

SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PROGRAM PLAN

Prepared by





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3.14.202

Date

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Overview

Norfolk State University (NSU) is required by the Virginia Pollutant Discharge Elimination System (VPDES) Regulations to design and implement a program consistent with the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges. The University is considered a small Municipal Separate Storm Sewer System (MS4), and applied for a permit renewal on 6 November 2007. The permit became effective 9 July 2008 through 8 July 2013

The Department of Environmental Quality (DEQ) is responsible for the issuance, denial, revocation, termination and enforcement of VPDES permits for the control of stormwater discharges from MS4s and land disturbing activities under the VSMP. DEQ, formerly Department of Conservation and Recreation (DCR) conducted an on-site audit and inspection on 30 June 2008. The results were documented in a letter dated 25 July 2008 from DCR, and offered suggestions to improve the effectiveness of NSU's Stormwater Management Program. The University addressed the suggestions and responded to DCR on 29 August 2008. On 29 September 2008 DCR notified NSU of their acceptance of the proposed Best Management Practices (BMP) with the understanding an upgraded program was due 9 January 2009.

Although the program basics were submitted in January, DCR requested an expanded version which more closely followed the regulation specifics (4VAC50-60-1240, section II, paragraph B, Minimum Control Measures). DCR requested that the updated program be resubmitted by December 15, 2009. Consequently, with the intent of continuous improvement, this more comprehensive program has been developed. This document has been since updated to address changes in the regulations and comments received from DEQ in May of 2021.

NSU is located near the intersection of Park Avenue and Brambleton Avenue, within the City of Norfolk. The focus of this study will be the 138 acre campus. This acreage represents all of the NSU State owned property to date. Although offsite properties drain through the campus via a closed stormwater system, properties not owned by the State will not be accounted for in this program. These other properties are addressed under the City's permit. Physically, the MS4 includes over 300 inlets and seventeen stormwater BMPs that flow into six outfalls. A summary of the basins and outfalls are listed in Tables 1 and 2, respectively.

Table 1: Current Campus Stormwater BMPs

Approximate Location	Description
Outfall 1	Wet Pond
Spartan Suites	Infiltration Trench
Lot 17	Dry Detention Pond
Lot 30	Dry Detention Pond
Hamm Fine Arts North	Vegetated Open Channels
Hamm Fine Arts South	Dry Detention Pond
Lots 2 and 3	Dry Detention Pond
Student Services Center	Bioretentions
Student Services Center	Dry Detention Pond





Nursing Classroom	Vegetated Open Channels
Brown Hall East	Bioretention
Brown Hall North	Bioretention
Bowser Bldg. Parking	Proprietary Stormwater Treatment Device
Stadium - Infiltration	Infiltration Practices
Stadium - CST	Proprietary Stormwater Treatment Device
Baseball Field	Infiltration Practices
Softball Field	Infiltration Practices

Table 2: Current Campus Outfalls

Outfall Name	Acreage	HUC	Description
Outfall #1	±3.4 Acres	JL54	flows east into the city line under Ballentine Avenue
Pipes #2 to 8	±18.0 Acres	JL54	flow south into a perimeter ditch
Outfall #9	±104.8 Acres	JL54	is a large box culvert flows to the south border
Outfall #10	±3.3 Acres	JL54	flows south to the city line under Brambleton Avenue
Outfall #11	±1.2 Acres	JL54	flows west to the city line under Park Avenue
Outfall #12	±8.0Acres	JL54	flows north and east into the Middletowne Crescent
			and Ballentine Blvd

The goals and objectives included in this program are intended to prevent the degradation of the University's stormwater system and other downstream waters.





Oversight Team

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These offices support the Program by providing direct communication to senior administrators, tradesmen, architectural/engineering consultants, faculty, and student organizations. It is important the program be accessible to all major components of the campus community as all have an interest in the health of the natural environment.





Permit Background/Regulatory Considerations

In 1972, Congress passed the Clean Water Act (CWA), to restore and maintain the quality of the nation's waterways. The ultimate goal was to make sure that the river and streams were fishable, swimmable, and drinkable. In 1987, the Water Quality Act (WQA) added provisions to the CWA that allowed the EPA to govern stormwater discharges from MS4s. In 1990, the EPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) stormwater program.

Under the Phase 1 regulations, permits for stormwater discharges from municipal separate storm sewer systems were required for eleven "large" and "medium" municipalities in Virginia. The "large" municipalities (250,000+ populations) are Fairfax County, Virginia Beach and Norfolk. The "medium" municipalities (from 100,000 to 250,000 populations) are Arlington County, Prince William County, Henrico County, Chesterfield County, Hampton, Newport News, Portsmouth, and Chesapeake. The Phase 2 stormwater regulations froze the population thresholds for "large" and "medium" municipal separate storm sewer systems at the 1990 Census level, so no additional municipalities will be designated into these categories.

