

Stormwater Pollution Prevention Plan (SWPPP)

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Section 1: Introduction

The Virginia General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s) requires Christopher Newport University (CNU) to develop and implement a comprehensive stormwater management (SWM) program consistent with the Virginia General Permit (VAR04), originally effective on July 9, 2008. CNU registered for continuation of coverage on January 10, 2008, and was approved by the Virginia Department of Conservation and Recreation (DCR) on July 15, 2008 (MS4 General Permit VAR040090). The program was transferred from the DCR to the Virginia Department of Environmental Quality (DEQ) in 2013. CNU re-registered for continuation of coverage and was approved by the DEQ on July 1, 2013 (MS4 General Permit VAR040090). The new general permit term is from July 1, 2013 to June 30, 2018. A copy of the permit is available in Appendix D.

CNU's Stormwater Management Program is based on six minimum control measures (MCM) as required by the Virginia General Permit. These goals and objectives were developed to reduce the discharge of pollutants from the University's MS4 to the maximum extent practicable (MEP), protect water quality, ensure compliance with water quality standards, and to satisfy the appropriate water quality requirements of the Clean Water Act and its attendant regulations.

This SWPPP does not cover any new construction associated with capital improvement project activities. New construction activities must have a stormwater management plan approved by the VSMP authority as authorized under the Virginia Stormwater Management Program (VSMP) Regulation (9VAC25-870).

1.1 Area of Coverage

CNU is a regulated small MS4 contained within the boundaries as shown on Figure 3 (Appendix C). The University's MS4 area encompasses what is known as "main campus." Main campus is generally bounded to the north by Prince Drew Rd., to the east by Warwick Blvd., to the west by N. Moores Ln., to the south by Shoe Ln. and to the southeast by Ave. of the Arts. The University's MS4 discharges through 2 outfalls into ditches which flow into the Warwick River (a Chesapeake Bay Tributary). The CNU MS4 area of the campus is located in the Lower James River watershed within the Hydrologic Unit Code JL43.

Additionally, there are parts of the campus east of Warwick Blvd. (known as "east campus") which do not discharge to the University's MS4. The east campus area discharges to the City of Newport News' MS4 (Appendix C: Figure 3).

1.2 Allowable Non-Stormwater Discharges

The following are the only non-stormwater discharges authorized under the MS4 (9VAC25-870-400), provided that all discharges comply with the effluent limitations set forth in the MS4:

- Discharges from fire-fighting activities
- Fire hydrant flushings
- Potable water, including water line flushings
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids
- Irrigation drainage

- Landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling
- Pavement wash waters where no detergents or hazardous cleaning products are used, and the wash waters do not come into contact with oil and grease deposits or other toxic or hazardous materials (unless cleaned up using dry clean-up methods). Permittees are prohibited from directing authorized pavement wash waters directly into surface water or storm drain inlet unless appropriate control measures that meet the non-numeric effluent limits have been implemented. Where appropriate control measures are not in place, wash water runoff must first undergo treatment prior to discharge such as filtration, detention, or settlement.
- Routine external building washdown/power washwater that does not use detergents or hazardous cleaning products
- Uncontaminated groundwater or spring water
- Foundation or footing drains where flows are not contaminated with process materials
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (i.e. - "piped" cooling tower blowdown or drains)

All other non-stormwater discharges requiring VPDES permit coverage are not authorized by CNU's MS4 General Permit.

1.3 Permit Compliance

As per Section 3 Part L of the General Permit, the operator shall comply with all conditions of this state permit. Any state permit noncompliance constitutes a violation of the Virginia Stormwater Management Act and the Clean Water Act, except that noncompliance with certain provisions of this state permit may constitute a violation of the Virginia Stormwater Management Act but not the Clean Water Act. State permit noncompliance is grounds for enforcement action; for state permit termination, revocation and reissuance, or modification; or denial of a state permit renewal application. The operator shall comply with effluent standards or prohibitions established under § 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this state permit has not yet been modified to incorporate the requirement.

1.4 Contents of the SWPPP

This plan includes the elements list in Table 1-1.

Table 1: SWPP Plan Elements

Description	Plan Location
Stormwater Pollution Prevention Team	Section 2
Site Descriptions	Section 3
Summary of Potential Pollutant Sources	Section 4
Description of Control Measures	Section 5

Description	Plan Location
Schedules and Procedures	Section 6
Signature Requirements	Section 7

1.5 SWPPP Availability

A complete copy of the current SWPPP is maintained by CNU electronically. The SWPPP is immediately available to University employees; local, state, and federal officials; and the operator(s) of an MS4 receiving discharges from the site.

1.6 Additional Documentation Requirements

CNU keeps the following inspection and monitoring records with the SWPPP to demonstrate compliance with the conditions of the MS4 General permit:

- Documentation of maintenance and repairs of control measures, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair/replacement, and for repairs, date(s) that the control measure(s) returned to full function, and the justification for extended maintenance/repair schedules
- Inspection reports
- Description of deviations from the schedule for visual assessments and/or monitoring, and the reason for the deviations
- Description of corrective action triggering event/condition
- Documentation to support any determination that pollutants of concern are not expected to be present above natural background levels if the University discharges directly to impaired waters, and that such pollutants were not detected in the discharge or were solely attributable to natural background

1.7 Record Keeping Requirements

CNU retains copies of this SWPPP (including modifications made during the term of this permit), additional documentation requirements, all reports and certifications required by MS4 General Permit, monitoring data, and records of all data for a period of at least three years from the date that coverage under the current MS4 General Permit expires or is terminated.

