Christopher Newport University (CNU)
Municipal Separate Storm Sewer System (MS4) Annual Report
Reporting Year July 1st, 2022 – June 30th, 2023

Christopher Newport University
1 Avenue of the Arts
Newport News, VA 23606

Contents

Abbreviations

AS&S	Annual Standards and Specifications
BMP	Best Management Practice
CFA	Certified Fertilizer Applicator
CGP	Construction General Permit
CNU	Christopher Newport University
DCR	Department of Conservation and Recreation
DEQ	Department of Environmental Quality
ESC	Erosion and Sediment Control
FOG	Fats, Oils, and Greases
HUC	Hydrologic Unit Code
IDDE	Illicit Discharge Detection and Elimination
LDA	Land Disturbing Activity
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NMP	Nutrient Management Plan
NPDES	National Pollutant Discharge Elimination System
SIP	Stormwater Improvement Project
SOP	Standard Operating Procedure
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
VDACS	Virginia Department of Agriculture and Consumer Services
VPDES	Virginia Pollution Discharge Elimination System
VSMP	Virginia Stormwater Management Program
WLA	Waste Load Allocation

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

The Virginia Pollution Discharge Elimination System (VPDES) General 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 MS4 General Permit VAR040090. The General Permit term is from November 1st, 2018 to October 31st, 2023. However, this Annual Report covers information for the reporting year of July 1st, 2022 through June 30th, 2023 which is the fifth year of the permit cycle. The Annual Report for the 2022-2023 reporting year will cover information for Year 5 under the new MS4 Permit which was effective on November 1st, 2018.

CNU's SWM 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 MS4 Annual Report will serve to convey the required information and detail the status of compliance with all permit conditions as well as the appropriateness of best management practices (BMPs) identified in the MS4 Program Plan towards achieving measurable goals for each MCM.

1.2 SIGNED CERTIFICATION

As required by the CNU MS4 Permit (VAR040090), the following certification is provided in accordance with Section 9VAC25-870-370 of the Virginia Stormwater Management Program (VSMP) Regulations, and as a required part of the submittal of CNU's MS4 Annual Report for 2022-2023.

Certification Statement and Requirements

As required by 9VAC25-870-370 B, all reports required by state permits, and other information requested by the board shall, be signed by a responsible official or by a duly authorized representative of that person. A responsible official is:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

Duly Authorized Representatives

A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above;

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position;

3. If an authorization under Part III K 2 is no longer accurate because a different individual or position has responsibility for the overall operation of the MS4, a new authorization satisfying the requirements of Part III K 2 shall be submitted to the department prior to or together with any reports, or information to be signed by an authorized representative; and

4. The written authorization is submitted to the department.

CERTIFICATION

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

M. Christine Ledford — September 27, 2023

Responsible Official Signature — Date

VAR040090 — Permit Number

Christopher Newport University — MS4 Name

2.0 MINIMUM CONTROL MEASURE NO. 1 – PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

MCM No. 1 provides for a public education and outreach program to develop and conduct outreach activities about the impacts of stormwater discharges on water bodies and steps the public can take to reduce pollutants in stormwater runoff. This measure includes the posting of educational materials around the campus, hosting informational workshops, and other activities.

The "public" in the case of CNU is defined as the faculty, students, employees, contractors, and visitors to the campus. Therefore, most of these outreach efforts are part of an on-campus effort to increase the CNU community's knowledge about the steps they can take to reduce stormwater pollution. These efforts can also be coordinated with MCM No. 2 in order to increase individual and group involvement in local water quality improvement initiatives. CNU continues to explore opportunities to partner with the adjacent MS4s on education and outreach efforts to engage the broader community through an off-campus effort where possible.

CNU identified three high-priority water quality issues that contribute to the discharge of stormwater. These issues have remained as the high-priority water quality issues for the CNU stormwater program. The three issues are listed below along with associated public education and outreach information:

1) Litter & Street Debris – Faculty, Staff, Students, and Visitors

Litter and street debris is a water quality issue that is constantly observed and managed by the Grounds Department. Contributors towards this water quality issue include all the CNU public that work, attend, or visit the University. Therefore, the audience for this issue includes faculty, students, staff, and visitors. In this permit year, Grounds Department staff distributed drink coasters, stickers, and business cards with stormwater educational information on them for staff, students, and guests at multiple events including: the CNU Garden Symposium, Freshmen move-in, CNU Parking Pass distribution.

CNU is continuing to investigate alternative ways to distribute educational materials to the CNU MS4 public including use of social media. Within this permit cycle, the CNU Sustainability Facebook account (@sustainCNU) posted information on stormwater issues under the hashtag #stormwaterMonday. This form of outreach is used to distribute educational information on a variety of stormwater topics, including the identified high-priority issue of litter and street debris.

Additional ongoing programs to support this message include the installation/replacement of storm drain medallions on all campus storm drain inlets. Initial installation was completed in 2009-2010 and the program is still ongoing with the annual replacement of missing or damaged medallions. None were replaced this reporting year. The storm drain medallions which read, "No Dumping, Drains to Waterway," are visible on nearly every storm drain inlet throughout the CNU campus and serve as a visual reminder to not pollute.

2) Construction Site Runoff – Contractors

At times, the University has several construction projects ongoing simultaneously. Therefore, construction site runoff is a high-priority water quality issue. The audience for this issue includes the contractors, subcontractors, and VSMP inspectors who are working on-campus at the construction sites. Educational signs are installed at all active on-campus construction projects. The signs are visible on-campus to all persons who walk next to the construction fencing adjacent to the project location.

The University did not have any active construction projects this permit year, but training was developed in coordination with Timmons Group for upcoming construction activities.

3) Nutrient Management – Grounds staff

The CNU Grounds Department identified nutrient management as a third high-priority water quality issue. The University takes pride in a clean and green campus but also works to not over-apply nutrients, and diligently follows the approved Nutrient Management Plans (NMPs) for the campus. The audience for this water quality issue includes students, faculty, and staff that can all be educated on nutrient management topics for their personal use, as well as the Grounds Department staff as they are the only ones involved in nutrient application and management directly to campus and athletic grounds. The CNU Grounds Department currently has four Certified Fertilizer Applicators (CFAs), and two Certified Nutrient Management Planners through the Virginia Department of Agriculture and Consumer Services (VDACS).

At least annually by September 1st, information will be made available to appropriate parts of CNU's public on nutrient management that can be used at their personal residences. Information will be collected from sources such as askHRgreen.org.

In addition to the high-priority issues listed above, the CNU Stormwater website (http://cnu.edu/public/stormwater/) is an important part of the public education and outreach program at CNU. The website contains MS4 information. It has been updated to include additional information related to stormwater and pollution prevention including copies of the permit, Illicit Discharge Detection and Elimination (IDDE) information, Annual Reports, the Program Plan, educational information about stormwater, links to other stormwater-related websites, and stormwater incident reporting information. In addition, CNU contracted with Timmons Group to create updated training for all staff on stormwater topics including MS4 permit requirements, IDDE, inspections, maintenance, nutrient management, and SWPPP high priority information. A copy of the slides from the recorded presentation are available in Appendix A.

CNU implements this MCM through the BMPs provided below. Information concerning each BMP is provided in Table 1-1. Additional public education and outreach information is provided in Appendix A.

- MS4 Program Update
- CNU MS4 Website
- CNU Sustainability Facebook Site
- Premium Item Giveaways
- Storm Drain Medallions
- Construction Signage
- Construction Site Runoff
- Litter and Street Debris Education
- Nutrient Management Training

Table 1-1. MCM No. 1 – Public Education and Outreach on Stormwater Impacts

BMP	Description	Measurable Goal	BMP Status	Future Activities
1.1 – MS4 Program Update	Conduct a self-assessment and update of the MS4 Program to identify and proactively address issues and deficiencies, as well as identify opportunities to improve program effectiveness.	Annual report.	Completed 2008-2009; MS4 Program Plan Update in 2019- 2020. This permit cycle adjustments were made to the program plan based on the June 2022 VADEQ Audit results and recommendations.	CNU's program plan will be updated in the coming permit year to meet the new permit cycle requirements.
1.2 – CNU MS4 Website	Update the CNU website to include information on the MS4 Program, MS4 general permit, MS4 Program Plan and annual reports, educational information about stormwater, links to other stormwater-related websites and stormwater incident reporting information.	Updated CNU website to include information on the MS4 Program. Annual review and update based on changes to CNU policies and/or staffing.	Website initially updated to include MS4 information in 2009- 2010. Additional information was added to the website in subsequent years. Annual reviews and updates are performed as needed. See Appendix A.	Additional stormwater information will continue to be added to the website as the program plan is updated.
1.3 – CNU Sustainability Facebook Site	CNU utilizes a Sustainability Facebook page which shares stormwater educational messages and provides event updates to students, faculty, and staff.	Number of messages, and responsiveness to information from the public.	Two posts were shared during this permit cycle on the CNU Sustainability Facebook Page (@sustainCNU), using the hashtag #StromWaterMonday to bring awareness to stormwater related issues. The CNU Sustainability Facebook page has 348 followers and each #StormWaterMonday post received one 'Like'. See Appendix A.	Additional stormwater information will be shared on the site to continue raising awareness. Continue to develop and share new ideas, strategies, and events that promote stormwater pollution prevention.
1.4 – Premium Item Giveaways	Give items to the CNU public that share messages to reduce stormwater pollution.	Numbers of items given away at events.	During the CNU Annual Garden Symposium (approximately 180 participants) on April 22,2023, a booth was set up to provide education on proper stormwater care. Approximately 200 drink coasters were distributed during this reporting year to highlight stormwater. Stormwater "Setting Sail" stickers were passed out to the approximately 1,200 incoming CNU Freshmen this permit cycle. Business cards related to stormwater awareness and illicit discharge reporting were passed out with approximately 4,000 On-Campus Parking Passes this permit cycle to students and staff. See Appendix A.	Provide items to students, faculty, and staff at planned outreach events.

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Minimum Control Measure No. 1 – Public Education and Outreach on Stormwater Impacts

BMP	Description	Measurable Goal	BMP Status	Future Activities
1.5 – Storm Drain Medallions	Install storm drain medallions on all campus storm drain inlets to help remind the CNU community about stormwater pollution. The medallions read, "No Dumping, Drains to Waterway."	Number of storm drain medallions installed/replaced.	During this permit year, no new medallions were necessary, and no medallions needed replacement. See Appendix A.	Monitoring of the storm drain medallions is an ongoing activity. Any missing or damaged medallions will be replaced. New medallions will be installed on newly constructed campus storm drains.
1.6 – Construction Signage	Develop a sign to be placed on construction site fencing at all on-campus construction projects explaining the importance of proper erosion and sediment control practices and its connection to stormwater quality.	Ensure that educational signs are present on fencing at all on-campus construction projects. Report on number of signs posted annually.	There were no active construction projects in the MS4 during this permit cycle, therefore no signs were placed.	Installation of educational signage at new on-campus construction projects will be an ongoing activity. Any missing or damaged signs observed will be replaced.
1.7 – Construction Site Runoff	Construction site runoff was identified as one of the three high-priority water quality issues at CNU. CNU will conduct biennial training for contractors on construction site runoff pollution prevention.	Conduct biennial training to contractors on construction site runoff pollution prevention. Document each training event including the training date, number of people attending the training, and the objective of each training event.	In conjunction with Timmons Group, CNU has created new training to be implemented for upcoming construction activities. See Appendix A.	Construction site runoff pollution prevention training will be a biennial and ongoing activity, as needed based on active construction projects, for contractors associated with all new regulated land disturbing activities (LDAs) on-campus. CNU is looking at rotating biennial presentations/training materials to present similar but varying content.
1.8 – Litter and Street Debris Education	Litter and street debris was identified as one of the three high-priority water quality issues at CNU. CNU will conduct public education/outreach regarding the impacts of litter and street debris on stormwater discharges.	Number of events held, number of audience reached. Noticeable reduction in litter expected on an on-going basis.	Litter and street debris is one of the topics that was regularly included in the educational information given in the Premium Item Giveaway and posted on the CNU Sustainability Facebook page and in the. See Appendix A.	Distribution of educational materials to the CNU public related to litter and street debris is an ongoing activity. CNU will continue to conduct public education/outreach regarding this issue and continue to look into alternative ways to distribute educational materials to the CNU MS4 public.

Minimum Control Measure No. 1 – Public Education and Outreach on Stormwater Impacts

BMP	Description	Measurable Goal	BMP Status	Future Activities
1.9 – Nutrient Management Training	Nutrient management was identified as one of the three high-priority water quality issues at CNU.	Train CNU Grounds Department staff as certified fertilizer applicators to ensure that nutrients are only applied in accordance with CNU's approved Nutrient Management Plans. Distribute Nutrient Management material for public to utilize at home.	Continue training Grounds Department staff regarding nutrient management and document names, date, etcetera. CNU has 4 CFAs and 2 NMPs. Flyers on nutrient management were passed out at the CNU Annual Garden Symposium regarding nutrient management, and askHRgreen.org sources were distributed. See Appendix A.	This is an ongoing program with annual information distribution to the general public and with biennial training for staff. In addition to any in-house training, staff are sent to training courses.

3.0 MINIMUM CONTROL MEASURE NO. 2 – PUBLIC INVOLVEMENT/PARTICIPATION

MCM No. 2 provides for public involvement and participation by making the MS4 Program Plan available for public review and input. The Program Plan can be found on the CNU website at the link provided below. More importantly, MCM No. 2 provides for public participation in watershed activities that further the education and awareness of stormwater impacts to receiving water quality.

http://cnu.edu/public/stormwater/

In this reporting year, the University did not receive any public input concerning stormwater or ESC issues, practices, or programs.

CNU has a comment response form and request for information from the public. A link is included on the stormwater portion of CNU's website for requesting this public input. Information will be maintained and documented, and appropriate comments/input will be responded to in a timely manner.

Through this MCM, CNU developed a series of activities which actively involve the students, faculty, staff, and to the MEP – the community at large. During the reporting year, CNU participated in a variety of public service events aimed at increasing public participation to reduce stormwater pollutant loads, improve water quality, and support local restoration and clean-up projects, programs, groups, meetings, and other opportunities for public involvement. CNU's Director of the Center for Sustainability and Education is also reviewing possible engagement activities such as having the public involved in painting construction fencing or stormwater inlets.

During the 2022-2023 reporting year CNU did not install any additional Pet Waste Stations as the campus coverage was deemed sufficient. All currently installed Pet Waste Stations were maintained and refilled with bags as necessary to encourage faculty, staff, students, and visitors to collect and properly dispose of pet waste. The Pet Waste Stations will continue to remain on-campus to educate faculty, staff, students, and visitors on the importance of water quality.

CNU increased student involvement through a student project where students interviewed the Director of Grounds about stormwater and environmental issues on campus. Students then created video presentations to educate fellow peers on campus stormwater and environmental issues. One in particular focused on nutrient management and sustainability/environmental issues.

CNU implements this MCM through the BMPs provided below. Information concerning each BMP, including detailed descriptions, measurable goals, and implementation dates is provided in Table 2-1. Additional information on MCM No. 2 can be found in Appendix B.

- MS4 Program Update
- CNU MS4 Website
- Community Service
- Campus Public Involvement/Participation Event
- Garden Symposium
- Pet Waste Stations

Minimum Control Measure No. 2 – Public Involvement/Participation

Table 2-1. MCM No. 2 – Public Involvement/Participation

BMP	Description	Measurable Goal	BMP Status	Future Activities
2.1 – MS4 Program Update	Conduct a self-assessment and update of the MS4 Program to identify and proactively address issues and deficiencies, as well as identify opportunities to improve program effectiveness.	Annual report.	Completed 2008-2009; MS4 Program Plan Update in 2019- 2020. This permit cycle adjustments were made to the program plan based on the June 2022 VADEQ Audit results and recommendations.	CNU's program plan will be updated in the coming permit year to meet the new permit cycle requirements.
2.2 – CNU MS4 Website	Update the CNU website to include information on the MS4 Program, MS4 general permit, MS4 Program Plan and annual reports, educational information about stormwater, links to other stormwater-related websites and stormwater incident reporting information.	Updated CNU website to include information on the MS4 Program. Annual review and update based on changes to CNU policies and/or staffing.	Website initially updated to include MS4 information in 2009- 2010. Additional information was added to the website in subsequent years. Annual reviews and updates are performed as needed. See Appendix A.	Additional stormwater information will continue to be added to the website as the program plan is updated.
2.3 – Community Service	CNU students participate in annual trash cleanup events and other various events around campus and the community to pick up litter and educate others about the problems of stormwater pollution.	Students participating in public education and/or outreach in projects related to stormwater management.	Community service activities are ongoing, with various clubs and organizations. Every year an array of service events, including clean-ups and plantings, occur at the Day One of Service event. CNU's organization Green Team organized a Beach Clean-Up on September 18, 2022. Approximately 20 students participated and collected 3 bags of trash. See Appendix B.	Additional community service opportunities for public education/outreach associated with high-priority water quality issues may also be identified in coming years.

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Minimum Control Measure No. 2 – Public Involvement/Participation

BMP	Description	Measurable Goal	BMP Status	Future Activities
2.4 – Campus Public Involvement/Participation Event	CNU Grounds Department staff host a table providing stormwater education materials at the CNU Farmer's Markets. CNU students participate various events around campus and the community to educate others about the problems of stormwater pollution.	Number of events that took place; Number of CNU community who participated and received stormwater pollution information.	CNU is a proud sponsor of the Mariners' Museum B-WET program aimed at providing Chesapeake Bay Watershed education and training. One student interviewed the head of the University's Ground Department, Dean Whitehead, and gave a presentation on sustainability on campus. See Appendix B.	CNU will continue to support the B-WET program and look for other opportunities to engage with the public on stormwater issues. Dean Whitehead will remain available to students' seeking information about campus sustainability and related topics.
2.5 – Garden Symposium	CNU Grounds Department staff host a table providing stormwater education materials at the Garden Symposium held at CNU on every spring.	Number of people reached at the event.	During the CNU Annual Garden Symposium (approximately 180 participants) on April 22,2023, a booth was set up to provide education on proper stormwater care. Approximately 200 drink coasters were distributed during this reporting year to highlight stormwater. See Appendix A.	CNU will look to provide stormwater educational materials for future events at the University and other similar events. Additionally, CNU plans to schedule virtual and in-person events.
2.6 – Pet Waste Stations	CNU installed pet waste stations on campus to encourage faculty, staff, students, and visitors to collect and properly dispose of pet waste.	On-going refilling of bags and trash/debris from the pet waste station. Installing new stations as needed around campus.	CNU installed Pet Waste Stations on-campus in previous reporting years to encourage faculty, staff, students, and visitors to collect and properly dispose of pet waste. These were refilled and maintained this permit year.	The Pet Waste Stations will continue to remain on-campus and be maintained to educate faculty, staff, students, and visitors on the importance of water quality.

4.0 MINIMUM CONTROL MEASURE NO. 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION

MCM No. 3 requires a program to detect and eliminate illicit discharges into the regulated small MS4. This MCM includes the development and implementation of an IDDE Policy that effectively prohibits non-stormwater discharges into the MS4. Some BMPs include mapping of the MS4 and tabular development of stormwater outfalls that were updated and reported to DEQ in the BMP Warehouse and in the Outfall table in the Program Plan. An additional item created through this MCM is any necessary notification of neighboring or interconnected MS4s, as added to the Outfall table in the Program Plan. This measure also provides for the development of a process with which CNU will track the number and nature of any illicit discharges and the manner in which they are eliminated.

CNU developed and adopted an IDDE Policy on July 1st, 2010. The IDDE Policy and information about it was added to the University's website, a link to the policy is provided below. CNU developed a procedure and format for tracking training efforts, inspections, and other activities related to the IDDE Program. Illicit discharge detection tracking and reporting is an ongoing activity. CNU relies on the City of Newport News to respond to any spill emergencies on-campus. Relying on the updated training and capabilities of emergency responders is an integral component of the University's IDDE Plan. CNU will document any illicit discharges that are detected annually.

http://cnu.edu/public/stormwater/

There were no IDDE investigations completed during the 2022-2023 reporting year as a result of the inspections completed in the 2020-2021 reporting year as all potential issues were determined to be natural occurrences or to not require additional investigations. Follow up inspections based on this reporting year's inspections will be conducted as needed and reported in the PY1 Annual Report.

The CNU MS4 contains one main stormwater outfall (Outfall 1), a second outfall (Outfall 2) which drains stormwater from the area of the Ferguson Center for the Arts, and a third outfall (Outfall 3) which drains the campus area adjacent to the Avenue of the Arts along with the adjacent neighborhood. These are all part of CNU and within the MS4 boundary. Outfalls are inspected annually as part of the dry weather screening program and the inspection reports are included in each year's Annual Report. Outfall 2 was maintained and cleaned during this permit year. Regrading and riprap replacement occurred at Outfall 2 as well as sediment removal via vacuum truck. Sediment removal maintenance is planned in the coming year.

CNU implements this MCM through the BMPs provided below. Information concerning each BMP including detailed descriptions, measurable goals, and implementation dates are provided in Table 3-1. Additional IDDE program information is provided in Appendix C.

- IDDE Policy
- CNU Stormwater Study
- CNU MS4 Website
- Illicit Discharge Tracking and Reporting
- Outfall Inspections
- Recycling Program
- Pollution Prevention Materials

Minimum Control Measure No. 3 – Illicit Discharge Detection and Elimination

Table 3-1. MCM No. 3 – Illicit Discharge Detection and Elimination

BMP	Description	Measurable Goal	BMP Status	Future Activities
3.1 – IDDE Policy	Develop and adopt an Illicit Discharge, Detection and Elimination (IDDE) Policy to prevent the discharge of contaminated stormwater runoff from CNU properties and operations into the MS4.	Timely and appropriate response of the CNU community to spills and illegal dumping of pollutants.	IDDE Policy was adopted by CNU on July 1st 2010. Continued implementation of University IDDE Policy. See Appendix C.	Information on the IDDE Policy is on the University's website. The IDDE Policy will be reviewed and updated as needed.
3.2 – CNU Stormwater Study	Develop and maintain an updated storm sewer system map. CNU developed a Stormwater Quality and Quantity Study in 2002 which was revised in 2008 and 2011. This study contains detailed information on the existing stormwater conveyance system at CNU. The study also provides detailed storm sewer mapping including drainage areas.	Storm sewer system map. Review CNU Stormwater Plan and update any necessary information based on changes to the campus and/or stormwater conveyance system.	Review and update as needed. Information from the Stormwater Study is provided in Appendix C.	The Stormwater Study will continue to be reviewed and updated as needed based on changes to the University's stormwater conveyance system and permit requirements.
3.3 – CNU MS4 Website	Update the CNU website to include information on the MS4 Program, MS4 general permit, MS4 Program Plan and annual reports, educational information about stormwater, links to other stormwater-related websites and stormwater incident reporting information.	Updated CNU website to include information on the MS4 Program. Annual review and update based on changes to CNU policies and/or staffing.	Website initially updated to include MS4 information in 2009- 2010. Additional information was added to the website in subsequent years. Annual reviews and updates are performed as needed. See Appendix A.	Additional stormwater information will continue to be added to the website as the program plan is updated.

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Minimum Control Measure No. 3 – Illicit Discharge Detection and Elimination

BMP	Description	Measurable Goal	BMP Status	Future Activities
3.4 – Illicit Discharge Detection Tracking and Reporting	Develop a procedure and format for tracking training efforts, inspections, and other activities related to the IDDE program. As part of the IDDE program, CNU will document any illicit discharges that are detected.	Number of IDDE events reported and tracked.	There were no illicit discharge complaints reported for this permit year.	Illicit discharge detection, tracking, and reporting will be an ongoing activity.
3.5 – Outfall Inspections	Inspect each MS4 outfall on an annual basis. Outfall inspections will be documented and kept as part of the MS4 documentation.	Inspect each MS4 outfall on an annual basis. Maintain records of outfalls that were inspected.	Outfalls 1, 2 and 3 were inspected on June 26th, 2022. See Appendix C.	MS4 outfalls will continue to be inspected on an annual basis.
3.6 –Recycling Program	Offer recycling on campus to reduce amount of waste entering landfills.	Recycling bins on campus.	Recycling was offered during the reporting cycle and is continuing to be offered.	CNU will continue to offer recycling as an option on campus.

Minimum Control Measure No. 3 – Illicit Discharge Detection and Elimination

BMP	Description	Measurable Goal	BMP Status	Future Activities
3.7 – Pollution Prevention Materials	CNU will prepare and distribute educational materials about the impacts of stormwater discharges on water bodies.	Numbers of faculty, staff, and students to receive educational materials regarding pollution prevention.	Pollution Prevention is one of the topics that was regularly included in the educational information given in the Premium Item Giveaway and posted on the CNU Sustainability Facebook page and in the. See Appendix A.	Distribution of pollution prevention materials will be an ongoing activity. Materials will be distributed annually.
3.8 – Pollution Prevention Training	CNU will conduct biennial training to applicable staff on pollution prevention.	Conduct biennial training to applicable staff on pollution prevention. Document each training event including the training date, number of employees attending the training, and the objective of each training event.	CNU updated departmental training for pollution prevention/good housekeeping and IDDE using PowerPoint in Appendix C. Training was conducted throughout the permit cycle.	Pollution prevention training will be a biennial and ongoing activity.

5.0 MINIMUM CONTROL MEASURE NO. 4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Any construction activities that take place on the CNU campus and meet required thresholds for land disturbance are regulated by the Virginia Stormwater Management Act and VSMP Regulation (9VAC25-870). In addition, all projects must obtain a Construction General Permit (CGP) if the area of disturbance is greater than or equal to one acre. A project must also obtain a CGP if it is less than one acre and part of a larger common plan of development or sale. Therefore, MCM No. 4 includes provisions to verify all construction activities are in compliance with these regulations and permits.

CNU developed and submitted Annual Standards and Specifications (AS&S) to DEQ. The AS&S were reviewed in response to DEQ comments and updated to match the SOP and IDDE revisions. The AS&S were submitted to DEQ on October 14, 2022. The University Architect's office maintains copies of permit authorization letters for all construction projects, reviews each project's Stormwater Pollution Prevention Plan (SWPPP), and reviews copies of all contractors' inspection reports on a quarterly basis to track compliance with the SWPPP.

Since the University has approved AS&S, they no longer need to rely on the City of Newport News for permit support or plan review. CNU contracts a DEQ-Certified inspector for the purposes of providing enhanced training and oversight for the University's qualified personnel performing routine operator SWPPP inspections. The ESC/SWM inspector performs regular inspections of on-campus active construction projects with CGP coverage and documents inspection findings in regular inspection reports. CNU audits the compliance of the contractors on-campus by reviewing the inspection documentation, revisions to the SWPPP, and overall site compliance on a quarterly basis. All LDAs that occur during the reporting period are conducted in accordance with the current department approved standards and specifications for ESC. No land disturbing construction projects occurred during this reporting period.

The contractor for each construction project is required to inspect the project in accordance with the inspection frequency specified in the CGP and per the stormwater and erosion and sediment control standards. CNU audits the compliance of the contractor by reviewing the inspection documentation, revisions to the SWPPP, and overall site compliance quarterly.

CNU implements this MCM through the BMPs provided below. Information concerning each BMP, including a detailed description, measurable goals, and implementation dates is provided in Table 4-1. Additional construction site stormwater runoff control information is provided in Appendix D including the MS4/Inspection/SWPPP training presentation slides provided to CNU staff.

- AS&S
- Project Inspections
- ESC Contract Provisions
- Construction Site Runoff
- Construction Signage
- LDA Tracking

Minimum Control Measure No. 4 – Construction Site Stormwater Runoff Control

Table 4 MCM No. 4-1. – Construction Site Stormwater Runoff Control

BMP	Description	Measurable Goal	BMP Status	Future Activities
4.1 – AS&S	CNU developed and submitted annual standards and specifications (AS&S) to DEQ in December 2019; the AS&S were then approved by the DEQ in a letter dated 3/12/2020.	Annual standards and specifications.	AS&S were revised and resubmitted to DEQ on October 14th, 2022. See Appendix D.	Continue current program, comply with approved annual standards and specifications (AS&S).
4.2 – Project Inspections	The contractor for each construction project is required to inspect the project in accordance with the inspection frequency specified in the CGP. CNU audits the compliance of the contractor by reviewing the inspection documentation, revisions to the SWPPP, and overall site compliance quarterly.	Review copies of inspection reports; Review of each project's SWPPP on a quarterly basis.	There were no active construction projects in the MS4 during this permit cycle, therefore no signs were placed.	Continue current program, evaluate annually. Records maintained by the University Architect's office.
4.3 – ESC Contract Provisions	Require that for all contracts for construction projects with land-disturbing activities meeting the requirements in the MS4 permit and CGP, the primary contractor must obtain a CGP, and must also carry out all the provisions required of the Construction Site Operator	Copies of permit notice of coverage letters for all construction projects and review each project's Stormwater Pollution Prevention Plan (SWPPP).	Maintaining copies of permit notice of coverage letters is an ongoing activity; review of each project's SWPPP on a quarterly basis.	Continue current program, evaluate annually. Records maintained by the University Architect's office.

CHRISTOPHER NEWPORT UNIVERSITY – MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) ANNUAL REPORT – REPORTING YEAR JULY 1st, 2022 – JUNE 30th, 2023

Minimum Control Measure No. 4 – Construction Site Stormwater Runoff Control

BMP	Description	Measurable Goal	BMP Status	Future Activities
4.4 – Construction Site Runoff	Construction site runoff was identified as one of the three high-priority water quality issues at CNU. CNU will conduct biennial training for contractors on construction site runoff pollution prevention.	Conduct biennial training to contractors on construction site runoff pollution prevention. Document each training event including the training date, number of people attending the training, and the objective of each training event.	New training was developed during this permit cycle. See Appendix A.	Continue to offer training on an as needed basis.
4.5 – Construction Signage	Develop a sign to be placed on construction site fencing at all on-campus construction projects explaining the importance of proper erosion and sediment control practices and its connection to stormwater quality.	Ensure that educational signs are present on fencing at all on- campus construction projects. Report on number of signs posted annually.	No signs were installed as there were no construction projects.	Installation of educational signage at new on-campus construction projects will be an ongoing activity in 2019-2020. Any missing or damaged signs observed will be replaced.
4.6 – Land Disturbing Activities Tracking	Track regulated land-disturbing activities on campus and submit the number of regulated land-disturbing activities and the total disturbed acreage associated with each. Keep this information on file as part of the MS4 documentation and include as part of the MS4 Annual Report.	Number of regulated land-disturbing activities on campus and the total disturbed acreage.	Updated annually. There were no land disturbing activities during this permit cycle.	Continue current program, evaluate annually.

6.0 MINIMUM CONTROL MEASURE NO. 5 – POST-CONSTRUCTION SWM

All known permanent SWM facilities that are operator owned and within the MS4 boundary are inspected by DEQ-Certified CNU or contract personnel on an annual basis. Inspections are performed based on the *Written Procedures for the Inspection of Operator Owned Stormwater Management Facilities* prepared by CNU during the 2014-2015 reporting year. Copies of the inspection reports are kept on file as part of the MS4 documentation. Records of past BMP inspections are maintained as part of the MS4 program and the inspection program will be continued and evaluated annually. CNU will perform maintenance of permanent SWM facilities, if needed, based on the results of the BMP inspections and document and include as part of the Annual Report. CNU tracks and maintains records of these potential issues.

Inspection reports to be used for inspections of BMPs are the DEQ Example BMP Inspection and Maintenance checklists from the DEQ 2013 Virginia Stormwater Management Handbook, Chapter 9 – BMP Inspection and Maintenance, provided on the DEQ website at the link below.

https://swbmp.vwrrc.vt.edu/references-tools/2013-draft-handbook/

CNU will continue to update the electronic spreadsheet with any new or newly discovered BMP, or any BMP that meets a local or Chesapeake Bay TMDL requirement. Also, CNU will add new BMPs to the VA CGP database to report each facility installed for which a VPDES permit is obtained and will also add new BMPs to the DEQ BMP Warehouse as needed.

There were no new BMPs to report in the 2022-2023 permit year.

CNU implements MCM No. 5 through the BMPs provided below. Information concerning each BMP, including a detailed description, measurable goals, and implementation dates is provided in Table 5-1. The MCM Summary Table in Appendix E provides the responsible party and key personnel for each MCM and BMP identified in the approved MS4 Program Plan. Additional post-construction SWM information is provided in Appendix E.

- CNU Stormwater Study
- ESC Contract Provisions
- Implement AS&S
- BMP Inspections
- BMP Tracking
- BMP Maintenance

Table 5-1. MCM No. 5 – Post-Construction SWM

BMP	Description	Measurable Goal	BMP Status	Future Activities
5.1 – CNU Stormwater Study	Develop and maintain an updated storm sewer system map. CNU developed a Stormwater Quality and Quantity Study in 2002 which was revised in 2008 and 2011. This study contains detailed information on the existing stormwater conveyance system at CNU. The study also provides detailed storm sewer mapping including drainage areas.	Storm sewer system map. Review CNU Stormwater Plan and update any necessary information based on changes to the campus and/or stormwater conveyance system.	Review and update as needed. Information from the stormwater study is provided in Appendix C. There were no updates in this permit cycle.	The stormwater study will continue to be reviewed and updated as needed based on changes to the university's stormwater conveyance system and based on permit requirements.
5.2 – ESC Contract Provisions	Require that for all contracts for construction projects with land-disturbing activities meeting the requirements in the MS4 permit and CGP, the primary contractor must obtain a CGP, and must also carry out all the provisions required of the Construction Site Operator	Copies of permit notice of coverage letters for all construction projects and review each project's Stormwater Pollution Prevention Plan (SWPPP).	Maintaining copies of permit notice of coverage letters is an ongoing activity; review of each project's SWPPP on a quarterly basis. No land disturbing activities took place during this permit cycle.	Continue current program, evaluate annually. Records maintained by the University Architect's office.
5.3 – BMP Inspections	Inspect all known permanent stormwater management facilities on an annual basis. Keep copies of inspection reports on file as part of the MS4 documentation.	Records of BMPs that were inspected.	BMPs were inspected on June 26th, 2023. See Appendix E.	Continue current program, evaluate annually.

Minimum Control Measure No. 5 – Post-Construction SWM

BMP	Description	Measurable Goal	BMP Status	Future Activities
5.4 – BMP Tracking	Track all known permanent stormwater management facilities on an annual basis and submit information including the type of facility, geographic location (HUC), impaired surface water that the facility is discharging into (if applicable), and the number of acres treated by the facility.	Update BMP database as needed.	Continue current program, evaluate annually. No new BMPs were added during this permit cycle.	Continue current program, evaluate annually.
5.5 – BMP Maintenance	Properly maintain all structural BMPs on the CNU campus and/or under the operational control of CNU in effective operating condition in accordance with good engineering practices and, where applicable, manufacturer specifications.	Continue CNU BMP maintenance program as needed based on results of annual BMP inspections. Maintain records of BMP maintenance activities.	Ongoing BMP maintenance as needed based on annual BMP inspections. Last maintenance was performed at the Outfalls and BMPs in June/July 2022.	Continue current program, evaluate annually.

7.0 MINIMUM CONTROL MEASURE NO. 6 – POLLUTION PREVENTION/GOOD HOUSEKEEPING

MCM No. 6 provides for a comprehensive pollution prevention and good housekeeping program. The ultimate goal of pollution prevention/good housekeeping is to prevent or reduce pollutant runoff from campus operations. This measure includes both training and awareness of stormwater impacts to receiving water quality as well as on-campus activities which both prevent and reduce pollutant runoff to the MS4.

This MCM includes a requirement for the development, maintenance, and implementation of written procedures designed to minimize or prevent pollutant discharge from: (i) daily operations such as road, street, and parking lot maintenance; (ii) equipment maintenance; and (iii) the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. CNU has developed SOPs for various activities with the potential to impact water quality. The SOPs include the following:

- Equipment maintenance and washing
- Outdoor special events and festivals
- Kitchen waste: fats, oils, and greases (FOG) transfer, storage, and disposal
- Equipment fueling activities
- Landscape maintenance
- Liquid materials loading, unloading, and storage
- Trash & recycling handling, storage, transfer, and disposal
- Parking lot, street, and road maintenance
- Pressure washing and exterior surface cleaning
- Spill prevention, control, clean up and reporting

The following webpage contains a link to CNU's SOPs. The site-specific SOPs are also included in departmental training where applicable.

http://cnu.edu/public/stormwater/

CNU identified the Grounds (includes Athletics Department staff) and Plant Operations Departments as well as the dumpster refuse area as being high-priority facilities. There are a total of twenty high-priority facilities on-campus per Figure 4 in Appendix E. CNU published and posted on the website the SWPPP for high-priority facilities. A link to the SWPPP is provided at the website below.

http://cnu.edu/public/stormwater/

This MCM includes a requirement to implement turf and landscape NMP developed by a certified turf and landscape nutrient management planner on all lands owned or operated by the MS4 operator where nutrients are applied to a contiguous area greater than one acre. The University takes pride in a clean and green campus but also works to not over-apply nutrients and diligently follows the approved NMPs for the campus.

There are two separate NMPs that cover the CNU campus, one for the main campus grounds/turf and a

separate one for the athletics fields/turf.

- The current NMP for the main campus covers approximately 48 acres and is effective until July 5th, 2024.
- The athletics NMP covers an area of 13.73 acres and is effective until April 19th, 2024.

The CNU Grounds Department will continue to operate using the approved NMPs and will continue to evaluate/update the NMPs once every three years, as needed. The NMPs will be reviewed/updated again in 2021 and re-submitted to the Department of Conservation and Recreation (DCR) for review and approval.

The CNU Grounds Department currently has four CFAs and two Certified Nutrient Management Planners through the VDACS.

All CNU employees from every department were required to watch a 30-minute training video on SWPPP and MS4 education. The training was conducted through the reporting year, See Appendix C.

CNU continues to perform maintenance by cleaning a portion of the campus stormwater infrastructure (catch basins, storm drainpipes) on an annual basis. Street sweeping of campus roads and parking lots was performed by Hy-Tech on the week of June 9th, 2023. Hy-Tech spent approximately 20 hours sweeping. Storm drainpipes on-campus were not contracted to be cleaned this reporting year as no maintenance was needed based on inspections.

CNU implements this MCM through the BMPs provided below. Information concerning each BMP, including a detailed description, measurable goals, and implementation is provided in Table 6-1. Additional post-construction SWM information is provided in Appendix F.

- Pollution Prevention Materials
- Pollution Prevention Training
- Grounds Clean-Up
- Illicit Discharge Detection Tracking and Reporting
- Nutrient Management Plan
- Nutrient Management Training
- Underground Infrastructure Cleaning
- Street Sweeping
- Storm Drain Medallions

Minimum Control Measure No. 6 – Pollution Prevention/Good Housekeeping

Table 6-1. MCM No. 6 – Pollution Prevention/Good Housekeeping

BMP	Description	Measurable Goal	BMP Status	Future Activities
6.1 – Pollution Prevention Materials	CNU will prepare and distribute educational materials about the impacts of stormwater discharges on water bodies.	Numbers of faculty, staff, and students to receive educational materials regarding pollution prevention.	Pollution Prevention is one of the topics that was regularly included in the educational information given in the Premium Item Giveaway and posted on the CNU Sustainability Facebook page and in the. See Appendix A.	Distribution of pollution prevention materials will be an ongoing activity. Materials will be distributed annually. CNU is continuing to look into alternative ways to distribute educational materials to the CNU MS4 public in 2019-2020.
6.2 – Pollution Prevention Training	CNU will conduct biennial training to applicable staff on pollution prevention.	Conduct biennial training to applicable staff on pollution prevention. Document each training event including the training date, number of employees attending the training, and the objective of each training event.	CNU updated departmental training for pollution prevention/good housekeeping and IDDE using PowerPoint in Appendix C. Training was conducted throughout the permit cycle.	Pollution prevention training will be a biennial and ongoing activity. Training will be conducted again during the 2019-2020 reporting year.
6.3 – Grounds Clean-Up	Continue the CNU Grounds Department clean-up program to remove trash and debris on a regular basis.	The estimated amount of material that is collected annually.	Approximately 4 cubic yards of material is removed annually.	The grounds clean-up program is an ongoing activity.

Minimum Control Measure No. 6 – Pollution Prevention/Good Housekeeping

BMP	Description	Measurable Goal	BMP Status	Future Activities
6.4 – Illicit Discharge Detection Tracking and Reporting	Develop a procedure and format for tracking training efforts, inspections, and other activities related to the IDDE program. As part of the IDDE program, CNU will document any illicit discharges that are detected.	Number of IDDE events reported and tracked.	No illicit discharges were suspected on campus during this permit cycle.	Illicit discharge detection tracking and reporting will be an ongoing activity.
6.5 – Nutrient Management Training	Implement a Nutrient Management Plan (NMP) for the athletic facilities and the balance of the campus. There are two separate approved NMPs that cover the CNU campus.	Training of CNU Grounds Department staff as certified fertilizer applicators to ensure that nutrients are only applied in accordance with CNU's approved Nutrient Management Plans.	One new person viewed and passed the training to become a certified fertilizer applicator in fall/winter 2022-2023.	This is an ongoing program with biennial training.
6.6 – Underground Infrastructure Cleaning	Perform maintenance by cleaning a portion of the campus stormwater infrastructure (catch basins, storm drain pipes) on an annual basis.	Annual maintenance of CNU underground infrastructure	Compliance with AS&S is mandatory for all phases of all construction projects on-campus.	Continue current program, evaluate annually.
6.7 – Street Sweeping	Continue the ongoing street sweeping program. Vacuum sweep selected campus roads and parking lots on an annual basis. Document the quantity of material collected on an annual basis to include in the annual report.	Amount of material that is removed annually.	Ongoing; selected campus roads and parking lots are vacuum swept on an annual basis. Street sweeping of campus roads and parking lots was performed by Hy-Tech on the week of June 9th, 2023. Hy-Tech spent approximately 20 hours sweeping. CNU Grounds personnel also blow debris from roads and parking lot areas onto turf areas to be mulched or picked up with turf maintenance activities on a regular basis.	Continue current program, evaluate annually. Debris removal from roads and parking lots is an ongoing activity.

Minimum Control Measure No. 6 – Pollution Prevention/Good Housekeeping

BMP	Description	Measurable Goal	BMP Status	Future Activities
6.8 – Storm Drain Medallions	Install storm drain medallions on all campus storm drain inlets to help remind the CNU community about stormwater pollution. The medallions read, “No dumping, Drains to Waterway”. .	Numbers of medallions installed/replaced. During the 2019-2020 reporting year, no new storm drain medallions were installed or replaced.	During this permit year, no new medallions were necessary, and no medallions needed replacement. See Appendix A.	Monitoring of the storm drain medallions is an ongoing activity. Any missing or damaged medallions observed in 2020- 2021 will be replaced. New medallions will be installed on newly constructed campus storm drains.

8.0 CHESAPEAKE BAY TMDL ACTION PLAN IMPLEMENTATION

CNU has made an agreement with the HRSD SWIFT initiative that will help meet the 2023 goals and beyond. CNU has purchased the remaining credits needed in order to meet their necessary TMDL Reduction Requirements, see the purchase agreement in Appendix G.

CNU MS4 ANNUAL REPORT APPENDICES

Reporting Year July 1st, 2022 – June 30th, 2023

Appendix A MINIMUM CONTROL MEASURE 1 (MCM1) SUPPLEMENTAL INFORMATION

CNU Stormwater Website (BMP 1.2, 2.3, 3.3)

Construction Site Awareness Form (BMP 1.6, 4.5)

Public Education and Outreach Materials (BMP 1.3, 1.4, 1.5, 1.8, 1.9, 2.4, 2.5, 3.7, 6.1, 6.8)

Construction Site Training (BMP 1.7)

Nutrient Management Training (BMP 1.9)

Public Information
University Policies
Privacy Statement
Accessibility Statement
Campus Safety
Student Achievement
Freedom of Information Act
Free Speech and Expression
Stormwater Management
Institutional Research

RELATED DOCUMENTS

MS4 Program Plan
MS4 Permit 2018-2023
IDDE Plan and Policy
Stormwater Management Master Plan
CNU Stormwater Pollution Prevention Plan (SWPPP)
Stormwater discharges at the campus
Standard Operating Procedures (SOPs)
CNU Stormwater Pollution Prevention Training
Construction Site Signage

STORMWATER MANAGEMENT

In managing the Christopher Newport campus grounds, we strive to be good environmental stewards. We work closely with the Virginia Department of Environmental Quality (DEQ) to ensure our efforts are up to current standards and practices.

If you have any questions, please contact us at (757) 594-8700 or grounds@cnu.edu.

PROGRAM PLAN

The stormwater management program plan is based on six minimum control measures as required by the Virginia General Permit. These goals and objectives were developed to reduce the discharge of pollutants from the university's Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable, protect water quality, ensure compliance with water quality standards, and to satisfy the appropriate water quality requirements of the State Water Control Law and its attendant regulations. You are welcome to review and make comments on our program by filling out this form.

MS4 GENERAL PERMIT

The General Virginia Pollutant Discharge Elimination System Permit for Discharges of Stormwater From Small MS4s requires Christopher Newport to develop and implement a comprehensive stormwater management program consistent with the Virginia General Permit.

The university re-registered for continuation of coverage on June 1, 2018 (permit number VAR040090). The new general permit is valid until October 31, 2023.

ANNUAL REPORT

The MS4 Annual Report conveys the required information and details the status of compliance with all permit conditions, as well as the appropriateness of best management practices identified in the MS4 Program Plan toward achieving measurable goals for each minimum control measure.

YEAR	PDF
2018-2019	
2019-2020	
2020-2021	

STORMWATER MANAGEMENT MASTER PLAN

In 2019, Christopher Newport worked with a consultant to create a Stormwater Management Master Plan. This plan provides guidance in the form of stormwater management concepts to help meet our TMDL Reduction Requirements as set forth by the Virginia Department of Environmental Quality. This plan addresses those requirements through 2028.

POLLUTION PREVENTION AND CONTROL

Pollution prevention is any practice that reduces, eliminates or prevents pollution at its source. Reducing the amount of pollution produced means less waste to control, treat or dispose. Less pollution also means fewer hazards are posed to public health and the environment.

Under our permit, we must develop, implement and enforce a program that includes the following six minimum control measures:

1. Public education and outreach
2. Public involvement and participation
3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction stormwater management
6. Pollution prevention/good housekeeping

These control measures are designed and implemented to control the discharge of pollutants from our storm sewer system to the maximum extent practicable in a manner that protects the water quality in nearby streams, rivers, wetlands and bays.

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

The IDDE policy and program provide for the protection of the environment at CNU and the surrounding areas.

An illicit discharge is the discharge of any substance into a storm sewer system* that is not stormwater. Some examples of these substances include:

- Wastewater
- Concrete washout
- Cleaning supplies
- Construction waste (e.g., debris, sludge)
- Vehicle washing
- Paint
- Fuels and oils

- Pet waste

The following do not constitute an illicit discharge:

- Discharges or flows from firefighting activities
- Landscape irrigation and lawn watering
- Foundation/footing drains
- Water line flushing
- Discharges from potable (drinkable) water sources
- Street wash water
- Air conditioning condensation

*Storm sewers are designed to carry stormwater and runoff. Storm sewers are not treated and lead directly into our natural environment. Substances that are not stormwater should never be released into the storm sewer system. The university's storm sewer inlets are marked with a "No Dumping – Drains to Bay" medallion.

If you witness an illicit discharge, you can report it to the Grounds Department by calling (757) 594-8700 or University Police at (757) 594-7777.

Stormwater Pollution Prevention Plan (SWPPP)

As part of our MS4 program the university maintains a Stormwater Pollution Prevention Plan (SWPPP)

An SWPPP is designed to reduce the impact of stormwater runoff on receiving water bodies to the maximum extent practicable and to meet water quality standards, and identifies the following:

- Stormwater pollution prevention team
- Stormwater discharges at the campus
- Actual and potential sources of stormwater contamination
- Structural and non-structural best management practices
- Good housekeeping practices
- Standard operating procedures for activities with the potential to impact water quality

Stormwater Pollution Prevention Training SWPPP training is available to all members of the campus community. We provide training to all employees whose job duties may include activities with the potential to contribute to stormwater pollution.