Phase 1 municipal separate storm sewer systems permit applications required the municipalities to propose a comprehensive Stormwater Management Program (SWMP) of structural and non-structural measures to control the discharge of pollutants from the storm sewer system to the Maximum Extent Practicable (MEP), and to effectively prohibit non-stormwater discharges to the separate storm sewer system. The Phase 1 permits required the implementation of the SWMP, required storm event monitoring to be conducted by the municipality, and required the municipality to regularly assess the effectiveness of the various stormwater controls employed by the municipality.

Phase 2 regulations required permits to be issued to Small Municipal Separate Storm Sewer Systems (MS4s) located in "urbanized areas" (as defined by the U.S. Census Bureau's 2000 Census). Small MS4s include systems owned by municipalities, federal facilities, State facilities (including VDOT), and public universities. In addition, any Small MS4 located in a Phase 1 "large" or "medium" municipality is required to be permitted under the Phase 2 regulations.

Permits for regulated small municipal separate storm sewer systems require the development, implementation, and enforcement of a SWMP that includes the following "six *minimum control measures*":

- 1. Public education and outreach on stormwater impacts
- 2. Public involvement/participation
- 3. Illicit discharge detection and elimination
- 4. Construction site stormwater runoff control
- 5. Post-construction stormwater management in new development and redevelopment
- 6. Pollution prevention/good housekeeping for municipal operations.





For each minimum control measure, the applicant is required to identify:

- 1. Proposed best management practices and measurable goals for each of the "six minimum control measures"
- 2. The timing of the implementation of each control measure
- 3. The person or persons responsible for implementing the Stormwater Management Program (SWMP).

In accordance with the MS4 Program Plan the University has developed MS4 Annual reports for 2018-2020, a Stormwater Pollution Protection Plan, an Annual Standards and Specifications, an Illicit Discharge Detection and Elimination Program, a Nutrient Management Plan, an Chesapeake Bay TMDL Action Plan, and an Elizabeth River TMDL Action Plan among other documentation, which include operating procedures, written protocols and policies that will further help NSU in their goal for keeping their campus and environment clean and pollutant free. All these documents and more information can be found on the University's website.





Minimum Control Measures

Minimum Control Measure # 1: Public Education and Outreach on Stormwater Impacts.

This measure requires the University to educate the public about the potential impact of stormwater discharges on natural bodies of water, and the precautions to be taken to reduce pollutants in stormwater runoff. The University considers the public as all members of the campus community along with contractors and visitors to academic and athletic events. The means of communication may vary relative to the intended recipients.

Staff /personnel receive work orders that directly address physical conditions that can be the source of stormwater pollutants. Multiple Best Management Practices (BMP)s are associated with this Minimum Control Measure. Throughout the year NSU will evaluate the areas of concern around the campus to make appropriate changes to the high priority stormwater issues that are to be highlighted each year. All BMPs defined under this measure shall be implemented beginning in the first permit year. NSU These BMPs are as follows:

1. <u>High Priority Issue:</u> University BMPs need to be inspected in accordance with the Virginia Stormwater Management Handbook, Section 9.3.7 table 9.7.

<u>Action Plan:</u> The University has developed a stormwater standard operating procedures plan that outlines how the University will conduct BMP inspections. The stormwater standard operating procedures has been uploaded onto the University website.

<u>Strategies</u>: The stormwater standard operating procedures is available on the University's website.

<u>Schedule:</u> Inspections are logged and will be reviewed by the proper annually for its effectiveness <u>Goal:</u> To increase the turn around on any issues that arise with stormwater and pollution prevention measures. This includes understanding of how to alleviate issues.

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management

2. <u>High Priority Issue</u>: Fluids from vehicles can contribute contaminants to the runoff. The University owns and maintains several fleet vehicles and maintenance equipment that are stored in campus along with several employee and student parking lots.

Action Plan: Employees will be required to make daily inspections of the area where vehicles are maintained and stored. University students will also be encouraged to inspect parking areas and report any spills to University staff that they may find, seminars will be developed to educate the students on the actions to take.

<u>Strategies:</u> 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.





<u>Goal:</u> To keep the ground surfaces clean of pollutants and clean up spills before they can reach the stormwater systems. Making students responsible for their surroundings and keeping the campus clean.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director Department of Facilities Management

3. <u>High Priority Issue:</u> Trash and debris collection and recycling. 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. Liter can have an adverse effect on the environment and needs to be stopped at its source.

Action Plan: Engage the students with emails and flyers and trash pickup events.

Strategies: The University can equip students and employees with large impervious trash bags, gloves, and other tools to aid in the retrieval of trash, discarded food items, papers, etc.

Goal: In addition to good housekeeping, this goal will set an example to the campus community and making the students responsible for keeping the campus clean will give the students

Schedule: Continuously

ownership and campus pride.