Section 2: Stormwater Pollution Prevention Team

The stormwater pollution prevention team is responsible for overseeing development of the SWPPP, later modifications to it, and for compliance with the requirements in this permit. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit, the most updated copy of the SWPPP, other relevant documents, or information that must be kept with the SWPPP.

For the purposes of this Plan, the members of the Pollution Prevention Team Roster are summarized in Table 2 below:

Table 2: Pollution Prevention Team Roster and Responsibilities

Member Name or Title	Member Responsibility
Executive Vice President	Team Member - Certifying official and provides any upper management advice or directives.
Senior Associate Vice President For Administration and Finance	Team Member – Alternate Certifying official and provides any upper management advice or directives.
Director of Grounds	SWPPP Coordinator/Team Leader - Coordinates plan development, plan implementation, employee training, inspections, and best management practices.
Director of Facilities Management	Team Member - Supports plan development, plan implementation, employee training, inspections, and best management practices.
Assistant Director of Grounds	Team Member - Oversees preventative maintenance procedures, and monthly inspections to ensure that control measures (such as covers for outside dumpsters) are in place and are in proper working condition
Environmental Health and Safety Manager	Team Member - Supports plan development, plan implementation employee training, inspections, and best management practices.
Sustainability Coordinator	Team Member - Supports plan development, plan implementation employee training, inspections, and best management practices.
Consultant	Assist in plan development and provide technical advice on plan implementation.

Section 3: Site Description

3.1 University Activities

CNU is a four-year public university in Newport News, Virginia. CNU enrolls 5,000 students each year and has approximately 1,000 employees. The University’s campus is sited on 260 acres featuring approximately 40 buildings. The MS4 discharges through 2 outfalls into ditches which flow into the Warwick River (a tributary of the Chesapeake Bay). The campus is located in the Lower James River watershed with the Hydrologic Unit Codes (HUC0 JL38 and JL43). Please see Appendix C for a complete site map.

The following University Departments have operational control (i.e. authority over daily operations) over on-site activities with the potential to contribute to stormwater pollution:

- Grounds Department
- Plant Operations
- Auxiliary Services
- Athletics

3.2 High Priority Areas

Many of the University’s operations occur within structures and/or under cover. However, there are 7 areas of the University with on-site activities with the potential to contribute to stormwater pollution (Appendix C: Figure 4).

3.2.1 Waste Management Areas

The University has 1 centralized Municipal Solid Waste (MSW) dumpster yard (Appendix C: Figure 5). Additionally, there are 13 other locations on campus which feature dumpster and/or compactor corrals. All the waste management areas are used for the temporary storage of MSW in dumpsters until a licensed and contracted waste hauler can empty the dumpsters (5-6 times per week). The locations are outlined in Table 3:

Table 3 Waste Management Areas

Location	Operational Control	Front End Load MSW Dumpsters	Front End Load Recycling Dumpsters	Roll-Off MSW Dumpsters	Compactor	FOG Container
Main Dump Site	Plant Operations	9	3	1	-	-
CNU Apartments*	Auxiliary Services	3	1	-	-	-
CNU Crossing*	Auxiliary Services	1	1	-	-	-
CNU Landing*	Auxiliary Services	3	-	-	-	-
CNU Village*	Auxiliary Services	-	-	-	1	1
Commonwealth Hall*	Plant Operations	1	-	-	-	-
David Student Union	Auxiliary Services	-	-	-	1	1
Ferguson Center	Auxiliary Services	2	1	-	-	-
Freeman Center	Auxiliary Services	2	1	-	-	-
Grounds*	Grounds Department	1	-	1	-	-
Hidden-Hussey Commons	Auxiliary Services	-	-	-	1	1
James River Hall	Auxiliary Services	2	-	-	-	-
Plant Operations*	Plant Operations	-	1	1	-	-
Santoro Hall	Auxiliary Services	2	-	-	-	-

Please note that “*” denotes that stormwater discharges into the City of Newport News’ MS4; whereas, lack of the “*” denotes that stormwater discharges into CNU’s MS4.

3.2.2 Plant Operations Building

Plant Operations (Plant Ops) is located at 11 Sweetbriar Drive in Newport News and is under the operational control of Plant Operations. This area houses the facilities management personnel including: Mechanical, Electrical, Plumbing, Housekeeping, and Warehouse staff. On-site operational activities primarily occur indoors. The area consists of one building with a paved employee parking lot to the west, Sweetbriar Dr. to the south, a paved staging area to the north, and University Parking to the east (Appendix C: Figure 6). The area discharges stormwater via sheet flow into the City of Newport News' MS4. The following activities at this area have the potential to contribute to stormwater pollution:

- Exterior storage of materials
 - e.g. scrap metal, stone, wood, etc.
- Materials handling
 - e.g. paint, chemicals, etc.
- Shipping and receiving areas
- Solid waste management dumpster storage

3.2.3 Grounds Department Compound

The Grounds Department compound is located at 437 University Place in Newport News and is under the operational control of the Grounds Department. This area houses the landscaping management personnel and equipment. The area consists of 3 buildings, 2 storage structures, and equipment wash pad. The wash pad drains to the sanitary sewer and is not connected to the stormwater system. This area also has two double walled Above Ground Storage Tanks (AST) on location for gasoline and diesel fuel. To the northern portion of the area is a wooded lot, to the east is a private residential lot, to the south is University Place, and to the west is an unpaved temporary construction vehicle parking area (Appendix C: Figure 7). The area discharges stormwater via sheet flow into the City of Newport News' MS4. The following activities at this area have the potential to contribute to stormwater pollution:

- Exterior storage of materials
 - e.g. dirt, sand, mulch, fuel etc.
- Materials handling
 - e.g. Fertilizers, pesticides, fungicides, herbicides and fueling
- Shipping and receiving areas
- Solid waste management dumpster storage

3.2.4 Athletics Department Operations

The Athletics Department Operations is located at 220 Prince Drew Road in Newport News and is under the operational control of the Grounds Department with support from the Athletics Department. This area houses game day event staff and athletic equipment. The area consists of 2 buildings. To the northern portion of the area is a grass field, to the west is a grass athletics practice field, to the south of the property is the University's track and football stadium, to the east of the property is a private residence (Appendix C: Figure 8). The area discharges stormwater via underground drainage infrastructure to the University's outfalls. The following activities at this area have the potential to contribute to stormwater pollution:

- Exterior storage of materials
 - e.g. dirt, sand, mulch, fuel etc.

- Materials handling
 - e.g. Fertilizers, pesticides, fungicides, herbicides and fueling

3.2.5 David Student Union

The David Student Union is located at 1 Ave. of the Arts in Newport News and is under the operational control of Auxiliary Services. This area houses one of two of the University's dining halls. The area consists of one building. To the north of the area is a grass lawn, to the east is semi-permeable brick plaza, to the south is a paved road (University Place), and to the west is concrete loading dock Appendix C: Figure 8). The area discharges stormwater via underground drainage infrastructure to the University's outfalls. The following activities at this area have the potential to contribute to stormwater pollution:

- Materials handling
 - e.g. transfer food stuffs and cooking oils
- Shipping and receiving areas
- Solid waste management dumpster storage

3.2.6 Hiden-Hussey Commons

The Hiden-Hussey Commons is located at 1 Ave. of the Arts in Newport News and is under the operational control of Auxiliary Services. This area houses one of two of the University's dining halls. The area consists of one building. To the north of the area is a paved road (University Place), to the east is semi-permeable brick cart path, to the south is semi-permeable brick cart path, and to the west is a residence hall (Appendix C: Figure 10). The area to the northwest of the building discharges stormwater via sheet-flow to University Place. The remaining areas around the building discharge stormwater via underground drainage infrastructure to the University's outfalls. The following activities at this area have the potential to contribute to stormwater pollution:

- Materials handling
 - e.g. transfer food stuffs and cooking oils
- Shipping and receiving areas
- Solid waste management dumpster storage

3.2.7 Commonwealth Hall

Commonwealth Hall, a leased property, is located at 12306 Warwick Blvd. in Newport News is under joint operational control of Plant Operations and Auxiliary Services. The area serves as storage space and as office space for residential housing maintenance personnel, the University Mail Room, and the University sign shop. The area consists of two buildings and an employee parking lot. To the north of the area is a private residential lot, to the west is Sweetbriar Dr., to the south is a commercial lot, and to the east is a commercial lot (Appendix C: Figure 6). The area discharges stormwater via sheet flow into the City of Newport News' MS4. The following activities at this area have the potential to contribute to stormwater pollution:

- Materials handling
 - e.g. Signage materials
- Shipping and receiving areas
- Solid waste management dumpster storage

3.3 General Location Map

This SWPPP provides a general location (e.g., U.S. Geological Survey (USGS)) quadrangle map with enough detail to identify the location of the University and all receiving waters for the stormwater discharges (Appendix C: Figure 1).

3.4 Site Maps

In addition to the general location map, the SWPPP must include a map that shows the following:

- Boundaries of the campus, and the size of the campus in acres
- The location and extent of significant structures and impervious surfaces
- Direction of stormwater flow (using directional arrows)
- Locations of all existing structural control measures
- Locations of all receiving waters, including wetlands, in the immediate vicinity of the facility. Indicating if of the waters are listed as impaired and which are identified as Federal, state or tribal Tier 2 or Tier 2.5 waters
- Locations of all stormwater conveyances including ditches, pipes, and swales
- Locations of potential pollutant sources
- Locations of all stormwater monitoring points
- Locations of stormwater inlets and outfalls, with a unique identification code for each outfall (e.g., Outfall No. 001, Outfall No. 002, etc.)
- Municipal separate storm sewers systems (MS4) and where the facility discharges to them
- Locations of the following activities where such activities are exposed to precipitation:
 - Vehicle and equipment maintenance and/or cleaning areas
 - Loading/unloading areas
 - Locations used for the treatment, storage, or disposal of wastes
 - Processing and storage areas
 - Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility
- Locations and sources of run-on to the facility from adjacent property that contains significant quantities of pollutants

In order to meet these requirements described above, CNU has developed the enclosed Stormwater Site Plans for each High Priority Area as identified in Section 3.2. A copies of all maps are available in Appendix C.

Section 4: Potential Pollutant Sources

4.1 Summary of Potential Pollutant Sources

The SWPPP documents the areas at the University where materials or activities are exposed to stormwater or from which allowable non-stormwater discharges may be released. Materials or activities include, but are not limited to the following:

- Material handling equipment or activities
- Machinery
- Raw Materials
- Municipal Solid Waste

Material handling activities include, but are not limited to the following: storage, loading, and unloading, transportation, disposal, or conveyance of materials. Table 4 provides a summary of University activities exposed to stormwater:

4.1.1 Site Activities & Potential Pollutants

The list must include the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity with the potential to be exposed to stormwater, and could be discharged from the University.