Public Education and Outreach

DESCRIPTION	PDF
Only Rain Down the Drain A reminder about water pollution with an emergency call list on the back.	
Be a Solution to Water Pollution An informational flier about water pollution.	
Guidelines for Charity Car Wash Fund Raisers Car washes to raise funds for charities, schools activities or community groups often occur in densely populated urban areas. Car-washing activities can affect water quality if not properly managed. Wash water from these activities may flow into surface waters or into a storm drain.	
Gardening Symposium The Grounds Department provides an educational stormwater table at the annual Gardening Symposium. We provide advice and literature related to rain gardens, stormwater runoff, urban nutrient management and environmentally friendly landscaping.	

Construction Sites

Construction projects that disturb more than one acre are required to obtain a Virginia Stormwater Management Program construction permit from the Virginia Department Environmental Quality.

CONSTRUCTION SITE STORMWATER RUNOFF – PROTECTING WATER QUALITY

Construction projects that disturb more than one acre are required to obtain a Virginia Stormwater Management Program (VSMP) permit from the Virginia Department of Environmental Quality (DEQ). As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) must be developed for the project. The SWPPP must identify practices that will help to reduce erosion, minimize sediment loss from the construction site, and address pollution prevention.

- Construction sites without proper erosion and sediment controls can contribute large amounts of sediment and other pollutants to downstream waterways.
- Good housekeeping measures include:
  - Storing waste materials in proper containers;
  - Properly disposing of all waste materials;
  - Preventing spills by tightly sealing containers; and,
  - Storing materials with the potential for contaminating runoff during storm events in watertight containers or under cover so they are not exposed to precipitation.
  - Establish vehicle and equipment parking areas away from waterways and storm drain inlets.
  - Conduct fueling, major maintenance and washing off-site whenever feasible.

Erosion and sediment controls in combination with pollution prevention and "good housekeeping measures" can reduce the amount of pollution leaving construction

- Effective erosion and sediment controls require proper installation and maintenance.
- Concrete trucks should only wash out or discharge surplus concrete or drum wash water at approved locations in accordance with State and local regulations.
- Construction sites should be inspected every seven calendar days or every fourteen calendar days and within 48 hours following any runoff producing storm event. Inspections should include all areas of the site disturbed by construction activity and areas used for storage of materials.

Erosion and Sediment Controls

Properly installed and maintained erosion and sediment control practices help to reduce pollution loading from construction sites.

Construction Entrance

Inlet Protection

Silt Fence

CNU Grounds Department 757-594-8700

CNU Pollution Prevention Materials (BMP 1.3, 1.4, 1.5, 1.8, 1.9, 2.4, 2.6, 3.6, 6.1, 6.9)

CNU Sustainability #StormWaterMonday Posts

Premium Item Giveaways:

CNU distributed drink coasters with stormwater educational information on them to students and staff throughout the permit year.

Side 1

Side 2

CNU distributed stickers with stormwater educational information on them to students and staff throughout the permit year.

Submitted by CNU to VADEQ October 1st, 2023

CNU distributed business cards with stormwater educational information and contact information on them to students and staff throughout the permit year.

CNU stormwater medallion installed on all inlets on campus.

CNU distributed information related to nutrient management to students and staff throughout the permit year.

From: **Personal Announcement** <announcement@cnu.edu>
Date: Mon, Nov 7, 2022 at 1:31 PM
Subject: Stormwater Management Tip
To: <faculty@cnu.edu>, <employees@cnu.edu>

Christopher Newport University is committed to keeping our waterways clean. One easy way to do this is to keep leaves and grass clippings out of storm drains. We encourage all members of our community to keep this in mind when doing yard work at home. If you'd like to learn more about protecting our waterways, click the flyer below for excellent resources from askHRgreen.org:

Submitted by CNU to VADEQ October 1st, 2023

Test, don't just guess about fertilizing.

Testing your soil allows you to see what, if any, nutrients your lawn is lacking.

You'll need

1. Soil test kit
2. **Stainless steel or chrome-plated soil probe, hand garden trowel, shovel or spade**
   Do not use brass, bronze or galvanized tools because they will contaminate samples with copper and/or zinc.
3. **Clean plastic bucket or container**

Visit **askHRgreen.org/soil-testing** for more info.

See back page for a list of locations where you can pick up a soil test kit.

GOOD TO DO

Pick up a soil test kit today at your local garden store or a Virginia Cooperative Extension office near you...

CHESAPEAKE
310 Shea Drive
Chesapeake, VA 23322
757.382.6348

GLOUCESTER COUNTY
7400 Carriage Court
Gloucester, VA 23061
804.693.2602

HAMPTON
1919 Commerce Dr., Ste 340
Hampton, VA 23666
757.727.1401

ISLE OF WIGHT COUNTY
Public Services Center
17100 Monument Circle, Ste B
Isle of Wight, VA 23397
757.365.6261

JAMES CITY COUNTY/ WILLIAMSBURG
3127 Forge Rd. P.O. Box 69
Toano, VA 23168
757.564.2170

NEWPORT NEWS
739 Thimble Shoals Blvd., Ste 1009
Newport News, VA 23606
757.591.4838

NORFOLK
830 Southampton Ave., Ste 2069
Norfolk, VA 23510
757.683.2816

PORTSMOUTH
105 Utah Street
Portsmouth, VA 23701
757.393.5197

SOUTHAMPTON COUNTY
21300 Plank Road
Courtland, VA 23837
757.653.2572

SUFFOLK
440 Market Street
P.O. Box 218
Suffolk, VA 23434
757.514.4330

SURRY COUNTY
45 School Street
Surry Government Center
Surry, VA 23883
757.294.5215

VIRGINIA BEACH
2449 Princess Anne Road
Building #14, 2nd Floor
Virginia Beach Municipal Center
Virginia Beach, VA 23456
757.385.4769

YORK COUNTY/POQUOSON
100 County Drive
Yorktown, VA 23690
757.890.4940

FOR A CLEANER, GREENER HAMPTON ROADS
askHRgreen.org

GOOD TO KNOW

Time to fertilize *or is it?*

Follow our guidelines before fertilizing... It might save you money and it will definitely **save our waterways.**

BEFORE YOU **FERTILIZE** *test your soil.*

GOOD TO DO — soil testing guidelines

When

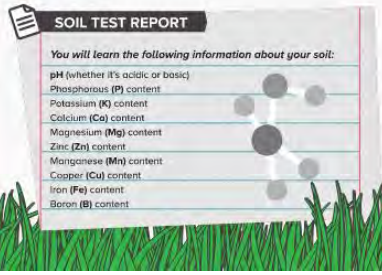
Take a soil sample a few months before initiating any new landscaping. In Hampton Roads, it's best to test every two to three years.

How

1. Open a hole with a shovel, spade or trowel from the surface to the proper depth for your landscape area, about two to four inches for established lawns. Set that soil aside. If you are using a soil probe, insert it into the soil to the proper depth and remove the plug from the ground.

2. With your shovel or trowel, remove a one-inch-thick slice from the smooth side of the open hole.

3. With the slice of soil on the blade of the shovel, remove the sides of the slice with a trowel knife or your hands to create a ribbon of soil two inches wide and one- inch thick of the proper depth. Place the ribbon (or plug if using a soil probe) into a container.



Where

To obtain accurate soil-test results, a soil sample must be made up of multiple sub-samples. These sub-samples are mixed together to make up the composite soil sample for that lawr. For a typical lawn, it is recommended that two sub-samples be collected from the front yard and two be collected from the back yard.

4. Remove any surface mat of grass, litter and any rocks. Place the soil in a clean bucket or container. Remember that a clean, plastic container is best.

5. Continue to take additional soil sub-samples from the uniform landscape area. By mixing these sub-samples together, you create the composite sample that will be sent to the Soil Testing Laboratory.

A soil test is not usually performed for the presence of N (nitrogen). Soil Testing Laboratories still provide nitrogen fertilizer recommendations. You can often use much less than is recommended to get successful results.

You may not need to use any fertilizer if you are mulching your grass clippings back onto your lawn.

In Hampton Roads, our soil is naturally rich in phosphorus so, with the exception of new plantings, adding phosphorus is often not necessary.

If your soil test indicates you need to fertilize, **make sure you fertilize at the right time of year for your grass.**

Cool-season grasses

Tall fescue } *mow to 2-3"*
Fine fescue }
Ryegrass *mow to 1 ½ - 2 ½"*
- ideal for areas that get light shade
- seed in late summer
- if needed, fertilize in fall
- mow at higher heights during summer months

Warm-season grasses

Zoysiagrass *mow to ¾ to 1"*
Centipedegrass *mow to 1 ½"*
Bermudagrass *mow to ½ - 1"*
- ideal for areas that get full sun
- seed in early spring
- if needed, fertilize in spring

CHOOSE SLOW-RELEASE FERTILIZERS
Coated and water-insoluble slow-release fertilizers help roots develop and wash away less easily. Do not apply slow- or time-released nitrogen at rates above one pound per 1,000 square feet. Apply only as much as it says.

FOR A CLEANER, GREENER HAMPTON ROADS
askHRgreen.org

Submitted by CNU to VADEQ October 1st, 2023

EROSION AND SEDIMENT CONTROL AT CHRISTOPHER NEWPORT UNIVERSITY

CONTRACTOR TRAINING - 2023

TIMMONS GROUP
ENGINEERING | DESIGN | TECHNOLOGY

CHRISTOPHER NEWPORT UNIVERSITY

AGENDA

WELCOME AND INTRODUCTION TO CNU

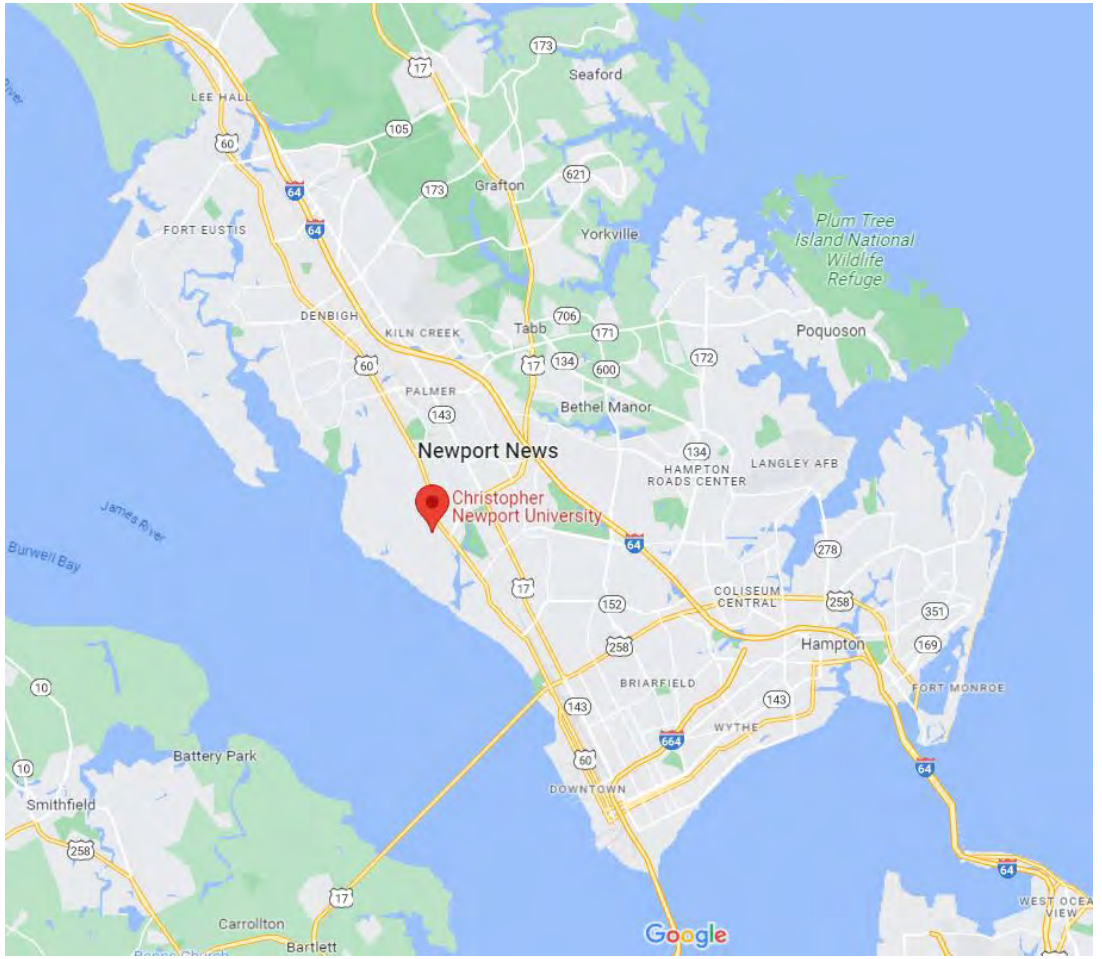
REGULATORY OVERVIEW AND BACKGROUND

- MS4 GENERAL PERMIT
- CONSTRUCTION GENERAL PERMIT
- SWPPPs

CNU'S ESC PROGRAM – ANNUAL STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT

WELCOME AND INTRODUCTION TO CNU
CAMPUS OVERVIEW – FUN FACTS

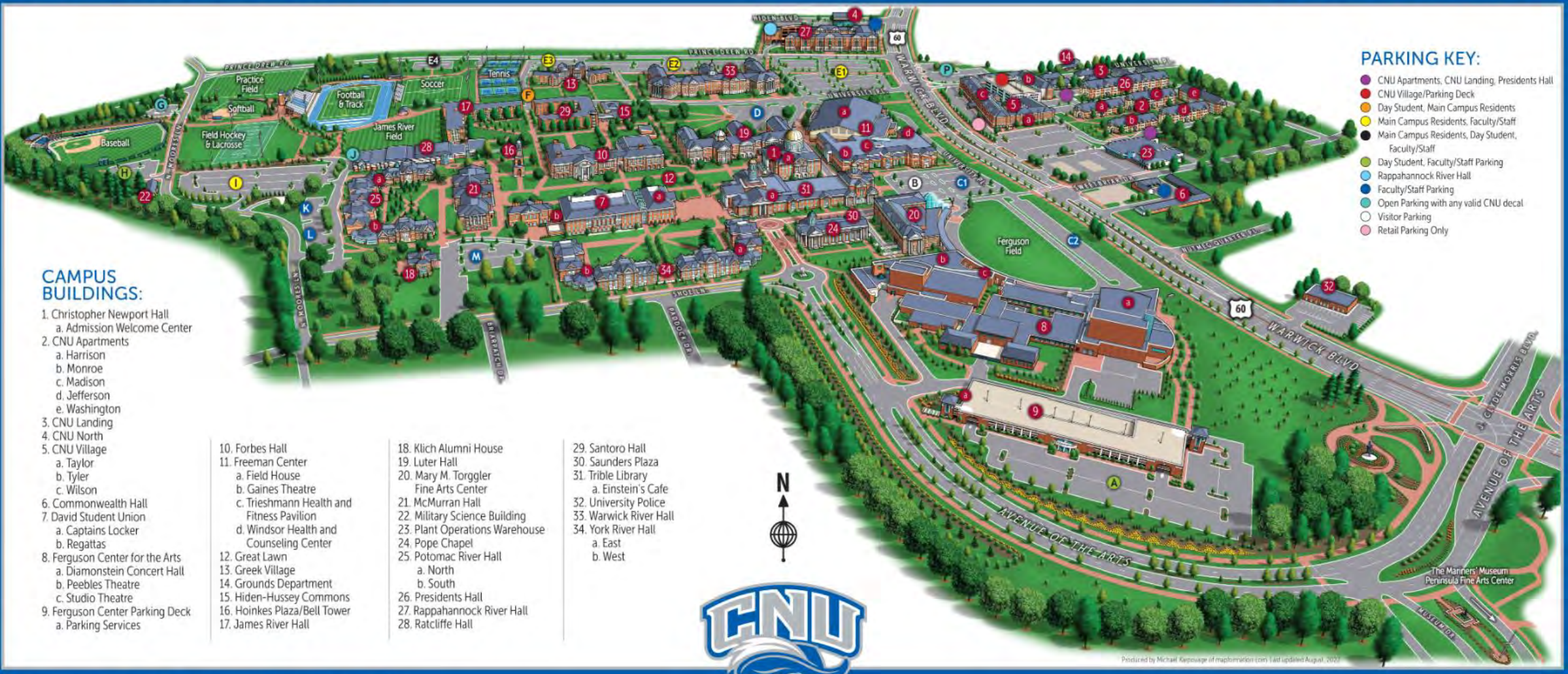
- Christopher Newport University is a public liberal arts and sciences university, in Newport News, VA.
- The initial 75-acre Campus continues to grow and is generally located along Warwick Blvd between Prince Drew Road and the Avenue of the Arts.
- Established in 1960 as an extension of the College of William and Mary, became independent in 1977, and a University in 1992.
- Christopher Newport was captain of a ship that carried settlers of Jamestown.
- Current (6th) president, as of July 1, is William G. Kelly, Rear Admiral (retired) of the US Coast Guard.
- Approximately 4,800 students.



WELCOME AND INTRODUCTION TO CNU

CHRISTOPHER NEWPORT UNIVERSITY

CAMPUS MAP



CAMPUS BUILDINGS:

1. Christopher Newport Hall
   a. Admission Welcome Center
2. CNU Apartments
   a. Harrison
   b. Monroe
   c. Madison
   d. Jefferson
   e. Washington
3. CNU Landing
4. CNU North
5. CNU Village
   a. Taylor
   b. Tyler
   c. Wilson
6. Commonwealth Hall
7. David Student Union
   a. Captains Locker
   b. Regattas
8. Ferguson Center for the Arts
   a. Diamonstein Concert Hall
   b. Peebles Theatre
   c. Studio Theatre
9. Ferguson Center Parking Deck
   a. Parking Services
10. Forbes Hall
11. Freeman Center
    a. Field House
    b. Gaines Theatre
    c. Trieshmann Health and Fitness Pavilion
    d. Windsor Health and Counseling Center
12. Great Lawn
13. Greek Village
14. Grounds Department
15. Hiden-Hussey Commons
16. Hoinkes Plaza/Bell Tower
17. James River Hall
18. Klich Alumni House
19. Luter Hall
20. Mary M. Torggler Fine Arts Center
21. McMurran Hall
22. Military Science Building
23. Plant Operations Warehouse
24. Pope Chapel
25. Potomac River Hall
    a. North
    b. South
26. Presidents Hall
27. Rappahannock River Hall
28. Ratcliffe Hall
29. Santoro Hall
30. Saunders Plaza
31. Trible Library
    a. Einstein's Cafe
32. University Police
33. Warwick River Hall
34. York River Hall
    a. East
    b. West

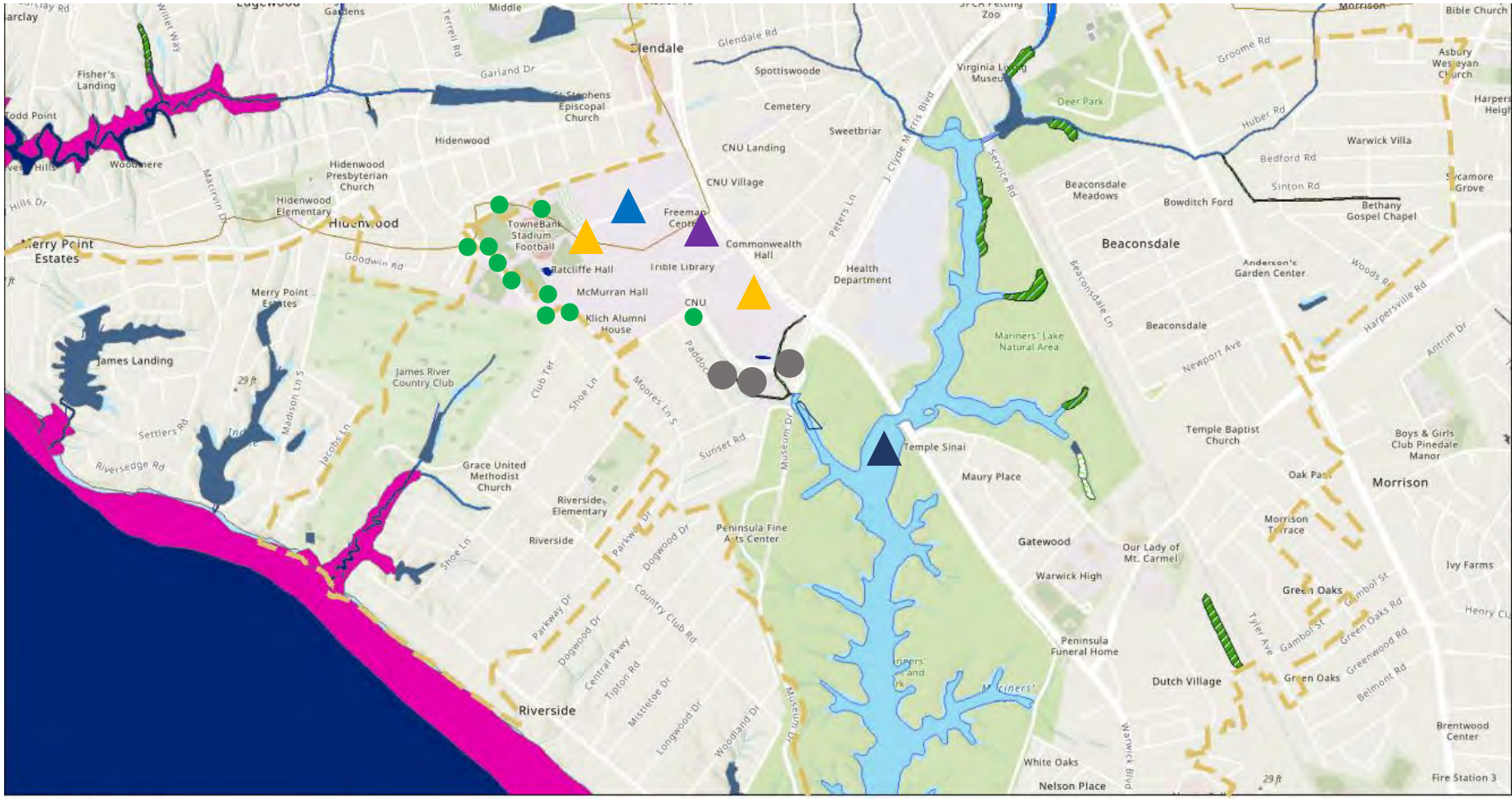
1 Avenue of the Arts • Newport News, VA 23606
(757) 594-7000 • cnu.edu

WELCOME AND INTRODUCTION TO CNU
CAMPUS OVERVIEW – ENVIRONMENTAL FEATURES

2 – HUC 12 watersheds
- Warwick River
- Cooper Creek-James River

13 - Stormwater outfalls
- 3 Daylight to receiving streams
- 10 Physically interconnected storm sewer systems (NN)

5 - Permanent Stormwater Management Facilities
- 1 Extended Detention
- 1 Stormkeeper™
- 2 Bioretention
- 1 Pond managed by NN (Mariner's Lake)



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6th Order NWBD HUC 12 Watersheds

NWI (2021)
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- NHD Rivers
- Virginia County Boundaries
- DEQ Offices (2020)

1:18,056

0 0.17 0.35 0.7 mi

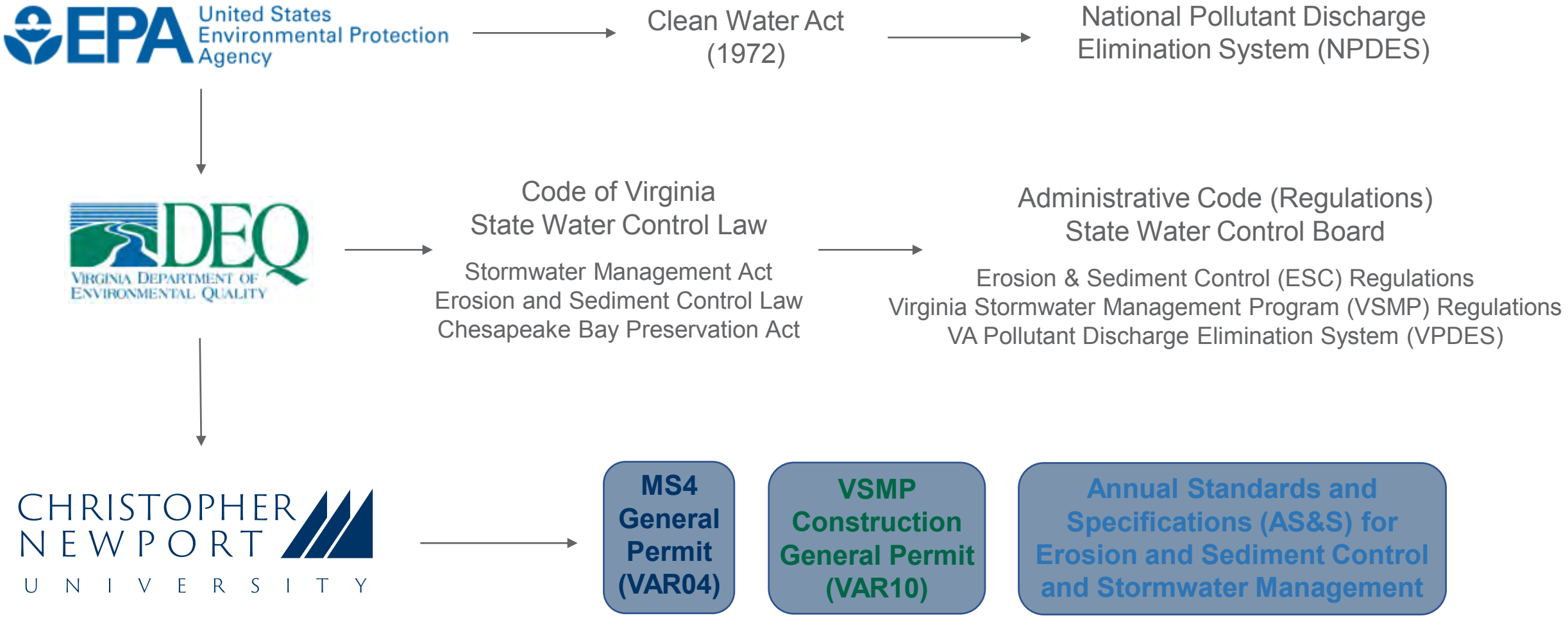
0 0.28 0.55 1.1 km

Virginia Department of Environmental Quality, Esri, NASA, NGA, USGS, FEMA, This EPA Geospatial data set is generated from the following national environmental programs: Superfund National Priorities

*Basemap generated from DEQ's Environmental Data Mapper (EDM): https://apps.deq.virginia.gov/EDM

REGULATORY OVERVIEW AND BACKGROUND

REGULATORY FRAMEWORK

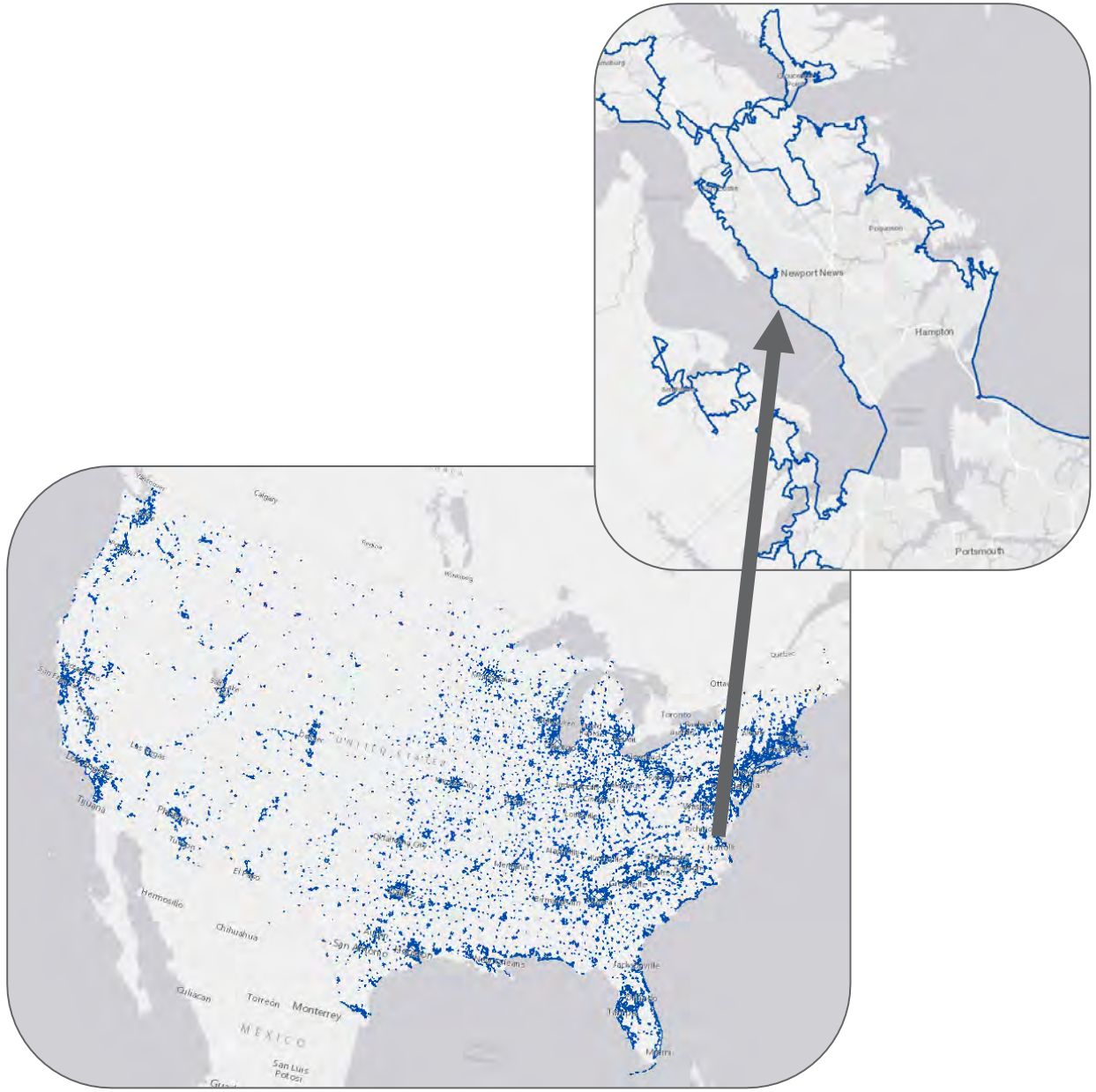


MS4 GENERAL PERMIT

WHAT IS AN MS4?

Municipal Separate Storm Sewer System (MS4)

- ✓ Authorized under Virginia Stormwater Management Act (9VAC25-890-40)
- ✓ Defined by population
  - Phase I, Individual Permits (large and small MS4s), serving populations >100,000 as of the 1990 decennial census
  - Phase II, General Permit (small MS4s), designated by “urbanized areas” in the latest decennial census
- ✓ Traditional and Non-traditional MS4 Operators
  - Cities or counties
  - Colleges or Universities
  - Correctional facilities
  - Hospitals
  - Military Bases
- ✓ CNU is a MS4 Permittee!
  - https://cnu.edu/public/stormwater



MS4 GENERAL PERMIT
OVERVIEW OF MINIMUM CONTROL MEASURES

MS4 programs must demonstrate compliance with 6 Minimum Control Measures (MCMs) and special conditions (TMDLs):

MCMs

1. **Public Outreach and Education**
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping

Special Conditions

1. Chesapeake Bay TMDL (TP, TN, TSS)

Develop and implement a program that promotes awareness of pollution prevention techniques and engagement with local watershed quality.

CHRISTOPHER NEWPORT UNIVERSITY

CONSTRUCTION SITE STORMWATER RUNOFF – PROTECTING WATER QUALITY

Construction projects that disturb more than one acre are required to obtain a Virginia Stormwater Management Program (VSMP) permit from the Virginia Department of Conservation and Recreation (DCR). As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) must be developed for the project. The SWPPP must identify practices that will help to reduce erosion, minimize sediment loss from the construction site, and address pollution prevention.

- Construction sites without proper erosion and sediment controls can contribute large amounts of sediment and other pollutants to downstream waterways.
- Good housekeeping measures include:
  - Storing waste materials in proper containers;
  - Properly disposing of all waste materials;
  - Preventing spills by tightly sealing containers; and,
  - Storing materials with the potential for contaminating runoff during storm events in watertight containers or under cover so they are not exposed to precipitation.
  - Establish vehicle and equipment parking areas away from waterways and storm drain inlets;
  - Conduct fueling, major maintenance and washing off-site whenever feasible.
- Effective erosion and sediment controls require proper installation and maintenance.
- Concrete trucks should only wash out or discharge surplus concrete or drum wash water at approved locations in accordance with State and local regulations.
- Construction sites should be inspected every seven calendar days or every fourteen calendar days and within 48 hours following any runoff producing storm event. Inspections should include all areas of the site disturbed by construction activity and areas used for storage of materials.

Erosion and sediment controls in combination with pollution prevention and "good housekeeping measures" can reduce the amount of pollution leaving construction

Erosion and Sediment Controls

Properly installed and maintained erosion and sediment control practices help to reduce pollution loading from construction sites.

Construction Entrance | Inlet Protection | Silt Fence

CNU Grounds Department 757-594-8700

MS4 GENERAL PERMIT
OVERVIEW OF MINIMUM CONTROL MEASURES

MS4 programs must demonstrate compliance with 6 Minimum Control Measures (MCMs) and special conditions (TMDLs):

MCMs

1. Public Outreach and Education
2. **Public Involvement/Participation**
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping

Special Conditions

1. Chesapeake Bay TMDL (TP, TN, TSS)

Provide opportunities for the public to play an active role in both the development and implementation of the program.

MS4 GENERAL PERMIT
OVERVIEW OF MINIMUM CONTROL MEASURES

MS4 programs must demonstrate compliance with 6 Minimum Control Measures (MCMs) and special conditions (TMDLs):

MCMs

1. Public Outreach and Education
2. Public Involvement/Participation
3. **Illicit Discharge Detection and Elimination** →
4. Construction Site Stormwater Runoff
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping

Special Conditions

1. Chesapeake Bay TMDL (TP, TN, TSS)

- Identify all storm sewer infrastructure, outfalls, and receiving streams.
- Ensure no illicit discharges enter the system.
- Once an illicit discharge is identified and/or detected, the source must be eliminated!

MS4 GENERAL PERMIT
OVERVIEW OF MINIMUM CONTROL MEASURES

MS4 programs must demonstrate compliance with 6 Minimum Control Measures (MCMs) and special conditions (TMDLs):

MCMs

1. Public Outreach and Education
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. **Construction Site Stormwater Runoff**
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping

Implement measures that prohibit sediment and pollutants from leaving construction activities and from entering the storm sewer system.

Special Conditions

1. Chesapeake Bay TMDL (TP, TN, TSS)

MS4 GENERAL PERMIT
OVERVIEW OF MINIMUM CONTROL MEASURES

MS4 programs must demonstrate compliance with 6 Minimum Control Measures (MCMs) and special conditions (TMDLs):

MCMs

1. Public Outreach and Education
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. **Construction Site Stormwater Runoff**
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping

Special Conditions

1. Chesapeake Bay TMDL (TP, TN, TSS)

CNU Application:

4.1 Annual Standards and Specifications

4.2 Project Inspections

4.3 ESC Contract Provisions

4.4 Construction Site Runoff (Pollution Prevention)

4.5 Construction Signage

4.6 Tracking Land Disturbing Activities

MS4 GENERAL PERMIT
OVERVIEW OF MINIMUM CONTROL MEASURES

MS4 programs must demonstrate compliance with 6 Minimum Control Measures (MCMs) and special conditions (TMDLs):

MCMs

1. Public Outreach and Education
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff
5. **Post-Construction Stormwater Management**
6. Pollution Prevention/Good Housekeeping

Special Conditions

1. Chesapeake Bay TMDL (TP, TN, TSS)

Implement and enforce a program to reduce post-construction runoff to the storm sewer system.

MS4 GENERAL PERMIT
OVERVIEW OF MINIMUM CONTROL MEASURES

MS4 programs must demonstrate compliance with 6 Minimum Control Measures (MCMs) and special conditions (TMDLs):

MCMs

1. Public Outreach and Education
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff
5. Post-Construction Stormwater Management
6. **Pollution Prevention/Good Housekeeping**

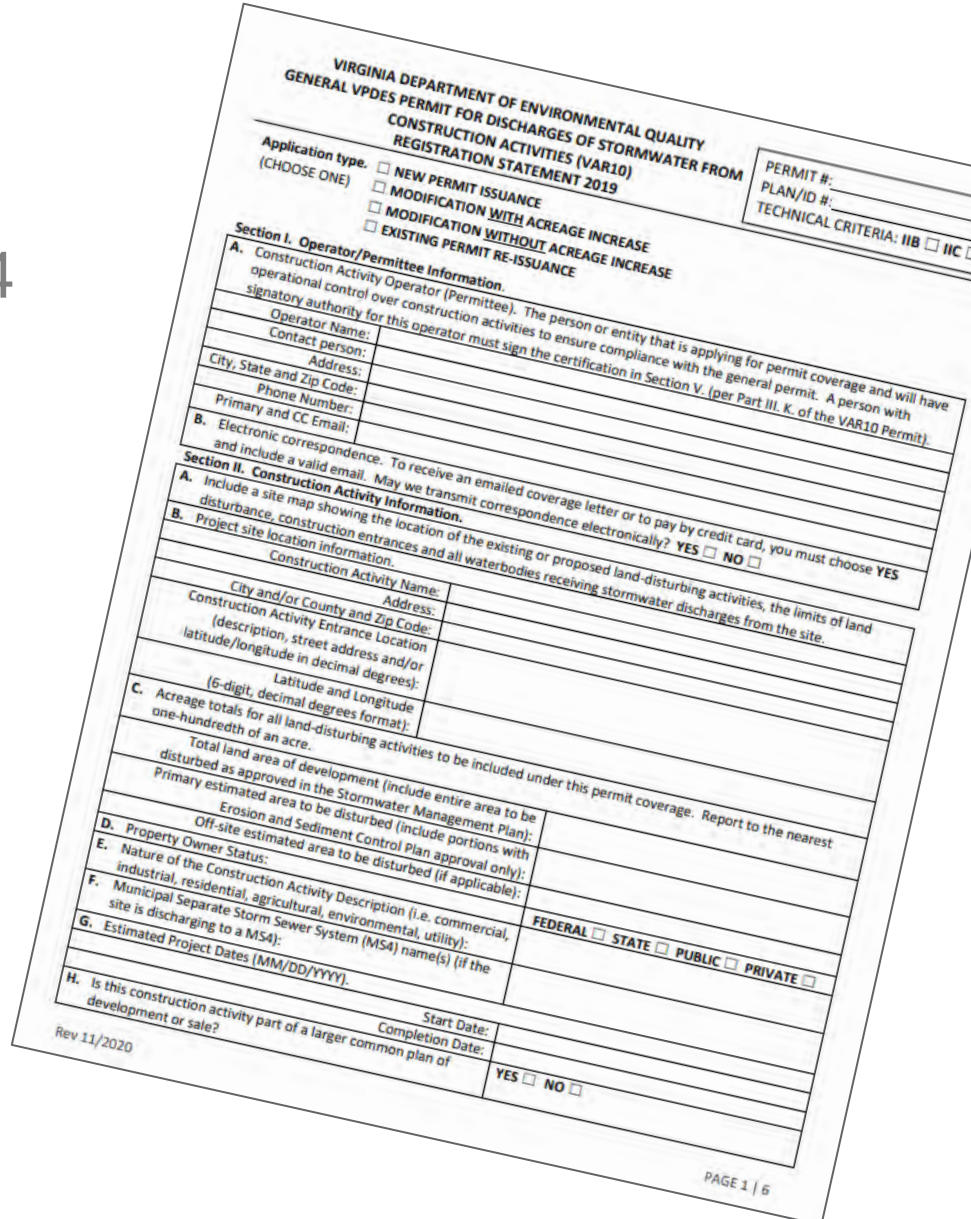
Special Conditions

1. Chesapeake Bay TMDL (TP, TN, TSS)

Examine and alter operating procedures to help minimize or prevent pollutant discharge from daily maintenance operations, equipment maintenance, and handling of herbicides, pesticides, and fertilizers.

CONSTRUCTION GENERAL PERMIT (CGP)
OVERVIEW

- Applies to land disturbances >1ac or part of a larger common plan of development
- Current permit term is July 1, 2019- June 30, 2024
- General Requirements
  - Registration statement is submitted
  - Administrative fees required
  - SWPPP developed and posted on site
  - Site inspections documented in the SWPPP
  - Notice of Termination must be submitted within 30 days of final site stabilization
- Annual Standards & Specification (AS&S) Entity Information Sheet to be filled out for CNU projects



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
GENERAL VPDES PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES (VAR10)
REGISTRATION STATEMENT 2019

PERMIT #:
PLAN/ID #:
TECHNICAL CRITERIA: IIB ☐ IIC ☐

Application type. (CHOOSE ONE) ☐ NEW PERMIT ISSUANCE ☐ MODIFICATION WITH ACREAGE INCREASE ☐ MODIFICATION WITHOUT ACREAGE INCREASE ☐ EXISTING PERMIT RE-ISSUANCE

Section I. Operator/Permittee Information.

A. Construction Activity Operator (Permittee). The person or entity that is applying for permit coverage and will have operational control over construction activities to ensure compliance with the general permit. A person with signatory authority for this operator must sign the certification in Section V. (per Part III. K. of the VAR10 Permit)

Operator Name:	
Contact person:	
Address:	
City, State and Zip Code:	
Phone Number:	
Primary and CC Email:	

B. Electronic correspondence. To receive an emailed coverage letter or to pay by credit card, you must choose YES and include a valid email. May we transmit correspondence electronically? YES ☐ NO ☐

Section II. Construction Activity Information.

A. Include a site map showing the location of the existing or proposed land-disturbing activities, the limits of land disturbance, construction entrances and all waterbodies receiving stormwater discharges from the site.

B. Project site location information.

Construction Activity Name:	
Address:	
City and/or County and Zip Code:	
Construction Activity Entrance Location (description, street address and/or latitude/longitude in decimal degrees):	
Latitude and Longitude (6-digit, decimal degrees format):	

C. Acreage totals for all land-disturbing activities to be included under this permit coverage. Report to the nearest one-hundredth of an acre.

Total land area of development (include entire area to be disturbed as approved in the Stormwater Management Plan):	
Primary estimated area to be disturbed (include portions with Erosion and Sediment Control Plan approval only):	
Off-site estimated area to be disturbed (if applicable):	

D. Property Owner Status: FEDERAL ☐ STATE ☐ PUBLIC ☐ PRIVATE ☐

E. Nature of the Construction Activity Description (i.e. commercial, industrial, residential, agricultural, environmental, utility):

F. Municipal Separate Storm Sewer System (MS4) name(s) (if the site is discharging to a MS4):

G. Estimated Project Dates (MM/DD/YYYY).

Start Date:	
Completion Date:	

H. Is this construction activity part of a larger common plan of development or sale? YES ☐ NO ☐

Rev 11/2020

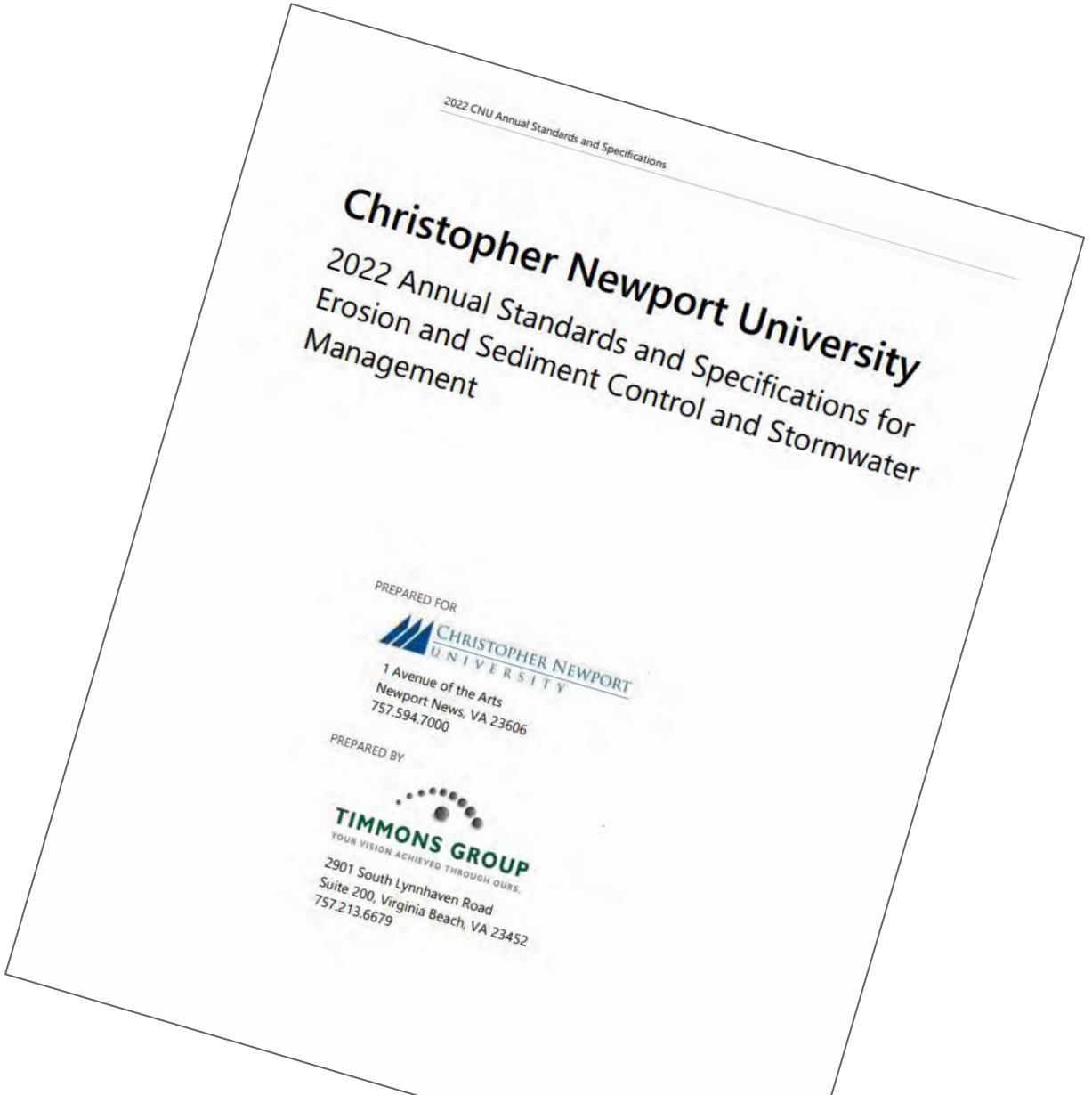
PAGE 1 | 6

CONSTRUCTION GENERAL PERMIT (CGP)
SWPPP DETAILS

- Stormwater Pollution Prevention Plan (SWPPP) Contents
  - General Info
  - Approved ESC PLAN
  - Approved Stormwater Management Plan
  - Pollution Prevention Plan
  - Discharge requirements for nutrient/sediment, PCB, and/or exceptional waters
  - Identification of qualified personnel
  - Delegation of authority
  - SWPPP signature

ANNUAL STANDARDS AND SPECIFICATIONS
AN OVERVIEW

- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance



ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 1

- **Section 1: Administration**
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

- ✓ Lists the applicable state laws and regulations.
- ✓ Requires compliance with the locality's VSMP authority.
- ✓ Defines the acronym "Architect, Facilities, or Grounds," as the authority for land disturbance at CNU.

Vice President for Administration and Auxiliary Services

- Auxiliary Services
- Procurement Services
- Capital Outlay Management
- Facilities Management
- Grounds
- Environmental Health, Safety and Risk Management

- ✓ Defines when ESC and SWM plans are required.