Responsible Party: Anton Kashiri, Director Department of Facilities Management

Minimum Control Measure # 2: Public Involvement /Participation

This measure requires the University to encourage the public to become involved in, the protection of stormwater runoff and related sewer systems. As a State University and a campus open to the general public, NSU has provided program basics on its website, conferred with faculty, and made presentations to students. Multiple BMPs are associated with this Minimum Control Measure. All BMPs defined under this measure shall be implemented beginning in the first permit year, unless specifically stated otherwise. These BMPs are as follows:

1. There is consideration to invite students to assist with the attaching of storm drain markers to stormwater inlets. This project will depend on weather conditions, and the students' academic schedule.

<u>Goal:</u> To encourage student/faculty/staff participation and recognition of the stormwater management system.

<u>Schedule:</u> Mark 50% of the inlets in the second permit year, 100% by the third permit year, no anticipated reoccurrence

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management





 Students have been 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.

<u>Goal:</u> To minimize the accumulations of drippings and stains in parking lots and campus streets that can become part of stormwater runoff.

Schedule: Continuously

Responsible Party: Enforcement through University Police

3. 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.

<u>Goal:</u> To minimize the accumulations of debris that can become part of stormwater runoff.

<u>Schedule:</u> Continuously

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management

4. 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.

<u>Goal:</u> To provide the public with opportunities in improving the local water quality.

<u>Schedule:</u> 2021 event schedules will be posted on the University's website and disseminated through Spartan E-Daily.

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management

5. 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.

<u>Goal:</u> To provide the public accessibility to the permit. Increase their knowledge of stormwater regulations and NSU's efforts to improve the local water quality.

<u>Schedule:</u> University website will be updated annually, and event schedules will be posted when applicable.

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management

6. 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.

<u>Goal</u>: To provide a safe environment to disseminate information about improving the local water quality and how to create a cleaner campus.

Schedule: Continuously.

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management





Minimum Control Measure # 3: Illicit Discharge Detection and Elimination

POLICY STATEMENT

Norfolk State University (NSU) is committed to the environmental safety and protection of the campus community. The purpose of this policy is to provide for the protection of the environment at NSU, and the surrounding areas, through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal, state, and local law. This policy establishes MS4 in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process, as implemented through the Virginia Stormwater Management Program (VSMP) permit for NSU. This policy contains detailed information regarding requirements for MS4 storm system maintenance.

Norfolk State University (NSU) is the owner and operator of registered small municipal separate storm sewer system (MS4) conveyance system which encompasses approximately 139 acres. A Stormwater Quality and Quantity Management Study was developed for the University by Vanasse, Hangen, Brustlin, Inc. in 2009 and revised in 2018 by Burns and McDonnell. This policy contains detailed information regarding requirements for MS4 storm system maintenance. Definitions

DEFINITIONS

Best Management Practices (BMPs): means schedules of activities, prohibitions of practices, general housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Construction Activity - Activities subject to NPDES Construction Permits. Currently these include construction projects resulting in land disturbance of 5 acres or more. Beginning in March 2003, NPDES Storm Water Phase II permits will be required for construction projects resulting in land disturbance of 1 acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Contractor: means any individual or company, including a subcontractor, hired to perform services on university property.

EHS&RM: Environmental Health Safety and Risk Management Department (EHS&RM)

Hazardous substance: means any substance designated under the Code of Virginia or <u>40 CFR Part 116</u> pursuant to § 311 of the CWA.

Illicit discharge: means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a VPDES or VSMP permit (other than the VSMP permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with <u>9VAC25-870-400 D 2 c (3)</u>. Storm drains that have





measurable flow during dry weather periods, which contain pollutants or pathogens that could pose a significant threat to the community are illicit discharges. A storm drain with measurable flow that does not contain any pollutants is simply considered a discharge.

Municipal separate storm sewer (MS4): means a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains:

- 1) Owned or operated by a federal, state, city, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction or delegated authority for erosion and sediment control and stormwater management, or a designated and approved management agency under § 208 of the CWA that discharges to surface waters;
- 2) Designed or used for collecting or conveying stormwater;
- 3) Not a combined sewer; and
- 4) Not part of a publicly owned treatment works.

Municipal Separate Storm Sewer System (MS4): means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems or designated under <u>9VAC-25-890-30</u>.

Municipal Separate Storm Sewer System Management Program or MS4 Program: means a management program covering the duration of a permit for a municipal separate storm sewer system that includes a comprehensive planning process that involves public participation and intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA) and regulations and the Virginia Stormwater Management Act and attendant regulations, using management practices, control techniques, and system, design and engineering methods, and such other provisions that are appropriate.

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit: means a permit issued by EPA (or by a State under authority delegated pursuant to 33 USC §1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-stormwater discharge: means any discharge to the storm drain system that is not composed entirely of stormwater.

Outfall: means, when used in reference to municipal separate storm sewers, a point source at the point where a municipal separate storm sewer discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.