Table 5 in this section summarizes the pollutants for each identified activity for the previous three years.

Table 4: Potential Pollutants Associated with University Activities

University Operations	Activities	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Roads, Streets, and Parking Lot Operation and Maintenance	Sweeping and Cleaning	X		X	X		X			X
	Street Repair, Maintenance, and Striping/Painting	X		X	X		X	X		
Plaza, Sidewalk, and Parking Lot Maintenance and Cleaning	Surface Cleaning	X	X			X	X			X
	Graffiti Cleaning	X	X		X			X		
	Sidewalk/Paver Repair	X		X						
	Controlling Litter	X		X		X	X			X
	Mowing/Trimming/Planting	X	X	X		X			X	X
	Fertilizer & Pesticide Management	X	X						X	
Landscape Maintenance	Managing Landscape Wastes			X					X	X
	Erosion Control	X	X							
	Inspection and Cleaning of Stormwater Conveyance Structures	X	X	X		X		X		X
Drainage System Operation and Maintenance	Controlling Illicit Connections and Discharges	X	X	X	X	X	X	X	X	X
	Controlling Illegal Dumping	X	X	X	X	X	X	X	X	X
	Maintenance of Inlet and Outlet Structures	X		X	X		X			X
	Solid Waste Collection		X	X	X	X	X	X		X
	Waste Reduction and Recycling			X	X					X
Waste Handling and Disposal	Collection of MSW			X	X		X	X	X	
	Controlling Litter			X	X	X		X		X
	Controlling Illegal Dumping	X		X		X	X		X	X

4.1.3 Spills and Leaks

This plan identifies locations where potential spills and leaks could occur that might contribute pollutants to stormwater discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. The University shall document all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that have drained to a stormwater conveyance in the three years prior to the date in which the SWPPP was prepared or amended.

The EPA has defined “significant spills” to include, but not be limited to, releases of oil or hazardous substances in excess of quantities that are reportable under the CWA or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The MS4 does not relieve the University of any reporting requirements relating to spills or other releases of oils or hazardous substances. Any operator who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR.

A spill, leak, or discharge is any flow that occurs during a 24-hour period into or upon state surface waters or that may reasonably be expected to enter state surface waters. In such an event, the University shall notify the Department of Environmental Quality (DEQ) of the discharge immediately upon discovery of the discharge, but in no case later than within 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to DEQ and the CNU MS4 Program Coordinator within five days of discovery of the discharge. The written report shall contain:

- a. A description of the nature and location of the discharge;
- b. The cause of the discharge;
- c. The date on which the discharge occurred;
- d. The length of time that the discharge continued;
- e. The volume of the discharge;
- f. If the discharge is continuing, how long it is expected to continue;
- g. If the discharge is continuing, what the expected total volume of the discharge will be; and
- h. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this general permit.

CNU has not experienced any reportable spills or leaks at the University of pollutants in the three years prior to the date of the development of this SWPPP. Please refer to site maps in Appendix C for identified areas locations where potential spills and leaks could occur that might contribute pollutants to stormwater discharges, and the corresponding outfall(s) that would be affected by such spills and leaks.

4.1.4 Non-stormwater Discharges

CNU regularly performs evaluations, in accordance with our IDDE Policy (Appendix B), to identify the presence of non-stormwater discharges and to confirm that all unauthorized discharges have been eliminated in compliance with all regulations. The details of each IDDE incident recorded electronically by the Grounds Department and are available upon request.

4.1.5 Sampling Data

All stormwater discharge sampling data required by the MS4 General Permit collected at the University are available with CNU’s annual MS4 report.

Section 5: Control Measures

The selection, design, installation, and implementation of control measures (including best management practices) must be accordance with good engineering practices and manufacturer's specifications and done to address the selection and design considerations as per Section 2 of the MS4 General Permit.

In the event the University finds that the control measures are not achieving their intended effect of minimizing pollutant discharges, the University shall modify these control measures. Regulated stormwater discharges from the University include stormwater run-on that commingles with stormwater discharges associated with University operations.

5.1 Control Measure Selection and Design Considerations

The University considers the following when selecting and designing control measures:

- Preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater
- Using control measures in combination is more effective than using control measures in isolation
- Assessing the type and quantity of pollutants, including their potential to impact receiving water quality
- Minimizing impervious areas at the University and increasing infiltrating runoff onsite can reduce runoff and improve ground water recharge and stream base flows
- Attenuating flow using open vegetated swales and natural depressions
- Conserving and/or restoring riparian buffers will help protect streams from stormwater runoff
- Using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate

5.2 Minimize Exposure

As described in Section 6.A.2 of the General Permit all facilities must minimize the exposure of daily operations, equipment maintenance, and materials handling (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, the facility should pay particular attention to the following:

- Use grading, berms, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas
- Locate materials, equipment, and activities so that potential leaks and spills are contained or diverted before discharge
- Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants
- Unless infeasible, store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents
- Use spill/overflow protection equipment
- Perform all vehicle and/or equipment cleaning on the wash pad connected to the sanitary sewer

- Drain fluids from equipment and vehicles that will be decommissioned or will remain unused for extended periods of time
- Ensure that all washwater, with the exception of discharges from pavement wash water and routine building washdown drains to a sanitary sewer, sump, or other proper collection system (i.e., not the stormwater drainage system)

The discharge of vehicle and equipment washwater, including tank cleaning operations, is not authorized by this permit. These wastewaters must be authorized and covered under a separate VPDES permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or disposed of otherwise in accordance with applicable law.