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 2

- Section 1: Administration
- **Section 2: Personnel**
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

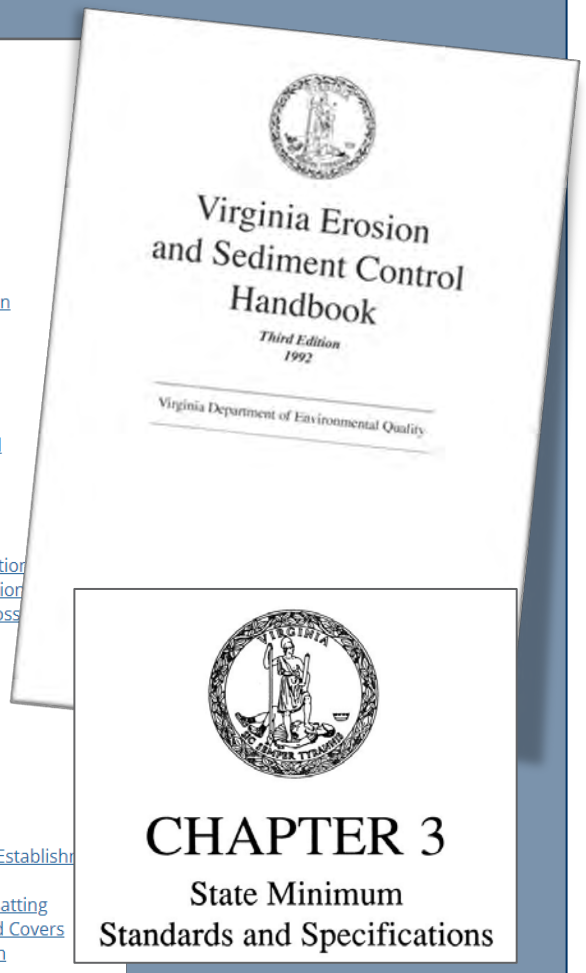
- ✓ Program Administrator: Director of Grounds or qualified CNU personnel grounds@cnu.edu
- ✓ Defines qualifications:
  - Certified ESC Inspector
  - Certified SWM Inspector
  - Certified ESC Plan Reviewer
  - Certified SWM Plan Reviewer
  - Certified ESC Program Administrator
  - Certified SWM Program Administrator
  - Certified ESC Combined Administrator
  - Certified SWM Combined Administrator

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 3

- Section 1: Administration
- Section 2: Personnel
- **Section 3: Implementation**
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

✓ VESCH control measures preferred

- Handbook Chapter 3.01 - Safety Fence
- Handbook Chapter 3.02 - Construction Entrance
- Handbook Chapter 3.03 - Construction Road Stabilization
- Handbook Chapter 3.04 - Straw Bale Barrier
- Handbook Chapter 3.05 - Silt Fence
- Handbook Chapter 3.06 - Brush Barrier
- Handbook Chapter 3.07 - Storm Drain Inlet Protection
- Handbook Chapter 3.08 - Culvert Inlet Protection
- Handbook Chapter 3.09 - Temporary Diversion Dike
- Handbook Chapter 3.10 - Temporary Fill Diversion
- Handbook Chapter 3.11 - Temporary Right-of-Way Diversion
- Handbook Chapter 3.12 - Diversion
- Handbook Chapter 3.13 - Temporary Sediment Trap
- Handbook Chapter 3.14 - Temporary Sediment Basin
- Handbook Chapter 3.15 - Temporary Slope Drain
- Handbook Chapter 3.16 - Paved Flume
- Handbook Chapter 3.17 - Stormwater Conveyance Channel
- Handbook Chapter 3.18 - Outlet Protection
- Handbook Chapter 3.19 - Riprap
- Handbook Chapter 3.20 - Rock Check Dams
- Handbook Chapter 3.21 - Level Spreader
- Handbook Chapter 3.22 - Vegetative Streambank Stabilization
- Handbook Chapter 3.23 - Structural Streambank Stabilization
- Handbook Chapter 3.24 - Temporary Vehicular Stream Cross
- Handbook Chapter 3.25 - Utility Stream Crossing
- Handbook Chapter 3.26 - Dewatering Structure
- Handbook Chapter 3.27 - Turbidity Curtain
- Handbook Chapter 3.28 - Subsurface Drain
- Handbook Chapter 3.29 - Surface Roughening
- Handbook Chapter 3.30 - Topsoiling
- Handbook Chapter 3.31 - Temporary Seeding
- Handbook Chapter 3.32 - Permanent Seeding
- Handbook Chapter 3.33 - Sodding
- Handbook Chapter 3.34 - Bermudagrass and Zoysiagrass Establishr
- Handbook Chapter 3.35 - Mulching
- Handbook Chapter 3.36 - Soil Stabilization Blankets and Matting
- Handbook Chapter 3.37 - Trees, Shrubs, Vines and Ground Covers
- Handbook Chapter 3.38 - Tree Preservation and Protection
- Handbook Chapter 3.39 - Dust Control



ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 3

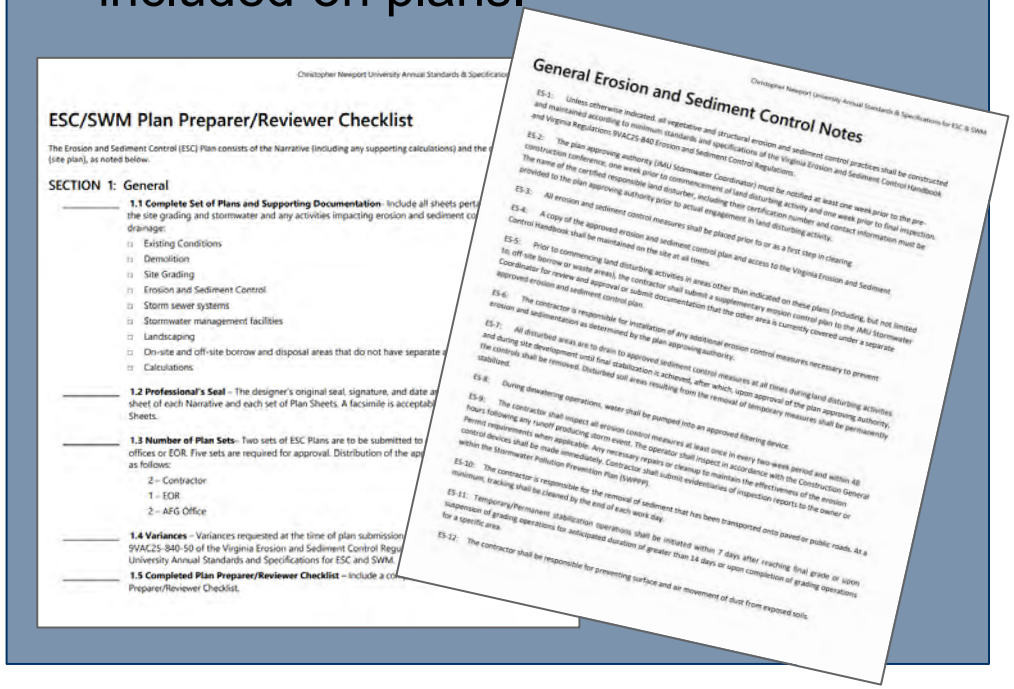
- Section 1: Administration
- Section 2: Personnel
- **Section 3: Implementation** →
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

- ✓ VESCH control measures preferred
- ✓ Submittals
  - Plans
  - Non-VESCH supporting information
  - CGP documents
- ✓ Plan Review
  - 2 sets for approval
  - 30 days
  - 5 sets for construction
- ✓ Delegated Authority
- ✓ Pre-Construction Conference
- ✓ Inspections
- ✓ Enforcement
- ✓ Changes/Amendments to Approved Plans

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 4

- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- **Section 4: Plan Review & Approval**
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

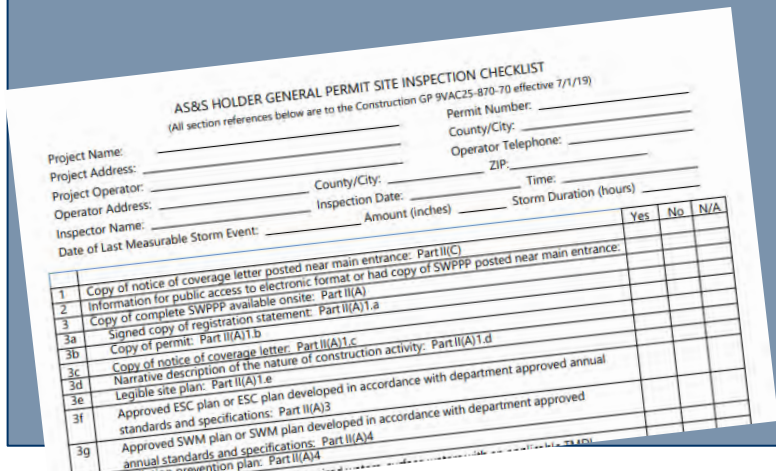
- ✓ Lists specific items required for complete Construction Plan
- ✓ Refers to Appendix A and B for the ESC/SWM Checklist and General Erosion and Sediment Control Notes for details and specific items to be included on plans.



ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 5

- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- **Section 5: Inspections**
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

- ✓ Inspections required by the delegated authority (RLD) in accordance with the SWPPP.
- ✓ Inspection oversight provided by CNU, likely a third-party contractor.
- ✓ Forms provided in Appendix C
  - Immediately following installation of E&S measures
  - Once every 2 weeks and within 48 hours of runoff producing event
  - Installation of BMPs
  - Completion of project


AS&S HOLDER GENERAL PERMIT SITE INSPECTION CHECKLIST
(All section references below are to the Construction GP 9VAC25-870-70 effective 7/1/19)

Project Name: Permit Number:
Project Address: County/City:
Project Operator: Operator Telephone:
Operator Address: ZIP:
Inspector Name: Inspection Date: Time:
Date of Last Measurable Storm Event: Amount (inches) Storm Duration (hours)

		Yes	No	N/A
1	Copy of notice of coverage letter posted near main entrance: Part II(C)			
2	Information for public access to electronic format or had copy of SWPPP posted near main entrance:			
3	Copy of complete SWPPP available onsite: Part II(A)			
3a	Signed copy of registration statement: Part II(A)1.a			
3b	Copy of permit: Part II(A)1.b			
3c	Copy of notice of coverage letter: Part II(A)1.c			
3d	Narrative description of the nature of construction activity: Part II(A)1.d			
3e	Legible site plan: Part II(A)1.e			
3f	Approved ESC plan or ESC plan developed in accordance with department approved annual standards and specifications: Part II(A)3			
3g	Approved SWM plan or SWM plan developed in accordance with department approved annual standards and specifications: Part II(A)4			

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 6

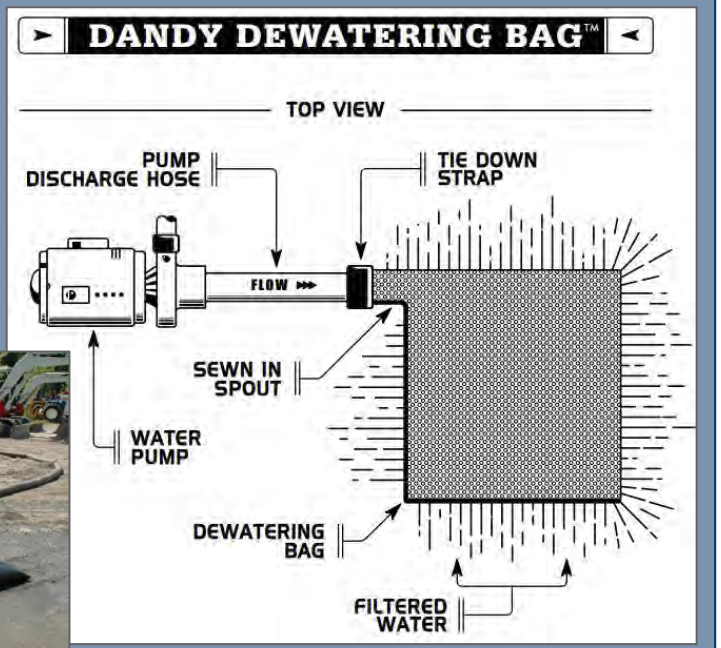
- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- **Section 6: Variance and Exceptions** →
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

- ✓ Defines procedures when requesting a variance or an exception
  - Written request
  - Review by CNU → DEQ
- ✓ Refer to Appendix G for approved Non-VESCH Specifications
  - Alturnamats and Versamats for Construction Entrance and Construction Road Stabilization

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 6

- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- **Section 6: Variance and Exceptions** →
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

- ✓ Defines procedures when requesting a variance or an exception
  - Written request
  - Review by CNU → DEQ
- ✓ Refer to Appendix G for approved Non-VESCH Specifications
  - Dandy Dewatering Bag for Dewatering



ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 6

- Section 1: Administration
- Section 2: Personnel
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- Section 4: Plan Review & Approval
- Section 5: Inspections
- **Section 6: Variance and Exceptions** →
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

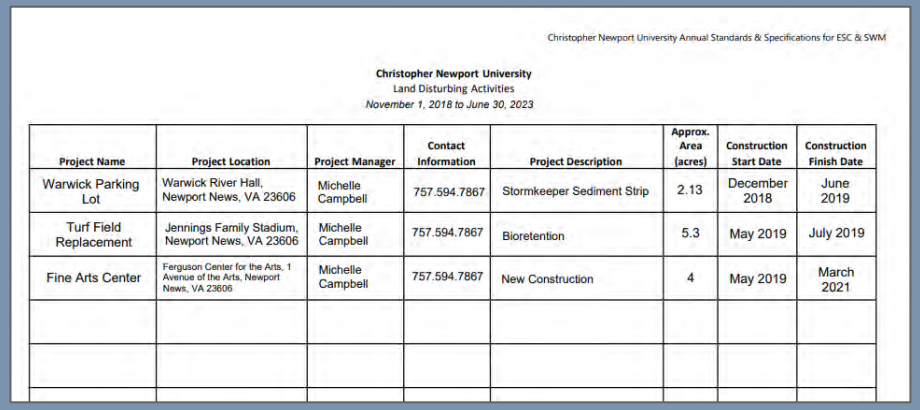
- ✓ Defines procedures when requesting a variance or an exception
  - Written request
  - Review by CNU → DEQ
- ✓ Refer to Appendix G for approved Non-VESCH Specifications
  - Dandy Bag, Dandy Curb, Dandy Curb Bag, Dandy Curb Sack, & Dandy Sack
  - Erosion Eel
  - Gutter Buddy
  - Silt Sack

  For inlet protection and perimeter control

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 7

- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- **Section 7: Land-Disturbing Activities** →
- Section 8: Construction Requirements
- Section 9: Long Term Maintenance

- ✓ Specifies technical criteria for land disturbing activities (Part II B – 9VAC25-870)
- ✓ Allows for off-site compliance options (nutrient credit purchase)
- ✓ Provides mechanisms for tracking projects (Appendix E)



Christopher Newport University Annual Standards & Specifications for ESC & SWM

Christopher Newport University
Land Disturbing Activities
November 1, 2018 to June 30, 2023

Project Name	Project Location	Project Manager	Contact Information	Project Description	Approx. Area (acres)	Construction Start Date	Construction Finish Date
Warwick Parking Lot	Warwick River Hall, Newport News, VA 23606	Michelle Campbell	757.594.7867	Stormkeeper Sediment Strip	2.13	December 2018	June 2019
Turf Field Replacement	Jennings Family Stadium, Newport News, VA 23606	Michelle Campbell	757.594.7867	Bioretention	5.3	May 2019	July 2019
Fine Arts Center	Ferguson Center for the Arts, 1 Avenue of the Arts, Newport News, VA 23606	Michelle Campbell	757.594.7867	New Construction	4	May 2019	March 2021

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 8

- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- **Section 8: Construction Requirements** →
- Section 9: Long Term Maintenance

- ✓ CO-7 General Conditions of the Construction Contract requires the Contractor to have a DEQ-certified Responsible Land Disturber (RLD) on-site
- ✓ References the Construction and Professional Services Manual (CPSM) and CNU's Design and Construction Guidelines
- ✓ Describes DEQ's authority and responsibility
- ✓ Describes CNU's responsibilities in communicating to DEQ.

ANNUAL STANDARDS AND SPECIFICATIONS
SECTION 9

- Section 1: Administration
- Section 2: Personnel
- Section 3: Implementation
- Section 4: Plan Review & Approval
- Section 5: Inspections
- Section 6: Variance and Exceptions
- Section 7: Land-Disturbing Activities
- Section 8: Construction Requirements
- **Section 9: Long Term Maintenance** →

- ✓ Requires CNU to annually inspect post-construction stormwater management facilities to ensure long-term maintenance is performed according to plan.
- ✓ Defines reporting and recordkeeping requirements for CNU


THANK YOU!
CHRISTOPHER NEWPORT UNIVERSITY

Appendix B MINIMUM CONTROL MEASURE 2 (MCM2) SUPPLEMENTAL INFORMATION

Community Service Events (BMP 2.3)

Public Involvement/Participation (BMP 2.4)

Other information on MCM2 can be found in:

Appendix A: CNU Stormwater Website (BMP 1.2, 2.3, 3.3)

Appendix A: Public Education and Outreach (1.3, 1.4, 1.5, 1.8, 1.9, 2.4, 2.5, 3.7, 6.1, 6.8)

CNU Community Service Events

Day One of Service Event

Green Team Beach Clean-Up

Submitted by CNU to VADEQ October 1st, 2023

WATERWAY CLEANUP OPPORTUNITIES

Is your group or organization looking for a community service project? If so, follow the lead of Cnu's Green Team which had a beach cleanup on September 18th. Whether it's Adopting-A-Highway, Adopting-A-Spot, or cleaning up the beach, you will help keep our waterways clean. For more information contact the Grounds department at 757-594-8700 or grounds@cnu.edu.

Submitted by CNU to VADEQ October 1st, 2023

CNU Campus Public Involvement/Participation

Mariners' Museum B-WET Sponsorship

Thank you to our partners

The Mariners' Environmental Co-op is successful because of the contributions from our partners–from the Newport News Public School curriculum leaders and environmental science teachers, to regionall environmental experts and professionals–we are humbled and grateful for your support..

Student Related Work

Submitted by CNU to VADEQ October 1st, 2023

Culture

Though the threat of a climate crisis may point to sustainability being the best option for lawn care maintenance, the culture around green lawns must be taken into consideration

- Keeping grass green year round is no simple task
- There are cultural benefits to maintaining a picturesque lawn

Having a green lawn is thought to be symbolic of success.

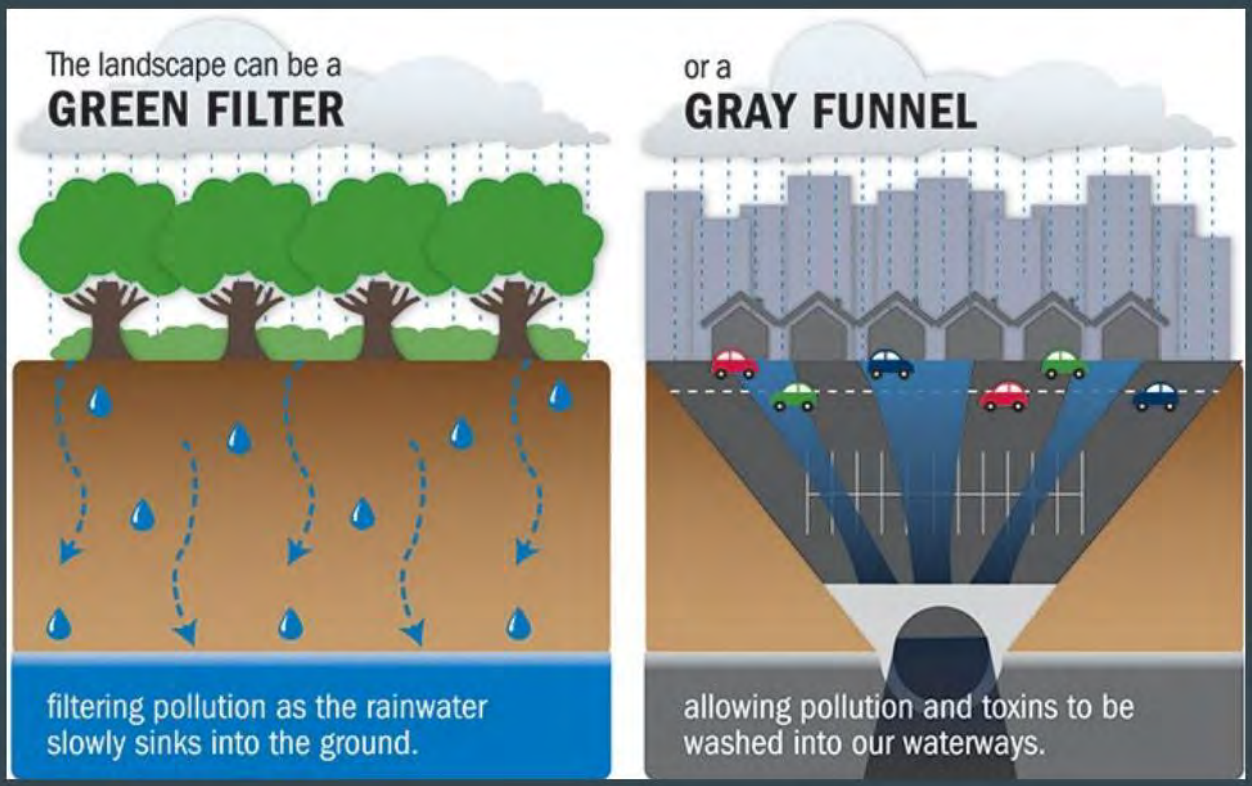
- The "American Dream" with green lawns and white picket fences
- Private and public properties – Universities often have a large square of grass that is named (ex. the Great Lawn, the Quad, etc.)
    - The lawn at a university is designed to be decorative

Chemical Fertilizers

- Fertilizers
    - Used to encourage growth by adding nutrients
- Professional Care
    - Professional vs. DIY
- Problems (environmental and personal)
    - pH change
        - Lower pH of soil
            - Decline in diversity
    - Fertilizer Burn
        - Causes brown spots in lawn - fix with...
    - Leaching
        - 50% of nitrogenous fertilizers are used
            - Rest interferes with:
                - Underground water - drinking water
                - Surface water - runoff

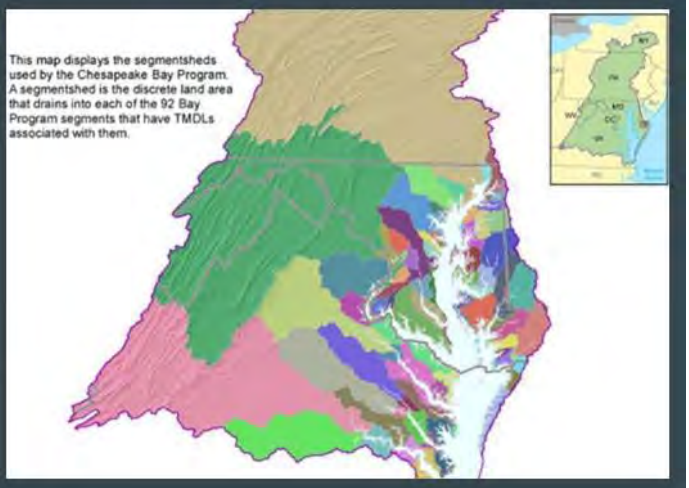
Runoff and the Chesapeake Bay

- Agricultural runoff and sediment
  - Increased since 1960s
  - Urbanization
- Eutrophication
  - Causes
    - Sediment
    - Nutrients
  - Hypoxia
  - Dead zones
- Pollution
  - Nonpoint source vs. point source



Chesapeake Bay Total Maximum Daily Load (2010)

- Total Maximum Daily Loads (TMDL)
  - Current TMDL for Chesapeake Bay
    - 185.9 million pounds of nitrogen
      - 25% reduction
    - 12.5 million pounds of phosphorus
      - 24% reduction
    - 6.45 billion pounds of sediment
      - 20% reduction
  - 92 small segmented TMDLs throughout the Bay



Submitted by CNU to VADEQ October 1st, 2023

CNU Grounds and Great Lawn Maintenance

"We aim to be like a high end resort type management or high end Golf Course Management. We're not fully manicured like Augusta National, for instance, our grounds would compare to the common grounds around the clubhouses and the nice resorts you see in America because we want them to be clean and green." - **Dean Whitehead, Director of Grounds**

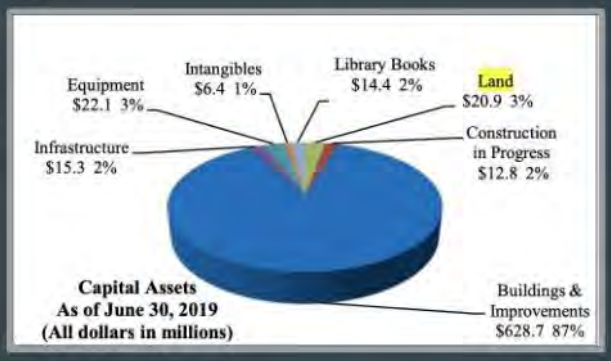
- Ground is sprayed with specially made "HydroCNU" monthly to help retain water in the sandy soil and maintain high levels of nutrient intake
- **Perennial Rye Grass** planted in October to maintain color → replaced by **Bermuda Grass** in the spring - experimenting with other grasses: Bluegrass
- Since 2008 painting of the lawn has decreased dramatically
- Campus is a mosaic of different soils, all areas having different needs

"We try to do our due diligence, being environmentally friendly and doing the least that we can get away with"

"Every every three years, we have to have our fertilizer application plan approved by the Department of Conservation and recreation in Virginia allowing us to only apply certain amount of nitrogen because of the Chesapeake Bay"

Monetary Consequences

- 5 hired groundskeepers,
- 1 fertilizing/weed control
- 1 irrigation technician
- 5 part-time students
- + 3rd party contracts



- Estimated $80,000 annually towards grounds maintenance (Not including employee salary or any vehicle expenses)
- Cost of golf course grounds maintenance $500,000 - $1m depending on location
- 2019 CNU "Land" was valued around $20m

Frequency of treatments:

- Feb 28
- March 7
- Apr 11
- May 2
- May 16 - Jun 3
- Jun 6
- Jun 22
- Jul 4
- Aug 1
- Aug 29
- Sept 26
- Oct 10
- Oct 24
- Nov 21
- Dec 6

CNU and the Great Lawn

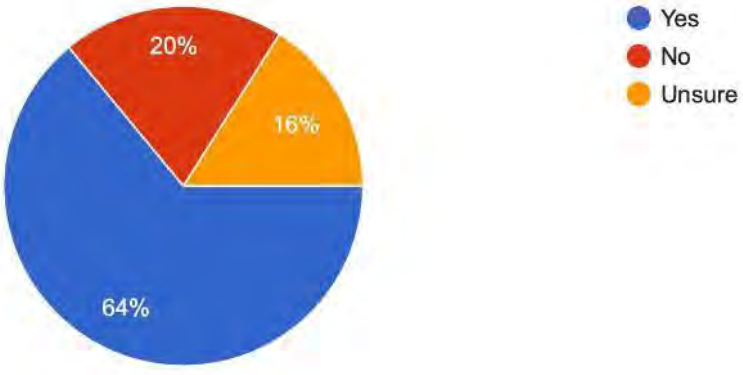
The cultural importance of the Great Lawn

We interviewed six CNU students and surveyed twenty-five others. Though similar questions were asked, there was a noticeable difference in the way that the survey respondents and interviewees answered.

Survey Results

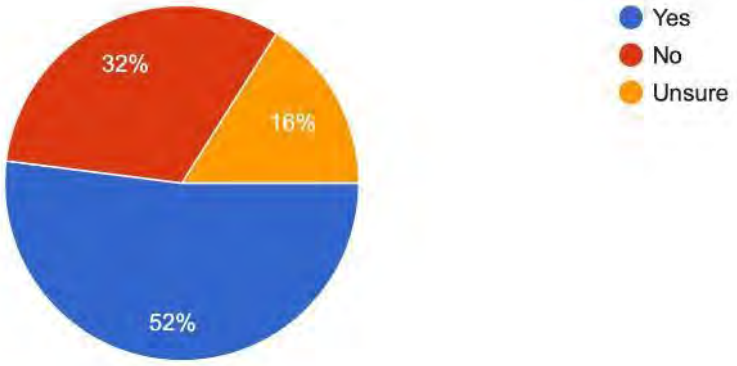
Do you feel that the landscaping of the Great Lawn enhances your campus experience?

25 responses



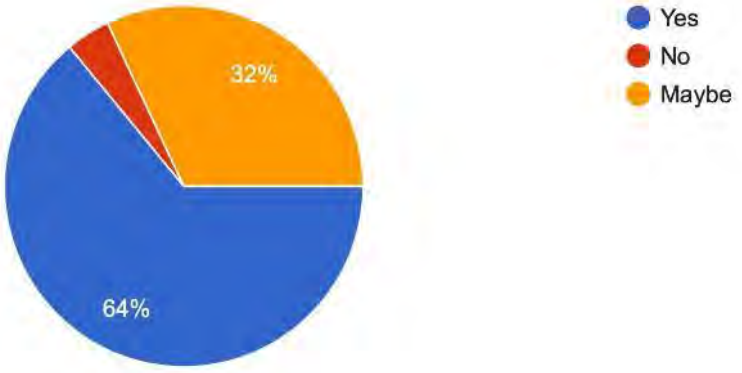
Do you feel the landscaping of the Great Lawn is necessary?

25 responses



Should the money used for landscaping CNU be spent on other things?

25 responses



“I definitely think there should be some kind of upkeep, but the stuff they do seems very unnatural and bad for the environment—specifically the all year round green lawn. ”

Interview Results

Campus Culture

"The Great Lawn means a lot to the higher ups at CNU. They definitely care about it – they run most big events with the Great Lawn in mind"

"I don't think many students care about the Great Lawn it's more just a place that they can hang out on a nice day. If it wasn't there, there are other places on campus you can go to"

"Anyone that represents CNU will talk up the Great Lawn but to students it is just a patch of grass"

"If it was natural grass I would care more about walking on it"

"The Great Lawn not being green in the winter would have no bearing on my life. Most students aren't even on campus anyway"

"The Great Lawn is the main central part of CNU's campus. Everytime we have a nice day and we see people on the lawn it makes me feel like I'm really at college"

"The Great Lawn is one of the most important things about CNU because everything is around it"

"It looks too perfect to walk on"

"If it's not bright green then it's not the Great Lawn"

"Other students definitely care about the Great Lawn"

"The Great Lawn is fairly important because if we didn't have it there wouldn't be a space for everyone – events wouldn't be as "great"

Great Lawn Maintenance

"Here there are literally no animals. I have yet to get a mosquito bite on this campus. That seems wrong. The pesticides they put into the lawn can't be good for the environment. Honestly it's probably not even good for the students, it gets all in our lungs and stuff"

"You don't see squirrels on the Great Lawn. What are they going to do, eat some chemically enhanced grass and die? No"

"The only place all these chemicals can go is into the water"

"I'm pretty sure all of the drainage systems go right out to Lions Bridge"

"With the amount of rain we get here, everything they put on the grass is just going to flow where it needs to go"

"When the grass is supposed to be dead and dry in the winter, you can still see that green color poking up through the snow. One day its dry and the next day its back to being green and healthy"

"We can always be more sustainable. Cutting back on things like lawn care and stuff would help"

"It's not worth the environmental problems just for it to be green. If it could be green and not do all those bad things then I would prefer it be green"

Sustainable Alternatives

- Organic Fertilizers - University of California, Los Angeles
  - Grasscycling
    - Reduce requirements by over 25%
  - Compost
    - Waste management
    - Same ground with chemicals
    - Moisture retention
    - Soil Sampling
      - Alter compost composition

Image #1

Before compost

Image #2

2 months after first compost application

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Christopher Newport University
April 17 ·

A project on sustainability during senior year leads alum Brandon Davis '22 to win the top prize at the Richmond Film Festival.

Learn more and watch "Coal Blooded" by clicking on the story below.

CNU.EDU

Alum Documentary Wins Top Honor at Film Festival

"Coal Blooded" probes the environmental and health impacts of a ...

33 1

Like Comment Share

Submitted by CNU to VADEQ October 1st, 2023

Appendix C MINIMUM CONTROL MEASURE 3 (MCM3) SUPPLEMENTAL INFORMATION

CNU IDDE Policy (BMP 3.1)

CNU Stormwater Study (BMP 3.2, 5.2)

Stormwater Master Plan updated study for 2019 – cover page and Table of Contents (BMP 3.2, 5.1)

Dry Weather screening/Outfall Inspection summary (BMP 3.5)

CNU IDDE Standard Procedures (BMP 3.6, 6.3)

Pollution Prevention Training (3.8, 6.2)

Other information on MCM3 can be found in:

Appendix A: CNU Stormwater Website (BMP 1.2, 2.3, 3.3)

Appendix A: Public Education and Outreach (1.3, 1.4, 1.5, 1.8, 1.9, 2.4, 2.5, 3.7, 6.1, 6.8)

CHRISTOPHER NEWPORT
UNIVERSITY

Illicit Discharge Detection and Elimination (IDDE) Policy

Grounds Department
1 Avenue of the Arts, Newport News, VA 23606
Phone: (757) 594-8700
Email: Grounds@cnu.edu

Revised: 8/15/22

Background

Christopher Newport University (CNU) is the owner and operator of registered small municipal separate storm sewer system (MS4). A Stormwater Quality and Quantity Management Study was developed for the University by Koontz-Bryant in 2002 and revised in 2008. This study contains detailed information on the existing stormwater conveyance system at the University Based on the stormwater study, the University area encompasses 142.5 acres. The study also provides a map (updated in 2008) showing drainage areas and storm sewer mapping. CNU further had a Stormwater Master Plan developed in 2019 by VHB that updates the stormwater plan for the campus, providing an approximate total institutional footprint of 152 acres that includes the MS4 area and other facilities that CNU operates in the adjacent City of Newport News MS4.

1. Purpose of Policy

The purpose of this policy is to provide for the protection of the environment at CNU, 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 CNU. The objectives of this policy are as follows:

A. To prevent or minimize to the maximum extent practicable, the discharge of pollutants from University properties and operations into the storm drainage system.

B. To develop, implement and enforce a program to detect and eliminate illicit discharges, as defined by 9VAC25-870-400 and 9VAC25-870-10, into the regulated small MS4.

C. To comply with the requirements of CNU's stormwater permit.

2. Definitions

Best Management Practices (BMPs): 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.

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

Hazardous substance: Any substance designated under the Code of Virginia or 40 CFR Part 116 pursuant to § 311 of the CWA.

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

Municipal separate storm sewer (MS4): 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) That is not a combined sewer; and
4) That is not part of a publicly owned treatment works.

Municipal Separate Storm Sewer System (MS4): All separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems or designated under 9VAC25-870-380 .

Municipal Separate Storm Sewer System Management Program or MS4 Program: 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 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) Storm Water Discharge Permit: 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: Any discharge to the storm drain system that is not composed entirely of stormwater.

Outfall: 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: 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: 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: Any building, structure, facility, installation, or activity from which there is or may be a discharge of pollutants.

State waters: All water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

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

Wetlands: Those areas that are inundated or saturated by surface water 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.

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

3. Applicability

This policy is applicable to all students, faculty, staff, contractors, 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.

4. Responsibility for Administration.

The University shall administer, implement, and enforce the provisions of this policy.

5. 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.

6. 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.

7. Illicit Discharges

No CNU 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) 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:

- Wastewater from washout of concrete
- Wastewater from the washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance
- Oils, toxic substances, or hazardous substances from spills or other releases
- Soaps, solvents, or detergents used in equipment and vehicle washing

8. Allowed Discharges

The following discharges to the storm drainage system are allowed, as per 9VAC25-890-20 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, managed in a manner to avoid an instream impact;
    - Landscape irrigation;
    - Diverted stream flows;
    - Rising groundwaters;
    - Uncontaminated groundwater infiltration, as defined at 40 CFR 35.2005(20);
    - 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;
    - Dechlorinated swimming pool discharges;
    - Street wash water;
    - Discharges or flows from firefighting activities;
    - Discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners; or
    - Other activities generating discharges identified by the department as not requiring VPDES authorization.

9. Procedures

Inspections

CNU shall, at a minimum, visually inspect all outfalls once per year 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 as appropriate:

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

Flows suspected of containing illicit discharges due to the presence of odors, colors or sheens shall be further analyzed, which may include testing. If determined to be a naturally occurring issue and not an illicit discharge, no further analysis will be performed. 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. Illicit discharge data will be used in the preparation of the annual report to the Virginia Department of Environmental Quality.

Notification of Spills and Illicit Discharges

Once a spill or illicit discharge has been observed, the incident shall be immediately reported to the University MS4 Program Coordinator. In the event the program coordinator is unavailable, any member of the Stormwater Pollution Prevention Team or University Police may be notified. Failure to provide notification of the incident shall be a violation of this policy.

The MS4 Program Coordinator, or designee, shall conduct and an initial investigation within one business day of receiving notification. The MS4 Program Coordinator shall determine appropriate measures taken in order to prevent further discharge(s) and to begin remediation of pollution.

Tracking

Field surveys and instances of illicit discharges or spills shall be tracked in our IDDE Database and include:

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; and,
4. Date investigation closed.

Enforcement and Penalties

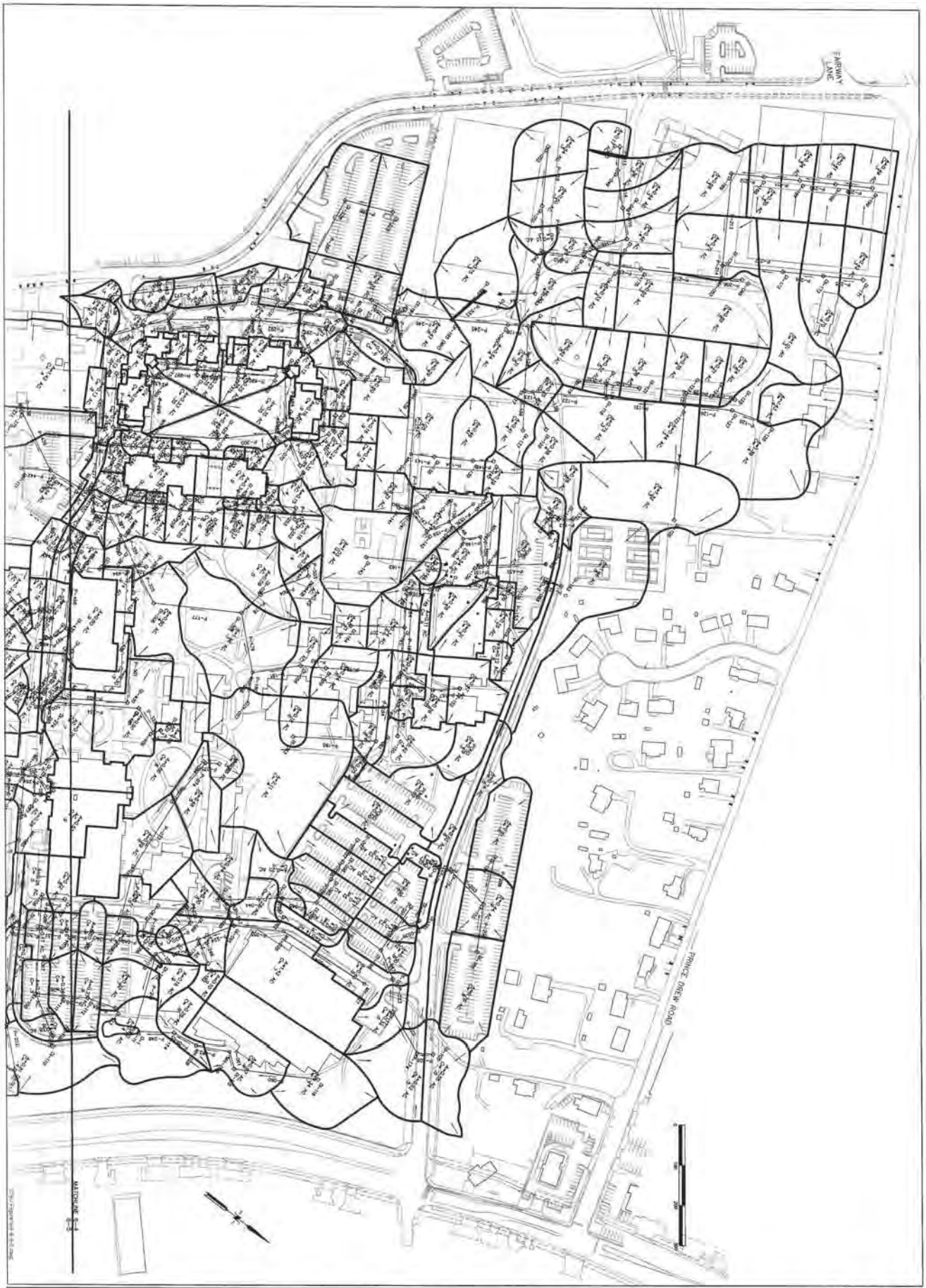
Whenever the University finds that a violation of this Policy has occurred, CNU may order compliance by written notice to the responsible party. Such notice may require without limitation:

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 Christopher Newport University to cover remediation cost;
6. The implementation of new stormwater management practices; and
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.

10. Training and Education

A training program for Stormwater Pollution Prevention/Good Housekeeping and IDDE is presented to applicable employees upon hire and no less than once per 24 months. Educational materials for Stormwater Pollution Prevention and IDDE are distributed through various forms of media to the members of the University.



6-4

JN: 1585

SCALE: 1"=100'

DATE: March 30, 2009

CHRISTOPHER NEWPORT UNIVERSITY

NEWPORT NEWS VIRGINIA

2008 "C" VALUES, DRAINAGE AREAS AND STORM SEWER

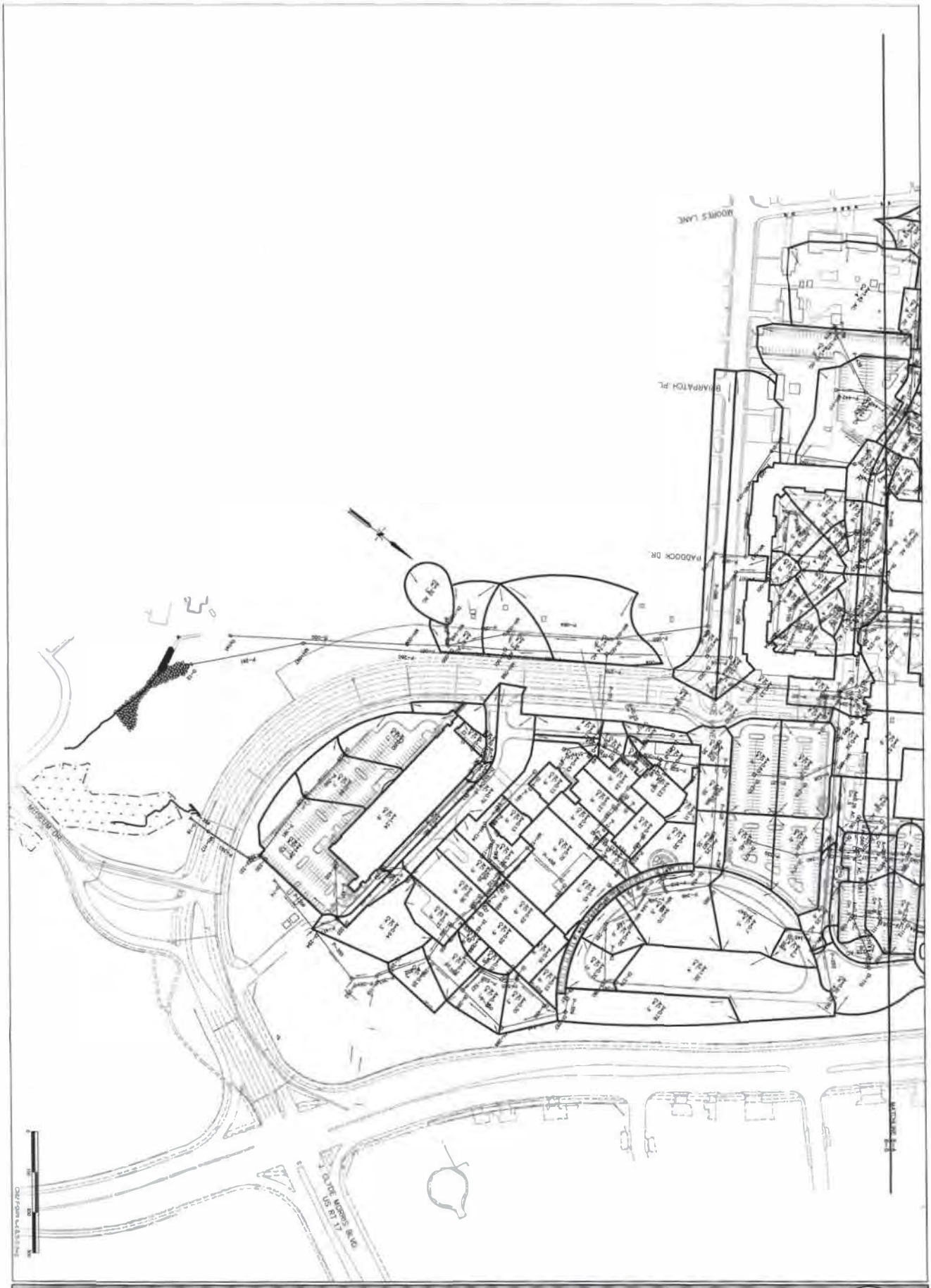
KOONTZ-BRYANT, P.C.
A Full Service Civil Consulting Firm
1703 N PARHAM ROAD, SUITE 202
RICHMOND, VIRGINIA 23229
(804) 740-9200 FAX (804) 740-7338
kbpc@koontzbryant.com

DESIGNED: WWW

DRAWN: VLS

CHECKED: PFH

REVISIONS:



6-5

JN: 1565

SCALE: 1"=100'

DATE: APRIL 30, 2009

CHRISTOPHER NEWPORT UNIVERSITY

NEWPORT NEWS VIRGINIA

2008 "C" VALUES, DRAINAGE AREAS AND STORM SEWER

KOONTZ-BRYANT, P.C.
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vbpc@koontzbryant.com

DESIGNED: WWW
DRAWN: VLS
CHECKED: IPFH

REVISIONS:

4-3-1

CHRISTOPHER NEWPORT UNIVERSITY
NEWPORT NEWS VIRGINIA

2011 UPDATED BOUNDARY AND IMPERVIOUS AREA

KOONTZ-BRYANT, P.C.
A PLE Service Civil Consulting Firm
1703 N PARHAM ROAD, SUITE 202
RIC-MOND, VIRGINIA 23229
(804) 740-9200 FAX (804) 740-7338
kbpe@koontzbryant.com

DESIGNED: JBM
DRAWN: JBM
CHECKED: RFH

JN 1595
SCALE: 1"=150'
DATE: DECEMBER 21, 2011

CNU Campus

		Project Post-development Impervious Area (acres)	Project Pre-development Impervious Area (acres)	Campus Post-development Impervious Area (acres)
				59.00
S-01-0720-01-1	CNU Residence Hall III (partially built when flown)	0.34	0.00	59.34
S-01-0720-02-1	CNU Track Complex (Stadium Seating)	1.33	1.39	59.28
S-01-0720-04-0	CNU Performing Arts Center, Phase 1	8.67	9.80	58.15
S-02-LJ-03	CNU Performing Arts Center, Phase II	6.90	8.67	56.38
S-03-LJ-01	CNU Track Complex - Football Stadium, Phase 2	0.13	0.00	56.51
S-03-LJ-02	CNU Soccer Practice Field	-0.79	0.00	55.72
S-03-LJ-03	CNU Tennis Courts	0.24	0.00	55.96
S-03-LJ-04	CNU Residence Hall IV	-1.32	0.00	54.64
S-03-LJ-06	CNU Parking Deck	4.16	0.00	58.80
S-03-LJ-07	CNU Clearing, Grubbing and Demolition Plan (Baseball Facility)	0.00	0.00	58.80
S-03-LJ-08	CNU Demo 78 Moores Ln.	0.00	0.05	58.75
S-03-LJ-09	CNU Demo 82 Moores Ln.	0.00	0.15	58.60
S-03-LJ-10	CNU Demo 262 Prince Drew Dr.	0.00	0.10	58.50
S-03-LJ-11	CNU Demo 300 Prince Drew Dr.	0.00	0.04	58.46
S-03-LJ-12	CNU Storm Sewer Infrastructure Improvements	-0.66	0.00	57.80
S-03-LJ-14	CNU Moores Lane Demo Projects (67, 71, 77 & 79)	0.00	0.37	57.43
S-03-LJ-15	CNU Baseball Field	0.72	0.00	58.15
S-03-LJ-15	CNU Werwick Blvd. Demo Projects	0.00	0.00	58.15
S-04-01	CNU Student Center	1.84	0.92	59.07
S-04-02	CNU Library and Information Technology Center	1.09	0.75	59.41
S-04-07	CNU Demo 87 Moore's Lene	0.00	0.05	59.35
S-04-08	CNU Temporary Construction Access Road	0.25	0.07	59.53
S-04-11	CNU Demo 61 Moore's Lane	0.00	0.04	59.50
S-04-15	CNU Demo 63 Moore's Lane	0.00	0.08	59.42
S-04-17	CNU Beseball Field Press Box and Seating Area	0.93	0.72	59.63
S-04-18	CNU Softball Field	0.19	0.00	59.82
S-05-03	CNU Fine Arts Loop Road	0.96	1.21	59.57
S-05-04	CNU Moores Lane Parking Lot	2.57	1.55	60.59
S-05-05	CNU Dumpster Yard	0.16	0.16	60.59
S-05-15	CNU Beseball Field Parking Lot	0.67	0.05	61.21
S-05-16	CNU Student Center Parking Lot	1.27	0.00	62.48
S-07-15	CNU McMurran Hall Liberal Arts Building	1.16	1.56	62.08
S-08-10	CNU Artificial Turf Field	0.00	0.00	62.08
SW2-09-11	CNU Science Building	2.07	1.67	62.48
S-09-01	CNU Soccer Concession Building	-0.03	0.00	62.45
SW2-09-13	CNU Track Renovations	1.75	1.39	62.81
SW2-09-26	CNU Freeman Center	4.74	3.58	63.97
SW2-09-33	CNU Loop Road Phase 2	0.65	0.55	64.07
SW2-10-05	CNU Chapel	0.65	1.30	63.42
SW2-10-09	CNU New Hall	1.54	1.39	63.57
SW2-10-14	CNU Res Hall V	1.46	2.09	62.94
SW2-11-02	CNU Master Plan Parking Lots - Phase 1	9.71	2.50	70.15
S-09-21	CNU Ratcliffe Hall Atheletic Addition	0.75	0.49	70.41
Per 2011 Master Plan Update	*Adjustment per field changes to the softball fields*	-0.18	0.00	70.23
Per 2011 Master Plan Update	*Adjustment per field changes to track and concession walks*	0.06	0.00	70.29
Per 2011 Master Plan Update	*Adjustments per field changes of walkways/demo on McMurran Hall and the Science Building including the Chiller Plant*	0.77	0.00	71.06
Per 2011 Master Plan Update	*Adjustment for 12 Moores Lane to remain*	0.15	0.00	71.21
Per 2011 Master Plan Update	Adjustment per removal of 30 spaces in Master Parking Lots	-0.11	0.00	71.10
SW2-12-01	Hiden-Hussey Commons Additions Phase 1	0.33	0.00	71.43
Per WEG - CNU Entry Plaza	CNU Entry Plaza - Within CNU Campus	0.05	0.00	71.48
Per WEG - CNU Entry Plaza	CNU Entry Plaza - Within Existing VDOT ROW (in Transfer)	0.22	0.00	71.70
SW2-12-07	Adjustment per parking lot size Revised CNU Master Plan Parking	-0.11	0.00	71.59
In for Approval	Proposed Student Success Center	0.97	1.16	71.40
In for Approval	Proposed New Hall Parking Lot Demo and Walkway Design	0.31	1.12	70.59
In for Approval	CNU Bell Tower	0.16	0.00	70.75
Proposed	CNU Tennis Center	1.35	1.30	70.80
In for Approval	Proposed Greek Housing Project - Phase 1	1.27	0.37	71.70
	Total CNU Campus Study Area			147.24
	Percent Impervious Area			48.70%

OVERALL STORM SEWER MAP

KOONTZ-BRYANT, P.C.
Site Development Solutions

1703 NORTH PARHAM ROAD, SUITE 202
RICHMOND, VIRGINIA 23229
(804) 740-9200 (804) 740-7338 Fax
kbpc@koontzbryant.com

DATE: 03/23/16	SCALE: NTS
CHKD BY: RE	DRAWN BY: DW
JOB NO: 05105-061	FILE

Christopher Newport University
Outfall Reconnaissance/Dry Weather Screening
Results 2022 - 2023

Name	Location	Construction Year	Drainage Area	Closed or Open pipe	Inspection Date	Flow Present	Maintenance Needed	Indicators (odor, color, film, etc.)
CNU Outfall #1	Lat. 37.059069, Long. -76.489810	2008	Institutional	Closed RCP	6/26/2023	Trickle	Repair disjointed pipe section	Minor natural benthic growth
CNU Outfall #2	Lat. 37.058908, Long. -76.489148	2005	Institutional	Closed RCP	6/26/2023	Trickle	Remove sediment build up	None
CNU Outfall #3	Lat. 37.05901, Long.-76.49012	2008 or earlier	Institutional	Closed RCP	6/26/2023	No water	None	None

Standard Operating Procedures (SOPs) for: Landscape Maintenance	
Last Revision:	9/28/2016
Purpose of SOP:	Stormwater pollution prevention procedures for grounds keeping maintenance activities.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_Landscape.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Spill kit and equipment for dry clean up (socks, absorbent pads, absorbent materials, broom, and dustpan)
2. Storm drain inlet protection devices (drain covers, booms, berms)
3. Tarps with tie downs

Standard Operating Procedures

General Landscaping Maintenance

a. Remove litter, debris, and trash from the landscaped and surrounding areas prior to mowing activities. Properly dispose of the materials in a designated receptacle.
b. During blowing operations take care not to blow clippings, dirt, sand, or debris into storm drains or stormwater conveyance structures.
c. After mowing activities collect all clippings/trimming/waste and take to the designated area. Do not hose down outside areas.
d. Five day weather forecast is checked to avoid fertilizing before heavy rain or during a drought. Fertilizers applications are made during period of maximum plant uptake based on plant species.
e. Whenever possible control soil erosion by seeding, sod, mats, mulching, terracing or other approved methods.
f. Do not apply bark or mulch on top of plastic sheeting unless the area is enclosed. Bark or mulch on plastic is easily washed off by heavy rainfall.