Point source: means any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants





are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant: means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non- hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal

wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Source: means any building, structure, facility, installation, or activity from which there is or may be a discharge of pollutants.

State waters: means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands (Virginia Code § 62.1-44.3).

Stormwater: means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Management Plan: A document which describes the Best Management Practices and activities to be implemented by a business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to Stormwater, Stormwater Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.

Wastewater: Any water or other liquid, other than uncontaminated storm water, discharged from a facility.

Wetlands: means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas (Virginia Code § 62.1-44.3)

Visitor: means a person who is not enrolled at, compensated by, or an affiliate of the University.

CONTACTS AND LEGAL AUTHORITIES.

University staff shall administer, implement, and enforce the provisions of this policy. In the event of an illicit leak or spill of prohibited substances, the Police Department (757) 823-9000), EHS & Risk Management Department (757) 823-9142 or the University Architect shall be contacted at (757) 823-2625.





STAKEHOLDERS

This policy is applicable to all students, faculty, staff, contractors, vendors and visitors of the University. This policy shall apply to all water entering the storm drain system generated on any lands owned or operated by the University.

POLICY CONTENTS

Management Program (VSMP) permit for NSU.

The objectives of this policy are as follows:

- Prevent or minimize to the maximum extent practicable, the discharge of pollutants from University properties and operations into the storm drainage system (see Procedures Section of this policy).
- Develop, implement and enforce a program to detect and eliminate illicit discharges, as defined by <u>9VAC25-89-40</u> and <u>9VAC25-870-10</u>, into the regulated small MS4 (see Enforcement and Penalties Section of this policy)...
- Comply with the requirements of NSU's stormwater permit posted on MS4 webpage.

Permits for regulated small municipal separate storm sewer systems require the development, implementation and enforcement of a SWMP that includes the following "three minimum control measures":

- Public education and outreach on stormwater impacts
- Illicit discharge detection and elimination
- Renovation/upgrades to BMP's

Regulated Small MS4 permit applications require the applicant to identify:

- Proposed best management practices and measurable goals for each of the "three minimum control measures"
- Timing of the implementation of each control measure
- Persons responsible for implementing the Stormwater Management Program (SWMP).

COMPATIBILITY WITH OTHER REGULATIONS

This policy is not intended to modify or repeal any other policy, ordinance, rule, regulation, or other provision of law. The requirements of this policy are in addition to the requirements of any other policy, ordinance, rule, regulation, or other provision of law, and where any provision of this policy imposes restrictions different from those imposed by any other policy, ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

SEVERABILITY

The provisions of this policy are declared to be severable. If any provision of this policy is held invalid, this determination will not affect the other provisions or application of this policy.

ILLICIT DISCHARGES

No NSU employee, student, visitor, contractor, or department shall cause or allow discharges into the University's storm drainage system which are not composed entirely of stormwater, except for the





allowed discharges provided in the Virginia Stormwater Management Program (VSMP) Permit Regulations (9VAC25-870). The spilling, dumping, or disposal of materials other than stormwater to the storm drainage system are strictly prohibited.

Prohibited discharges include, but are not limited to:

- Oil
- Anti-freeze
- Grease
- Chemicals
- Wash water
- Paint
- Animal waste
- Garbage
- Litter
- Landscaping debris

Materials used by the equipment maintenance staff, vegetative nutrients, housekeeping cleansers, chemicals used in academic and research laboratories have been identified as potential pollutants. Separate procedures have been established for each of these exposures. Multiple BMPs are associated with this Minimum Control Measure. All BMPs defined under this measure shall be implemented beginning in the first permit year, unless specifically stated otherwise. These BMPs are as follows:

Equipment maintenance: As much as possible, motorized unlicensed equipment shall be stored
under a shed roof to help minimize the amount of stormwater runoff from the equipment. This
equipment can develop lubricant and fuel stains which could produce sheen on waters entering
stormwater drains. Accumulations of grass clippings, leaves, dirt and loose debris are to be
removed from the equipment, and swept up to prevent their inadvertent entry into stormwater
inlets.

<u>Goal:</u> 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.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director

Department of Facilities Management

2. Motor vehicle refueling: The University has an underground gasoline storage tank for use in state vehicles. Refueling of most of those vehicles is performed by the vehicle maintenance staff who has been instructed not to "top-off" the vehicle tank for fear of overflow and spilling onto the pavement. To help prevent incidents, 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.

<u>Goal:</u> To prevent gasoline from entering the stormwater drains, staining the pavement and reducing the risk of fire.

Schedule: Continuously





Responsible Party: Anton Kashiri, Director Department of Facilities Management

3. Vegetative nutrients: 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.

<u>Goal</u>: To maintain healthy lawns and plantings while reducing spillage on pavements that can enter stormwater inlets and adversely affect marine life.

Schedule: Continuously

<u>Responsible Party:</u> Anton Kashiri, Director Department of Facilities Management

4. Dumping: Develop procedures to detect and address non-stormwater discharges, including illegal dumping, will include the University Police patrolling the campus and the presence of facilities groundskeepers, tradesmen and shuttle bus drivers. 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.