5.3 Good Housekeeping

The University incorporates best management practices into its daily operations that contribute to preventing pollutants from entering storm water inlets, and adversely affecting the natural environment. Potential sources of storm water pollution include spills and leaks from oil, grease, fuel, and chemicals onto paved surfaces, chemical product in wash water, lawn and garden products on pavement, exposed bulk storage piles and common floatable trash. Specific SOPs are available in Appendix E.

5.3.1 Parking Lots, Streets, and Roads Maintenance

Street sweeping is regularly completed to prevent waste material from entering stormwater drains via parking lots and streets. A schedule is established that best addresses the rate of accumulation of materials on pavements and hardscapes, and is adjusted for significant events (e.g. snowfall, sand, salt application). Materials collected during cleaning activities are not stored temporarily on site, rather delivered to a permitted landfill.

If leaked vehicle fluid is discovered, the vehicle is moved away from storm drains or a drip pan is placed under the leaking equipment until the vehicle can be re-located. Leaks and spills on pavement are contained, and cleaned up using absorbent material.

5.3.2 Equipment and Vehicles

The vehicle maintenance garage is located at the Grounds Maintenance Building on the east side of campus. The vehicle maintenance garage does not have floor drains, therefore, the likelihood of discharging contaminated runoff or stormwater is very low.

Vehicle maintenance is performed indoors and/or under cover. Any oil or other vehicle fluid spills are contained and cleaned using absorbent materials, then disposed of into appropriate recycling containers. Leaking vehicles are removed from service until repaired and a drip pan is used to capture fluid leaks during storage and/or maintenance. Vehicles washed with detergents should be washed in areas which drain to a sanitary sewer or they can be washed with a water-based, phosphate free car wash over grassy areas not located near storm drains. Leaking vehicle batteries are stored in secondary containers.

Lawn mowers, weed eaters, blowers, etc. are fueled, maintained and stored within Grounds Maintenance Buildings on concrete floors.

5.3.3 Outdoor Buildings

Maintenance of building exteriors may involve a number of different practices, from cleaning to resurfacing. Pressure washing, for example, can concentrate organic sediment, precipitates, surface material, and cleaning solutions into the waste water, which is characterized as an illicit discharge if it enters the MS4. Power washing water, cleaning agents, and other compounds should not enter the storm sewer system or water bodies. Care should be taken to prohibit fluids from flowing into roof drains, downspouts, and any other conveyances leading to them.

Building washing is performed on dry days and uses minimal water. Dirty areas are prioritized rather than cleaning or pressure washing an entire building to minimize water use. Prior to outdoor washing, storm drains and possible conveyances are protected with drain covers, wattles, booms, or booms. Dry cleanup methods are employed to remove debris prior to washing surfaces. Wash wastewater that does not contain chemicals or cleaning agents is directed to nearby landscaping or vegetated areas to infiltrate in grass. Wastewater containing chemical pollutants must be captured and disposed of in the sanitary sewer. Suspended solids and oils that are present in wastewater are removed using booms, absorbent pads, or other devices.

For outdoor painting, water-based paints and thinners are used instead of oil-based whenever possible. Prior to painting, paint is mixed indoors or on an impermeable ground cover placed on the ground to prevent spills from contaminating ground soil or entering storm drain inlets. Unused waste latex paint is solidified prior to disposal in trash and oil-based paints are collected and disposed of as hazardous waste.

5.3.4 Grounds & Landscaping

The MS4 permit requires that a turf and landscape nutrient management plan be developed by a certified turf and landscape management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned by CNU where nutrients are applied to a contiguous area greater than one acre. Designated CNU staff tracks the total acreage where turf and landscape management plans are required and where such plans have been implemented, and they shall summarize the schedule and its implementation in annual permit reports.

Typical landscape maintenance practices can produce stormwater contaminants such as pesticides, soil, fertilizers, and debris which can pollute receiving water bodies. Maintaining an attractive campus landscape can require considerable efforts in pruning, watering, and fertilizing.

The Grounds Department performs maintenance and landscaping of campus grounds. Turf areas are minimized via groundcovers, wildflowers, and shrubs, thereby reducing mowing and water requirements. Whenever possible, drought and heat-resistant turf species, and regional, indigenous plants are selected for planting. Low-volume irrigation methods and minimal watering are provided to avoid water runoff. Lawn wastes generated from lawn mowing are composted through use of recycling deck mowers, and re-tilled into the soil of planting areas or mixed into mulch. Grass clippings and additional vegetation (i.e. leaves and vegetative debris) are collected and removed from campus to a permitted landfill. Leaves, clippings, and compost are managed so that runoff does not enter storm drain system.

Trash containers, recycling containers, and cigarette butt containers are placed in high pedestrian traffic areas, common areas, entrances to buildings, and sidewalk entries from parking lots. Additional

temporary trash receptacles are installed during University events for collecting increased volumes of trash. Dumpsters are located at secured sites on campus and on flat, concrete surfaces that do not slope or drain directly into a storm drain system. Dumpsters have drain holes to prevent accumulation of rainwater inside. Recycling bins are provided within the campus dumpster sites for collection of recyclable waste material. Outdoor trash receptacles are emptied daily or at rate necessary to prevent overflow of trash. All trash receptacles are covered to reduce the amount of rainwater entering the container and the potential for leakage.

