing, deployment of petrochemical absorbents around the cleanup site and in front of any affected stormwater inlet.
    a. This will prevent illicit discharges from entering the University's stormwater system.

7. In the event that an illicit discharge is identified, it will be reported to DEQ in the Annual Report.

8. Campus stormwater outfalls are continually inspected, and a dry and wet weather inspection is performed annually by an outside source. The Outfall Reconnaissance Inventory (ORI) is the most proven method for screening campus stormwater outfalls. The ORI consists of walking all campus outfalls to document where they are and what condition they are in.
    a. The purpose of the ORI is to identify potential illicit discharges that could impair water quality. The ORI also details on how to find an illicit discharge in the field and the appropriate laboratory strategies to identify particular pollutants.

4.1.4 MCM 4 Construction Site Stormwater Runoff Control

The BMPs defined under this measure have been implemented beginning in the first permit year, and continuously thereafter. The BMPs includes:

Compliance with Virginia Erosion and Sediment Control and Stormwater Laws for Construction projects:

- Included in affected projects with a general contractor, is a section dedicated to Slope Protection and Erosion Control.
- The University holds the general contractor responsible for maintaining the job site to the satisfaction of the University and all applicable regulations.
- The contractor is required to schedule work in a manner that best provides slope protection and erosion controls by installing grass, ditches, or other means to prevent runoff into stormwater drains.
- The contractor must also clean out any drains that become contaminated with construction site runoff.
- The contractor shall be responsible for any damage to streams or other natural areas or wetlands by the addition of soil, rock, or topsoil, whether deposited by poor construction practice, sedimentation, or wind, and vegetation matter such as whole trees or any part thereof, or remnants from burning or other clearing processes, and waste construction materials such as concrete, broken pipe, equipment parts and any other additions which could be detrimental to said areas.
- Any damages shall be assessed by the University based on site inspections. The contractor shall act as soon as possible to prevent further damage and correct existing damage at no cost to the University. Should the University choose to do so, a remediation contractor shall correct the damage and their fees deducted from the contractor's payments.
- The contractor is to expect periodic site inspections by the erosion and sediment control reviewing authority

- The inspector for the erosion and sediment control reviewing authority shall be allowed access to all areas of the construction site.
- All conditions or practices noted by the inspector, that could result in deteriorated slope protection or erosion control, shall be immediately corrected.
- If the inspector for the erosion and sediment control reviewing authority submits a report to the University or contractor, all infractions or penalties shall be addressed by the contractor at no expense to the University.
- At the agreed conclusion of a project, all temporary erosion control systems shall be removed, and inspection of adjacent stormwater inlets and drains conducted. The contractor shall remove all materials, sediment or vegetation that has entered due to activities related to the construction project.
- For sites in excess of one acre, the contractor shall ensure compliance with all the requirements of VR 680-14-19 (VPDES).
- The University reserves the right to require all architects, engineers, and related consultants to obtain appropriate certifications as specified under the Erosion and Sediment Control law.
- Contractor shall provide the University with legible copies of all correspondence, reports, meeting minutes, etc. that involve stormwater issues.

The goal of implementing these measures is to prevent pollution of stormwater and maintain healthy waterways

4.1.5 MCM 5 Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands

1. The university shall maintain compliance with Virginia Erosion and Sediment Control and Stormwater Laws.

2. Groundskeepers have been scheduled to conduct inspections of campus stormwater basins. Inspections are documented and include clearing of soil/sand, removal of debris, checks for erosion, reporting of sheen in standing water, and the removal of leaves and floating debris. Periodic inspections shall be added to the preventive maintenance list. The inspections will help verify basins are clean and capable of retaining and draining.

3. The University's Stormwater Master Plan will be implemented to ensure compliance with current regulations. The intent is to supplement the Current Campus Master Plan by providing a guideline for development on campus.

4.1.6 MCM 6 Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee Within the MS4 Service Area

1. Tradesmen have been instructed to immediately cleanup releases of any materials they are using and report any quantity that may have entered a stormwater drain. This increases the awareness for stormwater runoff and eliminate sources of illicit materials polluting surface waters.

2. Groundskeepers have been instructed to pick-up debris to prevent shredding by lawn mowers and entering stormwater drains to reduce the amount of pollutants in the stormwater, and promote the free flowing of stormwater in the sewer lines.

3. Absorbent materials are kept available, and a fully enclosed hazardous materials storage shed is used for the staging of hazardous wastes, including contaminated absorbents and personal protective equipment. Storing hazardous wastes isolated from the weather and unauthorized personnel will limit the chances of the material to enter the stormwater system.

4. A Hazardous Substance Policy has been created and will be implemented to prevent hazardous materials from entering the University's stormwater sewer system and other downstream waters

5. A Nutrient Management Plan has been developed and will be implemented to help reduce the amount of pollutants in the stormwater specifically the application of fertilizers and herbicides will be specified and strictly followed.

6. A company with expertise in hazardous materials has been contracted to provide emergency response to incidents requiring additional resources and equipment. They have the added responsibility of overpacking primary containers and arranging for transportation to approved disposal sites, recyclers, or incinerators. This will assure a release is adequately remediated, storm drains are protected, staff personnel do not become contaminated and disposal protocols are strictly followed.

7. After campus events trash receptacles shall be emptied and stormwater inlets in the area will be checked and trash removed from inlets. An estimate of the amount of trash collected shall be recorded and sited of the greatest accumulations noted.

4.2 Program Effectiveness

1. The MS4 program has been edited based on the DEQ Audit that was completed in January of 2021. The program plan has been brought up to current General Permit standards.

4.3 Program Changes Needed

1. Generally, the program has been updated to include more training and public outreach to make the public aware of the impacts that the community can have on the environment and the stormwater system.

5.0 CHESAPEAKE BAY TMDL ACTION PLAN STATUS REPORT

5.1 BMPs Implemented

There were no new BMPs implemented during the reporting period.

5.2 Credits Acquired

The University did not acquire credits during the reporting period.

5.3 Progress Toward Meeting Required Cumulative Reductions

No progress was made during this reporting cycle due to constraints caused by COVID.

5.4 BMPs to be Implemented

Three BMPs are anticipated to be retrofitted during the next reporting period. The construction projects are currently out for bid.

6.0 LOCAL TMDL ACTION PLAN STATUS REPORT

6.1 Elizabeth River TMDL Action Plan

The Elizabeth River TMDL Action Plan was developed to address pollutants of concern (POC) in accordance with the General Permit requirements where the university has been assigned a waste load allocation (WLA) in an approved TMDL. NSU drains to the Lower Easter Branch segment of the Elizabeth River and is therefore subject to the approved bacteria TMDL for the Elizabeth River.

Wildlife is considered to the be primary source of bacteria-laden runoff for the University's MS4 service area. The most notable wildlife present on campus is waterfowl. These animals are a large contributor to this source of bacteria as they are attracted to open spaces and wet areas present on the campus.

NSU will be hiring a group of expert dog handlers to scare the geese off in an attempt to create the sense that the area is inhospitable to the geese.

Another strategy that will be implemented is the installation of signs that read “DO NOT FEED GEESE” outside campus cafeteria entrances.

Regular emails and/or fliers are sent out to the University’s students, staff and faculty asking them to not feed geese or seagulls on campus.

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