<u>Goal:</u> To prevent illegal dumping from entering the stormwater drains, this could impair water quality.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director

Department of Facilities Management and University Police

5. Penalties: A formal proposal shall be 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. Proposals of this nature shall be reviewed by 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. Goal: To inform the public of penalties for illegal dumping. Dumping could impair water quality.

<u>Schedule:</u> First Year, no reoccurrence <u>Responsible Party:</u> Anton Kashiri, Director Department of Facilities Management

6. Removal of grease and oil accumulations from parking lots will require the use of pressurewashing, deployment of petrochemical absorbents around the cleanup site and in front of any affected stormwater inlets

<u>Goal</u>: To prevent illicit discharges from entering the University's stormwater system.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director Department of Facilities Management





7. In the event that an illicit discharge is identified, it will be reported to DCR in the Annual Report. Goal: To prevent illicit discharges from entering the University's stormwater system Schedule: Annually

Responsible Party: Anton Kashiri, Director Department of Facilities Management

8. Stormwater Outfall inspection: This section includes details on how to find an illicit discharge in the field and the appropriate laboratory strategies to identify particular pollutants. The Outfall Reconnaissance Inventory (ORI) is the most proven method for screening campus stormwater outfalls. The ORI consists of walking all of the campus outfalls to document where they are and what condition they are in. The field team should be able to find where continuous and intermittent stream flows exist. Take note of any outfalls with discharges of very high turbidity, strong odors, unnatural colors or an extreme case of pH on a field litmus test strip. When obvious discharges are found, the field crew should take note and start working upstream to find where the source is and eliminate it. While traversing the campus, field crews should be looking for other more common illicit discharges like oil spills, un-permitted car washing or other harmful liquid spills. If these are encountered the appropriate abatement agency should be notified. The following table provides a step by step process for conducting an ORI.

Goal: To identify potential illicit discharges that could impair water quality.

Schedule: All campus outfalls shall be initially inspected by the end of the third permit year and annually thereafter

Responsible Party: Anton Kashiri, Director Department of Facilities Management

Field Screening and Data Analysis		
Step	Strategies/Considerations	
1. Acquire necessary mapping, equipment and staff	 Use campus mapping available and 	
	documents	
	 Obtain spectrophotometer, basic camera, 	
	litmus paper, etc.	
	 One person field crew with specialized 	
	training at a minimum or two person crew	
	with basic field training (ideal for screening)	
2. Determine appropriate screening times	 During dry season 	
	 During times when trees are not shedding 	
	their leaves	
	 At a minimum of 48 hours after a rain event 	
	 Times of low groundwater levels, generally in 	
	the middle of summer through fall for the	
	Hampton Roads area	





3. Identify where to begin screening	 Low Risk (Low IDP) Areas – integrate field screening with broader watershed assessments. Medium Risk (Medium IDP) Areas – Screen drainage areas within first permit cycle. High Risk (High IDP) Areas – Screen these outfalls in the beginning of the first permit cycle.
4. Conduct field screening	 Mark, document and photograph all campus outfalls. Document outfall characteristics Monitor outfalls that have flows Sample all outfalls with potential problems Track major problems back to the source immediately
5. Compile screening data	 Develop database for documented field research Enter data into system as it is gathered Start lab analysis of samples taken
6. Designate screened outfalls	 Designate outfalls screened as having a "definite, probable, potential or unlikely" illicit discharge potential
7. Document the extent of discharge problems	 Compile data from field screening, laboratory testing and initial assessment of problem areas. Update initial assessment of outfalls as High, Medium or Low Illicit Discharge Potential (IDP).
8. Develop a monitoring strategy	 Set a goal of monitoring 10% of flowing outfalls per calendar year until the entire campus has been inventoried in the first permit cycle. Repeat this screening each permit cycle.

The University's stormwater system receives runoff from the City of Norfolk streets which is conveyed through lines installed by the City. Numerous contacts with City maintenance crews have occurred in response to construction planning meetings. For communication and regulatory compliance purposes, a specific contact will be located within the City administration.

ALLOWED DISCHARGES

The following discharges to the storm drainage system are allowed, as per $\underline{9VAC25-870-400\ (D)(2)(c)(3)}$, as they are considered to be not significant contributors of pollutants to the MS4:

- Discharges that are covered under a separate individual or general VPDES or VSMP permit for non-stormwater discharges.
- Discharges or flows which are not significant contributors of pollutants to the municipal separate storm sewer system:
- Water line flushing;





- Landscape irrigation;
- Diverted stream flows:
- Uncontaminated groundwater infiltration;
- Uncontaminated pumped groundwater;
- Discharges from potable water sources;
- Foundation drains;
- Air conditioning condensation;
- Irrigation water;
- Springs;
- Water from crawl space pumps; Footing drains;
- Lawn watering;
- Individual residential car washing;
- Flows from riparian habitats and wetlands;
- De-chlorinated swimming pool discharges;
- Street wash water;
- Discharges or flows from firefighting activities;
- Flows that have been identified in writing by the Department of Environmental Quality as de minimis discharges that are not significant sources of pollutants to state waters and not requiring a VPDES permit.