Landscaping Materials Storage

a. All bagged materials (i.e. fertilizer, ice melt, etc.) must be stored indoors whenever possible. If they must be stored outdoors, place them under cover.
b. All dry materials stored outside should be covered and when possible have secondary containment.
    i. When storing stockpiles of sand, salt, dirt, mulch, gravel cover piles with a tarp in good condition
    ii. Contain stormwater run-off from stock piles using a barrier or berm
c. Place containers on paved or impervious surfaces and as far from (or at a lower elevation than) storm drain inlets and drainage ditches as possible.
d. Provide a spill kit near storage areas.
e. Clean-up any spills, leaks or discharges promptly.
f. Inspect all containers stored outdoors regularly
g. If a container is found to be leaking, either empty the contents into a leak-tight container or place entire leaking container inside of a larger leak-tight container. Clean up any spills or leaks promptly.
h. Do not drain accumulated water from secondary containment structures unless approved by a supervisor.

Contractors

a. Contracts should include Stormwater pollution prevention language (e.g. The contactor, including any associated subcontractors, shall use the correct controls to ensure that all activities do not cause a condition of pollution at the University).

b. Ensure that contractors implement proper Best Management Practices (BMPs) to prevent stormwater pollution and know whom to contact in case of spill.

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Control, Clean Up and Reporting
SOP: Liquid Loading, Unloading, and Storage
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Equipment Maintenance and Washing	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for the proper management of equipment maintenance and washing.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_equipment_maint.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Spill Kit and equipment for dry clean up (socks, absorbent pads, absorbents, broom, and dustpan)
2. Drip pans
3. Wash Pad

Standard Operating Procedures

Equipment Maintenance and Repair

a. Move leaking equipment indoors or onto impervious surface and under cover.
    i. Use drip pans or absorbent pads.
b. If equipment is inoperable tag equipment "**DO NOT USE**"
c. Perform all maintenance activities (expect for emergencies) indoors.
d. Transfer fluids from drip pans to appropriate waste containers.
e. Routinely check equipment for signs of leaks.
    i. Notify supervisor if a leak is discovered or suspected.
f. Sweep and pick up trash in maintenance and repair areas daily.

Equipment Washing

a. Small equipment should only be washed inside at designated washing areas.
b. Large equipment in good condition, with no signs of leaks, may be washed at the wash pad located at Grounds Department.
    a. Contact Grounds to schedule a time.
    b. Only wash on non-rainfall days.
    c. Perform fewer than 30 wash events per week.
c. Make sure equipment is properly drained of all fluids prior to washing at the wash pad.
    a. In the event of leak or spill, immediately reposition the equipment, and notify your supervisor
d. Only use approved water-based or detergent cleaners.
e. Mop buckets and mop water may only be dumped inside at designated areas.

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Control, Clean Up and Reporting
SOP: Kitchen Waste: Fats, Oils, and Greases (FOG) Transfer, Storage, and Disposal
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Outdoor Special Events & Festivals	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for outdoor special events to prevent wastes or wastewater from entering storm drains and waterways.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_EVENTS.docx

Prerequisites

Event organizers, points of contact, and contractors should review the IDDE Policy and the SWPPP training. Individuals responsible for the procedures in this SOP should read and refer to materials in the References Section. If animals are going to present at the event, the University's Institutional Animal Care and Use Committee (IACUC) requires a protocol submission.

Stormwater Protection Equipment and Materials

1. Covered waste and recycling containers
2. Spill Kit and equipment for dry clean up (socks, absorbent pads, absorbents, broom, and dustpan)
3. Storm drain inlet protection (drain covers, booms, berms)

Standard Operating Procedures

General Stormwater Protection

a. Do NOT dump any liquids or other materials outside.
b. Have the proper equipment available to clean-up spills and be ready to clean-up spills immediately.
c. Ensure that vendors dispose of the wastes in an appropriate manner.
d. Ensure storm drains have adequate inlet protection.

Waste Management and Disposal

a. Provide an adequate number of receptacles to prevent litter.
b. Empty waste and recycling containers as needed to prevent overflow
c. Waste and recycling receptacles should have a weather proof cover.

Cleaning Up After the Event

a. Clean the area using dry methods (sweeping, absorbents, etc.).
b. Pick up all litter and garbage and properly dispose. Do not sweep anything into a storm drain.
c. Discard waste drinks down a kitchen drain.

Spills

a. Refer to SOP: Spill Prevention, Control, Clean Up and Reporting
b. Small spills (<5 gallons) that pose no immediate danger to human life or property notify CNU Police (4-7777)
    i. What spilled?
    ii. How much ?
    iii. Where is it?
c. Small Spills (<5 gallons) of a hazardous substance that is an immediate danger to human life or property notify CNU Police 4-7777.
d. Large Spills (>5 gallons) report to CNU Police (4-7777)

References and Related Procedures

SOP: Spill Prevention, Control, Clean Up, and Reporting
Policy: Illicit Discharge Detection and Elimination (IDDE)
Policy: IACUC Policies and Procedures
Training: SWPPP Training

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Kitchen Waste: Fats, Oils, and Greases (FOG) Transfer, Storage, and Disposal	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for the proper management, handling, and storage of kitchen grease to prevent the discharge of pollutants to stormwater.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_FOG.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Weather proof and double walled FOG containers
2. Tight sealing transfer containers
3. Tarps and tie downs
4. Spill Kit and equipment for dry clean up (socks, absorbent pads, absorbents, broom, and dustpan)

Standard Operating Procedures

Kitchen Management of Fats, Oils, and Greases (FOG)

a. Scrape, wipe, or sweep off FOG using dry methods (e.g. paper towels) before washing any cooking equipment.
b. Equipment (including trays, carts, pots, pans, etc.) may only be washed indoors.
c. Use dry methods (absorbents) to clean up spills in the kitchen.
d. Mop water may only be disposed of into indoor drains connected to the sanitary sewer.
e. Empty collection pans or grease recovery devices before they become full.
f. Collect used oil into transfer container with a sealing lid.

Transfer of FOG from Kitchen to Exterior FOG Container

a. Prepare your route from the kitchen to the exterior FOG container.
    i. Eliminate and obstacles that might lead to a slip, trip, fall and potential spill
    ii. Ensure that a spill kit is easily accessible in the event of spill
    iii. Place absorbent pads in the FOG transfer area
b. Use a container with a sealing lid to bring waste FOG outside to the Grease Receptacle. Do not transport waste FOG with pots, pans, trays, or other containers that lack a sealing lid.
    i. It is safer to make multiple transfers of smaller volumes than to attempt to handle larger quantities at once.
    ii. Whenever possible, only transfer to the exterior FOG container when it is not raining.
c. Using both hands carefully transfer the waste FOG from transfer container to the exterior FOG container. Pour the FOG in such a way to minimize splashes and drips.
    i. In the event of a spill notify your supervisor immediately and refer to SOP: Spill Prevention, Clean Up and Reporting
d. Ensure that the exterior FOG container is properly covered
e. Return transfer container inside and wipe any excess FOG with a paper towel

Contractor Pickup of Exterior FOG Container

a. The disposal truck driver shall check in with the University upon arrival.
b. The University representative shall ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible. Refer to SOP - Spill Prevention, Control, Clean Up and Reporting
c. The University representative shall verify that the volume of waste FOG in the tank does not exceed the available capacity of the disposal hauler's vehicle.
d. Catch basins and drain manholes are adequately protected.
e. The truck driver and the University representative shall both remain with the vehicle during the tank draining process.
f. When draining is complete and the hoses are removed, buckets should be placed underneath connection points to catch drippings.

g. The disposal hauler vehicle shall be inspected prior to departure to ensure that the hose is disconnected from the tank.
h. The University representative shall inspect the loading point and the tank to verify that no leaks have occurred, or that any leaked or spilled material has been cleaned up and disposed of properly (SOP - Spill Prevention, Control, Clean Up and Reporting and SOP - Pressure Washing and Exterior Surface Cleaning).

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Control, Clean Up and Reporting
SOP: Pressure Washing and Exterior Surface Cleaning
SOP: Liquid Materials Loading, Unloading, and Storage
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Landscape Maintenance	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for grounds keeping maintenance activities.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_Landscape.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Spill kit and equipment for dry clean up (socks, absorbent pads, absorbent materials, broom, and dustpan)
2. Storm drain inlet protection devices (drain covers, booms, berms)
3. Tarps with tie downs

Standard Operating Procedures

General Landscaping Maintenance

a. Remove litter, debris, and trash from the landscaped and surrounding areas prior to mowing activities. Properly dispose of the materials in a designated receptacle.
b. During blowing operations take care not to blow clippings, dirt, sand, or debris into storm drains or stormwater conveyance structures.
c. After mowing activities collect all clippings/trimming/waste and take to the designated area. Do not hose down outside areas.
d. Whenever possible control soil erosion by seeding, sod, mats, mulching, terracing or other approved methods.
e. Do not apply bark or mulch on top of plastic sheeting unless the area is enclosed. Bark or mulch on plastic is easily washed off by heavy rainfall.

Landscaping Materials Storage

a. Store all containers indoors whenever possible. If containers must be stored outdoors, place them under cover.
b. All dry materials stored outside should be covered and when possible have secondary containment.
    i. When storing stockpiles of sand, salt, dirt, mulch, gravel cover piles with a tarp in good condition
    ii. Contain stormwater run-off from stock piles using a barrier or berm
c. Place containers on paved or impervious surfaces and as far from (or at a lower elevation than) storm drain inlets and drainage ditches as possible.
d. Provide a spill kit near storage areas.
e. Clean-up any spills, leaks or discharges promptly.
f. Inspect all containers stored outdoors regularly
g. If a container is found to be leaking, either empty the contents into a leak-tight container or place entire leaking container inside of a larger leak-tight container. Clean up any spills or leaks promptly.
h. Do not drain accumulated water from secondary containment structures unless approved by a supervisor.

Contractors

a. Contracts should include Stormwater pollution prevention language (e.g. The contactor, including any associated subcontractors, shall use the correct controls to ensure that all activities do not cause a condition of pollution at the University).

b. Ensure that contractors implement proper Best Management Practices (BMPs) to prevent stormwater pollution and know whom to contact in case of spill.

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Control, Clean Up and Reporting
SOP: Liquid Loading, Unloading, and Storage
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Liquid Materials Loading, Unloading, and Storage	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for the proper management of the loading, unloading, and storage of liquid materials.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_liquid_mats.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Spill Kit and equipment for dry clean up (socks, absorbent pads, absorbents, broom, and dustpan)
2. Drip pans
3. Storm drain pollution control devices (berms or covers)
4. Wheel chocks

Standard Operating Procedures

Transfer of Liquid Materials

a. Direct delivery and receiving vehicles to park in a designated area where leaks can be contained and where they will not enter a storm drain or ditch.
b. Only transfer liquids only over paved (impervious) surfaces. Spills on soils are very difficult to clean up.
c. Do not load or unload materials near a storm drain inlet unless it is equipped with a shut-off valve, drain cover or seal or other method to keep spills out of the storm sewer or the drain is at a higher elevation.
d. If transfers must take place near a storm drain inlet, place a cover or mat over the inlet to protect it during transfer operations.
e. Only load or unload a vehicle after it is immobilized (e.g., wheels are chocked) and (if flammable materials are involved) grounding cables are attached. These measures will prevent accidental movement and static build-up.
f. At least one qualified University representative must attend any transfer operation for the entire duration of the loading or unloading operation.
g. Place drip pans or buckets under all hose or pipe connections and leave them in- place until the loading or unloading operation is complete. Dispose of any leaked material properly.
h. Keep loading and unloading areas neat and tidy. Sweep outdoor areas as needed.

Contractors

a. Contracts should include Stormwater pollution prevention language (e.g. The contactor, including any associated subcontractors, shall use the correct controls to ensure that all activities do not cause a condition of pollution at the University).
b. Ensure that contractors implement proper Best Management Practices (BMPs) to prevent stormwater pollution and know whom to contact in case of spill.

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Control, Clean Up and Reporting
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Trash & Recycling Handling, Storage, Transfer, and Disposal	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for the proper management, handling, and storage of waste, trash, or recycling to prevent the discharge of pollutants to stormwater.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_MSW.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Dumpster lids/covers
    a. Tarps with tie-downs are acceptable
2. Storm drain inlet protection devices (drain covers, booms, berms, and/or filter fabric)

Standard Operating Procedures

Trash & Recycling Handling, Storage, Transfer, and Disposal

a. All waste and recycle receptacles must be leak-tight with tight-fitting lids or covers.
b. Keep lids on dumpsters and containers closed at all times unless adding or removing material.
    i. In the event that a dumpster lid is missing or damaged report it to Plant Operations
    ii. If using an open top roll off dumpster, cover and tie down with a tarp unless adding materials
c. Place waste or recycle receptacles indoors or under a roof or overhang whenever possible.
d. Locate dumpsters on a flat, paved surface and install berms or curbs around the storage area to prevent run-on and run-off.
e. Prior to transporting waste, trash, or recycling ensure that containers are not leaking (double bag if needed) and properly secure to the vehicle.
f. Clean and sweep up around outdoor waste containers regularly.
g. Clean up any liquid leaks or spills with dry clean-up methods. (See SOP: Spill Prevention, Clean Up and Reporting).
h. Arrange for wastes or recyclables to be picked up regularly and disposed at approved disposal facilities.
i. Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster, recycle or trash receptacle.
    i. Please contact the Environmental Health Safety Department for information on proper disposal
j. If any liquid, non-hazardous waste is generated, it must be disposed in the sanitary sewer (if approved), transported to a disposal site that will accept that type of wastewater, or cleaned up using dry methods.
k. Do not wash out waste containers (trash cans) or recycling containers outdoors or in a parking lot.
l. Containers, compactors and dumpsters must be returned to the waste disposal contractor for cleaning at the contractor's facility.
m. When working in the field, place all wastes in appropriate containers near the work site. If no public containers are available, containerize or bag the wastes and bring them back the shop for proper disposal.

Dumpster Areas

a. Regularly pick up trash and debris.
b. Regularly sweep the area.

Compactor Areas

a. Regularly check the hydraulic fluid hoses and reservoir to ensure there are no cracks or leaks
    i. In the event of leak report it immediately to the compactor service contractor and refer to SOP: Spill Prevention, Clean Up and Reporting
b. Regularly sweep the area.

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Clean Up and Reporting
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Parking Lot, Streets, and Roads Maintenance	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for general maintenance of parking lots, parking garages, elevated parking structures, streets, or roads.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_Parking_Lot_Maint.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Spill kit and equipment for dry clean up (socks, absorbent pads, absorbent materials, broom, and dustpan)
2. Storm drain inlet protection devices (drain covers, booms, berms, and/or filter fabric)

Standard Operating Procedures

General Maintenance

a. Clean leaves, trash, and other debris from parking lots and garages including stormwater conveyance systems regularly.
b. Sweep parking lots with a street sweeper annually.
    i. Sweeping should occur after sanding/deicing events
    ii. Sweeping should occur after special events or construction
c. Use dry clean-up methods (e.g. absorbents) to clean up any automotive spills/leaks and dispose of properly.
d. Ensure any storm drains/catch basins are marked with a stormwater medallion.

Paving, Patching, Re-surfacing, and Concrete Projects

a. Re-seal, pave, or patch on dry days when no rain is expected and stop paving activities well before rainfall is expected.
b. Use cold patch products when possible.
c. Pre-heat, transfer, or load hot asphalt far away from storm drain inlets.
d. Protect or block nearby, downstream, storm drain inlets from debris from maintenance work (asphalt cap, chip sealing, concrete breaking, or saw cutting). Leave inlet protection in place until the job is complete. Clean up debris from around inlets and dispose of properly.
e. Designate a “Concrete Wash-Out Area" on the job site - in a grassy or graveled area where pooled water can soak into the ground. If no “Wash-Out Area” is available, wash out into a container (pool, bucket or wheelbarrow) and dispose of material properly.

Painting and Striping

a. Schedule painting, marking, and striping projects during dry weather only. Cease all activities when rain threatens.
b. Set-up a preparation area on a tarp/drop cloth to catch any drips or spills.
c. Block nearby storm drain inlets (within 25 feet and down gradient of project) when painting or striping.
d. Take care not to paint over storm drain medallions.
e. Properly clean painting supplies at your shop, do not wash out paint to the storm drains.

Contractors

a. Contracts should include Stormwater pollution prevention language (e.g. The contactor, including any associated subcontractors, shall use the correct controls to ensure that all activities do not cause a condition of pollution at the University).
b. Ensure that contractors implement proper Best Management Practices (BMPs) to prevent stormwater pollution and know whom to contact in case of spill.

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Control, Clean Up and Reporting
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Pressure Washing and Exterior Surface Cleaning	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for the cleaning of exterior surfaces such as sidewalks, building exteriors, and graffiti removal
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_Pressure_wash_exterior_cleaning.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

Spill kit and equipment for dry clean up (socks, absorbent pads, absorbent materials, broom, and dustpan)
Wet vacuum and holding tank
Storm drain inlet protection devices (drain covers, booms, berms)

Standard Operating Procedures

General Surface Cleaning and Pressure Washing

a. Use dry clean-up methods prior to any pressure washing. Use absorbents (kitty litter, rags, sand, etc) to clean up spills, sweeping, vacuuming, and scrapping off dried debris. The waste material should be disposed of as solid waste.
b. Pressure wash with minimal water.
c. If you do not use any chemicals or detergents and are only cleaning surfaces of ambient dust, then you may direct the wastewater to nearby landscaping or vegetated area or contain it onsite and allow it to evaporate.
d. When discharging wash water to landscaping, make sure water is absorbed into vegetated or permeable surfaces (gravel, porous pavement) and does not cause erosion or run off into a storm drain or paved area.
e. All other wash water must be captured for proper disposal.
f. Solids should be removed from the area prior to pressure washing and a filter bag or similar filtration device should be used to remove suspended solids from the wastewater.
g. A visible sheen must not be evident in the discharge. Use an absorbent pad or boom to eliminate any oil from the discharge.
h. Do not pressure wash an entire building. Spot clean, steam clean, or scrape dirty areas rather than pressure washing the entire structure.

Heat Transfer Equipment and HVAC Equipment Cleaning

a. HVAC or chiller condenser tube flushing liquid must be captured and disposed of properly.

Storm Drain Protection

a. Prior to pressure washing, identify where all storm drains are located; wash water must not be allowed to flow down gutters or enter storm drains.
b. Block or cover all storm drains with booms and weighted storm drain covers before pressure washing.
c. Determine where water will pool for collection. Use a wet vacuum up the wastewater or allow water to evaporate.

Disposal of Wash Water

a. Use a wet vacuum to collect water for disposal to the sanitary sewer.
b. Once water is collected, dispose of it properly. Check with CNU Grounds to see if collected wash water may be disposed of into a sanitary sewer drain.

Contractors

a. Contracts should include Stormwater pollution prevention language (e.g. The contactor, including any associated subcontractors, shall use the correct controls to ensure that all activities do not cause a condition of pollution at the University).

b. Ensure that contractors implement proper Best Management Practices (BMPs) to prevent stormwater pollution and know whom to contact in case of spill.

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
SOP: Spill Prevention, Control, Clean Up and Reporting
Policy: Illicit Discharge Detection and Elimination (IDDE)

CHRISTOPHER NEWPORT UNIVERSITY

Standard Operating Procedures (SOPs) for: Spill Prevention, Control, Clean Up and Reporting	
Last Revision:	6/30/2016
Purpose of SOP:	Stormwater pollution prevention procedures for the spill prevention, control, clean up and reporting.
SOP Administrator:	Grounds Department
Location of SOP:	Z:\Sustainability Committee\EHS\SWPPP\SOPs\SOP_SPILLS.docx

Prerequisites

Employees should attend stormwater pollution prevention training prior to performing the activities in this SOP. Employees performing the procedures in this SOP should read and refer to the materials in the References and Related Procedures section of this SOP.

Stormwater Protection Equipment and Materials

1. Spill Kit and equipment for dry clean up (socks, absorbent pads, absorbents, broom, and dustpan)
2. Storm drain inlet protection (drain covers, booms, berms)
3. Stormwater Pollution Prevention Plan

Standard Operating Procedures

Spill Prevention

a. Whenever possible, liquid or hazardous materials should be handled, used, stored, re-packing, and transferred indoors or under cover.
b. Deliveries of bulk liquids should be supervised. Down gradient storm drain inlets should be covered during deliveries.
c. Cover and contain containers, materials, and wastes.

Spill Kit Maintenance

a. Spill kits are located at each high priority area identified in the SWPPP.
b. Each department manager is responsible for spill kit(s) inventory and the reordering of supplies.

Spill Clean Up and Storm Drain Protection

a. Clean up minor spills (< 5 gallons) immediately.
b. Block any down gradient storm drains with berms, covers, absorbent socks or “pigs”.
c. Never hose down spills or leaks.
d. Always use “Dry Clean-up Methods” for clean-up of liquid spills (gasoline, diesel, paint, kitchen grease)
    i. Spread absorbents (loose absorbents, sheets, pillows, pigs, or socks) on the spill.
    ii. Sweep up or pick up the absorbed materials.
    iii. Dispose of wastes properly and in accordance with all regulations.
e. If fluids are leaking or have spilled on an impermeable surface, such as a roadway, locate nearest down gradient storm drain and dike or berm the drain to prevent fluids from entering it.
f. After clean up, be sure to sweep up the contaminated absorbent and remove the berm or dike at storm drain.
g. If fluids are leaking or have spilled on a permeable surface, such as gravel, soil or grass, mark the area and report the spill your supervisor.

Internal Reporting of Spills

For Employees (Non-supervisors)

a. Notify your direct supervisor immediately
    i. What spilled
    ii. How much
    iii. Where is it

For Supervisors

- Small spills (<5 gallons) that pose no immediate danger to human life or property notify CNU Police (4-7777)
- Small spills (<5 gallons) of a hazardous substance that is an immediate danger to human life or property notify CNU Police 4-7777.
- Large Spills (>5 gallons) report to CNU Police (4-7777)

Regulatory (External) Reporting of Spills

a. If a spill or leak is of a hazardous substance that exceeds 1 pint or is of an unknown substance of any amount, call **CNU Police at 4-7777**
    - Notify the **Virginia Department of Environmental Quality (757-518-2000)**
    - If spill occurs during *nights, weekends, or holidays* notify the **Virginia Department of Emergency Management's 24-hour hotline (800-468-8892)**
    - Notify the **National Response Center (800-424-8802)**
b. Any spill or discharge of any pollutant (ex: oil, paints, fuels, hazardous liquids, sediment, or super-chlorinated water) that reaches storm drains or enters "Waters of the State" must be reported to the Virginia Department of Environmental Quality (757-518-2000) within 24 hours of the release or suspected release.
c. If the spill is more than 25 gallons of a petroleum product from a regulated storage tank or delivery truck or any amount that causes a sheen on nearby surface water, it must be reported immediately to:
    - Virginia Department of Environmental Quality (757-518-2000)
    - National Response Center (800-424-8802)

References and Related Procedures

BMP: Good Housekeeping & Spill Prevention
Policy: Illicit Discharge Detection and Elimination (IDDE)

Christopher Newport University

Spring/Summer 2022

MS4

MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT REQUIREMENTS

David Duncan, PE, ENV SP, Timmons Group

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

AGENDA

- Stormwater in an MS4
- Role of Employees
- MS4 Inspections & Maintenance
- Examples

MAJOR PERMIT REQUIREMENTS

- REDUCE DISCHARGE OF POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE.
- PROHIBIT ILLICIT DISCHARGES
- CONTROL DISCHARGE OF SPILLS AND DUMPING OR DISPOSAL OF MATERIALS OTHER THAN STORMWATER
- CARRY OUT INSPECTIONS, SURVEILLANCE AND MONITORING PROCEDURES NECESSARY

http://www.sjrwmd.com/waterbodies/images/whathelp_stormwater.jpg

http://www.raleighnc.gov/content/PWksStormwater/Images/IllicitDischarge/IllicitDischargePhotoMerge.JPG

URBAN IMPACTS TO STORMWATER

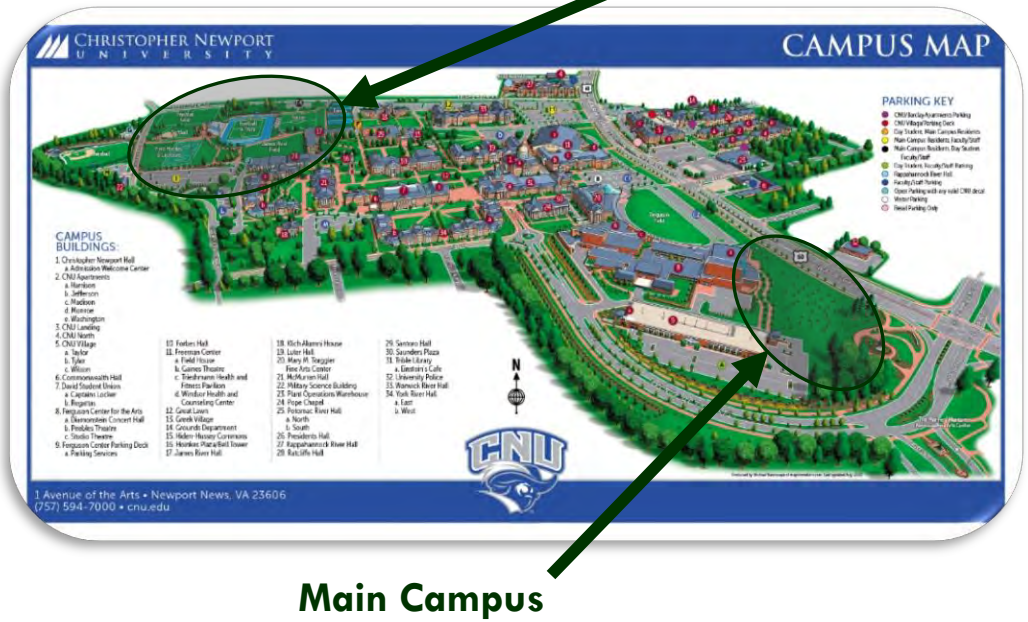
- FLOW AND CHANNEL ALTERATION
  - INCREASING IMPERVIOUS SURFACES ALTERS WATERSHED HYDROLOGY & INCREASES FLOODING OPPORTUNITIES
- NUTRIENTS
  - EXCESS NUTRIENTS IN WATER BODIES LEADS TO “DEAD ZONES” CAUSED BY EUTROPHICATION
- TOXIC SUBSTANCES
  - IMPACTS TO ORGANISMS LIVING IN A CONTAMINATED ENVIRONMENT
- BACTERIA
  - FECAL COLIFORMS ARE A HUMAN PATHOGEN AND CAUSE ILLNESS
- TEMPERATURE
  - ALTERING HABITAT THROUGH NATIVE PLANT AND TREE REMOVAL INCREASES TEMPERATURES OF SURROUNDING WATER BODIES

TMDL ACTION PLAN

TOTAL MAXIMUM DAILY LOAD (TN, TP, TSS)

- 1ST PERMIT – 5% REDUCTION
- 2ND PERMIT – ADDITIONAL 35% REDUCTION
- 3RD PERMIT – ADDITIONAL 60% REDUCTION

- MAY BE REQUIRED TO ACCELERATE REDUCTIONS
- OTHER TMDLS
  - EX) BACTERIA



NUTRIENT MANAGEMENT

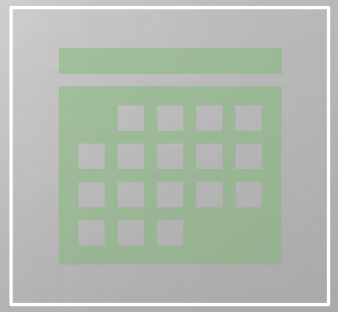
Area's nutrients are applied greater than one contiguous acre:

12 months to identify and establish NMPs

24 months to meet 15% of plan requirements

36 months to meet 40% of plan requirements

48 months to meet 75% of plan requirements



Two NMPs:

Main campus (48 acres)

Campus athletics (14 acres)

CLEAN WATER ACT

CNU'S STORMWATER MANAGEMENT PROGRAM IS BASED ON SIX MINIMUM CONTROL MEASURES (MCMS) AS REQUIRED BY THE GENERAL PERMIT. THESE WERE DEVELOPED TO REDUCE THE DISCHARGE OF POLLUTANTS FROM THE UNIVERSITY'S MS4 TO THE MAXIMUM EXTENT PRACTICABLE, PROTECT WATER QUALITY, ENSURE COMPLIANCE WITH WATER QUALITY STANDARDS, AND TO SATISFY THE APPROPRIATE WATER QUALITY REQUIREMENTS OF THE CLEAN WATER ACT

- MCM No. 1 – Public Education and Outreach
- MCM No. 2 – Public Involvement/Participation
- MCM No. 3 – Illicit Discharge Detection & Elimination
- MCM No. 4 – Construction Site Stormwater Runoff Control
- MCM No. 5 – Post-Construction Stormwater Management
- MCM No. 6 – Pollution Prevention/Good Housekeeping

MCM NO 1 – PUBLIC EDUCATION & OUTREACH

PRACTICE	DESCRIPTION	STATUS
MS4 Program Update	Identify & address deficiencies	Completed '08-'09; updated annually
CNU MS4 Website	Update with MS4 content	Uploaded '09-'10; updated annually
Campus Public Involvement	Garden Symposium table	Drink coasters distributed
Storm Drain Medallions	"No Dumping, Drains to Waterway"	Replace as necessary
Construction Signage	Signs placed at construction sites	Signs removed upon completion
Construction Site Runoff	Biennial training for contractors	No new projects; no new trainings
Litter and Street Debris Education	Public outreach/education	#stormwaterMonday
Nutrient Management Training	Nutrient Management Plans (NMPs)	Turfgrass Technician position

MCM NO 2 – PUBLIC INVOLVEMENT/PARTICIPATION

PRACTICE	DESCRIPTION	STATUS
MS4 Program Update	Identify and address deficiencies	Completed ‘08-’09; updated annually
CNU MS4 Website	Update with MS4 related content	Uploaded ‘09-’10; updated annually
Campus Public Involvement	Distribution of drink coasters	CNU staff distributed coasters
Pet Waste Stations	Encouraging proper waste disposal	No new installed this permit year
Outreach/Participation Events	Service events	Virtual involvement due to Pandemic

MCM NO 3 – ILLICIT DISCHARGE DETECTION & ELIMINATION

PRACTICE	DESCRIPTION	STATUS
IDDE Policy	Contaminant discharge protection	Available online; updated as needed
CNU Stormwater Study	Storm sewer system map & table	Updated as needed
CNU MS4 Website	Update with MS4 content	Uploaded '09-'10; updated annually
Map of Storm Sewer System	MS4 outfalls, receiving waters, etc.	Evaluated annually by October 1st
Storm Sewer System Table	Unique identifiers, drainage area, etc.	Evaluated annually by October 1st
Illicit Discharge Detection Tracking & Reporting	Procedure for tracking and responding	Ongoing reporting; no reports PY2
Outfall Inspections	Documentation of each outfall status	Outfalls inspected annually
Pollution Prevention Materials	Educational material distributed	Materials distributed annually
Pollution Prevention Training	Biennial pollution prevention training	Ongoing biennial training

MCM NO 3 – ILLICIT DISCHARGE DETECTION & ELIMINATION

Evidence of previous discharge to curb inlet

Evidence of discharge from compressor

MCM NO 4 – CONSTRUCTION SITE RUNOFF CONTROL

PRACTICE	DESCRIPTION	STATUS
Annual Standards & Specifications	Ensures compliance with permits	VADEQ approved March 12th, 2020
Project Inspections	Ensures site compliance	Implement program; update annually
ESC Contract Provisions	Ensures adequacy of SWPPP	Implement program; update annually
Construction Site Runoff	Training for contractors on site	Training planned as new projects arise
Construction Signage	Signage about ESC practices	Install at start; remove at completion
LDA Tracking	Tracking all land disturbing activities	Implement program; update annually

MCM NO 5 – POST CONSTRUCTION MANAGEMENT

PRACTICE	DESCRIPTION	STATUS
CNU Stormwater Study	Storm sewer system map and table	Updated as needed
ESC Contract Provisions	Ensures adequacy of SWPPP	Implement program; update annually
Annual Standards & Specifications	Ensures compliance with permits	VADEQ approved March 12th, 2020
BMP Inspections	Inspect permanent SWM facilities	Implement program; update annually
BMP Tracking	Tracking SWM facilities electronically	Implement program; update annually
BMP Maintenance	Ensuring functionality of BMPs	Implement program; update annually

MCM NO 6 – POLLUTION PREVENTION/GOOD HOUSEKEEPING

PRACTICE	DESCRIPTION	STATUS
Pollution Prevention Training	Pollution prevention training to staff	Biennial ongoing activity
SWPPP Implementation	Implement for high-priority facilities	Inspection scheduled for summer 2020
Illicit Discharge Tracking & Reporting	Tracking activities involving IDDE	Reporting is an ongoing activity
Nutrient Management Plans	Two separate NMPs on campus	Update scheduled for 2024
Nutrient Management Training	Ensures nutrients are applied properly	Ongoing biennial training
Standards & Specifications	Ensures compliance with permits	VADEQ approved March 12th, 2020
Infrastructure Cleaning	Cleaning stormwater infrastructure	Implement program; evaluate annually
Street Sweeping	Streets cleaned and quantity reported	Implement program; evaluate annually
Storm Drain Medallions	"No Dumping, Drains to Waterway"	Replace as necessary
Daily Good Housekeeping SOPs	Methods to minimize pollutant discharge	Include in trainings; update as needed

EMPLOYEE ROLE

EVERYONE IS RESPONSIBLE

"EVERYONE" FOR CNU IS THE FACULTY, STUDENTS, STAFF, CONTRACTORS, AND VISITORS TO CAMPUS

Member Title	Member Responsibility
VP for Administrative & Auxiliary Services	Team Member – Certifying official and provides upper management
Director of Grounds	SWPPP Coordinator/Team Leader – Coordinates plan development, implementation, training, inspections, and BMPs
Director of Facilities Management	Team Member – Supports Director of Grounds
Associate Director of Grounds	Team Member – Oversees preventative maintenance and monthly inspections
Environmental Health & Safety Manager	Team Member – Supports Director of Grounds
Sustainability Coordinator	Team Member – Supports Director of Grounds
Consultant	Assists in plan development and provides technical advice on plan implementation

EMPLOYEE ROLE – KEY ACTION ITEMS

- KNOW YOUR STANDARD OPERATING PROCEDURES (SOPS)
- KNOW YOUR SWPPP
- KNOW WHO TO REPORT CONCERNS TO
- KNOW HOW OFTEN TO THINK ABOUT IT
  - A WEEKLY MENTAL REMINDER
- WE'LL LOOK AT INSPECTION EXAMPLES
  - WHAT TO DO AND NOT DO
  - WHAT TO KEEP AN EYE OUT FOR
  - ESPECIALLY WATCH HIGH PRIORITY FACILITIES

SOPS

- EQUIPMENT MAINTENANCE, WASHING, AND FUELING ACTIVITIES
- GROUNDSKEEPING MAINTENANCE ACTIVITIES; LANDSCAPING
- OUTDOOR SPECIAL EVENTS AND FESTIVALS
- PROPER TRANSFER, STORAGE, AND DISPOSAL OF KITCHEN WASTE
- PROPER LOADING, UNLOADING, AND STORAGE OF LIQUID MATERIALS
- PROPER HANDLING, STORAGE, TRANSFER, AND DISPOSAL OF WASTE, TRASH, AND RECYCLING
- MAINTENANCE OF PARKING LOTS, GARAGES, STREETS, AND ROADS
- PRESSURE WASHING AND EXTERIOR SURFACE CLEANING
- SPILL PREVENTION, CONTROL, CLEAN UP, AND REPORTING

SWPPP – STORMWATER POLLUTION PREVENTION PLAN

Goal: Improve water quality through stormwater pollutant reduction

A copy of the SWPPP shall be kept onsite

Quarterly revisions and compliance checks

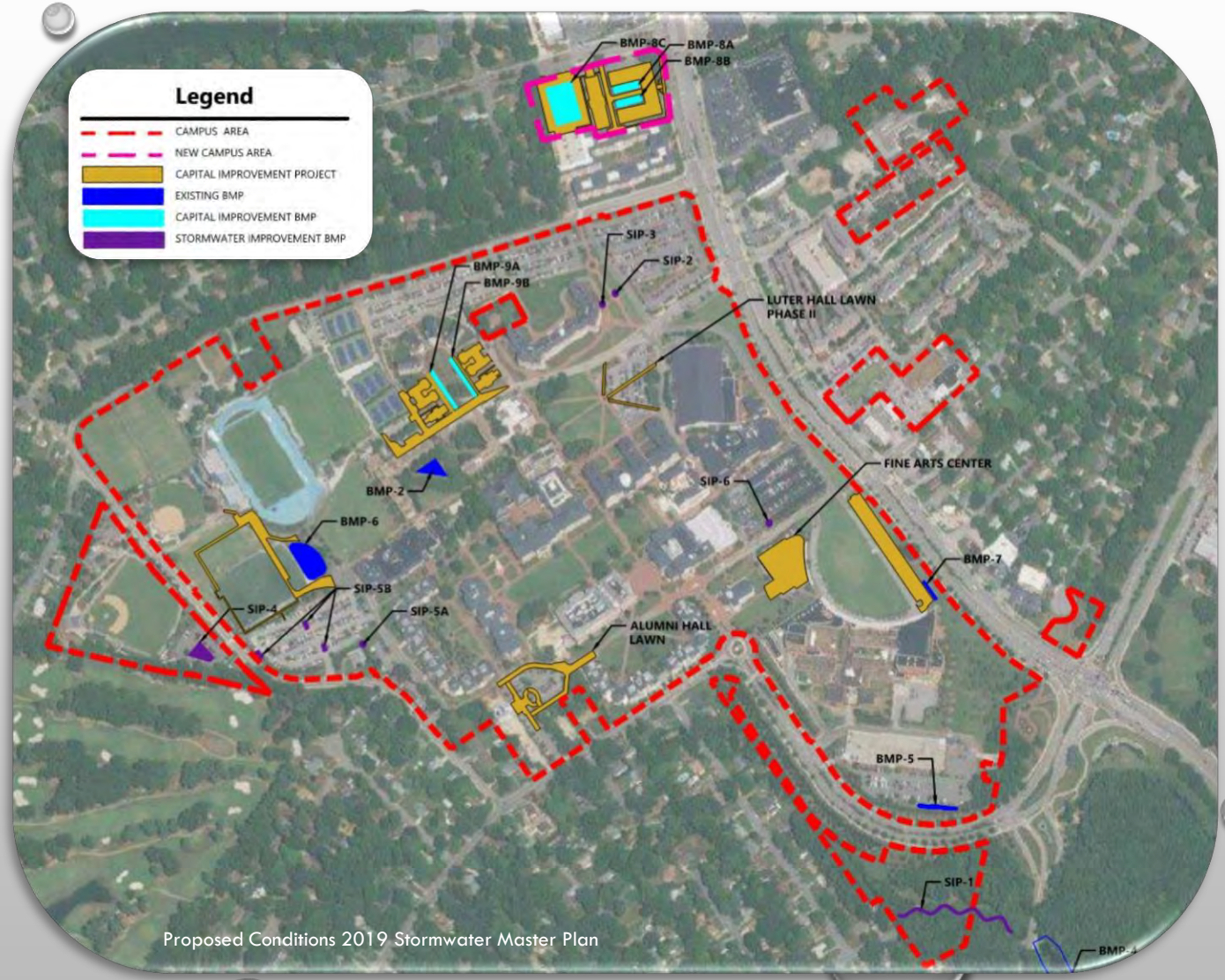
SWPPP HIGH-PRIORITY FACILITIES

- WHEN SWPPPS ARE NECESSARY
  - AREAS WHERE RESIDUALS FROM USING, CLEANING, OR STORING MACHINERY/EQUIPMENT REMAIN EXPOSED
  - SPILLS OR LEAKS
  - MATERIAL HANDLING EQUIPMENT
  - TRANSPORTATION ACTIVITIES
    - ROCK, FILL, DIRT, ETC.
  - LEAK STORAGE CONTAINERS
  - WASTE MATERIAL
  - VISIBLE DEPOSITS (PARTICLES) FROM ROOF STACKS OR VENTS NOT OTHERWISE REGULATED

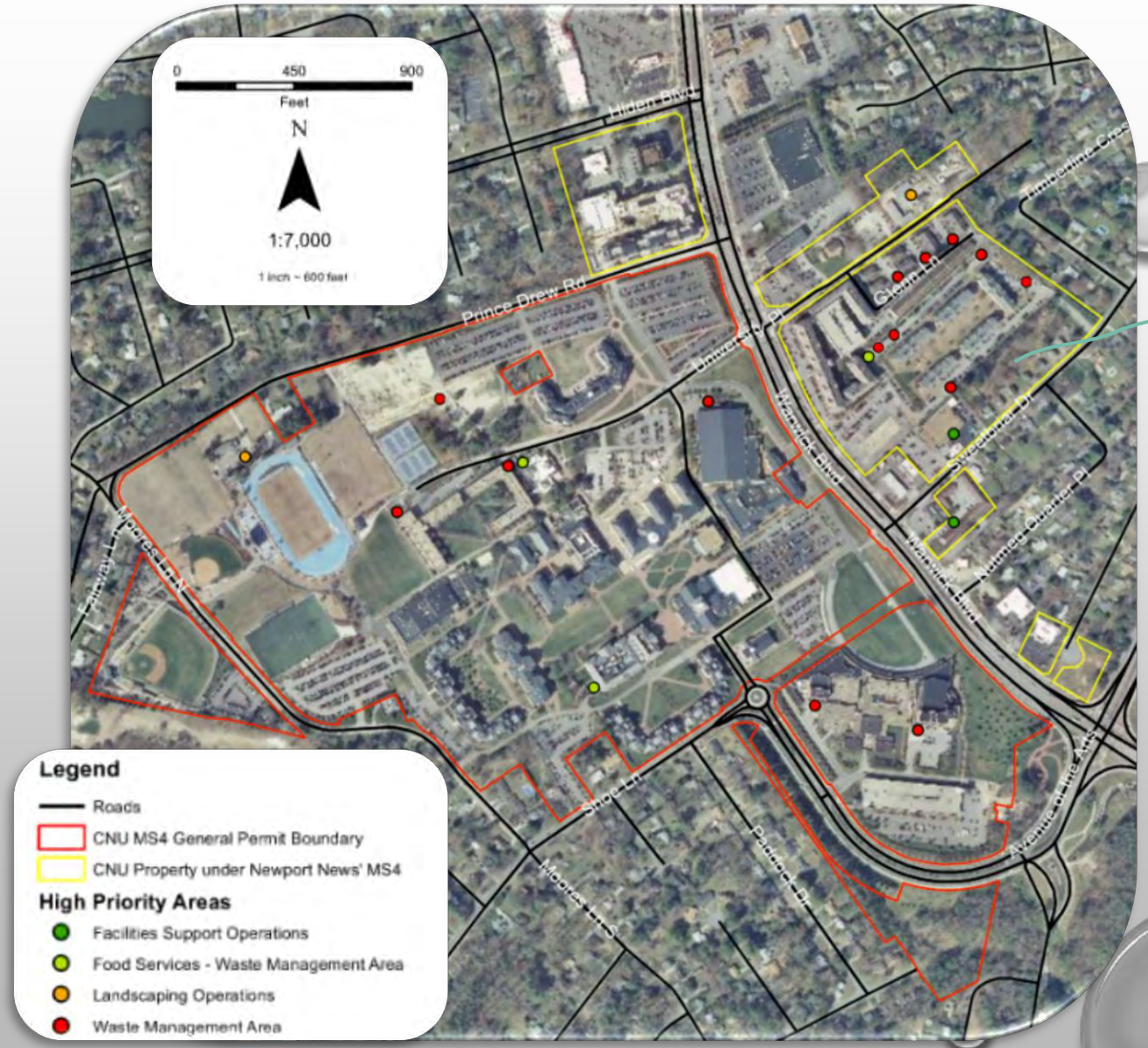
SWPPP SHALL INCLUDE

- Site description and map(s)
- Pollutant & source checklist
- Non-stormwater discharges
- Maintenance schedule for controls
- Policies/procedures to reduce sources
- Trainings
- Modifications due to spills/releases
- Compliance evaluation procedures
- Dry weather screening procedures
- Inspection schedule & checklist