5.3.5 Application and Storage of Pesticides, Herbicides, and Fertilizers

Grounds and building maintenance crews occasionally use pesticides and herbicides in routine operations, and the mixing and loading of applications into equipment is often in the same areas where fueling and maintenance occurs. Consequently, these are the areas where an accidental discharge into the MS4 is likely to occur. Care should be taken to properly store, handle, and apply these chemicals in much the same manner as other hazardous materials, and only adequately trained staff should be responsible for their use.

Minimum amounts of pesticides, herbicides, and fertilizers are stored to limit amount of bulk storage. All product containers (original and secondary) are labeled and stored in high, dry locations, according to manufacturer's specifications and applicable regulations. Storage areas are inspected regularly for leaks or spills; cleanup is immediate to prevent chemicals from reaching the storm drain system. Fertilizers are applied during periods of maximum plant uptake based on plant species. Prior to application, the five-day weather forecast is checked to avoid treatments before heavy rain or during a drought event. Unused waste product is disposed of as regulated waste.

5.3.6 Exterior Material Storage

Certain loose material storage (e.g. bulk piles of mulch, topsoil, sand, salt and de-icing material) may flow into street gutters and eventually stormwater inlets during heavy rain events. Materials are stored in storage containers, or under impervious cover to prevent flow.

Pre-bagged calcium chloride is used for deicing. De-icing agents containing urea or other forms of nitrogen or phosphorus are not used on parking lots, roadways, and sidewalks, or other paved surfaces. Grounds crew are trained in appropriate application techniques. Rinse water from cleaning de-icing equipment is directed away from storm drains.

5.3.7 Chemical Storage

Certain loose material storage (e.g. bulk piles of mulch, topsoil, sand, salt and de-icing material) may flow into street gutters and eventually stormwater inlets during heavy rain events. Materials are stored in storage containers, or under impervious cover to prevent flow.

Pre-bagged calcium chloride is used for deicing. De-icing agents containing urea or other forms of nitrogen or phosphorus are not used on parking lots, roadways, and sidewalks, or other paved surfaces. Grounds crew are trained in appropriate application techniques. Rinse water from cleaning de-icing equipment is directed away from storm drains.

5.4 Maintenance

The University must maintain all control measures that are used to achieve compliance with the MS4 General Permit in effective operating condition, as well as all equipment and systems to help prevent discharges of pollutants from them. This includes:

- Performing inspections and preventive maintenance of stormwater drainage, source controls, and equipment and systems that could fail
- Diligently maintaining nonstructural control measures (i.e.- keep spill response supplies available and confirm personnel appropriately trained)
- Cleaning catch basins when the depth of debris reaches two-thirds (2/3) of the sump depth and keeping the debris surface at least six inches below the outlet pipe

If the University finds that control measures need to be replaced or repaired, the facility must immediately take all reasonable steps to prevent or minimize the discharge of pollutants until a permanent solution is installed and made operational.

CNU employs the following activity specific maintenance BMP techniques:

- CNU schedules routine shipments for solid waste containers in an effort to minimize the potential for stormwater contamination
- CNU performs periodic inspections and clean-outs of stormwater conveyances in accordance with the following schedule:
 - Roof drains – semi-annually (spring / fall)
 - Catch basin – annually (spring)
 - Visual inspection of outfall structure – annually (spring)

5.5 Spill Prevention and Response Procedures

The University must minimize the potential for leaks, spills and other releases that may be exposed to stormwater, and develop plans for effective response to such spills if or when they occur. At a minimum, the following must be implemented:

- Plainly label containers that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur
- Implement procedures for material storage and handling, including the use of secondary containment and barriers between material storage and traffic areas, or a similarly effective means
- Develop training on the procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases.
- Keep spill kits on-site, located near areas where spills may occur
- Notify appropriate facility personnel, emergency response agencies, and regulatory agencies when a leak, spill, or other release occurs

Where a leak, spill or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity occurs during a 24-hour period, the facility must notify the National Response Center (NRC) at (800) 424-8802 as soon as the facility has knowledge of the discharge. Additionally, state or local requirements may require the reporting of spills or discharges to local emergency response personnel and public health or drinking water supply agencies. Contact information must be in locations that are readily accessible and available. Please see Appendix E for the Spill Prevention Control, Clean Up and Reporting SOP.

5.6 Erosion and Sediment Controls

The University must minimize erosion by stabilizing exposed soils and by placing flow velocity dissipation devices at discharge locations. The University must also use structural and non-structural control measures to prevent the discharge of sediment.

If an erosion or sediment problem is discovered through the regular inspections at the University, CNU will take corrective actions at that time. If any erosion or sediment controls are put in place, they will be documented and maintained at the end of this section.

5.7 Management of Runoff

The University must divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff, to minimize pollutants in the discharges. CNU will carefully examine the results from visual monitoring and any required analytical testing of the University stormwater outfalls. If problems are identified, they will be addressed immediately and additional BMPs will be implemented to minimize stormwater pollution.

5.8 Salt Storage

The University must enclose or cover storage piles of salt, or piles containing salt, used for deicing (including maintenance of paved surfaces). The University must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if stormwater runoff from the piles is not discharged or if discharges from the piles are authorized under VPDES permit.

The University has bulk salt storage at the Grounds Department (Appendix C: Figure 7). The salt is stored outside, under cover, on a concrete pad and surrounded on three sides by a concrete berm.