PROCEDURES:

INSPECTIONS

NSU shall, at a minimum, visually inspect all outfalls once per year during wet and dry weather conditions to evaluate the physical condition of the outfalls and to ensure that there no flows present from potential illicit discharges. In the event a flow is observed, or evidence suggests that illicit discharges may exist, further investigation shall be administered by any of the following methods:

- 1. Tracing discharge up the storm sewer system;
- 2. Sampling of a discharge for analysis in order to determine if a pollutant is present and to identify the pollutant;
- 3. Implement BMPs to eliminate illicit discharges;
- 4. Scheduling of follow up observations;
- 5. Any other appropriate measures deemed necessary.

Flows suspected of containing illicit discharges due to the presence of odors, colors or sheens shall be tested. Test parameters may include but are not limited to ammonia, detergent, chlorine, phosphorus, nitrogen, pH, conductivity, turbidity, temperature, and dissolved oxygen. The results of the inspections and testing shall be maintained in a format to allow tracking of outfall locations, inspection dates, chemical tests conducted, and follow-up procedures implemented to correct any detected illicit discharge. The physical condition of the outfall shall also be noted during the inspections. Once the source of the discharge has been identified, immediate action shall be taken to minimize or remove the discharge. Illicit discharge data will be used in the preparation of the annual report to the Virginia Department of Environmental Quality. The following table summarizes visual and olfactory tests performed during dry weather screening.





Dry Weather Field Screening Tests		
Test for:	Use of Test	
1. Odor	 Indicates presence of sanitary wastewater, industrial flows, or biological chemicals. 	
2. Color	 Depending on color, indicates presence of sanitary wastewater, petroleum, detergents, or other pollutants. 	
3. Turbidity	 Indicates presence of suspended solids, petroleum, or detergents. 	
4. Floatables	 Indicates presence of suspended solids, litter and debris, detergents, or petroleum. 	
5. Deposits or Stains	 Indicates presence of pollutants over a long period of time 	
6. Vegetation	 Health of adjacent vegetation indicates severity or duration of pollution event 	
7. Structural Condition	 Indicates age and status of outfall. 	
8. Biology	 Indicates presence of sanitary wastewater, industrial flows, or biological chemicals. 	

Wet weather inspection evaluates the first flush of stormwater discharged from an outfall during a storm, which represents the maximum pollutant load managed by receiving water. This storm event is greater than 0.1 inch of rain falls and occurs at least 72 hours after the greater than 0.1 inch of rainfall storm event. The evaluation and any samples collected should occur within the first 30 minutes of discharge. Wet weather inspection should be planned when weather forecasts show a 40% chance of rain or greater.

Notification of Spills and Illicit Discharges

Once a spill or illicit discharge has been observed, the incident shall be immediately reported to the Police Department (757)823-9000 and Environmental Health and Safety Department (EHS&RM) (757) 803-5988. These numbers may be used to report other potential stormwater violations. In the event the EHS&RM is unavailable, Facilities team members may be notified to control spill and commence cleanup. Failure to provide notification of the incident shall be a violation of this policy. The EHS&RM shall conduct an initial investigation within one business day of receiving notification. The EHS&RM department shall immediately determine appropriate measures to be taken in order to prevent further discharge(s) and to begin remediation of pollution. A follow-up inspection shall be conducted within 7 days of the reported incident to confirm the cleanup process has started or been completed. Spills and Illicit discharges shall be removed or minimized within 90 days of the incident report. we

TRACKING

Field surveys and instances of illicit discharges or spills shall be tracked in the WebTMA database. Data fields to be included shall be:

- 1. Date discharge observed/reported;
- 2. Location of discharge;
- 3. Summary;
 - a. Results of investigation;





- b. Any follow-up to investigation;
- c. Resolution of investigation;
- 4. Date investigation closed.

ENFORCEMENT AND PENALTIES

Whenever the University finds that a violation of this policy has occurred, NSU may order compliance by written notice to the responsible party. Such notice may require without limitation:

- 1. The performance of monitoring, analyses, and reporting;
- 2. The elimination of prohibited discharges or connections;
- 3. Cessation of any violating discharges, practices, or operations;
- 4. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
- 5. Payment of any fee, penalty, or fine assessed against Norfolk State University to cover remediation cost;
- 6. The implementation of new stormwater management practices;
- 7. Disciplinary action up to and including dismissal, where appropriate.

The listed requirements will be at the expense of the responsible party. In the event that adequate measures are not initiated, the University may issue work orders to correct the violation and bill the responsible party for expenses incurred.