2019 PROPOSED CAMPUS CONDITIONS

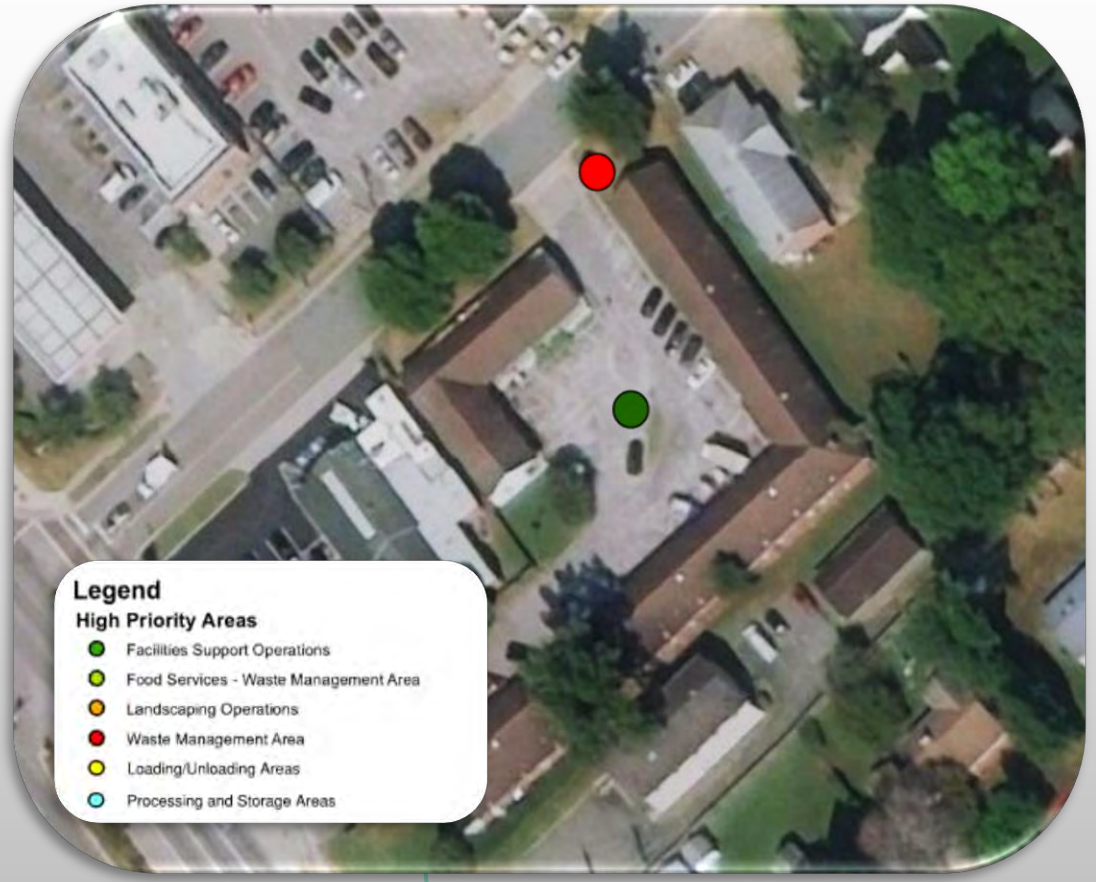


HIGH-PRIORITY AREAS



20 total high-priority facilities identified

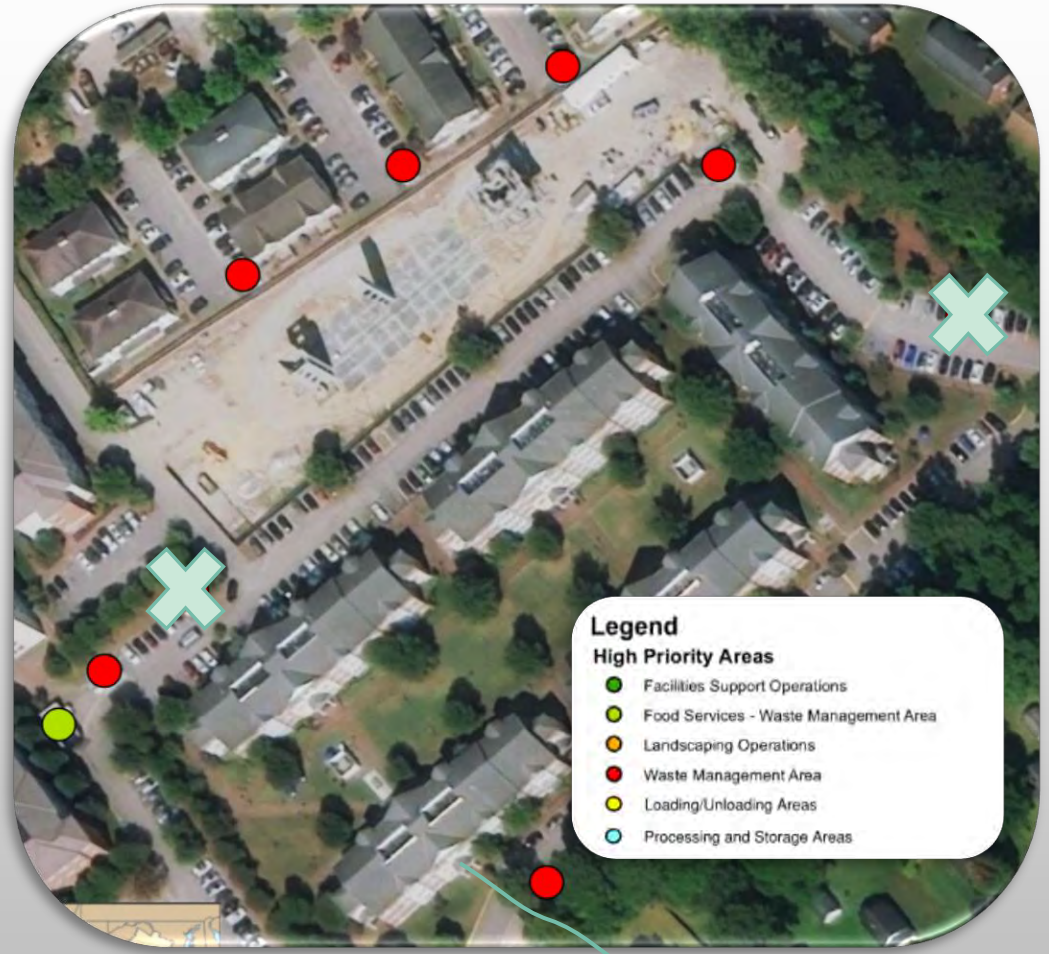
HIGH-PRIORITY AREAS



Warwick Restaurant

Plant Operations & Warehouse

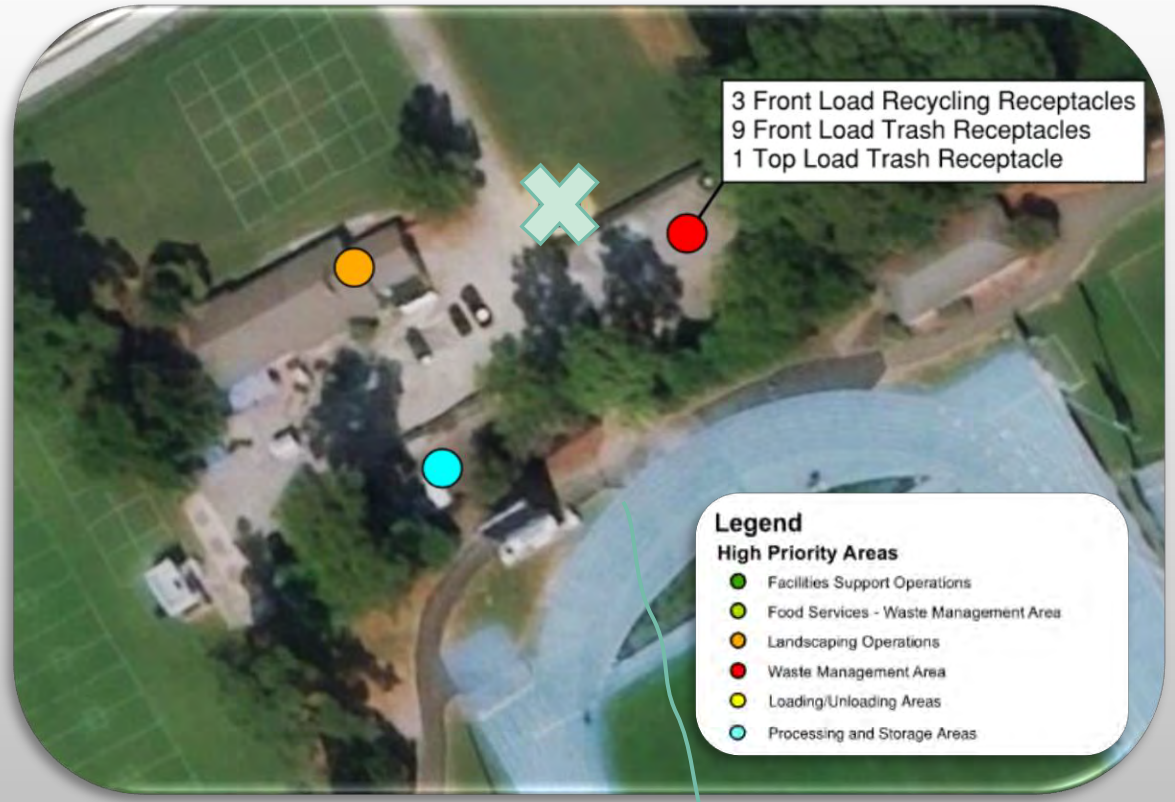
HIGH-PRIORITY AREAS



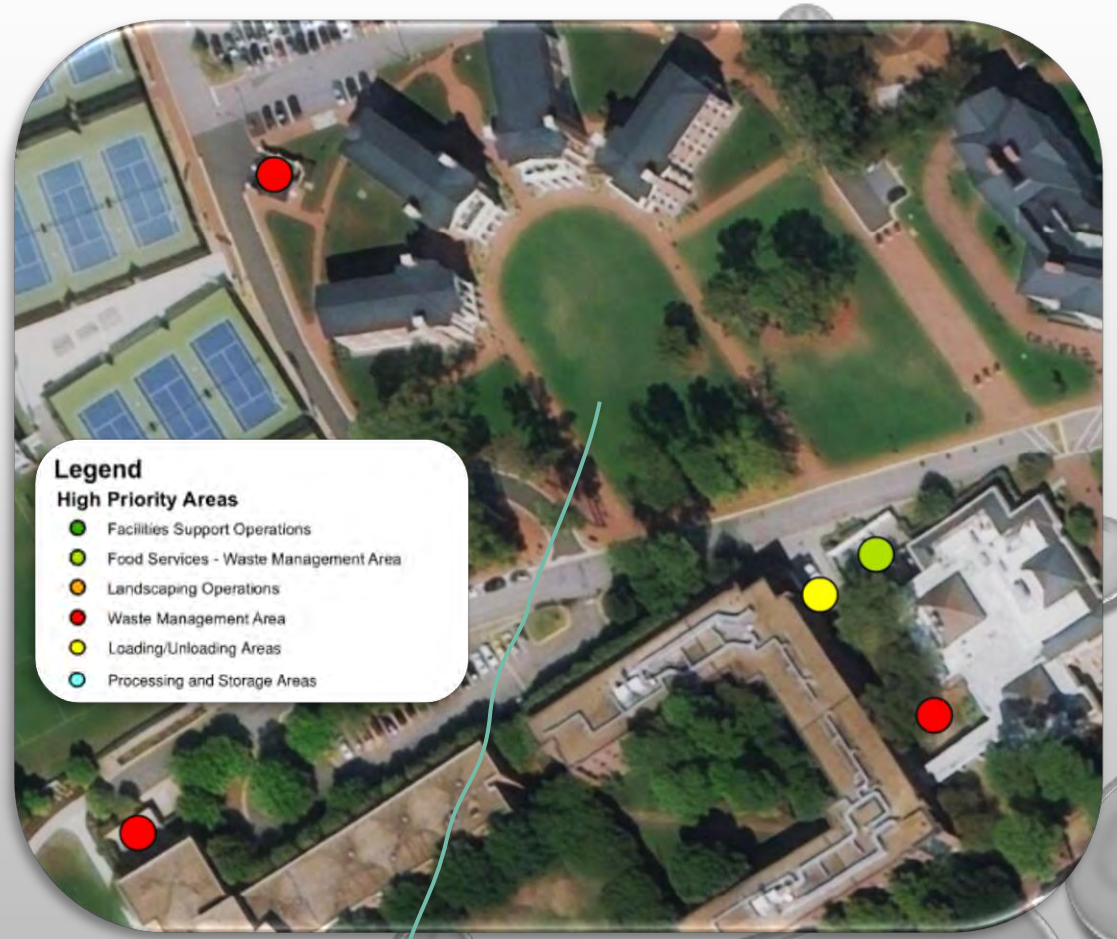
CNU Apartments, CNU Landing, and CNU Crossing

David Student Union

HIGH-PRIORITY AREAS

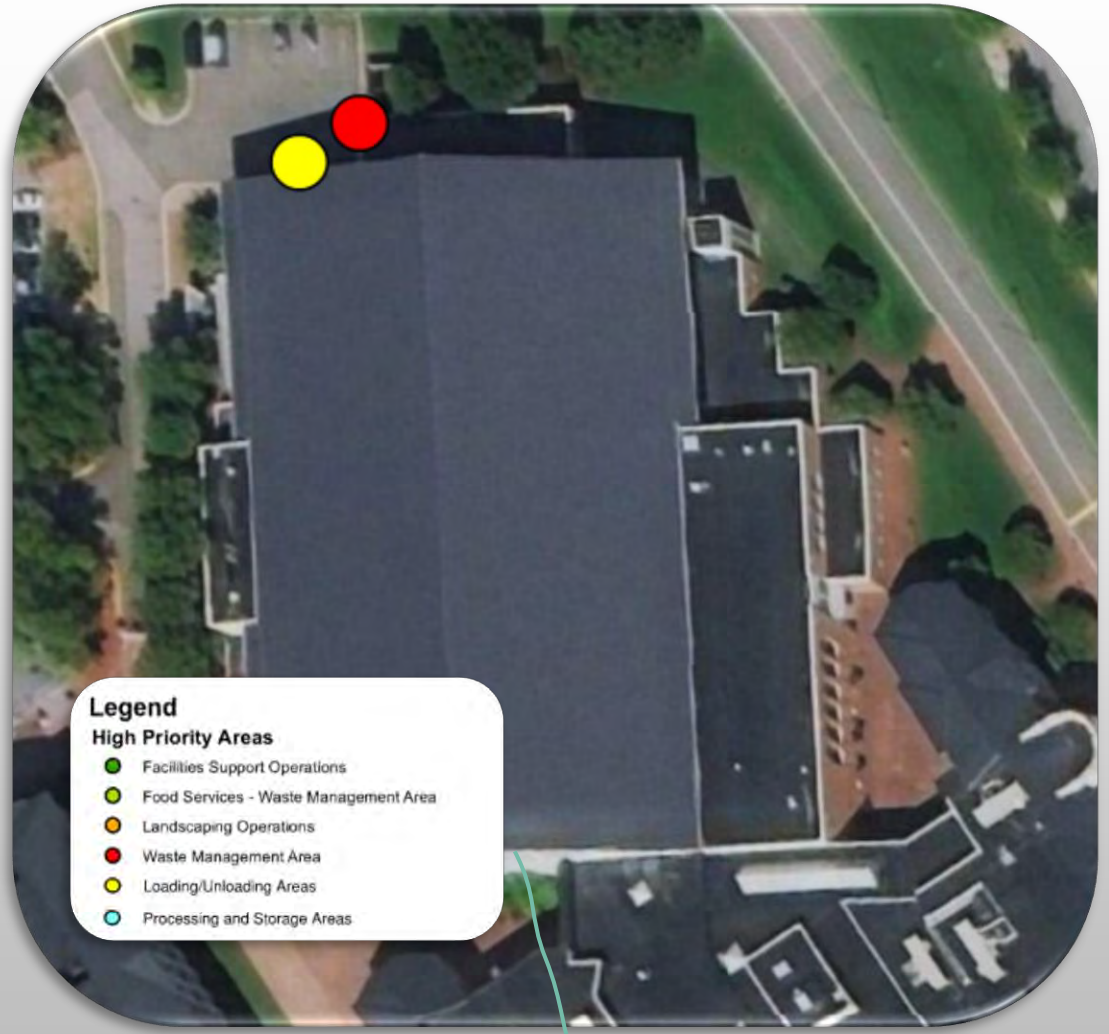


Rear of TowneBank Stadium

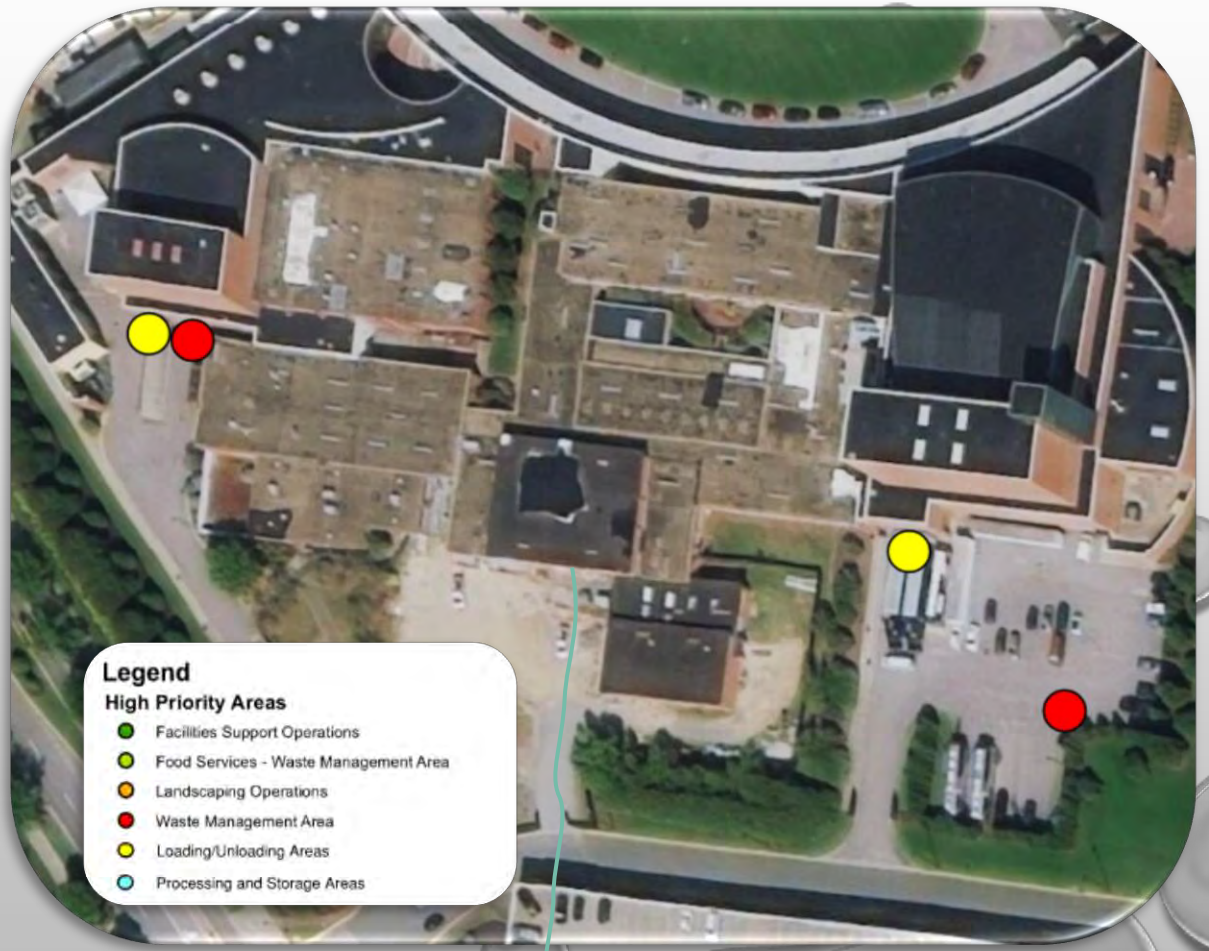


Greek Life Housing, James River Residence Hall, Hidden-Hussey Commons, and Santoro Residence Hall

HIGH-PRIORITY AREAS

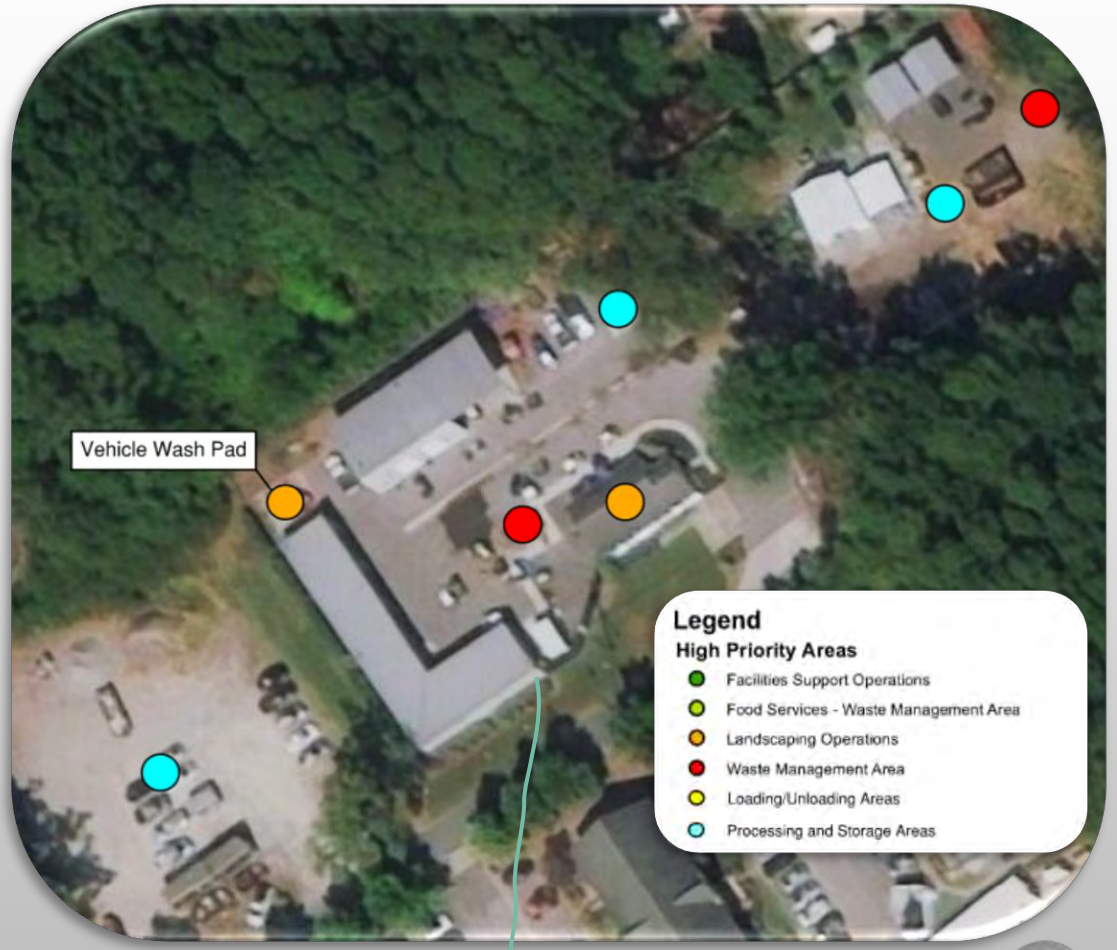


Freeman Sports and Convocation Center



Ferguson Center for the Arts

HIGH-PRIORITY AREAS



Grounds Department

INSPECTIONS

Inspection schedule & checklist	SWPPP Appendix A
Quarterly site compliance forms	SWPPP Appendix A
Dry weather screening forms	Program Plan Appendix F

IDDE

- LIST ILLICIT DISCHARGE(S) IDENTIFIED, REMEDIAL MEASURES TAKEN, AND DESCRIPTION OF FOLLOW-UP MONITORING
- DRY WEATHER SCREENING (SECTION 10)
- PROCEDURES AND IMPLEMENTATION PLAN TO REDUCE FLOATABLES

Open storage area with exposed stockpile

Active construction site

SPILLS & LEAKS

PROVIDE LIST OF SPILLS THAT QUALIFY FOR IMMEDIATE REPORTING

IDENTIFY SOURCE OF SPILL

DESCRIBE FOLLOW-UP ACTIVITIES

SPILLS & LEAKS

- INTERNAL REPORTING OF SPILLS & LEAKS
  - EMPLOYEES
    - NOTIFY YOUR DIRECT SUPERVISOR IMMEDIATELY
      - WHAT SPILLED
      - HOW MUCH
      - WHERE IS IT
  - SUPERVISORS
    - POSES NO IMMEDIATE DANGER TO HUMAN LIFE OR PROPERTY AND <5 GALLONS
      - CLEAN UP *IMMEDIATELY*, SOPS CAN BE FOUND IN APPENDIX E
      - NOTIFY CNU POLICE **(4-7777)**
    - HAZARDOUS SUBSTANCE <5 GALLONS
      - NOTIFY CNU POLICE **(4-7777)**
    - LARGE SPILLS <5 GALLONS
      - NOTIFY CNU POLICE **(4-7777)**

SPILLS & LEAKS

- EXTERNAL REPORTING OF SPILLS & LEAKS
  - *ALL* HAZARDOUS OR UNKNOWN SPILLS EXCEEDING 1 PINT:
    - CALL CNU POLICE AT **(4-7777)**
    - NOTIFY VIRGINIA DEQ **(757) 518-2000**
    - NOTIFY THE NATIONAL RESPONSE CENTER **(800) 424-8802**
    - IF NIGHT, WEEKEND, OR HOLIDAY NOTIFY THE VIRGINIA DEPARTMENT OF EMERGENCY MANAGEMENT'S 24-HOUR HOTLINE **(800) 468-8892**
  - *ANY* SPILL OF ANY POLLUTANT (EX: OIL, PAINTS, FUELS, HAZARDOUS LIQUIDS, SEDIMENT, OR SUPER-CHLORINATED WATER) REACHING STORM DRAINS OR ENTERING "WATERS OF THE STATE":
    - NOTIFY VIRGINIA DEQ **(757) 518-2000** WITHIN 24-HOURS OF THE RELEASE OR SUSPECTED RELEASE
  - IF *ANY* AMOUNT OF PETROLEUM CAUSES A SHEEN ON NEARBY SURFACE WATER OR IS MORE THAN 25 GALLONS:
    - NOTIFY VIRGINIA DEQ **(757) 518-2000**
    - NOTIFY THE NATIONAL RESPONSE CENTER **(800) 424-8802**

PERMIT COMPLIANCE AND ENFORCEMENT

- STORMWATER MANAGEMENT FACILITY TYPE, LOCATION, AND PUBLIC OR PRIVATE
- AREA BEING TREATED
- IMPAIRED WATERSHED SEGMENTS
- IF THE AREA DISCHARGES TO THE MS4
- DATE OF LAST INSPECTION
- SUMMARY OF ACTIONS TO ENSURE MAINTENANCE OF PRIVATE STORMWATER MANAGEMENT FACILITIES
- SUMMARY OF PROGRAM TO ENSURE MAINTENANCE
- ACCESS TO INFORMATION ONLINE

INSPECTIONS

- ROUTINE INSPECTIONS DURING OPERATING HOURS
  - AREAS WHERE MATERIALS/ACTIVITIES ARE EXPOSED TO STORMWATER
  - AREAS IDENTIFIED IN SWPPP AS POTENTIAL POLLUTANT SOURCES
  - AREAS WHERE SPILLS OR LEAKS HAVE OCCURRED IN THE PAST 3-YEARS
  - DISCHARGE POINTS
  - CONTROL MEASURES USED TO COMPLY THE PERMIT

Uncovered smoking receptacle

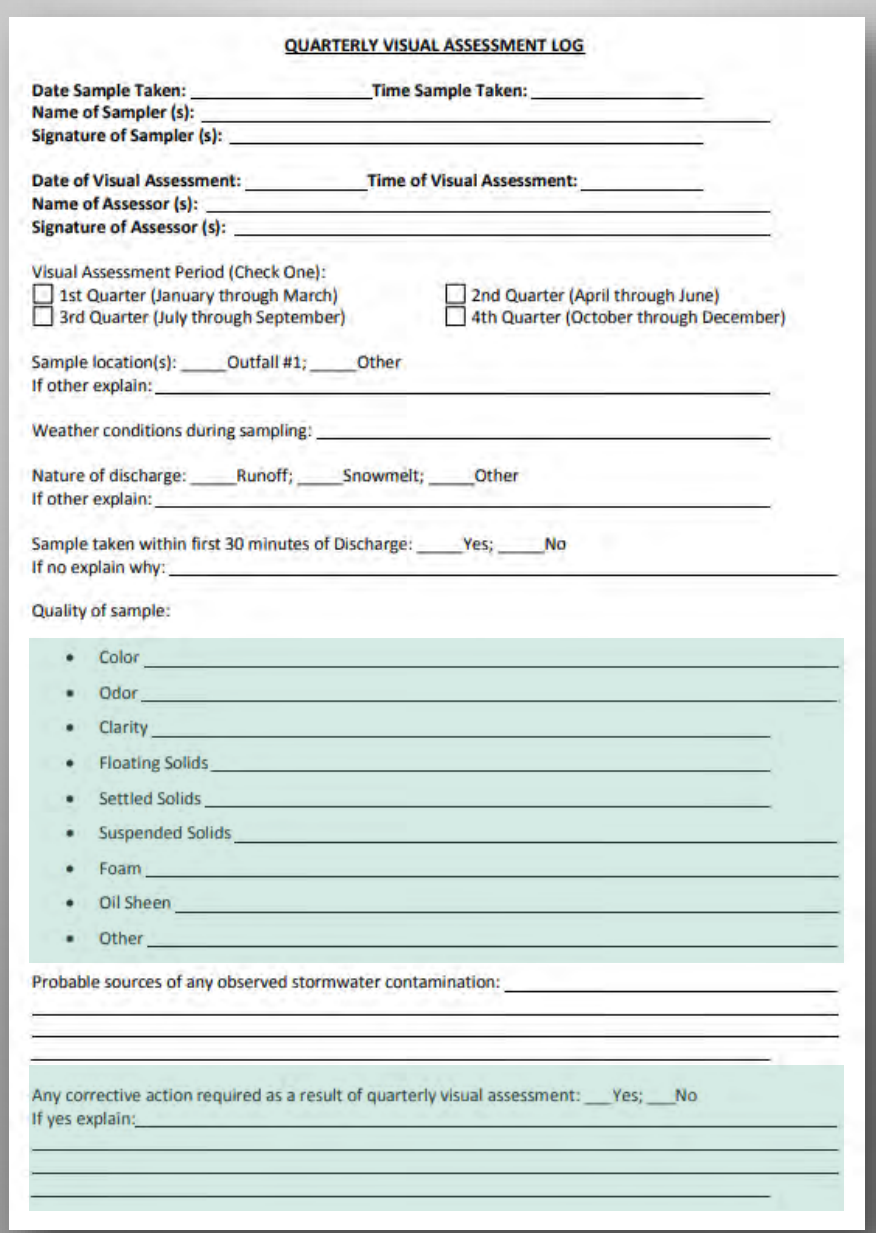
Damaged staircase

Broken trash can lid

VISUAL INSPECTIONS

Record a physical assessment of sample

Be sure to remediate if necessary



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: _____
_____
_____
_____

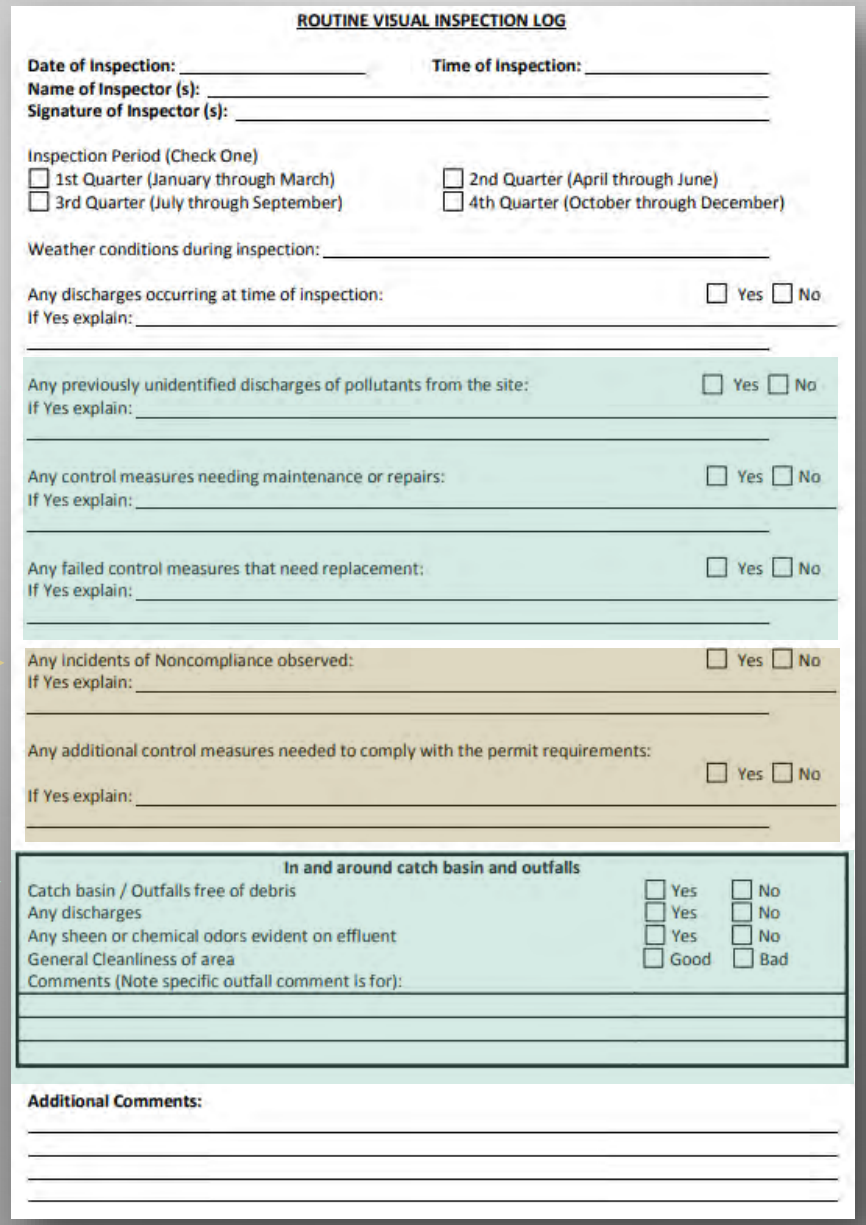
Any corrective action required as a result of quarterly visual assessment: ___Yes; ___No
If yes explain: _____
_____
_____
_____

VISUAL INSPECTIONS

Be sure to update measures and documents as necessary

Immediately **take action** with noncompliance observations

Inspect outfalls to ensure pollutants are being prevented and flow is not obstructed



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	☐ Yes	☐ No
Any discharges	☐ Yes	☐ No
Any sheen or chemical odors evident on effluent	☐ Yes	☐ No
General Cleanliness of area	☐ Good	☐ Bad
Comments (Note specific outfall comment is for):		

Additional Comments:

INSPECTIONS

- OBSERVATIONS RELATING TO INSPECTION TO NOTE
  - DESCRIPTION OF DISCHARGE AT TIME OF INSPECTION
  - PREVIOUSLY UNIDENTIFIED DISCHARGES AND/OR POLLUTANTS FROM SITE
  - EVIDENCE OR POTENTIAL OF POLLUTANTS ENTERING DRAINAGE SYSTEM
  - OBSERVATIONS REGARDING PHYSICAL CONDITION OF AND AROUND OUTFALLS
    - FLOW DISSIPATION DEVICES
    - EVIDENCE OF POLLUTANTS IN DISCHARGE AND/OR RECEIVING WATER
  - CONTROL MEASURES NEEDING MAINTENANCE, REPAIRS, OR REPLACEMENT

Curb cut out from parking lot inhibiting flow to inlet

Report weather conditions and type of stormwater

Commonwealth Hall

Support Facilities
Inspection Report

Inspections must be conducted by a person with the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility and evaluate the effectiveness of best management practices required by this permit. Retain a copy of the completed and signed form with the SWPPP for at least 3 years.

INSPECTOR NAME:	INSPECTION TIME:	INSPECTION DATE:
Ima Inspector	9:40 am	6/23/2021

WEATHER INFORMATION:

Description of Weather Conditions (e.g., sunny, cloudy, raining, snowing, etc.):

Was stormwater (e.g., runoff from rain or snowmelt) flowing at outfalls and/or discharge areas shown on the Site Map during the inspection? (Yes X No) **Comments:**

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BMP EVALUATION

SWPPP and Site Map: Have a copy of the SWPPP and site map with you during the inspection so that you can ensure they are current and accurate. Use it as an aide in recording the location of any issues you identify during the inspection.

- Is the Site Map current and accurate? ✓
- Is the SWPPP inventory of activities, materials and products current? ✓

Findings and Remedial Action Documentation: Describe any findings below and the schedule for remedial action completion including the date initiated and date completed or expected to be completed.

* Swppp available online

Schedule time to observe washing

Ensure materials are properly stored, covered, and containing all necessary equipment

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BMP EVALUATION

Vehicle/Equipment Areas

Equipment cleaning:

Is equipment washed and/or cleaned only in designated areas?

- Observe washing: Is all wash water captured and properly disposed of?

Equipment fueling:

- Are all fueling areas free of contaminant buildup and evidence of chronic leaks/spills?
- Are all chemical liquids, fluids, and petroleum products, on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater?
- Are structures in place to prevent precipitation from accumulating in containment areas?
  - If not, is there any water or other fluids accumulated within the containment area?
  - Note: If containment areas are not covered to prevent water from accumulating, the SWPPP must include a plan describing how accumulated water will be managed and disposed of.

Equipment maintenance:

- Are maintenance tools, equipment and materials stored under shelter, elevated and covered?
- Are all drums and containers of fluids stored with proper cover and containment?
- Are exteriors of containers kept outside free of deposits?
- Are any vehicles and/or equipment leaking fluids? Identify leaking equipment.
- Is there evidence of leaks or spills since last inspection? Identify and address.
- Are materials, equipment, and activities located so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas)?

Add any additional site-specific BMPs:

N/A

Findings and Remedial Action Documentation:

- No Equipment / vehicle Areas

Diesel tank uncovered without spill kit

Covered vehicle storage

Waste receptacle lid open

Ensure waste receptacles are **CLOSED**

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BMP EVALUATION

Good Housekeeping BMPs

Are paved surfaces free of accumulated dust/sediment and debris?

- Date of last quarterly vacuum/sweep
- Are there areas of erosion or sediment/dust sources that discharge to storm drains?

Are all waste receptacles located outdoors:

- In good condition?
- Not leaking contaminants?
- Closed when is not being accessed? Lid Not Closed
- External surfaces and area free of excessive contaminant buildup?

Are the following areas free of accumulated dust/sediment, debris, contaminants, and/or spills/leaks of fluids?

- External dock areas
- Pallet, bin, and drum storage areas
- Maintenance shop(s)
- Equipment staging areas (loaders, tractors, trailers, forklifts, etc)
- Around bag-house(s)
- Around bone yards

Other areas of industrial activity:

Findings and Remedial Action Documentation:

- No standing water after rain yesterday
- Sediment accumulation @ office 3 drain
- Erosion along planter beds / All
- Trash Cans in good condition (No leaks) @ office 18
- Trash @ office 29 OK
- Recycle & Trash @ Housing OK
- Accumulation of leaf litter in planter beds
- bed @ Housing has no plants

Spill Response and Equipment

Are spill kits available, in the following locations?

- Fueling stations
- Transfer and mobile fueling units
- Vehicle and equipment maintenance areas

Do the spill kits contain all the permit required items?

- Oil absorbents capable of absorbing 15 gallons of fuel.
- A storm drain plug or cover kit.
- A non-water containment boom, a minimum of 10 feet in length with a 12 gallon absorbent capacity.
- A non-metallic shovel.
- Two five-gallon buckets with lids.

Are contaminated absorbent materials properly disposed of?

Findings and Remedial Action Documentation:

- N/A

Sediment buildup at inlet 5

Ensure findings are remediated with action and documentation

Waste receptacle left open

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BMP EVALUATION

General Material Storage Areas

- Are damaged materials stored inside a building or another type of stonn resistance shelter?
- Are all uncontained material piles stored in a manner that does not allow discharge of impacted stormwater?
- Are scrap metal bins covered?
- Are outdoor containers covered?

Findings and Remedial Action Documentation:

- Materials stored indoors

One outdoor athletics storage area

Not all materials appear to be stored indoors

Stormwater BMPs and Treatment Structures

Visually inspect all stormwater BMPs and treatment structures devices, discharge areas infiltration and outfalls shown on the Site Map.

- Are BMPs and treatment structures in good repair and operational?
- Are BMPs and treatment structures free from debris buildup that may impair function?
- The permit requires Permittees to clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the Permittee must keep the debris surface at least 6 inches below the outlet pipe. Based on this, do catch basins need to be cleaned?
- Are berms, curbing or other methods used to divert and direct discharges adequate and in good condition?

Findings and Remedial Action Documentation:

- No BMPs at site

Does not correlate to documented BMPs

Bare spots and standing water along berm

Observation of Stormwater Discharges	Findings and Remedial Action Documentation:
• Is the discharge free of floating materials, visible oil sheen, discoloration, turbidity, odor, foam or any other signs of contamination? • Water from washing vehicles or equipment, steam cleaning and/or pressure washing is considered process wastewater and is not allowed to comingle with stormwater or enter storm drains. Is process water comingling with stormwater or entering storm drains? Illicit discharges include domestic wastewater, noncontact cooling water, or process wastewater (including leachate). • Were any illicit discharges observed during the inspection?	• No Discharges

II. CORRECTIVE ACTION AND SWPPP MODIFICATIONS DESCRIPTIONS:

Additional space to describe inspection findings and corrective actions if needed. Provide brief explanation of the general location and the rationale for the additional or different BMPs.

- Stabilize foam & soils in planter beds
- Remove dirt / sediment from parking lot & curb and gutter
- Ensure trash lid remains closed at all times

Since the initial site inspection, the following hot spot issues of concern have been addressed:

- N/A

Ensure findings are remediated with **action** and documentation

Sheen on water (potential pollutant)

Sediment buildup recorded in many areas – It was also noted there is no drainage from this parking lot

Sparce vegetation in check dam potentially related to nutrient application and buildup of sediment/debris

Ensure dried oil is cleaned up

Each department must maintain BMPs

Runoff from partially covered stockpile

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BMP EVALUATION

Vehicle/Equipment Areas

Equipment cleaning:

Is equipment washed and/or cleaned only in designated areas?

- Observe washing: Is all wash water captured and properly disposed of?

Equipment fueling:

- Are all fueling areas free of contaminant buildup and evidence of chronic leaks/spills?
- Are all chemical liquids, fluids, and petroleum products, on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater?
- Are structures in place to prevent precipitation from accumulating in containment areas?
  - If not, is there any water or other fluids accumulated within the containment area?
  - Note: If containment areas are not covered to prevent water from accumulating, the SWPPP must include a plan describing how accumulated water will be managed and disposed of.

Equipment maintenance:

- Are maintenance tools, equipment and materials stored under shelter, elevated and covered?
- Are all drums and containers of fluids stored with proper cover and containment?
- Are exteriors of containers kept outside free of deposits?
- Are any vehicles and/or equipment leaking fluids? Identify leaking equipment.
- Is there evidence of leaks or spills since last inspection? Identify and address.
- Are materials, equipment, and activities located so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas)?

Add any additional site-specific BMPs:

N/A

Findings and Remedial Action Documentation:

- golf cart Storage in good condition

Evidence of grass clippings at inlet of vehicle wash station

Grease clogged inlet

I. POTENTIAL POLLUTANT SOURCE AREA INSPECTION AND BMP EVALUATION

Good Housekeeping BMPs	Findings and Remedial Action Documentation:
Are paved surfaces free of accumulated dust/sediment and debris?	
• Date of last quarterly vacuum/sweep	
• Are there areas of erosion or sediment/dust sources that discharge to storm drains?	
Are all waste receptacles located outdoors:	Roll away (back) in good condition
• In good condition?	Recycle (in back) good
• Not leaking contaminants?	
• Closed when is not being accessed?	
• External surfaces and area free of excessive contaminant buildup?	leaf litter build up (at trash and rack/ sump pump)
Are the following areas free of accumulated dust/sediment, debris, contaminants, and/or spills/leaks of fluids?	
• External dock areas	
• Pallet, bin, and drum storage areas	• Well organized & mostly protected
• Maintenance shop(s)	
• Equipment staging areas (loaders, tractors, trailers, forklifts, etc)	• No runoff concern in back storage area (Not covered)
• Around bag-house(s)	
• Around bone yards	
Other areas of industrial activity:	
_____	
_____	
_____	
_____	
_____	

Spill Response and Equipment	Findings and Remedial Action Documentation:
Are spill kits available, in the following locations?	
• Fueling stations	• N/A
• Transfer and mobile fueling units	
• Vehicle and equipment maintenance areas	
Do the spill kits contain all the permit required items?	
• Oil absorbents capable of absorbing 15 gallons of fuel.	
• A storm drain plug or cover kit.	
• A non-water containment boom, a minimum of 10 feet in length with a 12 gallon absorbent capacity.	
• A non-metallic shovel.	
• Two five-gallon buckets with lids.	
Are contaminated absorbent materials properly disposed of?	