5.9 Employee Training

The University will train all employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (i.e. - inspectors, maintenance personnel), including all members of the Pollution Prevention Team. The following personnel must understand the requirements of this permit and their specific responsibilities with respect to those requirements:

- Personnel who are responsible for the design, installation, maintenance, and/or repair of controls
- Personnel responsible for the storage and handling of chemicals and materials that could become contaminants in stormwater discharges
- Personnel who are responsible for conducting and documenting monitoring and inspections
- Personnel who are responsible for taking and documenting corrective actions

Personnel must be trained in at least the following if related to the scope of their job duties (i.e. - only personnel responsible for conducting inspections need to understand how to conduct inspections):

- An overview of what is in the SWPPP
- Spill response procedures, good housekeeping, maintenance requirements, and material management practices
- The location of all controls on the site and how they are to be maintained
- The proper procedures to follow with respect to pollution prevention requirements
- When and how to conduct inspections, record applicable findings, and take corrective actions

Employee training is conducted annually at CNU and covers the topics described above.

5.10 Water Quality-Based Effluent

5.10.1 Water Quality

Discharge from the University must be controlled as necessary to meet applicable water quality standards as per Section 1 Part B of the General Permit. The DEQ expects that compliance with the conditions in the General Permit will control discharges to meet applicable water quality standards. If the University becomes aware, or the DEQ determines, that the discharge does not meet water quality standards, the University must take appropriate corrective action. The University must also comply with additional federal or local regulations. The University must implement all controls necessary to comply with a waste load allocation an approved total maximum doily load (TMDL).

5.10.2 Discharges to Quality Impaired Waters

Discharges from the University will be considered to discharge to an impaired waterway if the first waterway to which the facility discharge is identified by a state, tribe, or the EPA as not meeting an applicable water quality standard (included on the Section 303(d) of the CWA list), or is included in on EPA-approved or established TMDL. For discharges that enter a storm sewer system prior to discharge, the first waterway to which the facility discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

CNU discharges to Warwick River, which is listed as an Impaired Waterway according to the Virginia 2014 Integrated List of Waters pursuant to Sections 303(d) and 305(b) of the Clean Water Act. The Warwick River is listed by the Virginia DEEQ under 2014 Impaired Waters (Category 4A/4D) TMDL Approved and (Category 4B) Other Control Measures Present. The cause of this listing is recreation and the pollutant affecting this waterway is Enterococcus. The Warwick River was initially listed as an Impaired Waterway in 2008 with 2020 listed as the TMDL development date.

Section 6: Schedules and Procedures

6.1 Inspections

6.1.1 Routine Inspections

During normal operating hours the University shall conduct inspections of areas of the campus covered by the MS4 General Permit, including the following:

- Areas where materials or activities are exposed to stormwater
- Areas identified in the SWPPP and those that are potential pollutant sources
- Areas where spills and leaks have occurred in the past 3 years
- Discharge points
- Control measures used to comply the permit

Inspections shall be conducted at least quarterly (i.e., once each calendar quarter), or in some instances more frequently (e.g., monthly). Increased frequency may be appropriate for some types of equipment, processes and stormwater control measures, or areas of the facility with significant activities and materials exposed to stormwater.

At least one of the routine inspections must be conducted during a period when a stormwater discharge is occurring.

Inspections must be performed by qualified personnel with at least one member of the stormwater pollution prevention team participating. Inspectors must consider the results of visual and analytical monitoring (if any) for the past year when planning and conducting inspections.

During the inspection the staff must examine or look for the following:

- Materials, residue or trash that may have or could come into contact with stormwater
- Leaks or spills from industrial equipment, drums, tanks and other containers
- Offsite tracking of waste materials, or sediment where vehicles enter or exit the site
- Control measures needing replacement, maintenance or repair

When conducting an inspection during a stormwater discharge, control measures implemented to comply with effluent limits must be observed to ensure they are functioning correctly. Discharge points must also be observed during this inspection. If such discharge locations are inaccessible, nearby downstream locations must be inspected.

6.1.1.1 Routine Inspection Documentation

The findings of the routine inspections must be documented and maintained with this SWPPP

The inspection documentation must include, but not necessarily be limited to the following:

- The inspection date and time
- The name(s) and signature(s) of the inspector(s)
- Weather conditions at the time of the inspection

- All observations relating to the implementation of control measures at the University, including:
 - A description of discharges occurring at the time of the inspection
 - Previously unidentified discharges and/or pollutants from the site
 - Evidence of, or the potential for, pollutants entering the drainage system
 - Observations regarding the physical condition of and around all outfalls including flow dissipation devices, and evidence of pollutants in discharges and/or the receiving water
 - Control measures needing maintenance, repairs, or replacement
- Additional control measures needed to comply with the permit requirements
- Incidents of noncompliance observed

If the University performed a discharge visual assessment during the inspection, the University may include the results of the assessment with the report, as long as all components of both types of inspections are included in the report.

A Routine Inspection form is located in Appendix A of this SWPPP.