Records

All data records, reports and response resulting from spills or leaks will be maintained on file in the EHS&RM Office for five (5) years.

EDUCATION AND COMPLIANCE

A training program for Stormwater Pollution Prevention/Good Housekeeping and IDDE is presented to applicable employees upon hire and on an annual basis. The employee training program educates vehicle maintenance shop employees and bus drivers regarding the requirements of the Stormwater Standard Operating Procedures and the SWPPP. This education program includes background on the components and goals of the Stormwater Standard Operating Procedures and the Stormwater Pollution Prevention Plan (SWPPP) and hands-on training in spill prevention and response, good housekeeping, proper material handling, disposal and control of waste, container filling and transfer, and proper storage, washing, and inspection procedures. Shop employees are required to receive the training annually. A record of employee sign-in sheets for the refresher course is maintained for five years. The program will be reviewed annually to determine its effectiveness and to make any necessary changes. New bus drivers also receive spill response and stormwater pollution prevention during their initial training.

Educational materials for Stormwater Pollution Prevention and IDDE are distributed through various forms of media to the members of the University.

Conformity to the requirements of this policy will be monitored by the Environmental, Health, Safety and Risk Management Office. Violations of this policy will be reported to the Vice President for Finance and Administration.





Minimum Control Measure # 4: Construction Site Stormwater Runoff Control

The University has adopted state mandated procedures to reduce pollutants in stormwater runoff from entering the stormwater inlets on campus during construction projects. Since July 1, 2009, Virginia Stormwater Management Laws have changed. Higher education institutions will continue to have stormwater management plans reviewed by DEQ; however, DEQ will no longer review Erosion and Sediment Control Plans. The two options for Erosion and Sediment Control review are: implementation of an internal Erosion and Sediment Control review process, or review by the locality. NSU elected to implement an internal review process.

The BMPs defined under this measure shall be implemented beginning in the first permit year, and continuously. 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.

Goal: To prevent pollution of stormwater and maintain healthy waterways.

Schedule: Continuously

<u>Responsible Party:</u> Anton Kashiri, Director Department of Facilities Management

Minimum Control Measure # 5: Post-Construction Stormwater Management in New Development and Redevelopment

The University shall develop, implement and enforce procedures to address stormwater runoff from completed construction sites. Multiple BMPs are associated with this Minimum Control Measure. All BMPs defined under this measure shall be implemented beginning in the first permit year. These BMPs are as follows:

- 1. Compliance with Virginia Erosion and Sediment Control and Stormwater Laws:
 - The location, size and routing of stormwater shall be designed, approved and constructed in accordance with existing regulations. Tie-ins to existing structures shall be permitted if engineering studies can prove that such configurations are within current capacities and do not inhibit severe stormwater flows.
 - The University shall implement strategies that include structural and nonstructural best
 management practices appropriate for the campus and surrounding environments. In
 contracts with consultants, emphasis shall be placed on replicating pre-construction
 runoff characteristics and site hydrology. Among the prominent concerns are the runoff
 from local city streets and the outfalls from the campus.
 - Any additional maintenance requirements of the new structure shall be assigned to the respective tradesmen. If warranted, formal preventive maintenance procedures shall be scheduled and modified as warranted by experience, efficiency and employee safety.
 - Work orders and inspections of stormwater structures shall be documented and copies sent to the Office of Environmental Health. Discrepancies shall be recorded and corrective measures identified, performed and documented. Timely completion of these functions shall be a factor in the tradesmen's performance appraisals.

Goal: To prevent pollution of stormwater and maintain healthy waterways.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director





Department of Facilities Management

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.

Goal: To verify basins are clean and capable of retaining and draining.

Schedule: Quarterly

Responsible Party: Anton Kashiri, Director

Department of Facilities Management

3. Develop a Stormwater Masterplan. For State owned property, stormwater regulations are determined and enforced at the State level by the Virginia Department of Environmental Quanlity (DEQ). The Master Plan was developed to ensure compliance with current regulations. Goal: The intent is to supplement the Current Campus Master Plan by providing a guideline for development on campus.

<u>Schedule:</u> After acceptance by DEQ, update as new construction projects are completed <u>Responsible Party:</u> Anton Kashiri, Director

Department of Facilities Management in conjunction with Consultants

Minimum Control Measure # 6: Pollution Prevention/Good Housekeeping for Municipal Operations

The University has been performing functions that contribute to the prevention of pollutants from entering stormwater inlets and adversely affecting the natural environment. Potential sources of stormwater pollution include oil/grease stains in parking lots, fuel spills, lawn & garden nutrients on pavement, exposed bulk storage piles and common floatable trash. It is recognized that greater documentation, training and expansion in some areas will contribute to an increase in the efficiency of the overall program. The University has developed a Stormwater Pollution Prevention Plan (SWPPP) that highlights the high priority facilities that have a high potential to discharge pollutants into the stormwater system. Currently, NSU's Facilities Management Building and Transportation Yard has been identified as a high potential area, the SWPPP was developed around the need to mitigate these potential pollutants. Annually the campus will be evaluated and the SWPPP will be updated with any new areas of that have been identified. Multiple BMPs are associated with this Minimum Control Measure. All BMPs defined under this measure shall be implemented beginning in the first permit year. These BMPs are as follows:

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.