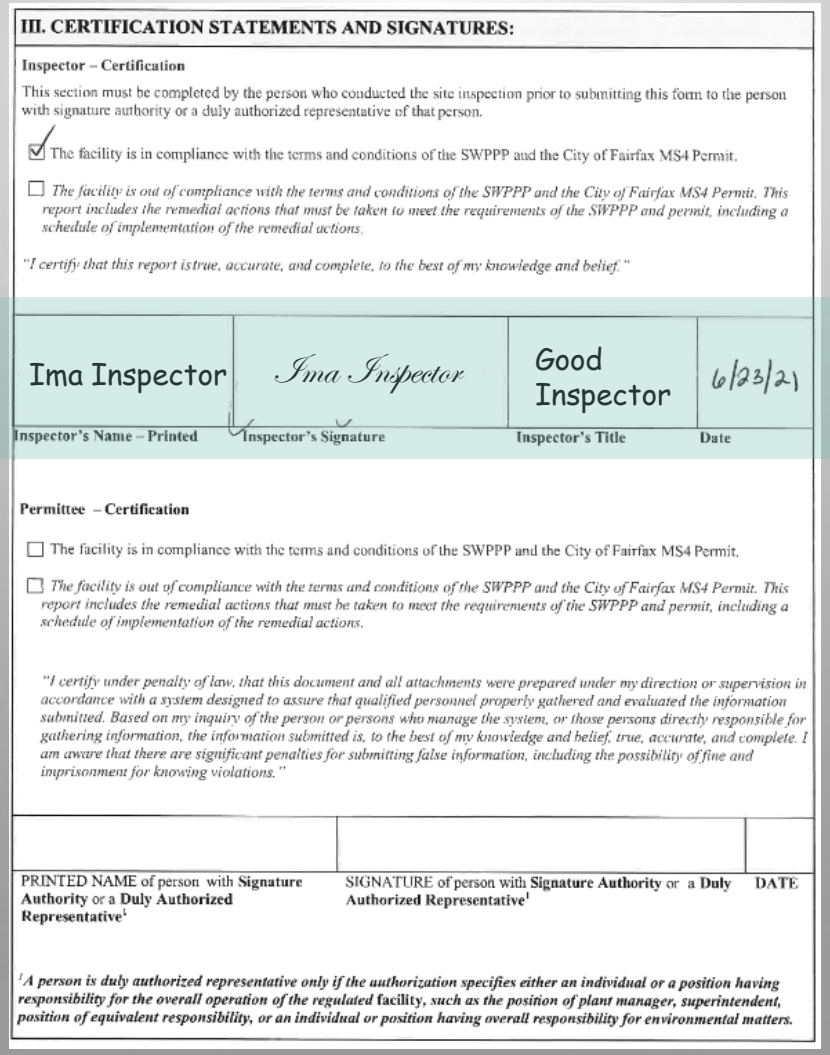
Remove refuse

Cover storage areas or the materials being stored **COMPLETELY**

Implement spill response equipment where necessary

Partially covered stockpile

Sign, print, and scan to PDF



III. CERTIFICATION STATEMENTS AND SIGNATURES:

Inspector – Certification

This section must be completed by the person who conducted the site inspection prior to submitting this form to the person with signature authority or a duly authorized representative of that person.

☑ The facility is in compliance with the terms and conditions of the SWPPP and the City of Fairfax MS4 Permit.

☐ *The facility is out of compliance with the terms and conditions of the SWPPP and the City of Fairfax MS4 Permit. This report includes the remedial actions that must be taken to meet the requirements of the SWPPP and permit, including a schedule of implementation of the remedial actions.*

"I certify that this report is true, accurate, and complete, to the best of my knowledge and belief."

Ima Inspector	*Ima Inspector*	Good Inspector	6/23/21
Inspector's Name – Printed	**Inspector's Signature**	**Inspector's Title**	**Date**

Permittee – Certification

☐ The facility is in compliance with the terms and conditions of the SWPPP and the City of Fairfax MS4 Permit.

☐ *The facility is out of compliance with the terms and conditions of the SWPPP and the City of Fairfax MS4 Permit. This report includes the remedial actions that must be taken to meet the requirements of the SWPPP and permit, including a schedule of implementation of the remedial actions.*

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 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."

PRINTED NAME of person with **Signature Authority** or a **Duly Authorized Representative**[1]	SIGNATURE of person with **Signature Authority** or a **Duly Authorized Representative**[1]	**DATE**

[1] ***A person is duly authorized representative only if the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.***

INSPECTION FINDINGS

- CONDUCTED JUNE 23RD, 2021
  - ISSUES TO BE ADDRESSED:
    - SEDIMENT BUILD-UP AROUND DROP INLETS AND INLET PROTECTION NEEDS ROUTINE MAINTENANCE, CLEANING, REINSTALLATION, AND/OR REPLACEMENT

INSPECTION FINDINGS

- CONDUCTED JUNE 23RD, 2021
  - ISSUES TO BE ADDRESSED:
    - COVER AND PROTECT UNCOVERED STOCKPILES

INSPECTION FINDINGS

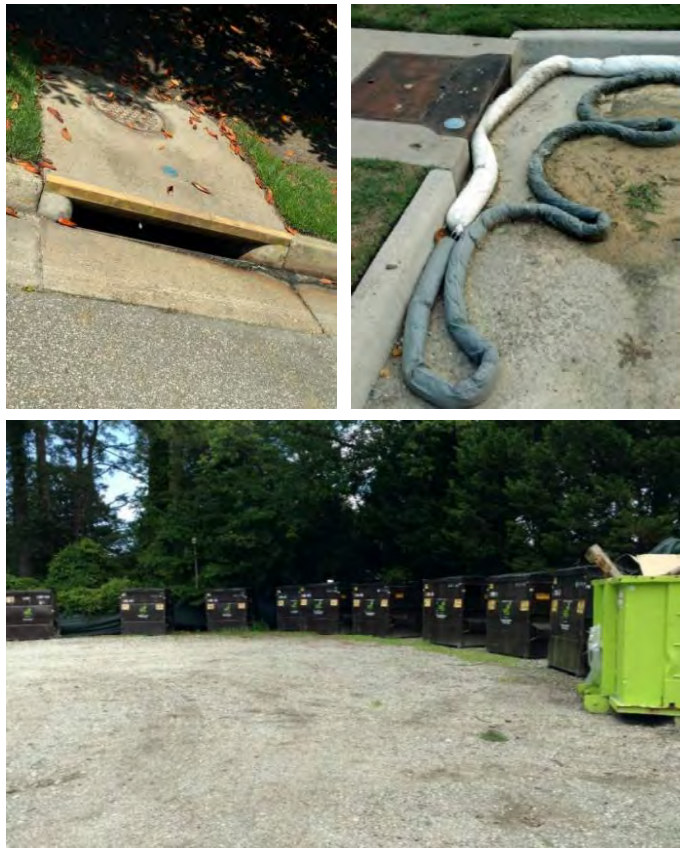
- CONDUCTED JUNE 23RD, 2021
  - ISSUES TO BE ADDRESSED:
    - EVIDENCE OF POLLUTANT DISCHARGE; FIND SOURCE AND **IMPLEMENT SOLUTION**

INSPECTION FINDINGS

- CONDUCTED JUNE 23RD, 2021
  - ISSUES TO BE ADDRESSED:
    - OPEN DUMPSTERS/GARBAGE RECEPTACLES AND STORAGE AREAS; **COVER THEM**

INSPECTION FINDINGS

- POSITIVE ASPECTS OF THIS INSPECTION SCHEDULE & CHECKLIST:
  - WASHING OF SWEEPER TRUCKS IS BEING DONE IN THE APPROPRIATE LOCATION
  - STORAGE AREAS MOSTLY WELL ORGANIZED
  - GOOD IMPLEMENTATION OF FILTER SOCKS BEFORE INLETS
  - MOST DUMPSTER LIDS BEING KEPT CLOSED



MAINTENANCE

- PROVIDE SUMMARY OF ACTIVITIES:
  - LIST OF STRUCTURES INSPECTED
  - DATE OF INSPECTION
  - TYPE OF STRUCTURE
  - LOCATION
  - MAINTENANCE NEEDS
  - WHEN MAINTENANCE PERFORMED
- PRIORITIZING SCHEDULE
- MAINTENANCE IS **KEY** TO MAINTAINING A PROPER FUNCTIONING – LONG LASTING STRUCTURE

MAINTENANCE

- INSPECTIONS AND PREVENTATIVE MAINTENANCE OF:
  - STORMWATER DRAINAGE
  - SOURCE CONTROLS
  - EQUIPMENT AND SYSTEMS POSSIBLY ABLE TO FAIL
- MAINTAINING NONSTRUCTURAL CONTROL MEASURES
- CLEANING CATCH BASINS:
  - WHEN DEBRIS DEPTH REACHES 2/3 OF SUMP DEPTH
  - KEEPING THE DEBRIS SURFACE AT LEAST 6-IN BELOW OUTLET PIPE

Inlets at end of berm

Unretrieved inlet protection post construction completion

MAINTENANCE

- RECOMMENDED MAINTENANCE SCHEDULE FOR SOURCE CONTROLS:
  - ROOF DRAINS – SEMI ANNUALLY (SPRING/FALL)
  - STORM STRUCTURES – ANNUALLY (SPRING)
  - VISUAL INSPECTION OF OUTFALLS – ANNUALLY (SPRING)

THANK YOU FOR DOING YOUR PART!

STORMWATER QUALITY IS IMPORTANT

EVERYONE HAS A ROLE TO PLAY

KEEP AN EYE OUT FOR ISSUES, ESPECIALLY AROUND HIGH PRIORITY FACILITIES AND CONSTRUCTIONS SITES

TAKE ACTION – NOTIFY AUTHORITIES AND WORK TO CORRECT ISSUES

Q1 Name

Answered: 49 Skipped: 0

#	RESPONSES	DATE
1	Randy West	3/20/2023 8:43 AM
2	Brian Howard	3/18/2023 8:09 AM
3	jason correiro	3/11/2023 11:35 AM
4	Anna Runnels	3/9/2023 2:30 PM
5	Frederick Knox	3/9/2023 2:02 PM
6	Lesa Kay Richardson	3/9/2023 11:45 AM
7	Carland Strickland	3/9/2023 11:05 AM
8	Gregory Steward	3/8/2023 9:48 AM
9	Odilka Clarke de Lewis	3/8/2023 9:34 AM
10	Eugene Orendain	3/7/2023 9:12 AM
11	Louise Williams	3/6/2023 12:32 PM
12	Marquis Harris	3/6/2023 9:58 AM
13	Kwasha Bradshaw	3/5/2023 11:20 AM
14	Julian	3/3/2023 9:08 AM
15	jamarr williams	3/3/2023 9:02 AM
16	Michael Carter	3/3/2023 8:41 AM
17	Kevin Adams	3/2/2023 3:50 PM
18	Matthew Wilson	3/2/2023 2:55 PM
19	Kimberly E Simmons	3/2/2023 10:24 AM
20	sherman Bryant	3/2/2023 9:29 AM
21	Eric Capehart	3/2/2023 9:29 AM
22	nachelle herring	3/2/2023 9:29 AM
23	Patricia Boston Bey	3/1/2023 3:18 PM
24	Sarah Cobb	3/1/2023 11:42 AM
25	Shkera Harris	3/1/2023 11:37 AM
26	william jenkins	3/1/2023 11:25 AM
27	Vernon Battle	3/1/2023 10:52 AM
28	Karren Deloatch	3/1/2023 10:33 AM
29	Vaughn Hicks	3/1/2023 10:27 AM
30	Theresa Harvey	3/1/2023 10:27 AM
31	Penny Crudup	3/1/2023 10:24 AM
32	Don Crudup	3/1/2023 10:12 AM
33	FRANK CARTER	3/1/2023 10:05 AM

34	Stephanie Tynes	3/1/2023 10:04 AM
35	Debia Harper	3/1/2023 9:47 AM
36	angela warren	3/1/2023 9:42 AM
37	Nicole Gayles	3/1/2023 9:42 AM
38	Ellen Saunders	3/1/2023 9:42 AM
39	Jessie Perok	3/1/2023 9:41 AM
40	Karren Deloatch	3/1/2023 9:40 AM
41	Stanley. Hicks	2/28/2023 1:00 PM
42	Erika Nestler	2/28/2023 11:38 AM
43	MJ Taylor	2/28/2023 11:38 AM
44	Flora H. Beamon	2/28/2023 10:51 AM
45	June LaRoche	2/27/2023 7:54 PM
46	Mark Bleakley	2/27/2023 12:02 PM
47	Via Contracting - Dave Parr	2/27/2023 9:32 AM
48	Jacob	2/27/2023 8:47 AM
49	Brian Kelley	2/24/2023 4:06 PM

Q2 Job Title

Answered: 49 Skipped: 0

#	RESPONSES	DATE
1	Housekeeping Manager	3/20/2023 8:43 AM
2	Housekeeper	3/18/2023 8:09 AM
3	assistant catering manager	3/11/2023 11:35 AM
4	Culinary Attendant Catering	3/9/2023 2:30 PM
5	Catering 1st cook	3/9/2023 2:02 PM
6	Teamleader	3/9/2023 11:45 AM
7	Housekeeper Manager DSU	3/9/2023 11:05 AM
8	Housekeeper	3/8/2023 9:48 AM
9	Housekeeper	3/8/2023 9:34 AM
10	Trades Tech 1	3/7/2023 9:12 AM
11	Housekeeper	3/6/2023 12:32 PM
12	Housekeeper	3/6/2023 9:58 AM
13	Housekeeper	3/5/2023 11:20 AM
14	Housekeeper	3/3/2023 9:08 AM
15	floor technican	3/3/2023 9:02 AM
16	Supervisor	3/3/2023 8:41 AM

17	Housing maintenance supervisor	3/2/2023 3:50 PM
18	Catering Sous Chef	3/2/2023 2:55 PM
19	House Keeper	3/2/2023 10:24 AM
20	Housekeeper	3/2/2023 9:29 AM
21	Housekeeper	3/2/2023 9:29 AM
22	supervisor	3/2/2023 9:29 AM
23	Housekeeper	3/1/2023 3:18 PM
24	Housekeeping	3/1/2023 11:42 AM
25	Housekeeping	3/1/2023 11:37 AM
26	housekeeping	3/1/2023 11:25 AM
27	housekeeper	3/1/2023 10:52 AM
28	Housekeeping	3/1/2023 10:33 AM
29	housekeeper	3/1/2023 10:27 AM
30	Housekeeping Lead	3/1/2023 10:27 AM
31	Housekeeping	3/1/2023 10:24 AM
32	housekeeping	3/1/2023 10:12 AM
33	HOUSEKEEPER	3/1/2023 10:05 AM
34	Lead Housekeeper	3/1/2023 10:04 AM
35	Housekeeper	3/1/2023 9:47 AM
36	housekeeping	3/1/2023 9:42 AM
37	Housekeeper	3/1/2023 9:42 AM
38	Housekeeper	3/1/2023 9:42 AM
39	Housekeeping	3/1/2023 9:41 AM
40	Housekeeping	3/1/2023 9:40 AM
41	Housekeeping Workers	2/28/2023 1:00 PM
42	Director of Catering / Executive Chef	2/28/2023 11:38 AM
43	Catering Manager	2/28/2023 11:38 AM
44	Housekeeping	2/28/2023 10:51 AM
45	1st cook	2/27/2023 7:54 PM
46	Asst Catering Manager	2/27/2023 12:02 PM
47	Supervisor	2/27/2023 9:32 AM
48	Freeman Center Janitor	2/27/2023 8:47 AM
49	Sustainability Specialist	2/24/2023 4:06 PM

Q3 Department

Answered: 49 Skipped: 0

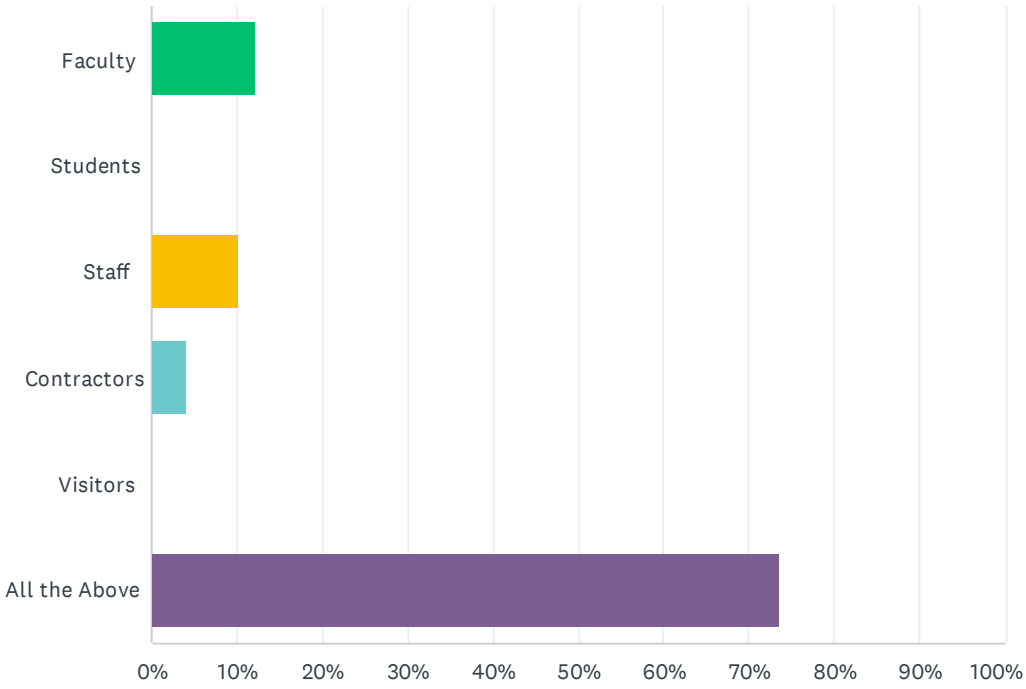
#	RESPONSES	DATE

1	Facilities Management	3/20/2023 8:43 AM
2	Auxiliary Services	3/18/2023 8:09 AM
3	catering	3/11/2023 11:35 AM
4	Aux Catering	3/9/2023 2:30 PM
5	Auxiliary catering	3/9/2023 2:02 PM
6	Housekeeping/ DSU	3/9/2023 11:45 AM
7	Auxiliary	3/9/2023 11:05 AM
8	Aux SVS	3/8/2023 9:48 AM
9	Auxiliary Services	3/8/2023 9:34 AM
10	Auxillary Services	3/7/2023 9:12 AM
11	Plant Operations	3/6/2023 12:32 PM
12	Housing	3/6/2023 9:58 AM
13	Fergerson Center of the Arts	3/5/2023 11:20 AM
14	Housing	3/3/2023 9:08 AM
15	truck	3/3/2023 9:02 AM
16	Housing	3/3/2023 8:41 AM
17	Housing	3/2/2023 3:50 PM
18	Auxiliary catering	3/2/2023 2:55 PM
19	Facilities Management	3/2/2023 10:24 AM
20	Plant ops	3/2/2023 9:29 AM
21	Facilities Management	3/2/2023 9:29 AM
22	Facilities Management	3/2/2023 9:29 AM
23	Ferguson Center	3/1/2023 3:18 PM
24	Facilities managememt	3/1/2023 11:42 AM
25	Housing	3/1/2023 11:37 AM
26	housing	3/1/2023 11:25 AM
27	Facilities Management	3/1/2023 10:52 AM
28	Facilities Management	3/1/2023 10:33 AM
29	facilities management	3/1/2023 10:27 AM
30	Facilities Management	3/1/2023 10:27 AM
31	Facilities Management	3/1/2023 10:24 AM
32	Facilities management	3/1/2023 10:12 AM
33	FACILITIES MANAGEMENT	3/1/2023 10:05 AM
34	Facilities Management	3/1/2023 10:04 AM
35	Facilities Management	3/1/2023 9:47 AM
36	faculty management	3/1/2023 9:42 AM
37	Facility Management	3/1/2023 9:42 AM
38	Facilities Management	3/1/2023 9:42 AM

39	Facilities Management	3/1/2023 9:41 AM
40	Facilities Management	3/1/2023 9:40 AM
41	Facilities Management	2/28/2023 1:00 PM
42	Catering	2/28/2023 11:38 AM
43	Dining Services - Catering	2/28/2023 11:38 AM
44	Facilities Management Plant Operations	2/28/2023 10:51 AM
45	catering	2/27/2023 7:54 PM
46	Catering	2/27/2023 12:02 PM
47	Contracting	2/27/2023 9:32 AM
48	Cleaning	2/27/2023 8:47 AM
49	Environmental Health and Safety	2/24/2023 4:06 PM

Q4 Which of the following is responsible for taking care of stormwater on campus?

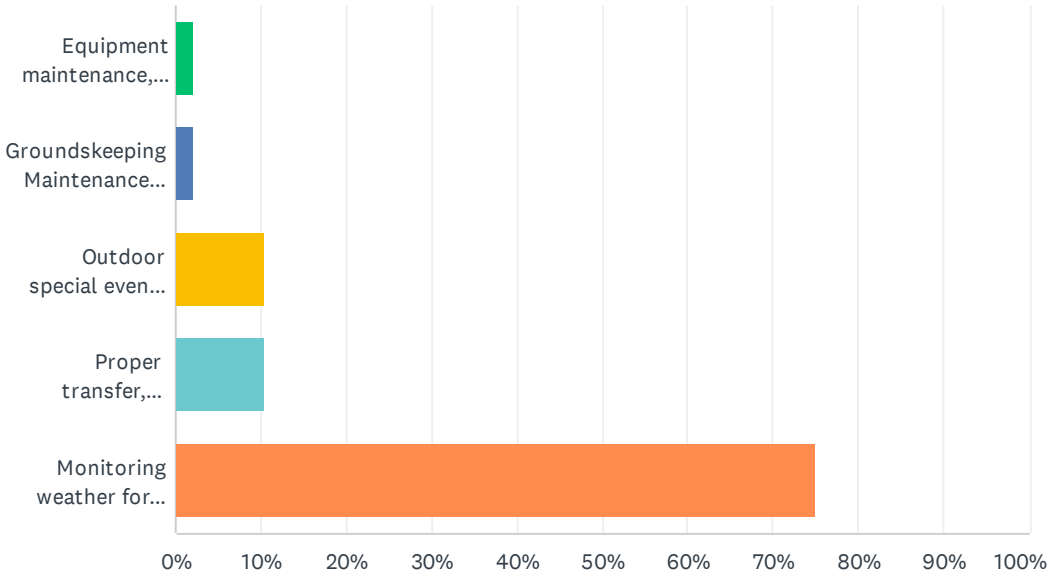
Answered: 49 Skipped: 0



ANSWER CHOICES	RESPONSES	
Faculty	12.24%	6
Students	0.00%	0
Staff	10.20%	5
Contractors	4.08%	2
Visitors	0.00%	0
All the Above	73.47%	36
TOTAL		49

Q5 Which of the following is NOT a CNU SOP?

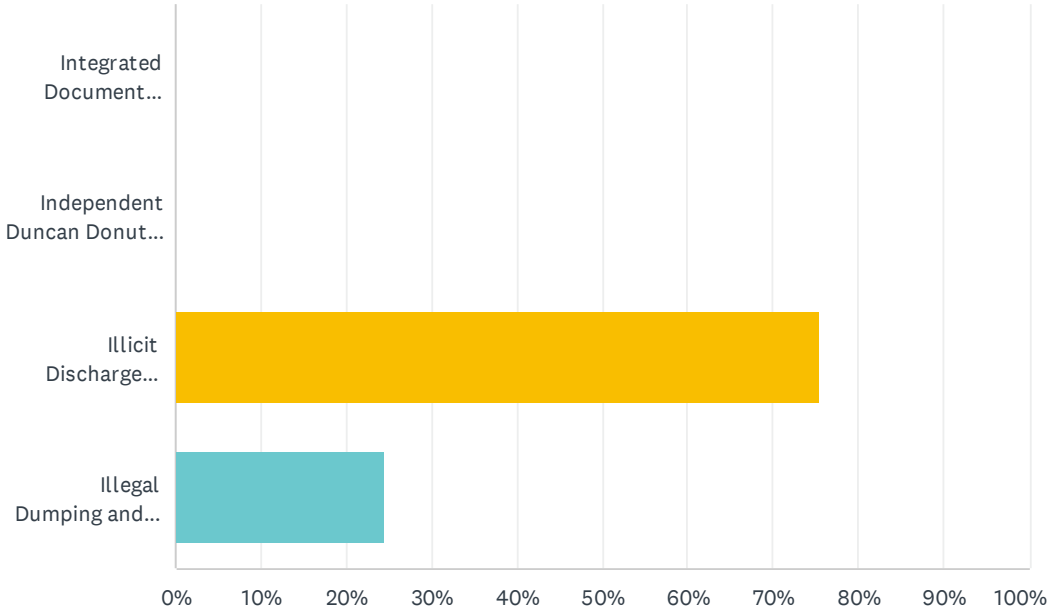
Answered: 48 Skipped: 1



ANSWER CHOICES	RESPONSES	
Equipment maintenance, washing, and fueling activities	2.08%	1
Groundskeeping Maintenance Activities; Landscaping	2.08%	1
Outdoor special events and festivals	10.42%	5
Proper transfer, storage, and disposal of kitchen waste	10.42%	5
Monitoring weather for rain events	75.00%	36
TOTAL		48

Q6 What does IDDE stand for?

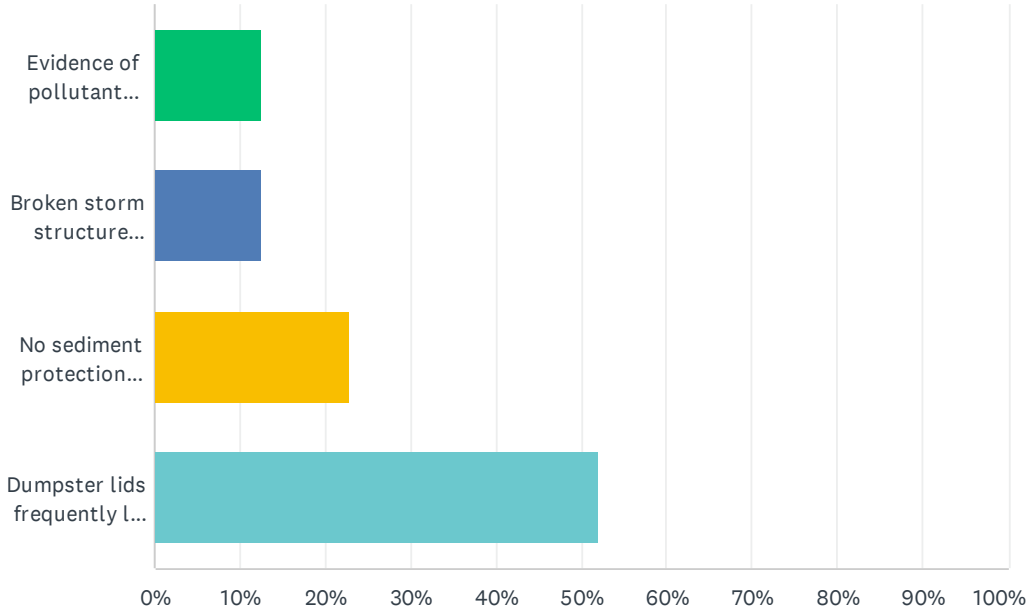
Answered: 49 Skipped: 0



ANSWER CHOICES	RESPONSES	
Integrated Document Development Evaluation	0.00%	0
Independent Duncan Donuts Examination	0.00%	0
Illicit Discharge Detection and Elimination	75.51%	37
Illegal Dumping and Discharge Elimination	24.49%	12
TOTAL		49

Q7 What was NOT an area of improvement identified from previous inspections?

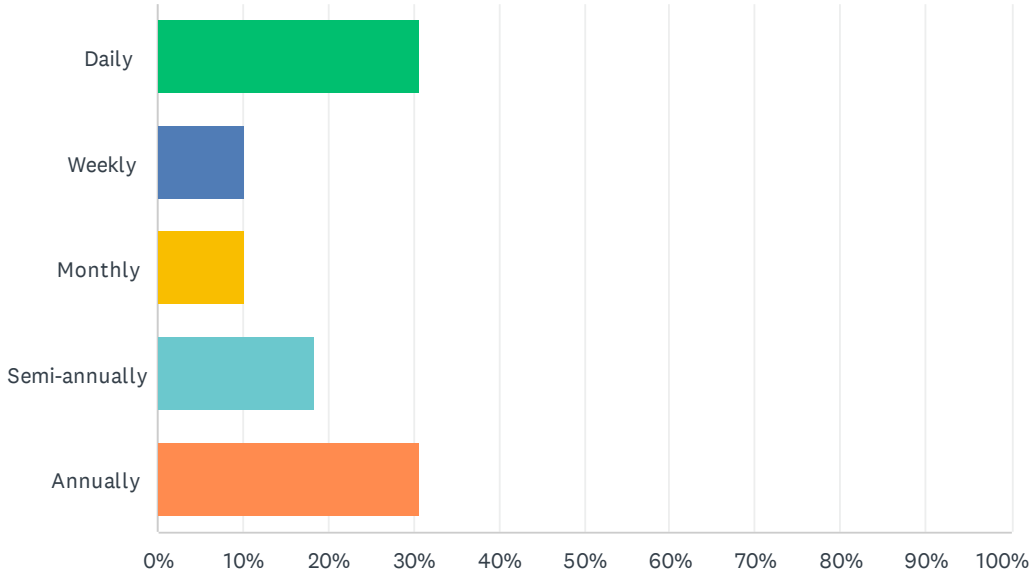
Answered: 48 Skipped: 1



ANSWER CHOICES	RESPONSES	
Evidence of pollutant discharge	12.50%	6
Broken storm structure grates to be replaced	12.50%	6
No sediment protection around inlet	22.92%	11
Dumpster lids frequently left open	52.08%	25
TOTAL		48

Q8 How often should stormwater structures have scheduled maintenance?

Answered: 49 Skipped: 0



ANSWER CHOICES	RESPONSES	
Daily	30.61%	15
Weekly	10.20%	5
Monthly	10.20%	5
Semi-annually	18.37%	9
Annually	30.61%	15
TOTAL		49

Q1 Name

Answered: 50 Skipped: 0

#	RESPONSES	DATE
1	nakia jones	4/10/2023 12:49 PM
2	Randy West	3/20/2023 8:43 AM
3	Brian Howard	3/18/2023 8:09 AM
4	jason correiro	3/11/2023 11:35 AM
5	Anna Runnels	3/9/2023 2:30 PM
6	Frederick Knox	3/9/2023 2:02 PM
7	Lesa Kay Richardson	3/9/2023 11:45 AM
8	Carland Strickland	3/9/2023 11:05 AM
9	Gregory Steward	3/8/2023 9:48 AM
10	Odilka Clarke de Lewis	3/8/2023 9:34 AM
11	Eugene Orendain	3/7/2023 9:12 AM
12	Louise Williams	3/6/2023 12:32 PM
13	Marquis Harris	3/6/2023 9:58 AM
14	Kwasha Bradshaw	3/5/2023 11:20 AM
15	Julian	3/3/2023 9:08 AM
16	jamarr williams	3/3/2023 9:02 AM
17	Michael Carter	3/3/2023 8:41 AM
18	Kevin Adams	3/2/2023 3:50 PM
19	Matthew Wilson	3/2/2023 2:55 PM
20	Kimberly E Simmons	3/2/2023 10:24 AM
21	sherman Bryant	3/2/2023 9:29 AM
22	Eric Capehart	3/2/2023 9:29 AM
23	nachelle herring	3/2/2023 9:29 AM
24	Patricia Boston Bey	3/1/2023 3:18 PM
25	Sarah Cobb	3/1/2023 11:42 AM
26	Shkera Harris	3/1/2023 11:37 AM
27	william jenkins	3/1/2023 11:25 AM
28	Vernon Battle	3/1/2023 10:52 AM
29	Karren Deloatch	3/1/2023 10:33 AM
30	Vaughn Hicks	3/1/2023 10:27 AM
31	Theresa Harvey	3/1/2023 10:27 AM
32	Penny Crudup	3/1/2023 10:24 AM
33	Don Crudup	3/1/2023 10:12 AM

34	FRANK CARTER	3/1/2023 10:05 AM
35	Stephanie Tynes	3/1/2023 10:04 AM
36	Debia Harper	3/1/2023 9:47 AM
37	angela warren	3/1/2023 9:42 AM
38	Nicole Gayles	3/1/2023 9:42 AM
39	Ellen Saunders	3/1/2023 9:42 AM
40	Jessie Perok	3/1/2023 9:41 AM
41	Karren Deloatch	3/1/2023 9:40 AM
42	Stanley. Hicks	2/28/2023 1:00 PM
43	Erika Nestler	2/28/2023 11:38 AM
44	MJ Taylor	2/28/2023 11:38 AM
45	Flora H. Beamon	2/28/2023 10:51 AM
46	June LaRoche	2/27/2023 7:54 PM
47	Mark Bleakley	2/27/2023 12:02 PM
48	Via Contracting - Dave Parr	2/27/2023 9:32 AM
49	Jacob	2/27/2023 8:47 AM
50	Brian Kelley	2/24/2023 4:06 PM

Q2 Job Title

Answered: 50 Skipped: 0

#	RESPONSES	DATE
1	project manager	4/10/2023 12:49 PM
2	Housekeeping Manager	3/20/2023 8:43 AM
3	Housekeeper	3/18/2023 8:09 AM
4	assistant catering manager	3/11/2023 11:35 AM
5	Culinary Attendant Catering	3/9/2023 2:30 PM
6	Catering 1st cook	3/9/2023 2:02 PM
7	Teamleader	3/9/2023 11:45 AM
8	Housekeeper Manager DSU	3/9/2023 11:05 AM
9	Housekeeper	3/8/2023 9:48 AM
10	Housekeeper	3/8/2023 9:34 AM
11	Trades Tech 1	3/7/2023 9:12 AM
12	Housekeeper	3/6/2023 12:32 PM
13	Housekeeper	3/6/2023 9:58 AM
14	Housekeeper	3/5/2023 11:20 AM
15	Housekeeper	3/3/2023 9:08 AM

16	floor technican	3/3/2023 9:02 AM
17	Supervisor	3/3/2023 8:41 AM
18	Housing maintenance supervisor	3/2/2023 3:50 PM
19	Catering Sous Chef	3/2/2023 2:55 PM
20	House Keeper	3/2/2023 10:24 AM
21	Housekeeper	3/2/2023 9:29 AM
22	Housekeeper	3/2/2023 9:29 AM
23	supervisor	3/2/2023 9:29 AM
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38	Housekeeper	3/1/2023 9:42 AM
39	Housekeeper	3/1/2023 9:42 AM
40	Housekeeping	3/1/2023 9:41 AM
41	Housekeeping	3/1/2023 9:40 AM
42	Housekeeping Workers	2/28/2023 1:00 PM
43	Director of Catering / Executive Chef	2/28/2023 11:38 AM
44	Catering Manager	2/28/2023 11:38 AM
45	Housekeeping	2/28/2023 10:51 AM
46	1st cook	2/27/2023 7:54 PM
47	Asst Catering Manager	2/27/2023 12:02 PM
48	Supervisor	2/27/2023 9:32 AM
49	Freeman Center Janitor	2/27/2023 8:47 AM
50	Sustainability Specialist	2/24/2023 4:06 PM

Q3 Department

Answered: 50 Skipped: 0

#	RESPONSES	DATE
1	subcontractor	4/10/2023 12:49 PM
2	Facilities Management	3/20/2023 8:43 AM
3	Auxiliary Services	3/18/2023 8:09 AM
4	catering	3/11/2023 11:35 AM
5	Aux Catering	3/9/2023 2:30 PM
6	Auxiliary catering	3/9/2023 2:02 PM
7	Housekeeping/ DSU	3/9/2023 11:45 AM
8	Auxiliary	3/9/2023 11:05 AM
9	Aux SVS	3/8/2023 9:48 AM
10	Auxiliary Services	3/8/2023 9:34 AM
11	Auxillary Services	3/7/2023 9:12 AM
12	Plant Operations	3/6/2023 12:32 PM
13	Housing	3/6/2023 9:58 AM
14	Fergerson Center of the Arts	3/5/2023 11:20 AM
15	Housing	3/3/2023 9:08 AM
16	truck	3/3/2023 9:02 AM
17	Housing	3/3/2023 8:41 AM
18	Housing	3/2/2023 3:50 PM
19	Auxiliary catering	3/2/2023 2:55 PM
20	Facilities Management	3/2/2023 10:24 AM
21	Plant ops	3/2/2023 9:29 AM
22	Facilities Management	3/2/2023 9:29 AM
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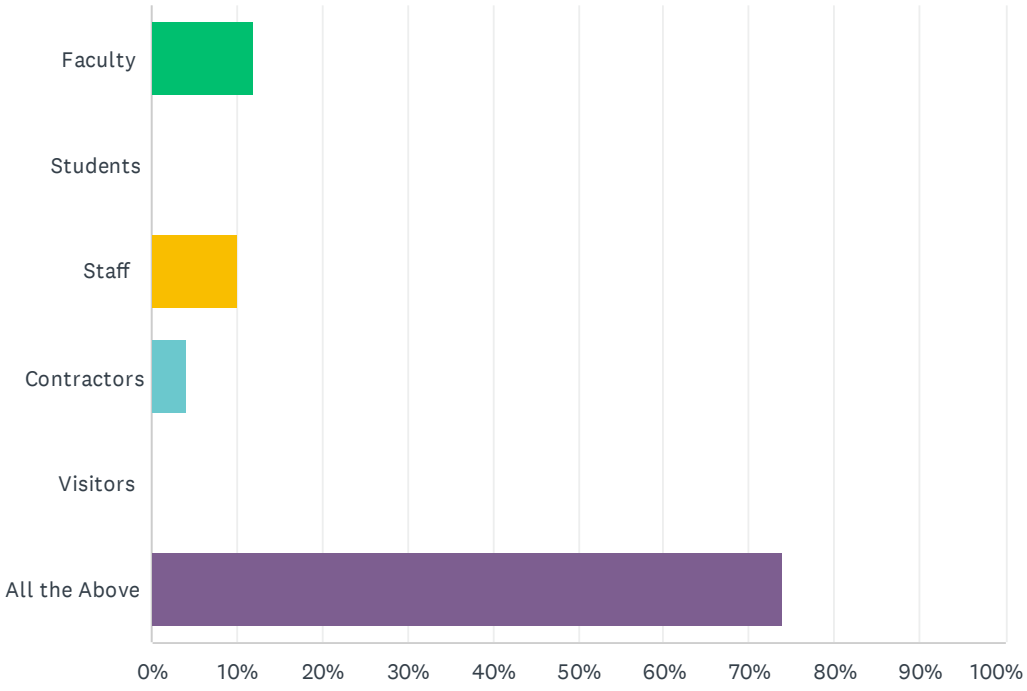
30	facilities management	3/1/2023 10:27 AM
31	Facilities Management	3/1/2023 10:27 AM
32	Facilities Management	3/1/2023 10:24 AM
33	Facilities management	3/1/2023 10:12 AM
34	FACILITIES MANAGEMENT	3/1/2023 10:05 AM
35	Facilities Management	3/1/2023 10:04 AM
36	Facilities Management	3/1/2023 9:47 AM

37	faculty management	3/1/2023 9:42 AM
38	Facility Management	3/1/2023 9:42 AM
39	Facilities Management	3/1/2023 9:42 AM
40	Facilities Management	3/1/2023 9:41 AM
41	Facilities Management	3/1/2023 9:40 AM
42	Facilities Management	2/28/2023 1:00 PM
43	Catering	2/28/2023 11:38 AM
44	Dining Services - Catering	2/28/2023 11:38 AM
45	Facilities Management Plant Operations	2/28/2023 10:51 AM
46	catering	2/27/2023 7:54 PM
47	Catering	2/27/2023 12:02 PM
48	Contracting	2/27/2023 9:32 AM
49	Cleaning	2/27/2023 8:47 AM
50	Environmental Health and Safety	2/24/2023 4:06 PM

Q4 Which of the following is responsible for taking care of stormwater on campus?

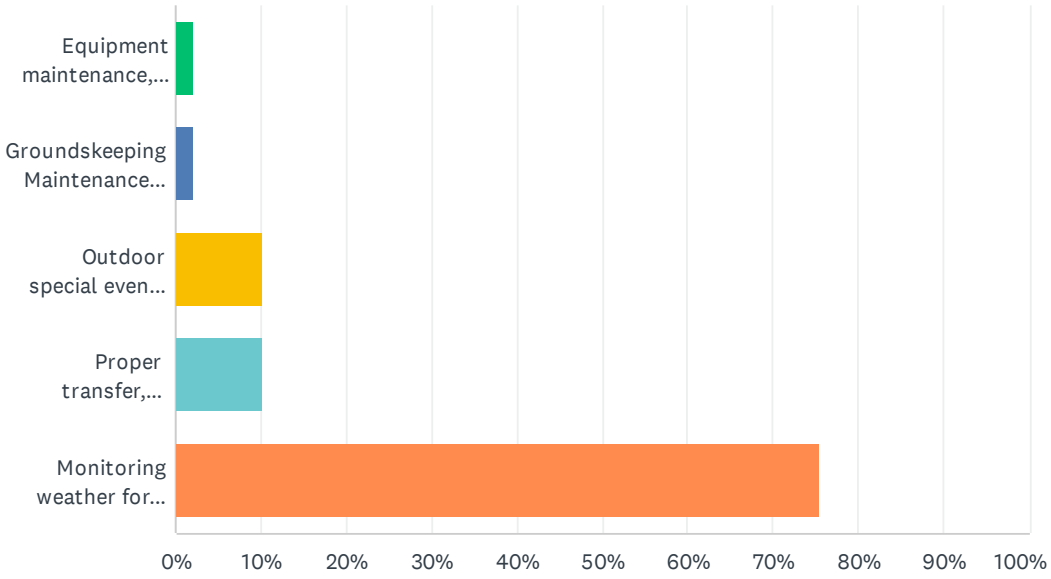
Answered: 50 Skipped: 0



ANSWER CHOICES	RESPONSES	
Faculty	12.00%	6
Students	0.00%	0
Staff	10.00%	5
Contractors	4.00%	2
Visitors	0.00%	0
All the Above	74.00%	37
TOTAL		50

Q5 Which of the following is NOT a CNU SOP?

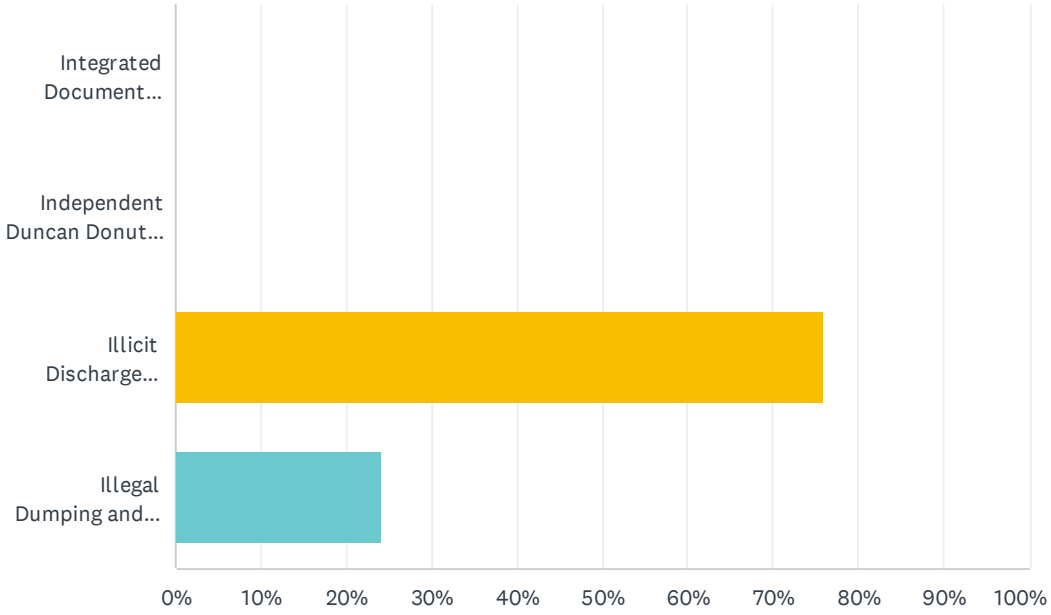
Answered: 49 Skipped: 1



ANSWER CHOICES	RESPONSES	
Equipment maintenance, washing, and fueling activities	2.04%	1
Groundskeeping Maintenance Activities; Landscaping	2.04%	1
Outdoor special events and festivals	10.20%	5
Proper transfer, storage, and disposal of kitchen waste	10.20%	5
Monitoring weather for rain events	75.51%	37
TOTAL		49

Q6 What does IDDE stand for?

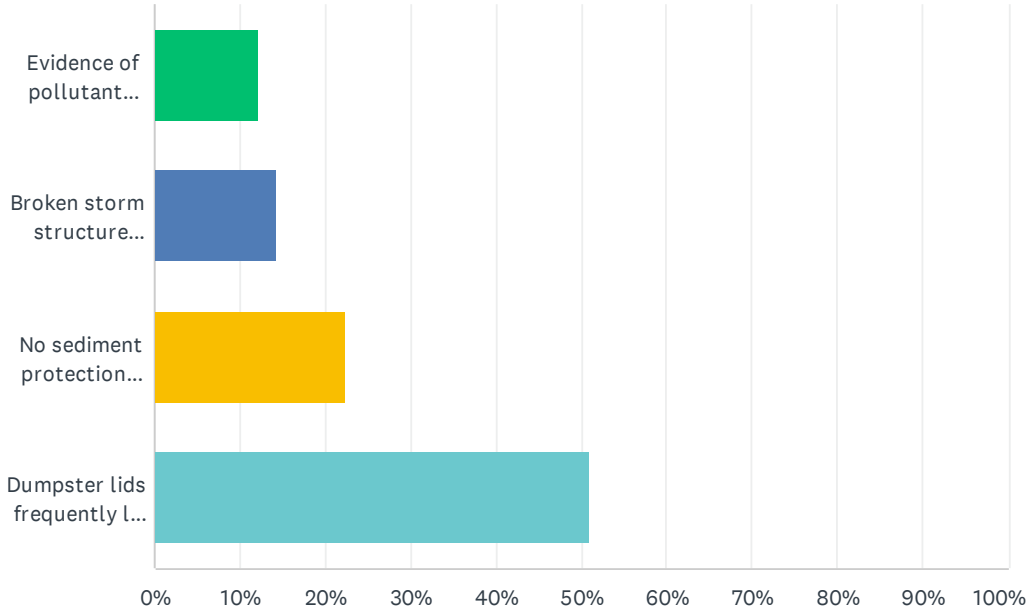
Answered: 50 Skipped: 0



ANSWER CHOICES	RESPONSES	
Integrated Document Development Evaluation	0.00%	0
Independent Duncan Donuts Examination	0.00%	0
Illicit Discharge Detection and Elimination	76.00%	38
Illegal Dumping and Discharge Elimination	24.00%	12
TOTAL		50

Q7 What was NOT an area of improvement identified from previous inspections?

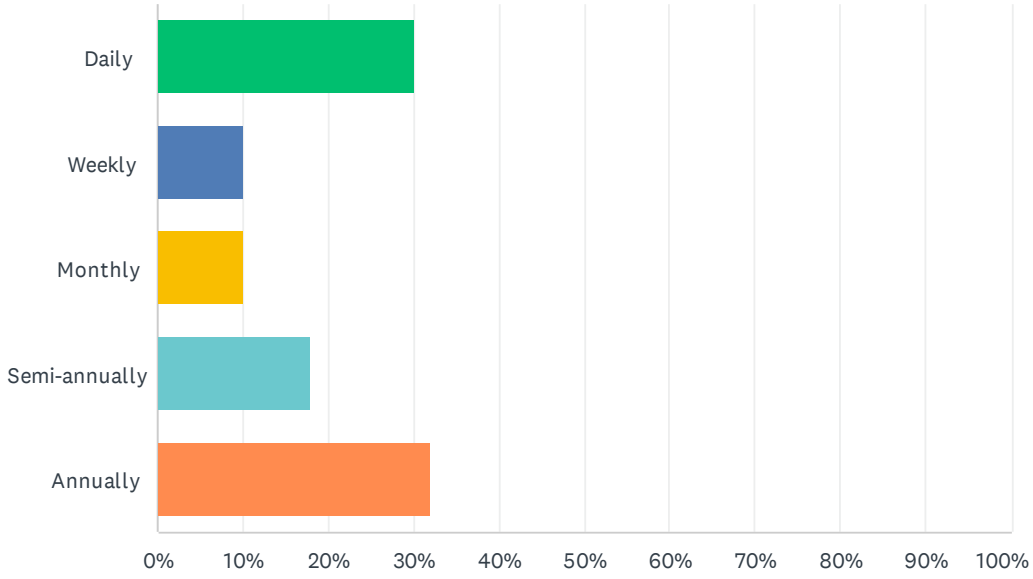
Answered: 49 Skipped: 1



ANSWER CHOICES	RESPONSES	
Evidence of pollutant discharge	12.24%	6
Broken storm structure grates to be replaced	14.29%	7
No sediment protection around inlet	22.45%	11
Dumpster lids frequently left open	51.02%	25
TOTAL		49

Q8 How often should stormwater structures have scheduled maintenance?

Answered: 50 Skipped: 0



ANSWER CHOICES	RESPONSES	
Daily	30.00%	15
Weekly	10.00%	5
Monthly	10.00%	5
Semi-annually	18.00%	9
Annually	32.00%	16
TOTAL		50

Appendix D MINIMUM CONTROL MEASURE 4 (MCM4) SUPPLEMENTAL INFORMATION

AS&S Information (BMP 4.1, 5.3, 6.6)

Other information on MCM4 can be found in:

Appendix A: Construction Site Awareness (BMP 1.6, 4.5)

Annual Standards and Specifications were submitted to DEQ on 10/14/2022. The 2022 AS&S incorporates comments from DEQ during a recent audit which include modifications to the SOPs, IDDE policy, and overall procedures.