6.1.2 Quarterly Visual Assessment of Stormwater Discharges

Once each quarter for the entire permit term the University should collect a stormwater sample from each outfall and conduct a visual assessment the samples. The samples should be collected in such a manner that they are representative of the stormwater discharge from the University. The following visual assessments must be made:

- Collect the grab sample in a clean, clear glass, or plastic container. and examine in a well-lit area
- Collect the grab sample within the first 30 minutes of an actual discharge from a measurable storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes and the facility must document why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples must be taken during a period with a measurable discharge from the site
- Collect the grab sample from a measurable storm event or discharge that occurred at least 72 hours (3 days) from the previous discharge. The 72-hour storm interval does not apply if the facility document that less than a 72-hour interval is representative for local storm events during the sampling period

Sampling personnel must visually inspect or observe the sample for the following water quality characteristics:

- Color
- Odor
- Clarity (diminished)
- Floating solids
- Settled solids
- Suspended solids

- Foam
- Oil sheen
- Other obvious indicators of stormwater pollution

Whenever the visual assessment shows obvious signs of stormwater pollution, the University must initiate the corrective action procedures.

Exceptions to Quarterly Visual Assessments are as follows:

- **Adverse Weather Conditions:** When adverse weather conditions prevent the collection of samples during the quarter, the facility must take a substitute sample during the next qualifying storm event. Documentation of the rationale for no visual assessment for the quarter must be included with the SWPPP records
- **Areas Subject to Snow:** In areas subject to snow, at least one quarterly visual assessment must capture snowmelt discharge
- **Substantially Identical Outfalls:** If the University has two or more outfalls that the University believes discharge substantially identical effluents, the University may conduct quarterly visual assessments of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s). Visual assessments must be conducted at each substantially identical outfall on a rotating basis.

6.1.2.1 Quarterly Visual Assessment Documentation

The results of the visual assessments must be documented and maintained with this SWPPP. The visual assessment documentation must include, but not be limited to:

- Sample location(s)
- Sample collection date and time, and visual assessment date and time for each sample
- The name(s) and signature(s) of the inspector(s)
- Nature of the discharge (i.e. - runoff or snowmelt)
- Results of observations of the stormwater discharge
- Probable sources of observed stormwater contamination
- If applicable, why it was not possible to take samples within the first 30 minutes

A Quarterly Visual Assessment form is located in Appendix A of this SWPPP.

Section 7: Signature Requirements

The SWPPP, including changes to the SWPPP to document corrective actions taken, and all reports submitted to DEQ, must be signed by a responsible University official or by a duly authorized representative of that person. A responsible University official means:

- A president or vice-president of the University in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the University; or
- A Director of University Grounds or Facilities, provided, the Director is authorized to make management decisions which govern the operation of the University including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures

All other changes to the SWPPP, and other compliance documentation required must be signed and dated by the person preparing the change or documentation.

7.1 Plan Certification

I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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.

University Official: _____ **Title:** _____

Signature: _____ **Date:** _____

Appendix A – Inspection Forms

QUARTERLY VISUAL ASSESSMENT LOG

Date Sample Taken: _____ **Time Sample Taken:** _____

Name of Sampler (s): _____

Signature of Sampler (s): _____

Date of Visual Assessment: _____ **Time of Visual Assessment:** _____

Name of Assessor (s): _____

Signature of Assessor (s): _____

Visual Assessment Period (Check One):

1st Quarter (January through March)

2nd Quarter (April through June)

3rd Quarter (July through September)

4th Quarter (October through December)

Sample location(s): _____ Outfall #1; _____ Other

If other explain: _____

Weather conditions during sampling: _____

Nature of discharge: _____ Runoff; _____ Snowmelt; _____ Other

If other explain: _____

Sample taken within first 30 minutes of Discharge: _____ Yes; _____ No

If no explain why: _____

Quality of sample:

- Color _____
- Odor _____
- Clarity _____
- Floating Solids _____
- Settled Solids _____
- Suspended Solids _____
- Foam _____
- Oil Sheen _____
- Other _____

Probable sources of any observed stormwater contamination: _____

Any corrective action required as a result of quarterly visual assessment: _____ Yes; _____ No

If yes explain: _____

ROUTINE VISUAL INSPECTION LOG

Date of Inspection: _____ **Time of Inspection:** _____

Name of Inspector (s): _____

Signature of Inspector (s): _____

Inspection Period (Check One)

1st Quarter (January through March)

2nd Quarter (April through June)

3rd Quarter (July through September)

4th Quarter (October through December)

Weather conditions during inspection: _____

Any discharges occurring at time of inspection: Yes No

If Yes explain: _____

Any previously unidentified discharges of pollutants from the site: Yes No

If Yes explain: _____

Any control measures needing maintenance or repairs: Yes No

If Yes explain: _____

Any failed control measures that need replacement: Yes No

If Yes explain: _____

Any incidents of Noncompliance observed: Yes No

If Yes explain: _____

Any additional control measures needed to comply with the permit requirements: Yes No

If Yes explain: _____

In and around catch basin and outfalls	
Catch basin / Outfalls free of debris	<input type="checkbox"/> Yes <input type="checkbox"/> No
Any discharges	<input type="checkbox"/> Yes <input type="checkbox"/> No
Any sheen or chemical odors evident on effluent	<input type="checkbox"/> Yes <input type="checkbox"/> No
General Cleanliness of area	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Comments (Note specific outfall comment is for):	

Additional Comments:

Appendix B – IDDE Policy

http://cnu.edu/grounds/pdf/idde_1.0_2016.pdf

Appendix C – Maps

http://cnu.edu/grounds/pdf/Public_SWPPP_Maps.pdf

Appendix D – MS4 General Permit

<http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+9VAC25-890-40>

Appendix E – Equipment List & Standard Operating Procedures (SOPs)

http://cnu.edu/grounds/pdf/Stormwater_SOPS.pdf