<u>Goal:</u> To increase awareness for stormwater runoff and eliminate sources of illicit materials polluting surface waters.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director Department of Facilities Management





2. Groundskeepers have been instructed to pick-up debris to prevent shredding by lawn mowers and entering stormwater drains.

<u>Goal:</u> To reduce the amount of pollutants in the stormwater, and promote the free flowing of stormwater in the sewer lines.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director Department of Facilities Management

 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.

<u>Goal</u>: To cause tradesmen and faculty to store hazardous wastes isolated from the weather and unauthorized personnel.

Schedule: Continuously

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management

5. Creation of a Hazardous Substance Policy: The discharge of hazardous substances or oil into the stormwater sewers have been prevented through the creation of a hazardous materials policy. The policy includes the periodic removal of hazardous wastes from the academic chemistry, biology and medical laboratories, along with chemical wastes from the research facilities. Hazardous substances and wastes from facility maintenance operations are controlled by storing the materials in flammable storage cabinets, keeping a limited amount on campus, and using an approved hazardous waste hauler to overpack stale or contaminated cans, bottles, etc. Temporary storage on campus is within a specially manufactured hazardous material shed until transport to a recycler, incinerator or approved landfill can be arranged by the hazardous waste transporter. Reporting, response and disposal requirements have been explained to staff as part of the Hazard Communication Training required by OSHA Standard 29 CFR 1910.1200.
Goal: To prevent hazardous materials from entering the University's stormwater sewer system

and other downstream waters.

Schedule: Continuously

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management

6. Development of a Nutrient Management Plan: The University has chosen to select a consultant from a list provided by the DEQ. After soil conditions have been sampled and tested, specific fertilizer mixes shall be administered by the University to maintain the lawns and flower beds. The application of fertilizers and herbicides shall strictly follow the recommendations provided by the consultant, and shall be fully documented. Those employees assigned to apply the fertilizers and herbicides shall be certified to perform those tasks.

Goal: To reduce the amount of pollutants in the stormwater.

Schedule: Continuously

<u>Responsible Party:</u> Anton Kashiri, Director Department of Facilities Management





7. 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.

<u>Goal</u>: To assure a release is adequately remediated, storm drains are protected, staff personnel do not become contaminated and disposal protocols are strictly followed.

Schedule: Continuously

Responsible Party: Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management

8. All trash receptacles shall be emptied and refilled with new trash bags when they become full, after the event ends and the after crowds leave. All stormwater inlets in the general area of the events shall be checked and trash of all types removed from the inlet. An estimate of the amount of trash collected shall be recorded and sites of the greatest accumulations noted.

Goal: To reduce the amount of pollutants in the stormwater.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director Department of Facilities Management

9. Exterior storage: Certain material storage practices include bulk piles of mulch, topsoil, sand and salt. It was recognized that heavy rains can cause the loose materials to flow into street gutters and eventually into stormwater inlets. Currently salt (for icing conditions) and urea fertilizer are received in bags and stored in a grounded storage container. If other lawn and garden supplies cannot be purchased in bags, then provisions shall be considered to store such materials under an impervious cover.

Goal: To reduce the amount of pollutants in the stormwater.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director Department of Facilities Management

10. Obsolete Maintenance Items: remove any unnecessary and obsolete items from the Maintenance Facility. Including but not limited to old vehicles, barrels, scrap metal, non-functioning equipment, light bulbs, etc. Place items like light bulbs awaiting disposal under cover until the time of disposal to prevent contact with stormwater.

<u>Goal:</u> To reduce the amount of unintentional pollutants in the stormwater.

Schedule: Continuously

Responsible Party: Anton Kashiri, Director

Department of Facilities Management





11. Education of Staff: Conduct a presentation on stormwater pollution prevention to Facilities Management Staff.

<u>Goal:</u> To increase staff awareness of stormwater and pollution prevention measures. This includes understanding of the differences between stormwater and sanitary sewer systems and allowable discharges.

Schedule: Annually to Bi-Annually (based on hiring)

Responsible Party:

Patricia A. Perkins, Director

Office of Environmental Health, Safety, and Risk Management





Below references are located on the University website or available upon request.

- A. Stormwater Pollution Prevention Plan
- B. Annual Standards and Specification
- C. DEQ Approval Letter for Annual Standards and Specifications
- D. Chesapeake Bay TMDL Action Plan
- E. Elizabeth River TMDL Action Plan
- F. Stormwater Standard Operating Procedures
- G. Spills Prevention Controls and Countermeasures Plan