Christopher Newport University

2022 Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management

PREPARED FOR

CHRISTOPHER NEWPORT UNIVERSITY

1 Avenue of the Arts
Newport News, VA 23606
757.594.7000

PREPARED BY

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

2901 South Lynnhaven Road
Suite 200, Virginia Beach, VA 23452
757.213.6679

Table of Contents

Letter of Endorsement

Subject: Christopher Newport University Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management.

Dated: September 2022

I certify under penalty of law that all documents and all attachments related to the submission and updating of the Christopher Newport University Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management have been prepared under my direction or supervision in a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of a fine and imprisonment for knowing violations.

Sincerely,

M. Christine Ledford

Vice President for Administration and Auxiliary Services

Introduction

Christopher Newport University (CNU) has incorporated Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) that are integral components of Christopher Newport University's design, construction, maintenance, and management of the University's facilities and campuses. The Christopher Newport University Annual Standards and Specifications for ESC and SWM submittal has been developed to provide information regarding CNU's implementation in accordance with the Virginia Erosion and Sediment Control Law (§62.1-44 et. seq.), the Virginia Erosion and Sediment Control Regulations (9VAC25-840 et. seq.), the Virginia Erosion and Sediment Control Certification Regulations (9VAC25-850 et. seq.), the Virginia Stormwater Management Act (§62.1-44 et. seq.), and the Virginia Stormwater Management Program (VSMP) Permit Regulations (9VAC25-870 et. seq.) as related to municipal separate storm sewer systems (MS4) and regulated construction activities.

Christopher Newport University Annual Standards and Specifications for ESC and SWM shall be administered by the University Architect's Office, Grounds Department, or Facilities Management department depending on the type of project. The Annual Standards and Specifications shall apply to all design, construction and maintenance activities undertaken by Christopher Newport University on projects owned by Christopher Newport University, either by its internal workforce or contracted to external entities, where such activities are regulated by the Virginia ESC Law and Regulations or the Virginia SWM Act and VSMP Permit Regulations. During any inspections of

Christopher Newport University's land disturbing activities by DEQ, EPA or other such environmental agencies, compliance with the approved Christopher Newport University Annual Standards and Specifications for ESC and SWM (and all parts thereof), the Virginia ESC Law and Regulations, the Virginia SWM Act and the VSMP Permit Regulations will be expected.

Christopher Newport University Annual Standards and Specifications for ESC and SWM are submitted to the Virginia Department of Environmental Quality (DEQ) for review and approval on an annual basis, per 9VAC25-870-170 and §62.1-44.15:31, or as determined by the DEQ. Christopher Newport University shall ensure that project specific plans are developed and implemented in accordance with these Annual Standards and Specifications.

This submittal constitutes Christopher Newport University's commitment to execute all provisions contained herein on regulated land disturbing activities and land development projects. As such, this submittal will be made available and utilized as an operational guidance document for Christopher Newport University projects.

While the Department of Environmental Quality, or Board, will remain the ESC and VSMP Authority, CNU will fulfill the role of AS&S holder in order to implement all aspects of the program except for the following items:

- Construction General Permit registration statement review and acceptance. (9VAC25-880-50)
- Construction General Permit issuance.
- Construction General Permit enforcement.
- Construction General Permit Notice of Termination (9VAC25-880-60)
- Acceptance of variances and exceptions.

Acronyms and Abbreviations

AFG	Architect, Facilities, or Grounds
BMP	Best Management Practice
Board	Virginia Soil & Water Conservation Board
CNU	Christopher Newport University
DCA	Delegated Contractor of Authority
DEQ	Department of Environmental Quality
EOR	Engineer of Record
EPA	Environmental Protection Agency
ESC	Erosion & Sediment Control
LID	Low Impact Development
MS4	Municipal Separate Storm Sewer System
RLD	Responsible Land Disturber
SWM	Stormwater Management
SWPPP	Stormwater Pollution Protection Plan
TMDL	Total Maximum Daily Load
VESCL&R	Virginia Erosion & Sediment Control Law & Regulations
VPDES	Virginia Pollution Discharge Elimination System
VSMP	Virginia Stormwater Management Program

Section 1: Annual Standards and Specifications Administration

All projects involving land-disturbing activity subject to the Virginia Erosion and Sediment Control Law (§62.1- 44 et seq. as amended), the Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq. as amended), and the Virginia Erosion and Sediment Control Certification Regulations (9VAC25-850 et seq. as amended) and the Virginia Stormwater Management Act (62.1-44. et seq.) and the VSMP Regulations (9VAC25-870 et. seq. as amended) shall be bound by the CNU Annual Standards and Specifications for ESC and SWM.

1.1. CNU Annual Standards and Specifications for ESC & SWM approved by DEQ are composed of general specifications. The general specifications for ESC and SWM that apply to the land-disturbing activities, include by reference the following:

- *Virginia Erosion and Sediment Control Law* (§62.1-44 et seq. as amended);
- *Virginia Erosion and Sediment Control Regulations* (9VAC25-840 et seq. as amended);
- *Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations* (9VAC25- 850 et seq. as amended);
- *Virginia Erosion and Sediment Control Handbook*, 1992, as amended;
- *Virginia Stormwater Management Act* (§62.1-44 et seq. as amended);
- *Virginia Stormwater Management Program Regulations* (9VAC25-870 et seq. as amended);
- *Virginia Stormwater Management Handbook*, 1999, as amended;
- *Virginia Stormwater Construction General Permit Regulations* (9VAC25-880 et seq. as amended);
- *Virginia Stormwater BMP Clearinghouse* at https://www.swbmp.vwrrc.vt.edu/
- Technical Bulletins, as amended, on the Virginia DEQ website at www.deq.virginia.gov
- Memos, as amended, on the Virginia DEQ website at www.deq.virginia.gov.

1.2. In accordance with 9VAC25-870-170, individual stormwater and ESC plans, to the maximum extent practicable, shall comply with any locality's VSMP authority's technical requirements adopted pursuant to the Act. It shall be the responsibility of the AS&S entity to demonstrate that the locality's VSMP authority's technical requirements are not practicable for the project under consideration.

1.3. Any land-disturbing work, as defined by VESCL&R, must be vetted through AFG offices. Prior to starting a land-disturbing project, the project must have plans stamped and approved by the EOR.

1.4. Site specific ESC plans shall be prepared for all projects involving a regulated land-disturbing activity greater than or equal to 1 acre of disturbed area, 2,500 square

feet in all areas designated as Chesapeake Bay Act Preservation Areas, or when deemed necessary by an EOR if development is outside the purview of the VESCL&R and poses potential environmental implications. Site specific ESC plans shall be submitted to EOR for review. Prior to starting a land-disturbing project, the project must have plans stamped approved by EOR. In addition, if the addition of impervious surfaces is part of the scope, a SWM narrative and/or schematic must be submitted concurrently to explain/show how the run-off will be treated.

1.5. Site specific SWM plans shall be prepared for all projects involving a land-disturbing activity of 1 acre or more and/or:

a. Requires a Virginia Stormwater Management Program General Permit for Discharges from Construction Activities (VSMPGP)
b. Is a Land-disturbing activity contained within a watershed of a regional water quality Stormwater management facility
c. Incorporates the use of a LID and/or BMP with the exception if the entiry of the project is to install an LID and/or BMP
d. Changes the University MS4

Site specific SWM plans shall be submitted to an AFG office or EOR for review. Prior to starting a land-disturbing project requiring a SWM plan, the project must have an approval issued by a qualified AFG representative or EOR and proof of a state permit coverage, if required.

Please note that the Chesapeake Bay Preservation Areas land disturbance threshold is greater than or equal to 2,500 square feet.

1.6. An AFG representative or EOR may request DEQ to grant a project specific variance or exception, in terms of ESC and SWM, respectively, to the approved Christopher Newport University Annual Standards and Specifications for ESC and SWM. All requested variances and exceptions are to be considered unapproved until written approval from DEQ is received. Refer to Section 6 for more information on variances and exceptions.

1.7. The University Architect's office will only be responsible for capital construction projects. These projects will have an Engineer of Record (EOR) and a Responsible Land Disturber (RLD) who will monitor and report on all requirements of the Annual Standards and Specifications that apply to capital construction project.

Section 2: Annual Standards and Specifications Personnel

AFG shall be the authority for Christopher Newport University projects. The following is a breakdown in responsibilities and titles regarding the Christopher Newport University Annual Standards and Specifications for ESC and SWM. Responsibilities may be combined in terms of staffing resources only if the person responsible for the task(s) is qualified per Section 1.1.3. The Director of Grounds or qualified CNU personnel shall be the program administrator. CNU may enter into agreements or contracts with soil and water conservation districts, adjacent localities, or other public or private entities to assist with carrying out the provisions of this article, including the review and determination of adequacy of erosion and sediment control plans submitted for land-disturbing activities on a unit or units of land as well as for monitoring, reports, inspections, and enforcement where authorized in this article, of such land-disturbing activities. The following titles are designated to ensure compliance with erosion and sediment control and stormwater management regulations on all Christopher Newport University projects.

2.1. "Certified ESC Inspector" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the area of project inspection; or, (ii) is enrolled in the Board's training program for project inspection and successfully completes such program within one year after enrollment; and (iii) shall be responsible to inspect as mandated by the VESCL&R erosion and sediment control measures to ensure proper installation in accordance with the approved plan and record the state and effectiveness of such measures in an effort to minimize site erosion and sediment control.

2.2. "Certified SWM Inspector" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the classification of project inspector in the area of SWM; or, (ii) is enrolled in the Board's training program for project inspector and successfully completes such program within one year after enrollment; and, (iii) shall be responsible to inspect construction sites for SWPPP compliance.

2.3. "Certified ESC Plan Reviewer" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the area of plan review; (ii) is enrolled in the Board's training program for plan review and successfully completes such program within one year after enrollment; or (iii) is licensed as a professional engineer, architect, certified landscape architect, or land surveyor pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia; or (iv) is a professional soil scientist as defined in Chapter 22 (§ 54.1-2200 et seq.) of Title 54.1 of the Code of Virginia.

2.4. "Certified SWM Plan Reviewer" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the classification of plan reviewer in the area of SWM; or, (ii) is enrolled in the Board's training program for plan reviewer and successfully completes such

program within one year after enrollment.

2.5. "Certified ESC Program Administrator" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the area of program administration; or, (ii) is enrolled in the Board's training program for program administration and successfully completes such program within one year after enrollment.

2.6. "Certified SWM Program Administrator" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the classification of program administration in the area of SWM; or, (ii) is enrolled in the Board's training program for program administration and successfully completes such program within one year after enrollment.

2.7. "Certified ESC Combined Administrator" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the area of program administration, plan review and project inspection; or, (ii) is enrolled in the Board's training program for program administration, plan review and project inspection and successfully completes such program within one year after enrollment.

2.8. "Certified SWM Combined Administrator" means an employee or agent of Christopher Newport University who: (i) holds a certificate of competence from the Board in the classification of program administration, plan reviewer and project inspector in the area of SWM; or, (ii) is enrolled in the Board's training program for program administration, plan reviewer, and project inspector and successfully completes such program within one year after enrollment.

Please note that any person who holds a valid and unexpired certificate of competence issued by the board in the classification of ESC or SWM, or who obtains such a certificate, and who later successfully obtains an additional certificate may surrender both certificates of competence to the board and request in writing issuance of a dual certificate showing certification in both classifications. Such a request must be made while both the ESC and SWM certificates of competence obtained are valid and unexpired.

Section 3: Annual Standards and Specifications Implementation

A qualified AFG representative shall be considered the plan approving authority for ESC and SWM. ESC and SWM plans shall comply with Christopher Newport University Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management, the Virginia Erosion and Sediment Control Law (62.1-44 et, seq,), the Virginia Stormwater Management Act (62.1-44 et. Seq.), associated ESC and SWM regulations, and the Virginia Stormwater Management Program Regulations (9VAC25-870 et. Seq.). Refer to Section 1.1 for more information on general specifications.

The use of the VESCH control measures, along with the accompanying technical documents and guidance, is strongly preferred. Non-VESCH control measures, BMPs, and specifications may be included in the AS&S submittal, but their use may be further reviewed and approved by the applicable DEQ Regional Office on a project-specific basis.

3.1. Submittals: Two complete sets of ESC/SWM plans, narratives and necessary attachments shall be submitted to one of the AFG offices or EOR for review and approval prior to any land-disturbing activities. A qualified AFG representative or EOR shall have 30 days to review the plan and provide written comments. Re-submittals shall include revision notes referenced to written comments. Prior to commencement of any land-disturbing activities, the project must have received plan approval from a qualified AFG representative.

When non-VESCH control measures are used, all applicable practical information including definition, purpose, conditions where practice applies, planning considerations, design criteria, construction specifications, design tables and plates, and maintenance and inspections shall be included in the ESC Plaen. Non-VESCH and proprietary control measures shall be installed per the manufacturer's instructions and with the intent of the VESCH specifications. Should non-VESCH control measures fail to effectively control soil erosion, sediment deposition, and non-agricultural runoff, then VESCH control measures shall be utilized.

Projects requiring a CGP must submit a complete and accurate Registration Statement, Fee Form, and the AS&S Entity Information form (presented in Appendix F) to AFG office. CNU will submit the completed application package to DEQ for issuance of the CGP. CNU will submit a notice of termination to the DEQ upon completion of the project. Refer to section 5.3 for additional information concerning project close out procedures.

The DEQ shall be notified of any material changes which may impact the Registration Statement, Fee Form, AS&S Entity Information form and/or permit coverage. Notification of changes may be sent via email to: constructionGP@deq.virginia.gov

3.2. Plan Reviews: Plan reviews shall be conducted by qualified personnel as defined in section 2. When approved, at least five complete sets must be submitted to be stamped approved by a qualified AFG office or EOR for ESC/SWM. These plan sets will be allocated as follows: (1) EOR, (2) Contractor, (2) appropriate AFG office representative.

3.3. Delegation of Authority: In accordance with the General VPDES Permit for Discharges of Stormwater from Construction Activities the individuals or positions with delegated authority to sign inspection reports and/or amend the SWPPP must be identified. If the individual or position identified on the Title Sheet of the SWPPP changes or additional individuals or positions are given this responsibility after the preconstruction meeting occurs, the changes/additions must be noted below and submitted to the Authority.

3.4. Pre-Construction Conference: Prior to commencement of a land disturbance, a pre-construction conference shall be held in order to clarify ESC/SWM roles, responsibilities and obligations of all parties involved with the land- disturbing activity. At a minimum, the pre-construction conference will be attended a qualified representative from one of the AFG offices, EOR, and Contractor Project Manager or Superintendent. by the CNU Project Manager, CNU Construction Inspector, CNU Stormwater Coordinator and the project RLD.

3.5. Inspections: Site inspections shall be conducted by qualified personnel as defined in section 2.

3.6. Enforcement: A qualified AFG representative or EOR shall be responsible for ensuring that corrective action is taken in response to comments and violations listed on inspection reports. In the event that the project manager is unable to get the contractor to comply with requests, documentation will be forwarded to the Director of AFG for further enforcement action as deemed appropriate. This could include notifying the DEQ of project non-compliance for further enforcement and possible fines.

3.7. Changes and Amendments to Approved Plans: If modifications exceed the limitation of a BMP, need revised calculations, or if the inspector requests the change, amendments to approved plans must be reviewed and approved by a qualified AFG representative or EOR Red lines must be checked and signed off by the DEQ-Certified Inspectors and if such modifications require submittal to the Certified ESC and SWM Plan Reviewer they must be reviewed and reapproved. Revisions shall not be considered approved until written notice is provided. The project SWPPP will need to be updated with approved changes and amendments. If a change will increase the land disturbance to a higher permit fee, the difference in fees will be paid to the DEQ.

Section 4: Plan Review and Approval

Detailed requirements of specific items to be included in the ESC and SWM plans are in the ESC/SWM Plan Prepared/Reviewer Checklist (Appendix A) and General Erosion and Sediment Control Notes (Appendix B).

4.1. Construction Plans

a. Complete ESC and SWM plans shall be provided in the construction plans.
b. Plans shall include the amount of disturbed area listed per phase and proposed net increase in impervious area.
c. Minimum Standards 1 through 19 (9VAC25-840-40) shall be listed in the construction plans.
d. Construction sequence of operations shall be provided on the construction plans with staged implementation of erosion and sediment control measures for each phase. The area which may be disturbed in each phase shall be set forth in the construction plans.
e. Plans shall provide information on the inspection and maintenance of any ESC measures and SWM Facilities including a recommended schedule.
f. Profiles shall be included for all closed and open storm systems. The profile shall include the existing surface, final surface, proposed water elevations, pipes, pipe crossings, and hydraulic grade line. Surcharges shall be clearly indicated on the profile.
g. SWM calculations included as applicable. Full checklist in Appendix A.
h. Proof of adequate outfall and adequacy of the receiving channel to the SWM treatment facility needs to be provided.
i. Plans shall comply with SWM technical requirements, and to the maximum extent practicable, with any locality's VSMP ESC or demonstrate that the locality's VSMP ESC and SWM technical requirements are not practicable for the project.
j. Stockpile/lay-down areas and trailer locations shall be provided on the erosion and sediment control plans for all phases.
k. Any on-site changes shall be documented on the approved site plan and within the SWPPP.

4.2. Once the plan and supporting documentation are deemed adequate the AS&S DEQ-Certified Program Administrator, or DCA, will:

a. Stamp the plans and calculations.
b. Forward an approval letter to the project manager and EOR.
c. Review the SWPPP if a general construction permit is required.

Section 5: Inspections

Periodic inspections shall be conducted as required by state law on behalf of CNU for ESC and SWM via DEQ-Certified ESC and SWM Inspectors. Periodic inspections shall be conducted, at a minimum, at least once in very two-week period and within 48 hours following any runoff producing storm event. Inspectors shall be notified 24 hours prior to installation of BMPs and shall be present for installation of BMPs. In addition, inspections shall be made during or immediately following initial installation of erosion and sediment controls and at the completion of the project. Completion of the project will only be considered after establishment of permanent stabilization, not completion of construction.

5.1 Erosion and Sediment Control Inspections: Construction sites shall be inspected by a DEQ-Certified ESC Inspector during or immediately following initial installation of erosion and sediment controls, at least once in every two-week period, within 48 hours following any runoff producing event, and at the completion of the project prior to the release of any performance bonds. The ESC/SWM Inspection Report form provided in Appendix C shall be used on each site inspection visit. All measures shown on the plan shall be inspected. All issues and violations shall be photographed and documented in the report. Critical areas that require continuous inspections shall also be identified on the site plan. The inspection report shall specify the required corrective action for each issue or violation noted and a date by which all corrective actions must be completed. A copy of the ESC/SWM Inspection Report will be emailed to the CNU project manager and any other persons identified during the pre-construction meeting.

5.2 Stormwater Management Inspections: DEQ-Certified SWM Inspectors shall provide for the inspections of the installation of stormwater management measures. SWPPPs (General information, ESC plan, SWM plan, pollution prevention plan, TMDL requirements) shall be inspected at the beginning of the project and monthly during construction. Projects should be inspected to ensure that they have obtained CGP permit coverage, if appropriate. The ESC/SWM Inspection Report form provided in Appendix C will also be used to record SWM inspections and shall be filled out on each site inspection. All stormwater BMPs must be identified on the site plan. All measures shown on the plan shall be inspected. All issues and violations shall be photographed and documented in the report. Critical areas that require continuous inspections shall also be identified on the site plan. The inspection report shall specify the required corrective action for each issue or violation noted and a date by which all corrective actions must be completed. A copy of the ESC/SWM Inspection Report will be emailed to those identified during the pre-construction meeting.

5.3 Project Close-Out: Project completion is defined as the achievement of permanent stabilization, verification of final product according to approved plans, and receipt

of as-built certification of SWM BMPs (if applicable). Project completion, concerning ESC and SWM, will be noted using the ESC/SWM Inspection Report form. A notice of termination will be submitted to DEQ in accordance with 9VAC25-880-60.

5.4 Post-Construction Inspections: Post-construction (maintenance) inspections for permanent SWM BMPs shall be made on an annual basis and in accordance with the manufacturer's recommendations, engineer's recommendations, and/or stormwater regulation requirements. At a minimum, a stormwater management facility shall be inspected on behalf of CNU on an annual basis and after any storm which causes the capacity of the facility principal spillway to be exceeded. The BMP forms provided in Appendix D shall be used during inspections. In the case where maintenance or repair is required, fund requests and/or work orders shall be made in order to have items corrected.

5.5 Violations and Documentation: Violations shall be documented in the ESC/SWM Inspection Report, including photographs, descriptions, and necessary corrective actions. If a violation continues to be repeated, then a Notice to Comply will be issued and DEQ notified. At the discretion of a qualified AFG representative, the land disturbance approval may be suspended and/or revoked; at which time all land disturbing activity must cease until corrective actions have been completed. Alternatively, a qualified AFG has the option to contract with a 3rd party to install and maintain ESC and/or SWM measures in accordance with the approved plan, complete any necessary corrective actions, and/or abate any related damages. Once the site is brought back into compliance to the satisfaction of a qualified AFG representative, site work may resume. All associated costs to bring site into compliance will be the responsibility of the contractor.

Section 6: Variances and Exceptions

Variances and exceptions to regulations must ensure protection of off-site properties and resources from damage. Economic hardship is not sufficient reason to request a variance or an exception from VESCL&R or Christopher Newport University Annual Specifications for ESC and SWM. Variances and exceptions are considered to be project specific.

For a variance or exception to become part of the project ESC and SWM plans, a written request must be submitted to the AFG office, or EOR, for a cursory review. If acceptable, the request will then be forwarded to the DEQ Central Office for final review and approval. This request must include an explanation and description of the specific condition necessitating the request. The request must also include a detailed description of the alternative practice and justification that the practice meets the intent of the regulation for which the variance or exception is sought. (Ref. 9VAC25-840-50).

6.1. Variance or Exception Request Policy and Procedure:

a. The design professional shall draft a letter of request to AFG office or EOR and shall be accompanied by complete details and documentation, including justification and impacts associated with the request.
b. A cursory review will be completed by CNU AFG or EOR to ensure the request is complete and then will forward to the DEQ Central Office.
c. All requests shall be considered unapproved until approved by DEQ and written approval from AFG office or EOR DEQ is received. CNU may, at DEQ's discretion, be required to produce documentation to demonstrate the applicability of variance requests. Final approval rests with DEQ.
d. All approved variances or exceptions shall be included as part of the site plan. Listed in the General notes section of the ESC/SWM plans for land disturbing activities and in included in the Narrative.

Section 7: Land-Disturbing Activities

Land-disturbing activities shall be conducted in accordance with the Part II B (9VAC25-870 et seq.) technical criteria, except as provided for in 9VAC24-870-48. Land-disturbing activities conducted in accordance with the Part IIB technical criteria shall remain subject to the Part IIB technical criteria for two additional state permit cycles. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board (confirm).

The required phosphorous nutrient reductions may be allowed in accordance with the criteria set forth in VAC25-870-69 "Offsite compliance options". Qualified projects must meet any of the following conditions:

a. Be below 5-acres of disturbed land
b. The post-construction phosphorous reduction is less than 10 pounds
c. At least 75 % of the required reduction can be achieved on site
d. If at least 75 % reduction cannot be achieved onsite and the operator can demonstrate that:
    - Alternative site designs have been considered that may accommodate on-site BMPs
    - On-site BMPs have been considered in alternative site designs to the maximum extent practicable
    - Appropriate on-site BMPs will be implemented
    - Full compliance with post development non-point nutrient runoff compliance requirements cannot practicably be met on-site.

7.1 Proposed Land-disturbing activities: A list of regulated land-disturbing activities expected to be under contract during the referenced time period is included in Appendix E. The list includes project location, estimated disturbed acreage by watershed, and approximate start and completion dates for each project.

7.2 Current and Past Land-disturbing activities: A list of completed and on-going regulated land-disturbing activities either under contract or terminated during the previously referenced time period are included in Appendix E. The list includes project location, project start and completion date, and actual disturbed area.

7.3 Project Tracking and Notification: CNU will provide an annual tracking report to DEQ identifying project name, location, on-site project manager (with contact information), project description, project status (design or construction), estimated disturbed acreage, start and finish dates, applicable DEQ-Certified RLD information, dates of inspections, and any variances/exemptions/waivers associated with the project. CNU will provide the annual report by October 1st

of each year. E-notifications and project tracking should be emailed to Standardsandspecs@deq.virginia.gov.

DEQ e-notifications shall be made 2 weeks prior to initiating a regulated land disturbing activity.

Section 8: Construction Requirements

All contractors performing land disturbing activities on campus property are required through contract documents to follow existing ESC requirements and obtain all applicable permits before construction activity commences. The CO-7 General Conditions of the Construction Contract requires that the contractor have a DEQ-certified responsible land disturber on- site. In addition to contract language, all work performed on University property is required to comply with the Construction and Professional Services Manual (CPSM) published by the Bureau of Capital Outlay Management and CNU's Design and Construction Guidelines.

8.1 DEQ'S Responsibilities: DEQ shall have sixty days in which to comment on any Project specific ESC standards and specifications (not included in the AS&S) submitted to it for review, and its comments shall be binding on CNU and any private business hired by CNU (§62.1- 44.15:55. B).

a. Enforcement by the DEQ for SWM will be in accordance with §62.1-44.15:27 F. Enforcement shall be administered by the Department and the Board where applicable in accordance with the provisions of this article. Enforcement by the DEQ for ESC will be in accordance with §62.1-44.15:54.E and §62.1- 44.15:56G. The Department and the Board, where applicable, shall provide project oversight and enforcement as necessary and comprehensive program compliance review and evaluation. The Department may take enforcement actions in accordance with this article and related regulations.

b. In accordance with §62.1-44.15:31.C, the Department shall perform random site inspections or inspections in response to a complaint to assure compliance with this article, the ESC law, and regulations adopted thereunder.

c. DEQ fees for services rendered for SWM will be in accordance with §62.1-44.15:31.D. ESC fees, in accordance with §62.1-44.15:55.D, to enforce approved specifications will be equal to the lower of (i) $1,000 or (ii) an amount sufficient to cover the costs associated with standard and specification review and approval, project inspections, and compliance.

8.2 CNU'S responsibilities pertaining to construction requirements shall include:

a. CNU shall ensure compliance with the approved plans and annual standards and specifications (§62.1-44.15:56.G).

b. Upon request by the DEQ, CNU shall provide a copy of the approved plan sheets and narrative for each regulated land-disturbing activity as outlined in Section 1.1.

c. CNU will notify DEQ of the Responsible Land Disturber including RLD name, certification number and contact information at least 2 weeks prior to construction.

d. CNU will notify DEQ of any newly emerging projects involving regulated land-disturbing activities during the current year as soon as they are known and prior to any land-disturbance.

e. CNU shall provide DEQ with the appropriate information, in a timely manner, when requested, including:

    - Inspection Reports
    - Complaint Logs
    - Complaint Responses

f. Weekly e-Reporting to the DEQ — Tidewater Regional Office, if requested by DEQ, will include:

    - Inspection reports
    - Pictures
    - Complaint logs and complaint responses
    - Other compliance documents

Section 9: Long Term Maintenance

Project plans shall contain information on the long-term maintenance requirements for the post-construction BMPs. The BMPs will be consistent with the Virginia Stormwater BMP clearing house and sections 9VAC25-870-112 and 9VAC25-870-65. Permanent stormwater facilities shall be inspected on an annual basis and after any storm which causes the capacity of the facility principal spillway to be exceeded and random inspections will be made during construction of the facilities. CNU shall maintain, either onsite or in AS&S files, a copy of the approval plan and a record of inspections for each active land disturbing activity. The following information will be printed on the approved stormwater management plan:

- A description of the requirements for maintenance and maintenance inspection of the stormwater management facilities and a recommended schedule of maintenance inspection and maintenance.

- The identification of a person or persons who will be responsible for maintenance inspection and maintenance.

- The maintenance inspection schedule and maintenance requirements should be in accordance with the Virginia BMP Clearinghouse, the Virginia SWM Handbook, the MS4 permit (if applicable) and/or the manufacturer's specifications.

- The types of land cover on the site will be clearly depicted (i.e. different type of hatching for each land cover), including the acreage for each cover type. The acreage should be labeled in all of the subareas and provide a table that adds the land cover up by type on the sheet.

- The metes and bounds will be drawn all the way around any conserved open space.

- Any conserved open space will be labelled as" Runoff Reduction Compliance Forest / Open Space"

- The following note will be included on the sheet: "The Runoff Reduction Compliance Forest/Open Space area shown here shall be maintained in a forest/open space manner until such time that an amended storm water management plan is approved by the VSMP Authority."

9.1 CNU Roles and Responsibilities

CNU Certified SWM Program Administrator shall ensure BMPs are scheduled for annual inspection, beginning on their first anniversary based on the date of Notice of Termination for the subject Construction General Permit, or as otherwise indicated in section 5 of this

document. The CNU SWM Program Administrator will provide pertinent BMP information to CNU's MS4 Coordinator.

a) CNU Certified SWM Project Inspector, or DCA, will conduct annual post construction inspections or inspections as indicated in section 5 of this document of BMPs and report results to the CNU Certified SWM Program Administrator. The post construction inspections will be conducted in accordance with the maintenance requirements laid out in the Virginia Stormwater BMP clearing house for each BMP. Copies of BMP inspection reports will be maintained for five (5) years.

b) CNU Grounds Services will be responsible for committing the necessary resources to maintain BMPs and correct deficiencies noted during these inspections.

c) CNU shall, on a fiscal year basis (July 1 to June 30), submit a Report to the DEQ by October 1 of each year, as prescribed in 9VAC25-870-126. The information provided shall include the following:
    a. Information on each permanent stormwater management facility completed during the fiscal year to include type of stormwater management facility, geographic coordinates, acres treated, and the surface waters or karst feature into which the stormwater management facility will discharge
    b. Number and type of enforcement actions during the fiscal year
    c. Number of exceptions granted during the fiscal year.

d) CNU shall keep records in accordance with 9VAC25-870-126 B, as follows:
    - Project Records — including approved SWM plans, shall be kept for 3 years after state permit termination or project completion.
    - SWM facility inspection records shall be documented and retained for at least five years from the date on inspection.
    - Construction record drawings shall be maintained in perpetuity or until a SWM facility is removed.

All registration statements submitted in accordance with 9VAC25-870-59 shall be documented and retained for at least three years from the date of project completion or state permit terminations.

Appendix A: ESC/SWM Plan Submitter's Checklist

ESC/SWM Plan Preparer/Reviewer Checklist

The Erosion and Sediment Control (ESC) Plan consists of the Narrative (including any supporting calculations) and the construction sheets (site plan), as noted below.

SECTION 1: General

_____ **1.1 Complete Set of Plans and Supporting Documentation**- Include all sheets pertaining to the site grading and stormwater and any activities impacting erosion and sediment control and drainage:

- □ Existing Conditions
- □ Demolition
- □ Site Grading
- □ Erosion and Sediment Control
- □ Storm sewer systems
- □ Stormwater management facilities
- □ Landscaping
- □ On-site and off-site borrow and disposal areas that do not have separate approved ESC Plans
- □ Calculations

_____ **1.2 Professional's Seal** – The designer's original seal, signature, and date are required on the cover sheet of each Narrative and each set of Plan Sheets. A facsimile is acceptable for subsequent Plan Sheets.

_____ **1.3 Number of Plan Sets**– Two sets of ESC Plans are to be submitted to one of the AFG offices or EOR. Five sets are required for approval. Distribution of the approved plans will be as follows:

2 – Contractor

1 – EOR

2 – AFG Office

_____ **1.4 Variances** – Variances requested at the time of plan submission are governed by Section 9VAC25-840-50 of the Virginia Erosion and Sediment Control Regulations and Christopher Newport University Annual Standards and Specifications for ESC and SWM.

_____ **1.5 Completed Plan Preparer/Reviewer Checklist** – Include a completed and signed ESC Plan Preparer/Reviewer Checklist.

SECTION 2: ESC MINIMUM STANDARDS

Yes	No	NA		
[]	[]	[]	MS-1	Have temporary and permanent stabilization been addressed in the narrative?
[]	[]	[]		Are practices shown on the plan?
[]	[]	[]		Temporary and permanent seed specifications?
[]	[]	[]		Lime and fertilizer?
[]	[]	[]		Mulching?
[]	[]	[]		Blankets/Matting?
[]	[]	[]		Pavement/Construction Road Stabilization?
[]	[]	[]	MS-2	Has stabilization of soil stockpiles, borrow areas, and disposal areas been addressed in the on the plan?
[]	[]	[]		Have sediment trapping measures been provided?
[]	[]	[]	MS-3	Has the establishment and maintenance of permanent vegetative stabilization been addressed?
[]	[]	[]	MS-4	Does the plan specifically state that sediment-trapping facilities shall be constructed as a first step in land-disturbing activities?
[]	[]	[]	MS-5	Does the plan specifically state that stabilization of earthen structures is required immediately after installation? Is this noted for each measure on the plan?
[]	[]	[]	MS-6	Are sediment traps and sediment basins specified where needed and designed to the standard specification?
[]	[]	[]	MS-7	Have the design and temporary/permanent stabilization of cut and fill slopes been adequately addressed? Is Surface Roughening provided for slopes steeper than 3:1?
[]	[]	[]	MS-8	Have adequate temporary or permanent conveyances (paved flumes, channels, slope drains) provided for concentrated stormwater runoff on cut and fill slopes?
[]	[]	[]	MS-9	Has water seeping from a slope face been addressed (e.g., subsurface drains)?
[]	[]	[]	MS-10	Is adequate inlet protection provided for all operational storm drain and culvert inlets?
[]	[]	[]	MS-11	Are adequate outlet protection and/or channel linings provided for all stormwater conveyance and receiving channels? Is there a schedule indicating:
[]	[]	[]		Dimensions of the outlet protection? Lining? Size of riprap?
[]	[]	[]		Cross section and slope of the channels? Type of lining? Size of riprap, if used?
[]	[]	[]	MS-12	Are in-stream protection measures required so that channel impacts are minimized?
[]	[]	[]	MS-13	Are temporary stream crossings of non-erodible material required where applicable?
[]	[]	[]	MS-14	Are all applicable federal, state and local regulations pertaining to working in or crossing live watercourses being followed?
[]	[]	[]	MS-15	Has immediate restabilization of areas subject to in-stream construction (bed and banks) been adequately addressed?
[]	[]	[]	MS-16	Have disturbances from underground utility line installations been addressed?
[]	[]	[]		No more than 500 linear feet of trench open at one time?
[]	[]	[]		Effluent from dewatering filtered or passed through a sediment-trapping device?
[]	[]	[]		Proper backfill, compaction, and restabilization?

[] [] [] MS-17 Is the transport of soil and mud onto public roadways properly controlled? (i.e., Construction Entrances, wash racks, transport of sediment to a trapping facility, cleaning of roadways at the washing before sweeping and shoveling)

[] [] [] MS-18 Has the removal of temporary practices been addressed?
Have the removal of accumulated sediment and the final stabilization of the resulting disturbed areas been addressed?

[] [] [] MS-19 Are properties and waterways downstream from development adequately protected from deposition, erosion, and damage due to increases in volume, velocity and peak flow rate of stormwater

[] [] [] Is concentrated stormwater runoff leaving the development site discharged to an adequate man-made receiving channel, pipe or storm sewer system?

[] [] [] Are calculations provided to verify the adequacy of all channels and pipes?

[] [] [] If existing natural receiving channels or previously constructed man-made channels or pipes are adequate, have provisions been made to prevent downstream erosion?

[] [] [] Have increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property

[] [] [] Have water quantity requirements under 9VAC25-870-66 been satisfied? Provide documentation.

SECTION 3: NARRATIVE

_____ **3.1 Project description** – This section shall describe the nature and purpose of the land-disturbing activity.

Provide project specific information. Also include the following:

- □ Provide the area (acres to the nearest hundredth) to be disturbed. This disturbed area (limits of disturbance) shall include laydown, access and any other areas that may be disturbed during the course of the project. This area shall provide adequate space for the contractor to perform required work for excavation and grading.
- □ Provide the existing impervious area and the increase, or decrease, in impervious area (acres).
- □ Estimated schedule for project. (Start/end dates, or estimated length of project in months or years)
- □ Ultimate developed condition of the site.

_____ **3.2 Existing site conditions** – This section shall provide a description of the existing topography (% slopes), ground cover, and drainage (on-site and receiving channels).

- □ Discuss any existing drainage or erosion problems and how they are to be corrected.
- □ Provide the size of drainage areas in pre-development and post-development conditions.

_____ **3.3 Adjacent areas** – This section shall provide a description of all neighboring areas such as residential developments, agricultural areas, streams, lakes, roads, etc., that may be affected by the land disturbance. Discuss any environmentally sensitive areas, including any on-site or adjacent water bodies included in the Virginia 303(d) list of impaired waters, and any possible problems during and after construction (traffic issues, dust control, increases in runoff, etc.).

_____ **3.4 Off-site areas** – This section shall describe any off-site land-disturbing activities that may occur (borrow sites, disposal areas, easements, etc.). Identify the Owner of the off-site area and the locality responsible for plan review. Include a statement that any off-site land-disturbing activity associated with this project must have an approved ESC Plan. Submit documentation of the approved ESC Plan for each of these sites.

_____ **3.5 Soils** – This section shall provide a description of the soils on the site, giving such information as soil name, mapping unit, erodibility, permeability, surface runoff, and a brief description of depth, texture and soil structure.

- □ Indicate reference for additional soil information if not included within this section.
- □ Provide a reference to where a copy of the soil survey map can be found within the plan set or engineering report.

_____ **3.6 Critical areas** – This section shall provide a description of areas on the site that may have potentially serious erosion problems or that are sensitive to sediment impacts (e.g., critical slopes, watercourses, wet weather / underground springs, etc.). Discuss any area(s) of the project which may become critical during the project.

_____ **3.7 Erosion and sediment control measures** – This section shall provide a description of the structural and vegetative methods that will be used to control erosion and sedimentation on the site. Controls should satisfy applicable minimum standards and specifications in Chapter 3 of the latest edition of the Virginia Erosion and Sediment Control Handbook (VESCH).

_____ **3.8 Management strategies / Sequence of construction** – This section shall address management strategies, the sequence of construction, and any phasing for the installation of ESC measures. The sequence of construction shall provide specific details concerning the construction and installation and phasing of ESC and SWM measures.

_____ **3.9 Permanent stabilization** – This section shall provide a brief description, including specifications, of how the site will be stabilized after construction is completed. List any soil testing requirements. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.

_____ **3.10 Maintenance of ESC measures** – This section shall provide a schedule of regular inspections, maintenance, and repair of erosion and sediment control structures should be set forth. List who will be responsible for ESC maintenance during the course of the project. VESCH control measures shall be maintained in accordance with the VESCH maintenance schedules, and non-VESCH control measures shall be maintained in accordance with the manufacturer's recommendations.

_____ **3.11 Calculations for temporary erosion and sediment control measures** – For each temporary ESC measure, provide the calculations required by the standards and specifications. All calculations showing pre-development and post-development runoff should be provided including any worksheets, assumptions, and engineering decisions.

_____ **3.12 Stormwater management** –Will the development of the site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Reference where each piece of information can be found within the plan set or engineering report.

Describe the strategy to control stormwater runoff:

- □ Provide exhibits showing the drainage divides, the direction of flow, and the size (acreage) of each of the site drainage areas that discharge runoff off-site, both existing and proposed.
- □ Provide calculations for pre- and post-development runoff from these drainage areas.
- □ Ensure that Minimum Standard 19 is satisfied for each off-site receiving channel, including those that receive runoff from stormwater management facilities.

- □ Provide calculations for the design of each permanent stormwater management facility.
- □ Ensure that increased volumes of sheet flows are diverted to a stable outlet, to an adequate channel, pipe or pipe system, or to a stormwater management facility.
- □ Provide adequacy calculations (capacity and erosion resistance) for all on-site stormwater conveyances in accordance with the next checklist item.

_____ **3.13 Calculations** – Provide the following design calculations as applicable:

- □ Drainage area map with time of concentration (TC) path shown and points of analysis with worksheets.
- □ TC calculation/nomograph
- □ Locality IDF curve
- □ Composite runoff coefficient or RCN calculation
- □ Peak runoff calculations
- □ Stormwater conveyance channel design calculations
- □ Storm drain and storm sewer system design calculations
- □ Hydraulic Grade Line if any pipe in the system is more than 90% full for a 10-year storm
- □ Culvert design calculations
- □ Drop Inlet backwater calculations
- □ Curb inlet length calculations
- □ Water quality calculations for BMPs including worksheets

_____ **3.14 Maintenance of SWM Facilities** – Provide a table with a description of requirements for maintenance of the facility and a recommended schedule for inspections and maintenance.

_____ **3.15 Water Quality** – Is the plan in compliance with 9VAC25-870-63 water quality criteria requirements for new development and development on prior developed land?

_____ **3.16 Water Quantity** – Is the plan (including prescribed calculations) in compliance with 9VAC25-870-66 water quantity criteria requirements?

_____ **3.17 General Construction Permit –** Ensure that the stormwater management criteria outlined in the general construction permit (9VAC25-88 Part II.A3) are met as well as, the elements presented in 9VAC25-870-55.

_____ **3.18 BMP Calculations -** Provide supporting calculations for each best management practice with a checklist; include a completed Design and Plan Review Checklist from Appendix 3 of the Virginia Stormwater Management Handbook. The Virginia Runoff Reduction Method or an equivalent method approved by the board (9VAC25-870-65) shall be used to determine water quality criteria.

_____ **3.19 Specifications for Stormwater and Stormwater Management Structures** – Provide specifications for stormwater and stormwater management structures, i.e., pipe materials, pipe bedding, and stormwater structures.

_____ **3.20 Page Numbers** – Number the pages of the Narrative and the Calculations.

_____ **3.21 General Information** – Narrative contains project specific information, and where appropriate general information has been modified to represent the project specific information and situation.

SECTION 4: SITE PLAN

_____ **4.1 Owner Contact Information** – On the cover sheet, provide name, address, telephone number and email of the owner representative/project manager.

_____ **4.2 Vicinity Map** – A small map locating the site in relation to the surrounding area. Include any landmarks

_____ **4.3 Indicate North** – The direction of north in relation to the site.

_____ **4.4 Limits of Disturbance**– Areas which are to be cleared and graded and areas to be protected during construction. This disturbed area shall include laydown, access and any other areas that may be disturbed during the course of the project. Provide notes on how areas will be marked and for areas NOT to be disturbed.

_____ **4.5 Existing Contours** – The existing contours of the site shall be shown as dashed light lines and elevation labeled adequately.

_____ **4.6 Final Contours and Elevations** – Changes to the existing contours, including final drainage patterns. Note the finished floor elevation (FFE) of all buildings on site, including basements. Proposed contour lines shall be solid and bolder than existing contour lines and the elevations labeled.

_____ **4.7 Profile of Storm Drain System** – Proposed storm drainage components shall be provided in a profile. Pipe diameter, material, inverts, stationing, percent slope, proposed and existing grade, etc. shall be included as part of the profile.

_____ **4.8 Existing Vegetation** –The existing tree lines, grassed areas, or unique vegetation.

_____ **4.9 Soils Map** –The boundaries of different soil types, K factor and soil survey classifications.

_____ **4.10 Existing Drainage Patterns** – The dividing lines and the direction of flow for the different drainage areas. Include the size (acres) of each drainage area.

_____ **4.11 Proposed Drainage Patterns** – The dividing lines and the direction of flow for the different drainage areas. Include the size (acres) of each drainage area.

_____ **4.12 Critical Areas** – Note all areas with potentially serious erosion problems.

_____ **4.13 Site Development** – Show all improvements such as buildings, parking lots, access roads, utility construction, etc.

_____ **4.14 Landscape Plan** – Include a plan showing location and plant selection for landscaped areas.

_____ **4.15 Location of Practices** – Show locations of ESC and SWM practices to be used on the site. Use standard symbols and abbreviations from ESC and SWM handbooks. A legend denoting symbols, line uses and other special characters shall be provided.

_____ **4.16 Offsite Areas** – Include any off-site land-disturbing activities (e.g., borrow sites, disposal areas, etc.) not covered by a separate approved ESC Plan. Discuss who has final authority for off-site areas and who will be responsible for stabilization.

_____ **4.17 Detail Drawings** – Show detail drawings of all SWM and ESC practices to be implemented. Any structural practices used that are not referenced to the ESC handbook or local handbooks should be explained and illustrated with detail drawings. Details should be provided which are clearly dimensioned and reflect the ability to be "built" in the field according to proper design criteria. Alternative ESC/SWM measures must have proper drawings to indicate how and where they are to be constructed.

_____ **4.18 Erosion and Sediment Control Notes** – At a minimum, include the erosion and sediment control notes found in Appendix B. Ensure that all applicable Minimum Standards not covered elsewhere in the plan have been addressed. Ensure that the requirements of Part II.A.2 of the General Construction Permit (9VAC25-880) are addressed.

_____ **4.19 Minimum Standards** – Minimum Standard 1 through Minimum Standard 19 shall be included in the plan set.

_____ **4.20 Legend** – Provide a complete listing of all ESC and SWM measures to be used, including the VESCH uniform code symbol and the standard and specification number. Include any other items necessary to identify pertinent features in the plan.

_____ **4.21 Property Lines and Easements** – Show all property and easement lines. For each adjacent property, list the deed book and page number and the property owner's name and address.

Project Name: _____

Plan Preparer's Signature:_____Date:_____

Appendix B: General Erosion and Sediment Control Notes

General Erosion and Sediment Control Notes

ES-1: Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and Virginia Regulations 9VAC25-840 Erosion and Sediment Control Regulations.

ES-2: The plan approving authority (JMU Stormwater Coordinator) must be notified at least one week prior to the pre-construction conference, one week prior to commencement of land disturbing activity and one week prior to final inspection. The name of the certified responsible land disturber, including their certification number and contact information must be provided to the plan approving authority prior to actual engagement in land disturbing activity.

ES-3: All erosion and sediment control measures shall be placed prior to or as a first step in clearing.

ES-4: A copy of the approved erosion and sediment control plan and access to the Virginia Erosion and Sediment Control Handbook shall be maintained on the site at all times.

ES-5: Prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or waste areas), the contractor shall submit a supplementary erosion control plan to the JMU Stormwater Coordinator for review and approval or submit documentation that the other area is currently covered under a separate approved erosion and sediment control plan.

ES-6: The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the plan approving authority.

ES-7: All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved, after which, upon approval of the plan approving authority, the controls shall be removed. Disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized.

ES-8: During dewatering operations, water shall be pumped into an approved filtering device.

ES-9: The contractor shall inspect all erosion control measures at least once in every two-week period and within 48 hours following any runoff producing storm event. The operator shall inspect in accordance with the Construction General Permit requirements when applicable. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately. Contractor shall submit evidentiaries of inspection reports to the owner or within the Stormwater Pollution Prevention Plan (SWPPP).

ES-10: The contractor is responsible for the removal of sediment that has been transported onto paved or public roads. At a minimum, tracking shall be cleaned by the end of each work day.

ES-11: Temporary/Permanent stabilization operations shall be initiated within 7 days after reaching final grade or upon suspension of grading operations for anticipated duration of greater than 14 days or upon completion of grading operations for a specific area.

ES-12: The contractor shall be responsible for preventing surface and air movement of dust from exposed soils.

Appendix C: ESC/SWM Inspection Report

AS&S HOLDER GENERAL PERMIT SITE INSPECTION CHECKLIST

(All section references below are to the Construction GP 9VAC25-870-70 effective 7/1/19)

Project Name: _____ Permit Number: _____

Project Address: _____ County/City: _____

Project Operator: _____ Operator Telephone: _____

Operator Address: _____ County/City: _____ ZIP:_____

Inspector Name: _____ Inspection Date: _____ Time: _____

Date of Last Measurable Storm Event: _____ Amount (inches) _____ Storm Duration (hours) _____

		Yes	No	N/A
1	Copy of notice of coverage letter posted near main entrance: Part II(C)			
2	Information for public access to electronic format or had copy of SWPPP posted near main entrance:			
3	Copy of complete SWPPP available onsite: Part II(A)			
3a	Signed copy of registration statement: Part II(A)1.a			
3b	Copy of permit: Part II(A)1.b			
3c	Copy of notice of coverage letter: Part II(A)1.c			
3d	Narrative description of the nature of construction activity: Part II(A)1.d			
3e	Legible site plan: Part II(A)1.e			
3f	Approved ESC plan or ESC plan developed in accordance with department approved annual standards and specifications: Part II(A)3			
3g	Approved SWM plan or SWM plan developed in accordance with department approved annual standards and specifications: Part II(A)4			
3h	Pollution prevention plan: Part II(A)4			
3i	Requirements for discharges to impaired waters, surface waters with an applicable TMDL, exceptional waters: Part II(A)5			
3j	Contact information for qualified personnel conducting inspections: Part II(A)6			
3k	SWPPP signed in accordance with Part III K: Part II(A)8			
4	SWPPP is being amended, modified and updated: Part (B)			
4a	SWPPP clearly identifies the contractor(s) that will implement and maintain each control measure identified in SWPPP: Part II(B)3			
4b	Record dates when major grading activities occurred: Part II(B)4.a(1)			
4c	SWPPP amendments, modifications, or updates singed in accordance with Part III K: Part II(B)5			
5	SWPPP inspections carried out: Part II(F)			
5a	Inspections conducted at required frequency: Part II(F)2			
5b	Inspection reports summarize findings of inspections including corrective actions: Part II(F)4.a-i			
5c	Inspection reports have date and signature of qualified personnel conducting inspections and the operator or authorized representative: Part II(F)4.j			
5d	Inspection reports retained as part of SWPPP: Part II(F)4			
6	Erosion and sediment controls implemented: Part II(A)2.c			
6a	Volume and velocity of stormwater runoff controlled within site to minimize erosion: Part IIIIII(A)2.c(1)			
6b	Stormwater discharges, including peak flow rates and total stormwater volume controlled to minimize erosion at outlets and to minimize downstream channel and stream bank erosion: Part II(A)2.c(2)			
6c	Soil exposed during construction activity minimized: Part II(A)2.c(3)			
6d	Disturbance of steep slopes minimized: Part II(A)2.c(4)			
6e	Natural buffers around surface waters provided and maintained, stormwater directed to vegetated areas to increase sediment removal, and maximizes stormwater infiltration: Part II(A)2.c(6)			
6f	Soil compaction minimized and topsoil preserved: Part II(A)2.c(7)			
6g	Stabilization of disturbed areas initiated immediately whenever any clearing, grading, or excavating, or other land-disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for more than 14 days: Part II(A)2.c(8)			

6h	Outlet structures utilized that withdraw stormwater from the surface when discharging from sediment basins or sediment traps: Part II(A)2.c(9)			
7	Pollution prevention plan implemented: Part II(A)4			
7a	Prevent and respond to leaks, spills and other releases including (i) procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases; and (ii) procedures for reporting leaks, spills, and other releases: Part II(A)4.e(1)			
7b	Prevent discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities (e.g. providing secondary containment such as spill berms, decks, spill containment pallets, providing cover where appropriate, and having spill kits readily available: Part II(A)4.e(2)			
7c	Prevent discharge of soaps, solvents, detergents, and wash water from construction materials, including clean-up of stucco, paint, form release oils, and curing compounds: Part II(A)4.e(3)			
7d	Minimize discharge of pollutants from vehicle and equipment washing, wheel wash water and other types of washing: Part II(A)4.e(4)			
7e	Direct concrete wash water into a leak proof container or leak proof settling basin: Part II(A)4.e(5)			
7f	Minimize discharge of pollutants from storage, handling, and disposal of construction products, materials and wastes: Part II(A)4.e(6)			
7g	Prevent discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, and sanitary wastes: Part II(A)4.e(7)			
7h	Address any other discharge from the potential pollutant-generating activities not addressed above: Part II(A)4.e(8)			
8	Appears to be impact(s) to receiving waters: Part I(B)6, Part I(D), or Part II(A)2c(2) or (5)			

VSMP CONSTRUCTION GP SITE INSPECTION CHECKLIST

Project Name: _____ Permit Number: _____

Project Address: _____ County/City: _____

Inspector Name: _____ Inspection Date: _____ Time: _____

STAGE OF CONSTRUCTION

Pre-Construction Conference		*Building Construction*		*Construction of SWM Facilities*	
Clearing & Grading		*Finish Grading*		*Maintenance of SWM Facilities*	
Rough Grading		*Final Stabilization*		*Other:*	

#	*State Regulation*[1]			*Description and Location of Condition Observed*[2]*, Recommended Corrective Actions, and Other Comments*
		Initial	*Repeat*	

1 - Refers to applicable regulation found in the most recent publication of the Virginia Erosion and Sediment Control Regulations (9VAC25-840), the General Permit for Discharges of Stormwater from Construction Activities (9VAC25-880), or the Virginia Stormwater Management Program Regulations (9VAC25-870).

2 – Note whether or not off-site impacts resulting from the condition observed was evident during the inspection.

Recommended Corrective Action Deadline: _____

Targeted Reinspection Date: ±2 weeks

The recommended corrective action deadline date applies to all conditions noted on this report unless otherwise noted. If listed condition(s) currently constitute non-compliance and/or corrective actions are not completed by the deadline, other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.

Certified Inspector Name/Number: _____

Signature: _____ Date: _____

Appendix D: BMP Field Assessment Worksheet

BMP Field Assessment Worksheet

Christopher Newport University
AFG Office
1 University Place
Newport News, VA 23606
Stormwater Coordinator: Dean Whitehead
757-594-8416

BMP ID:		Zone:
Inspector:		Rating Key
Inspection Date:		0 = Good Condition. No Action Required 1 = Moderate Condition. See recommendation 2 = Degraded Condition. Routine maintenance, and/or repair needed. 3 = Serious Condition. Immediate need for maintenance, repair, and/or replacement. N/A = Not applicable
Inspection Time:		
Last Storm Event:		
Notes:		

Contributing Drainage Area	Rating
Inlet	
Vegetation/Mulch	
Structure	
Outlet	
Other	
Other	
Other	
Overall Rating	

9-C.10.0. BIORETENTION PRACTICES: O&M CHECKLIST

Inspection Date_____
Project_____ **Site Plan/Permit Number**_____
Location_____ **Date BMP Placed in Service**_____
Date of Last Inspection_____ **Inspector**_____
Owner/Owner's Representative_____
As-Built Plans available: Y / N

Facility Type: Level 1 _____ Level 2 _____

Facility Location:
- G Surface
- G Underground

Filtration Media:
- ☐ No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.
- ☐ Sand
- ☐ Bioretention Soil
- ☐ Peat
- ☐ Other: _____

Hydraulic Configuration:
- ☐ On-line facility
- ☐ Off-line facility

Type of Pre-Treatment Facility:
- ☐ Sediment forebay (above ground)
- ☐ Sedimentation chamber
- ☐ Plunge pool
- ☐ Stone diaphragm
- ☐ Grass filter strip
- ☐ Grass channel
- ☐ Other: _____

Ideally, Bioretention facilities should be inspected and cleaned up annually, peferably during the Spring. During the first 6 months following construction of a bioretention facility, the site should be inspected at least twice after storm events that exceed 1/2-inch of rainfall. Watering is needed once a week during the first 2 months following installation, and then as needed during the first growing season (April-October), depending upon rainfall. If vegetation needs to be replaced, one-time spot fertilization may be needed, preferably using an organic rather than a chemical fertilizer. Each facility should have a customized routine maintenance schedule addressing issues such as the following: grass mowing, weeding, trash removal, .mulch raking and maintenance, erosion repair, reinforcement plantings, tree and shrub pruing, and sediment removal.

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to fix problem	Who Will Address Problem	Comments
Contributing Drainage Area	Adequate vegetation				Supplement as necessary	Owner or professional	
	There is excessive trash and debris				Remove immediately	Owner or professional	
	There is evidence of erosion and / or bare or exposed soil				Stabilize immediately	Owner or professional	
	There are excessive landscape waste or yard clippings				Remove immediately and recycle or compost	Owner or professional	
	Oil, grease or other unauthorized substances are entering the facility				Identify and control the source of this pollution. It may be necessary to erect fences, signs, etc	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to fix problem	Who Will Address Problem	Comments
Pre-Treatment	There is adequate access to the pre-treatment facility				Establish adequate access	Professional and, perhaps, the locality	
	Excessive trash, debris, or sediment.				Remove immediately	Owner or professional	
Pre-Treatment (continued)	There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation, or oil/grease)				Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material.	Professional	
	There is evidence of erosion and / or exposed soil				Stabilize immediately	Owner or professional	
	There is dead vegetation or exposed soil in the grass filter				Restabilize and revegetate as necessary	Owner or professional	
Inlets	Check for sediment build-up at curb cuts, gravel diaphragms or pavement edges that prevent flow from getting into the bed, and check for bypassing.				Remove sediment and correct any other problems that block inflow.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately	Owner or professional	
	There is evidence of erosion at or around the inlet				Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
	Inflow is hindered by trees and/or shrubs.				Remove woody vegetation from points of inflow and directly above underdrains. (Trees and shrubs may be located closer to the perimeter.)	Owner or professional	
Side Slopes (*Annually, after major storms*)	There is evidence of rill or gully erosion or bare soil				Identify the source of erosion damage and prevent it from recurring. Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
	There is excess sediment accumulation				Remove immediately	Owner or professional	
	Side slopes support nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.	Professional	
Vegetation (*monthly*)	Plant composition is consistent with the approved plans and any stakes or wires are in good condition.				Determine if existing plant materials are at least consistent with general Bioretention design criteria and replace inconsistent species.	Professional	
	There should be 75-90% cover (mulch plus vegetation), and the mulch cover				Supplement vegetation and mulch as needed.		

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to fix problem	Who Will Address Problem	Comments
	should be 2-3 inches deep.						

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to fix problem	Who Will Address Problem	Comments
Vegetation (*monthly*) **(continued)**	There is evidence of hydrocarbons or other deleterious materials, resulting in unsatisfactory plant growth or mortality,				Replace contaminated mulch. If problem persists, test soils for hydrocarbons and other toxic substances. If excess levels are found, the soils, plants and mulch may all need to be replaced in accordance with the approved construction plans.	Professional	
	Invasive species or weeds make up at least 10% of the facility's vegetation				Remove invasive species and excessive weeds immediately and replace vegetation as needed.	Owner or professional	
	The grass is too high				Mow within a week. Grass species should be selected that have dense cover, are relatively slow growing, and require the least mowing and chemical inputs. Grass should be from 6-10 inches high.	Owner or professional	
	Vegetation is diseased, dying or dead				Remove and replace. Increase watering, but avoid using chemical fertilizers, unless absolutely necessary.	Professional	
	Winter-killed or salt-killed vegetation is present.				Replace with hardier species.	Owner or professional	
Filter Media (*Annually*)	The filter media is too low, too compacted, or the composition is inconsistent with design specifications				Raise the level, loosen and amend or replace the media, as needed, to be consistent with the state design criteria for Bioretention (85-88% sand 8-12% soil fines 3-5% organic matter in form of leaf compost). Other remediation options are described in the maintenance section of the state design criteria for Bioretention	Professional	
	The mulch is older than 3 years or is otherwise in poor condition				The mulch must be replaced every 2-3 years	Professional	
	There is evidence that chemicals, fertilizers, and/or oil/grease are present				Remove undesirable chemicals from media and facility immediately, and replace mulch or media as needed	Professional	
	There is excessive trash, debris, or sediment.				Remove trash and debris immediately. Check plant health and, without damaging plants, manually remove the sediment, especially if the depth exceeds 20% of the facility's design depth.	Owner or professional	
	There is evidence of concentrated flows, erosion or exposed soil				Identify the source of erosion damage and prevent it from recurring. Repair the erosion damage and reseed or otherwise restabilize with vegetation.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to fix problem	Who Will Address Problem	Comments
Filter Media (*Annually*) **(continued)**	The filter bed is clogged and/or filled inappropriately				Redistribute the soil substrate and remove sediment within 2 weeks.	Professional	
	The topsoil is in poor condition (e.g., the pH level is not 6-7, the composition is inappropriate, etc.)				Ensure a 3-inch surface depth of topsoil consistent with the state design criteria for Bioretention (loamy sand or sandy loam texture, with less than 5% clay content, and organic matter content of at least 2%). If the pH is less than 6.5, spread limestone.	Professional	
Underdrain/ Proper Drainage	The perforated pipe is not conveying water as designed				Determine if the pipe is clogged with debris or if woody roots have pierced the pipe. Immediately clean out or replace the pipe, as necessary.	Professional	
	The underlying soil interface is clogged (there is evidence on the surface of soil crusting, standing water, the facility does not dewater between storms, or water ponds on the surface of basin for more than 48 hours after an event).				Measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. .After three days, if there is standing water on top but not in the underdrain, this indicates a clogged soil layer. If standing water is both on the surface and in the underdrain, then the underdrain is probably clogged. This should be promptly investigated and remediated to restore proper filtration. Grading changes may be needed or underdrain repairs made. The filter media may need to be raked, excavated and cleaned or replaced to correct the problem. Holes that are not consistent with the design and allow water to flow directly through a planter to the ground must be plugged.	Professional	
Planters	The planter is unable to receive or detain stormwater prior to infiltration. Water does not drain from the reservoir within 3-4 hours of after a storm event.				Identify and correct sources of clogging. Topsoil and sand/peat layer may need to be amended with sand or replaced all together.	Owner or professional	
	The planter has structural deficiencies, including rot, cracks, and failure, or the planter is unable to contain the filter media or vegetation				Make needed repairs immediately.	Owner or professional	
Outlet/ Overflow Spillway	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to fix problem	Who Will Address Problem	Comments
Outlet/ Overflow Spillway (continued)	There is excessive trash, debris, or sediment at the outlet				Remove immediately, and keep the contributing area free of trash and debris.	Owner or professional	
	Any grates present are in good condition				Repair or replace as necessary	Owner or professional	
Observation Well	Is the observation well still capped?				Repair, as necessary.	Professional	
Overall	Access to the Infiltration facility or its components is adequate				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	There is evidence of standing water				Fill in low spots and stabilize; correct flow problems causing ponding.	Owner or professional	
	Mosquito proliferation				Eliminate stangant pools and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied *only if absolutely necessary*.	Owner or professional	
	Complaints from local residents				Correct real problems	Owner or professional	
	Encroachment on the bioretention area or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	

9-C.16.0. EXTENDED DETENTION PONDS: O&M CHECKLIST

Inspection Date_____
Project_____ **Site Plan/Permit Number**_____
Location_____ **Date BMP Placed in Service**_____
Date of Last Inspection_____ **Inspector**_____
Owner/Owner's Representative_____
As-Built Plans available: Y / N

Facility Type: Level 1 _____ Level 2 _____

Pond characteristics and functions (check all that apply)
- ☐ Water quality treatment
- ☐ Channel protection
- ☐ Ties into groundwater

Hydraulic Configuration:
- ☐ On-line facility
- ☐ Off-line facility

Type of Pre-Treatment Facility:
- ☐ Sediment forebay (above ground)
- ☐ Vegetated buffer area
- ☐ Grass filter strip
- ☐ Grass channel
- ☐ Other: _____

Ideally, Extended Detention Ponds should be inspected annually. ED Ponds are prone to a high clogging risk at the ED low-flow orifice. Ideally, the orifice should be inspected at least twice a year after initial construction. The constantly changing water levels in ED Ponds make it difficult to mow or manage vegetative growth. The bottom of ED Ponds often become soggy, and water-loving tees such as willows may invade and will need to be managed. Periodic mowing of the stormwater buffer is only required along maintenance rights-of-way and the embankment. The remaining buffer may be managed as a meadow (mowing every other year) or forest. Frequent removal of sediment from the forebay (every 5-7 years, or when 50% of the forebay capacity is filled) is essential to maintain the function and performance of the ED Pond. Sediments excavated from ED Ponds are usually not considered toxic or hazardous, so they can be safely disposed of either by land application of land filling.

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	Adequate vegetation				Supplement as needed.	Owner	
	There is excessive trash and debris				Remove immediately.	Owner or professional	
	There is evidence of erosino and/or bare or exposed soil				Stabilize immediately.	Owner or professional	
	There is excessive landscape waste and yard clippings				Remove immediately.	Owner or professional	
Pre-Treatment	There is adequate access to the pre-treatment facility				Establish adequate access	Professional and, perhaps, the locality	
	There is excessive trash and debris				Remove immediately.	Owner or professional	
	There is evidence of erosion and/or exposed soil.				Immediately identify and correct the cause of the erosion and stabilize the eroded or bare area.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Pre-Treatment (continued)	Sediment deposits are 50% or more of forebay capacity.				Dredge the sediment to restore the design capacity; sediment should be dredged from forebays at least every 5-7 years, and earlier, as needed.	Professional	
	The sediment marker is not vertical.				Adjust the sediment depth marker to a vertical alignment	Professional	
	There is evidence of clogging				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications	Professional	
	There is dead vegetation				Revegetate, as needed	Owner or professional	
Inlet	The inlet provides a stable conveyance into the pond				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is excessive trash, debris, or sediment.				Remove immediately	Owner or professional	
	There is evidence of erosion/undercutting at or around the inlet				Repair erosion damage and restabilize	Owner or professional	
	There is cracking, bulging, erosion or sloughing of the forebay dam.				Repair and restabilize immediately.	Professional	
	There is woody growth on the forebay dam.				Remove within 2 weeks of discovery.	Professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.	Professional	
	There is more than 1 inch of settlement.				Add fill material and compact the soil to the design grade	Owner or Professional	
	The inlet alignment is incorrect.				Correct immediately.	Owner or Professional	
Vegetation	Plant composition is consistent with the approved plans				Determine if existing plant materials are consistent with the general Wet Pond design criteria, and replace inconsistent species.	Professional	
	Invasive species are present.				Remove invasive species immediately and replace vegetation as needed.	Professional	
	Trees planted in the buffer and on wetland islands and peninsulas need watering during the first growing season				Consider watering every 3 days for first month, and then weekly during first year (April – October), depending on rainfall.	Owner or professional	
	Grass around the facility is overgrown				Mow (at least twice a year) to a height of 4”-9” high and remove grass clippings.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Vegetation (continued)	Vegetation is dead or reinforcement planting is needed.				Remove and replace dead or dying vegetation.	Professional	
Permanent Pool and Side Slopes	There is excessive trash and/or debris.				Remove immediately	Owner or professional	
	There is evidence of sparse vegetative cover, erosion or slumping side slopes.				Repair and stabilize physical damage, and reseed or plant additional vegetation.	Owner or professional	
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed frm area.	Owner or professional	
	There is significant sediment accumulation.				Conduct a bathymetric study to determine the impact to design volumes, and dredge if necessary.	Professional	
Riser/Principle Spillway and Low-Flow Orifice(s)	There is adequate access to the riser for maintenance.				Establish adequate access	Professional and, perhaps, the locality	
	Pieces of the riser are deteriorating, misaligned, broken or missing.				Repair immediately.	Professional	
	Adjustable control valves are accessible and operational.				Repair, as needed.	Professional	
	Reverse-slope pipes and flashboard risers are in good condition.				Repair, as needed.	Professional	
	Seepage into conduit				Seal conduit	Professional	
	There is evidence of clogging				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specs.	Professional	
	There is excessive trash, debris, or other obstructions in the trash rack.				Remove immediately.	Owner or professional	
Dam/ Embankment and Abutments	There is sparse veg. cover, settlement, cracking, bulging, misalignment, erosion rills deeper than 2 inches, or sloughing.				Repair and restabilize immediately, especially after major storms.	Professional	
	There are soft spots, seepage, boggy areas or sinkholes.				Reinforce, fill and stabilize immediately.		
	There is evidence of nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed from the area.		
	There is woody vegetation on the embankment.				Removal of woody species near or on the embankment and maintenance access areas should be done when discovered, but at least every 2 years.		

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overflow/Emergency Spillway	There is woody growth on the spillway.				Removal of woody species near or on the emergency spillway should be done when discovered, but at least every 2 years.	Owner or professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
	There is evidence of erosion/backcutting				Repair erosion damage and reseed	Owner or professional	
	There are soft spots, seepage or sinkholes.				Reinforce, fill and stabilize immediately.	Owner or professional	
	Only one layer of stone armoring exists above the native soil.				Reinforce rip-rap or other armoring materials.	Professional	
Outlet	The outlet provides a stable conveyance from the pond.				Stabilize immediately, as needed, and clear blockages.	Owner or professional	
	There is woody growth within 5 feet of the outlet pipe barrel.				Prune vegetation back to leave a clear discharge area.	Owner or Professional	
	There is excessive trash, debris, or other obstructions.				Remove immediately.	Owner or professional	
	There are excessive sediment deposits at the outlet.				Remove sediment.	Professional	
	Discharge is causing undercutting, erosion or displaced rip-rap at or around the outlet.				Repair, reinforce or replace rip rap as needed, and restabilize.	Professional	
Overall	Access to the facility or its components is adequate.				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that hardware can be opened and operated.	Professional and, perhaps, the locality	
	Fences are inadequate				Collapsed fences must be restored to an upright position. Jagged edges and damaged fences must be repaired or replaced.	Professional	
	Water levels in one or more cells are abnormally high or low.				Clear blockages of the riser or orifice(s) and make other adjustments needed to meet the approved design specifications.	Professional	
	Complaints from local residents				Correct real problems.	Owner or professional	
	Mosquito proliferation				Eliminate stagnant pools and stock the basin with mosquito fish to provide natural mosquito & midge control. Treat for mosquitoes as needed. If spraying, then use mosquito larvicide, (e.g., Bacillus thurendensis or Altoside formulations) *only if absolutely necessary*.	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall (continued)	Encroachment on the pond or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	
	Safety signage is not adequate.				Provide sufficient, legible safety signage.	Owner or professional	

9-C.9.0. INFILTRATION PRACTICES: O&M CHECKLIST

Inspection Date_____
Project_____ **Site Plan/Permit Number**_____
Location_____ **Date BMP Placed in Service**_____
Date of Last Inspection_____ **Inspector**_____
Owner/Owner's Representative_____
As-Built Plans available: Y / N

Facility Type: Level 1 _____ Level 2 _____

Facility Location:
- G Surface
- G Underground

Filtration Media:
- ☐ No filtration (e.g., dry well, permeable pavement, infiltration facility, etc.
- ☐ Sand
- ☐ Bioretention Soil
- ☐ Peat
- ☐ Other: _____

Hydraulic Configuration:
- ☐ On-line facility
- ☐ Off-line facility

Type of Pre-Treatment Facility:
- ☐ Sediment forebay (above ground)
- ☐ Sedimentation chamber
- ☐ Plunge pool
- ☐ Stone diaphragm
- ☐ Grass filter strip
- ☐ Grass channel
- ☐ Other: _____

Ideally, infiltration facilities should be inspected annually. Spill Prevention measures should be used around infiltration facilities when handling substances that contaminate stormwater. Releases of pollutants should be corrected as soon as identified.

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	There is excessive trash and debris				Remove immediately	Owner or professional	
	There is evidence of erosion and / or exposed soil				Stabilize immediately	Owner or professional	
	Vegetative cover is adequate				Supplement as needed	Owner or professional	
	There are excessive landscape waste or yard clippings				Remove immediately and recycle or compost	Owner or professional	
Pre-Treatment Facility	There is adequate access to the pre-treatment facility				Establish adequate access	Professional and, perhaps, the locality	
	There is excessive trash, debris, or sediment.				Remove immediately	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Pre-Treatment Facility (continued)	There is evidence of erosion and/or exposed soil				Stabilize immediately	Owner or professional	
	There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation)				Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material.	Professional	
	There is dead vegetation or exposed soil in the grass filter				Restabilize and revegetate as necessary	Owner or professional	
Inlets	Inlets provide a stable conveyance into facility				Stabilize immediately, as needed.	Owner or professional	
	There is excessive trash/debris/sediment.				Remove immediately	Owner or professional	
	There is evidence of erosion at or around the inlet				Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
Embankment, Flow Diversion Structures (e.g., Dikes, Berms, etc.) and Side Slopes	There is evidence of erosion or bare soil				Identify the source of erosion damage and prevent it from recurring. Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
	There is excess sediment accumulation				Remove immediately	Owner or professional	
	Water is not detained in the infiltration basin				Check for a breach in the containment structure and repair immediately.	Professional	
	Side slopes support nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed frm area.	Professional	
Maintaining Facility Capacity and Proper Drainage	Look for weedy growth on the stone surface indicating sediment accumulation and potential clogging				Identify and control sources of sediment and debris. Remove sediment and debris in excess of 4" in depth every 2-5 years (or sooner if performance is affected).	Professional	
	Measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. If standing water is still observed after three days, this is a clear sign that clogging is a problem.				Immediately clear debris from the underdrain. Replace the underdrain if necessary. If needed, regrade and till to restore infiltration capacity (the need for this can be prevented by preventing upstream erosion and subsequent sediment transport to the facility).	Professional	
	There is excessive trash/debris				Remove immediately	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Vegetation	Grass within the practice is overgrown				Grass must be mowed to a height of 4"-9" and grass clippings removed (ideally recycled or composted).	Owner or professional	
	Pioneer trees are sprouting in the base of the facility				Remove trees to prevent roots from puncturing the filter fabric, allowing sediment to enter		
	Vegetation forms an overhead canopy that may drop leaf litter, fruit and other vegetative materials that may cause clogging.				Prune or remove vegetation as necessary	Owner or professional	
Observation Well	Is each observation well still capped?				Repair, as necessary.	Professional	
Outlet	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	
	Evidence of flow bypassing facility				Repair immediately	Professional	
	There is excessive trash, debris, or sediment at the outlet				Remove immediately	Owner or professional	
Overflow or Emergency Spillway	The pipe or spillway is not effectively conveying excess water to an adequate receiving system				Clear sediment and debris whenever 25% or more of the conveyance capacity is blocked. When damaged pipe is discovered, it must be repaired or replaced immediately. Identify and control sources of erosion damage. Replace or reinforce stone armament whenever only one layer of stone remains.	Professional	
Structural Components	Evidence of structural deterioration				Repair as necessary	Professional	
	Evidence of spalling or cracking of structural components				Repair or replace, as necessary	Professional	
	Grates are in good condition				Repair or replace, as necessary	Owner or professional	
Overall	Access to the Infiltration facility or its components is adequate				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that manholes, valves and/or locks can be opened and operated.	Professional and, perhaps, the locality	
	There is evidence of standing water				Fill in low spots and stabilize; correct flow problems causing ponding	Owner or professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Overall (continued)	Mosquito proliferation				Eliminate standing water and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied *only if absolutely necessary*.	Owner or professional	
	Complaints from local residents				Correct real problems	Owner or professional	
	Encroachment on the infiltration area or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	

Appendix E: Projects

Christopher Newport University

Land Disturbing Activities

November 1, 2018 to June 30, 2023

Project Name	Project Location	Project Manager	Contact Information	Project Description	Approx. Area (acres)	Construction Start Date	Construction Finish Date
Warwick Parking Lot	Warwick River Hall, Newport News, VA 23606	Michelle Campbell	757.594.7867	Stormkeeper Sediment Strip	2.13	December 2018	June 2019
Turf Field Replacement	Jennings Family Stadium, Newport News, VA 23606	Michelle Campbell	757.594.7867	Bioretention	5.3	May 2019	July 2019
Fine Arts Center	Ferguson Center for the Arts, 1 Avenue of the Arts, Newport News, VA 23606	Michelle Campbell	757.594.7867	New Construction	4	May 2019	March 2021

Appendix F: Annual Standards & Specifications Information Sheet

Annual Standards & Specification (AS&S) Entity Information Sheet

1. Annual Standards & Specifications Entity:		
2. AS&S Coverage Verification		
a. Operator:		
b. Project name:		
c. Estimated Area to be Disturbed (acres):		
3. Plan Approval Verification		
a. Erosion & Sediment Control (ESC) Plan		
	i. ESC Plan Reviewer Name and Certification Number:	
	ii. ESC Plan Date:	
	iii. ESC Plan Approval Date:	
b. Stormwater Management (SWM) Plan:		
	i. Technical Criteria Used:	
	ii. SWM Plan Reviewer Name and Certification Number:	
	iii. SWM Plan Date:	
	iv. SWM Plan Approval Date:	
4. Comments:		

Printed Name:	**Title:**
Signature:	**Date:**

(Please sign in ink. This must be signed by an employee of the AS&S entity who has oversight of this project and is aware of its coverage under their AS&S.)

(Retain a copy of this form onsite and within project specific AS&S files.)

Instructions for completion:

1. AS&S Entity/Holder Name as it appears on the AS&S Approval Letter
2.a. Operator = Owner, operator, developer, person or general contractor that the AS&S holder is allowing to operate under their DEQ approved AS&S.
2.b. Project Name = Name of the construction activity as it appears on the Registration Statement.
2.c. Estimated Area to Be Disturbed = Provide the estimated area (to the nearest one-hundredth acre) to be disturbed by the construction activity. Include the estimated area of land disturbance that will occur at any off-site support activity to be covered under this general permit.
3.a. Erosion & Sediment Control (ESC) Plans **i.** = AS&S ESC plans are required to be reviewed and approved by DEQ-Certified ESC Plan Reviewers. Provide the name and certification number of the qualified individual. **ii.** = Provide the date of the ESC plan. **iii.** = Provide the date the ESC plan was approved.
3.b. Stormwater Management (SWM) Plans **i.** = The technical criteria used for this project will be either IIB or IIC per the SWM Regulations; 9VAC25-870. **ii.** = AS&S SWM plans are required to be reviewed and approved by DEQ-Certified SWM Plan Reviewers. Provide the name and certification number of the qualified individual. **iii.** = Provide the date of the SWM plan. **iv.** = Provide the date the SWM plan was approved.
4. Comments = Indicate whether the project package contains any requests (e.g. SWM plan waiver, Decline to Permit, Variance, Exception, Deviation…) DEQ is the VESCP and VSMP Authority for AS&S Entities. Approval for such requests must be issued by DEQ.

(Further questions can be directed to StandardsandSpecs@deq.virginia.gov)

Appendix G: Non-VESCH Specifications

Table of Contents

Section 1: Construction Entrance & Construction Road Stabilization

Alturnamats & Versamats

Definition
Temporary protective matting employed to provide ingress and egress throughout the construction site.

Purpose
The mats provide vehicular access while protecting the existing ground cover.

Conditions Where Practice Applies
Temporary protective mats are typically used in areas in which installing a temporary stone construction entrance/road is not feasible and/or in situations where access will be needed for a relatively short period of time.

Planning Considerations
Provisions must be made on construction sites to minimize the transport of sediment by vehicular traffic onto a paved surface per Minimum Standard #17. The use of temporary matting prevents vehicles from disturbing unpaved, grassed, and/or denuded areas. As a result, the matting reduces the amount of mud picked up by construction vehicles.

Construction Specifications
1. Install mats where temporary access is needed.
2. Join mats together using links to ensure the mats do not shift.

AlturnaMATS®

AlturnaMATS

Designed for vehicle and equipment traffic over grassy, muddy and paved surfaces.

FEATURES

- Easily supports 120-ton vehicles
- Rugged 1/2" thick polyethylene
- Diamond plate design for great traction
- Easily link to build roads or working platforms
- Available smooth on one or two sides, ideal for removing dirt or gravel

BENEFITS

- Save money! No more replacing plywood or trips to buy it
- Virtually eliminate getting stuck ever again
- Leave turf smooth, even in soft conditions
- No more handling splintered or water-logged plywood
- Backed by a limited lifetime warranty

PRODUCT	W X L (ft)	WEIGHT (lbs)	COLOR
AM48	4' X 8'	86	Black/Clear
AM38	3' X 8'	64.5	Black/Clear
AM36	3' X 6'	51	Black/Clear
AM28	2' X 8'	43	Black/Clear
AM26	2' X 6'	32.25	Black/Clear
AM24	2' X 4'	21.5	Black/Clear

Make Your Setup Safe. TOLL FREE 800.610.3422 DIRECT 712.784.3103 EMAIL sales@dicausa.com DICAUSA.COM 17

AlturnaMATS®

VersaMATS

Designed for pedestrian and hand-propelled vehicle use over grassy, muddy and paved surfaces.

FEATURES

- Easily supports 120-ton vehicles
- Rugged 1/2" thick polyethylene
- Slip-resistant tread design
- Easily link to build roads or working platforms
- Available smooth on one or two sides, ideal for removing dirt or gravel

BENEFITS

- Save money! No more replacing plywood or trips to buy it
- Virtually eliminate turf ruts
- Leave turf smooth, even in soft conditions
- No more handling splintered or water-logged plywood
- Backed by a limited lifetime warranty

PRODUCT	W X L (ft)	WEIGHT (lbs)	COLOR
VM48	4' X 8'	86	Black/Clear
VM38	3' X 8'	64.5	Black/Clear
VM28	2' X 8'	43	Black/Clear

Make Your Setup Safe. TOLL FREE 800.610.3422 DIRECT 712.794.3103 EMAIL sales@dicausa.com DICAUSA.COM 18

Maintenance/Inspections

The matting shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately. Inspect the matting to ensure adjoining pieces do not separate. The use of water trucks to remove materials dropped, washed, or tracked onto roadways is not be permitted under any circumstances. If matting begins to separate, adjust or align the entrance/road as necessary.

Section 2: Dewatering

Dandy Dewatering Bag

Definition and Purpose
A temporary settling and filtering device for water which is discharged from dewatering activities.

Purpose
To filter sediment-laden water prior to the water being discharged off-site.

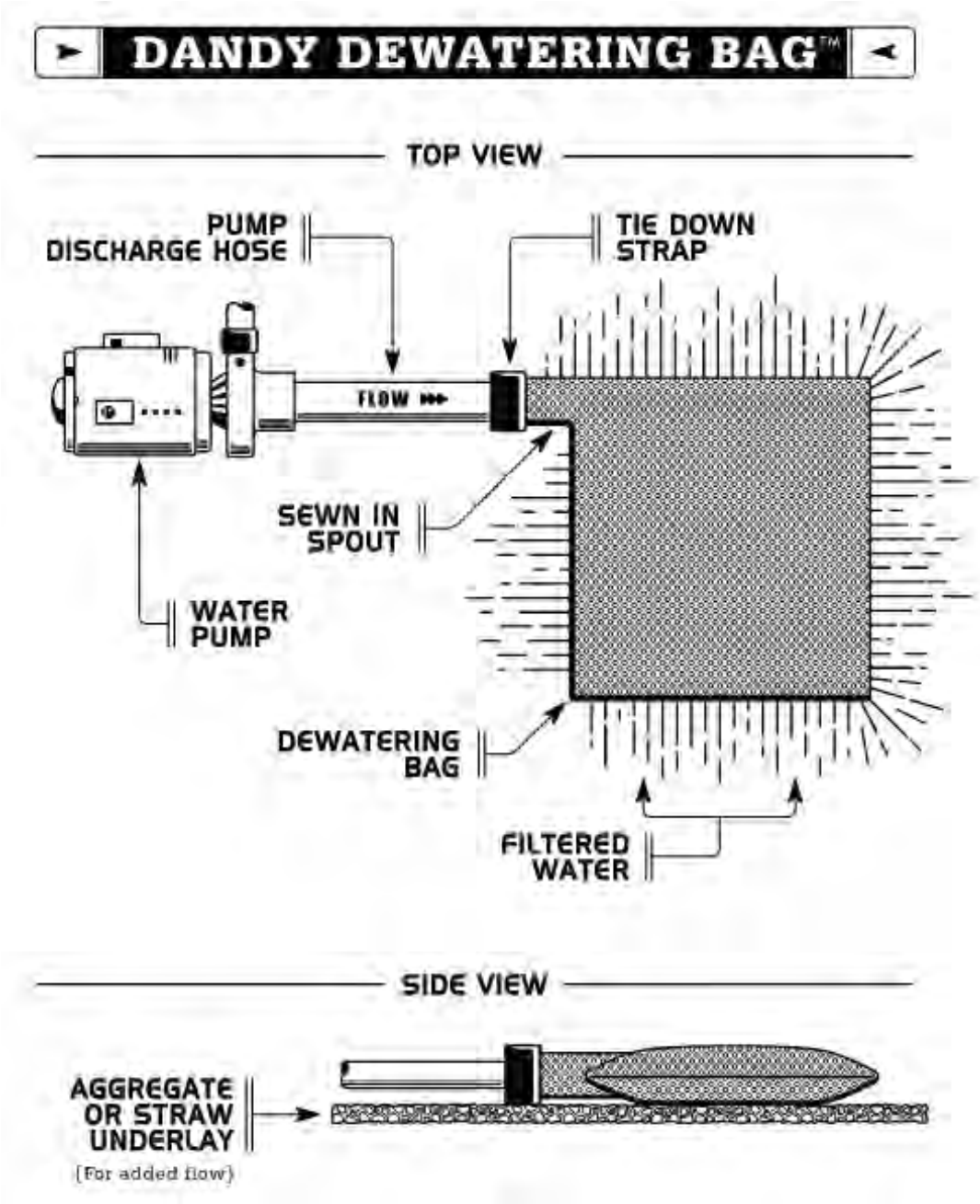
Considerations Where Practice Applies
Wherever sediment-laden water must be removed from a construction site by means of pumping.

Planning Considerations
Water which is pumped from a construction site usually contains a large amount of sediment. A dewatering structure is designed to remove the sediment before water is released off-site.

A dewatering structure may not be needed if there is a well stabilized, vegetated area on-site to which water may be discharged. The area must be stabilized so that it can filter sediment and at the same time withstand the velocity of the discharged water without eroding. A minimum filtering length of 75 feet must be available in order for such a method to be feasible.

Design Criteria
The dewatering bag must be sized (and operated) to allow pumped water to flow through at an appropriate rate.

Construction Specifications
1. Place lifting straps under the unit to facilitate removal after use.
2. Unfold Dewatering Bag on stabilized area over dense vegetation, straw, or gravel (if an increased drainage area is needed).
3. Insert discharge hose from pump into Dandy Dewatering Bag a minimum of six (6) inches and tightly secure with attached strap to prevent water from flowing out of the unit without being filtered.



Maintenance/Inspections

1. Replace the unit when it is half full of sediment or when the flow rate of the pump discharge has been reduced to an impractical rate.
2. The accumulated sediment which is removed from a dewatering device must be spread on-site and stabilized or disposed of at an approved disposal site as per approved plan.
3. If using optional oil absorbents, remove and replace absorbent pillow when it nears saturation.

Section 3: Inlet Protection

Dandy Bag, Dandy Curb, Dandy Curb Bag, Dandy Curb Sack, and Dandy Sack

Definition
A sediment filter around a storm drain drop inlet or curb inlet.

Purpose
To prevent sediment from entering storm drainage systems prior to permanent stabilization of the disturbed area.

Conditions Where Practice Applies
Where storm drain inlets are to be made operational before permanent stabilization of the corresponding disturbed drainage areas.

Planning Considerations
Storm sewers which are made operation prior to stabilization of the association drainage areas can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

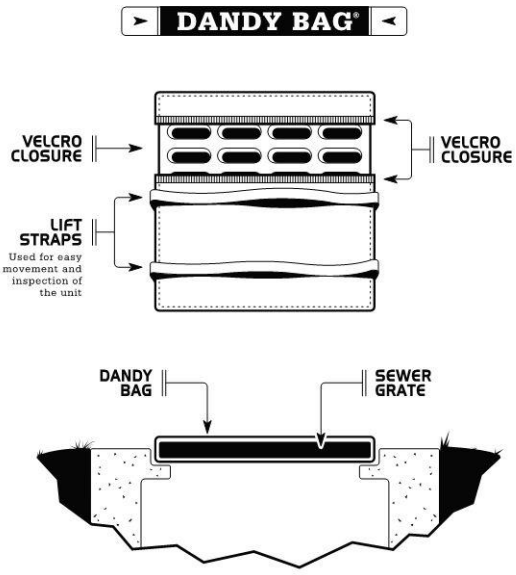
This practice contains several types of inlet filters and traps which have different applications dependent upon site conditions and type of inlet. The following inlet protection devices are for drainage areas of one acre or less.

Design Criteria
1. Drainage area shall be no greater than 1 acre.
2. The inlet protection device shall be constructed in a manner that will facilitate clean-out and disposal of trapped sediment and minimize interference with construction activities.
3. The inlet protection measure shall be appropriately sized to prevent stormwater from unintentionally bypassing the protection measure.

Construction Specifications

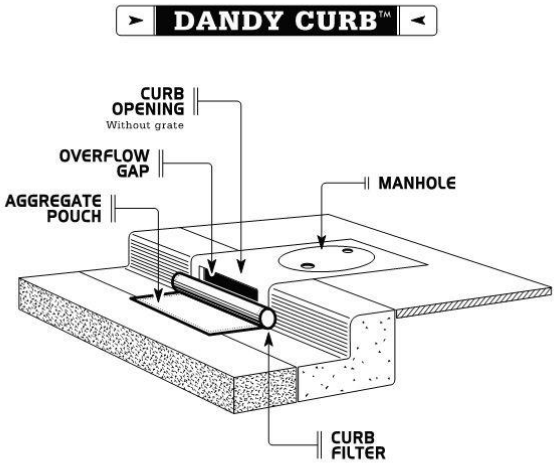
Dandy Bag

1. Place the empty Dandy Bag over the grate as the grate stands on end.
2. Tuck the enclosure flap inside to completely enclose the grate.
3. Holding the lifting devices, insert the grate into the inlet being careful not to damage the Dandy Bag unit.



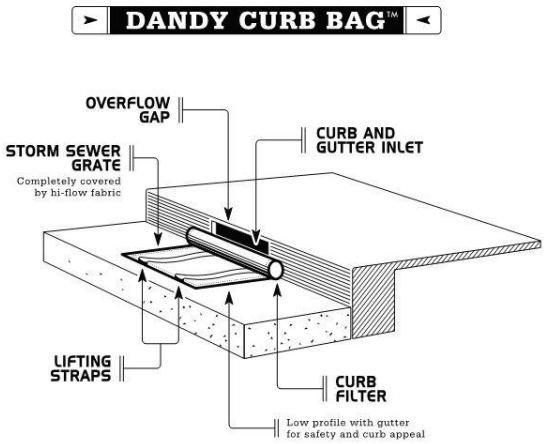
Dandy Curb

1. Place Dandy Curb inlet protection unit on ground with aggregate pouch on street side near inlet it will be installed on.
2. Fill pouch with aggregate such as #5-7, 8's or similar to a level (at least ½ full) that will keep unit in place during a rain event and create a seal between the Dandy Curb and the surface of the Street. Reseal Velcro access.
3. Center the unit against curb or median inlet opening so that the curb side of the unit creates a seal with the curb or median barrier and inlet structure. There will be approximately twelve (12) inches of inlet protection unit overhanging on each side of the opening. If the unit is not installed in this manner, it will not function properly.



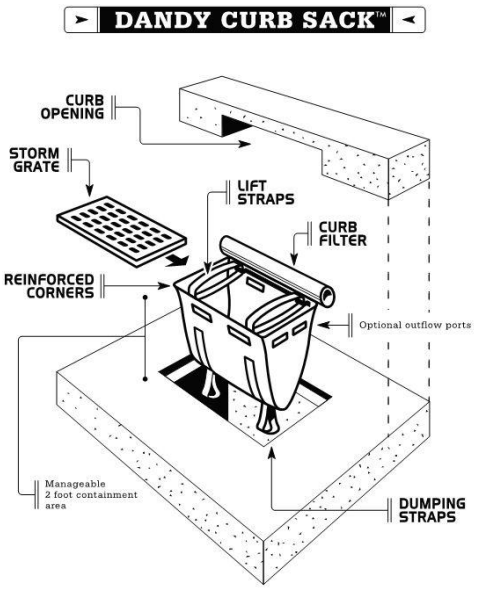
Dandy Curb Bag

1. Place the empty Dandy Curb Bag unit over the grate as the grate stands on end.
2. Tuck the enclosure flap inside to completely enclose the grate.
3. Holding the lifting devices, being careful not to damage the sewn fabric unit, insert the grate into its frame, street side edge first, then lower back edge with cylindrical tube into place. The cylindrical tube should be partially blocking the curb hold opening when installed properly.



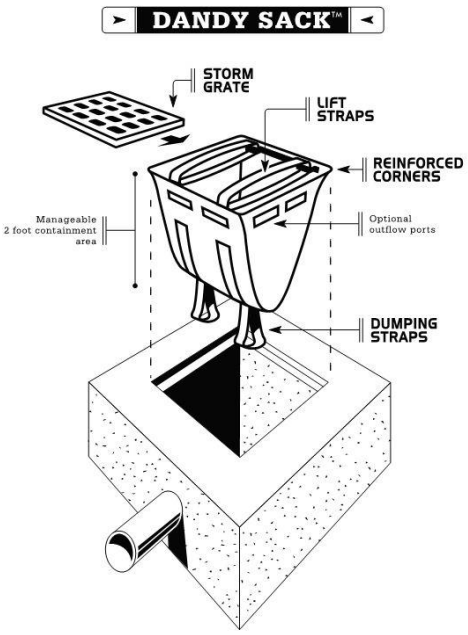
Dandy Curb Sack

1. Remove the grate from the catch basin.
2. Stand the grate on end. Move the top lifting straps out of the way and place the grate into the Dandy Curb Sack unit so that the grate is below the top straps and above the lower straps. The grate should be cradled between the upper and lower straps.
3. Holding the lifting devices, insert the grate into the inlet, then lower back edge with cylindrical tube into place, being careful that the grate remains in place and being careful not to damage the Dandy Curb Sack unit. The cylindrical tube should partially block the curb hood opening when installed properly.



Dandy Sack

4. Remove the grate from the catch basin.
5. Stand the grate on end. Move the top lifting straps out of the way and place the grate into the Dandy Sack unit so that the grate is below the top straps and above the lower straps. The grate should be cradled between the upper and lower straps.
6. Holding the lifting devices, insert the grate into the inlet, being careful that the grate remains in place and being careful not to damage the Dandy Sack unit.



Maintenance/Inspections

1. Structures shall be inspected after each runoff producing rain event and repairs shall be made as needed.
2. Sediment shall be removed as necessary. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
3. Replace the inlet protection measure if any rips, tears, or holes are found.

Erosion Eel and Gutter Buddy

Definition
A sediment filter around a storm drain drop inlet or curb inlet.

Purpose
To prevent sediment from entering storm drainage systems prior to permanent stabilization of the disturbed area.

Conditions Where Practice Applies
Where storm drain inlets are to be made operational before permanent stabilization of the corresponding disturbed drainage areas.

Planning Considerations
Storm sewers which are made operation prior to stabilization of the association drainage areas can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

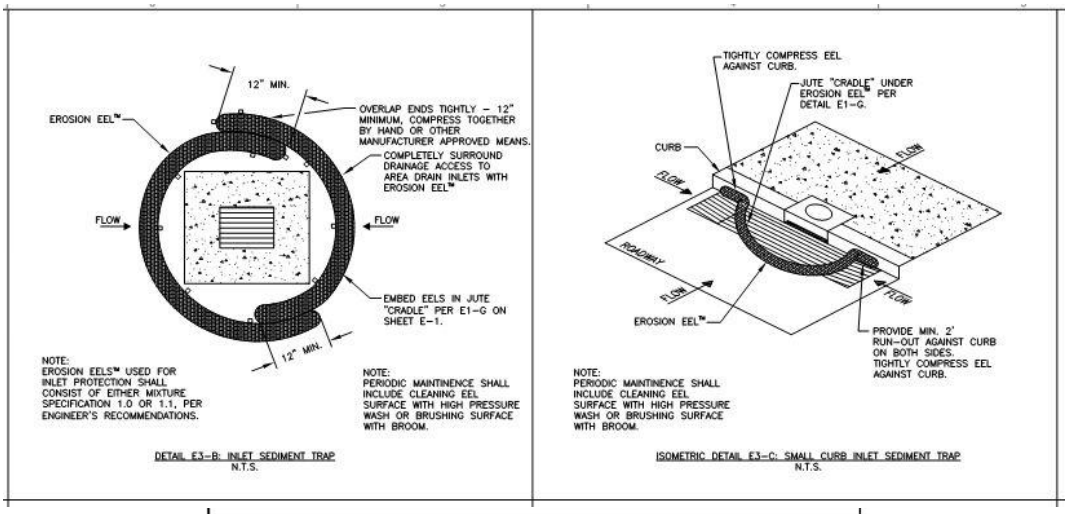
This practice contains several types of inlet filters and traps which have different applications dependent upon site conditions and type of inlet. The following inlet protection devices are for drainage areas of one acre or less.

Design Criteria
1. Drainage area shall be no greater than 1 acre.
2. The inlet protection device shall be constructed in a manner that will facilitate clean-out and disposal of trapped sediment and minimize interference with construction activities.
3. The inlet protection measure shall be appropriately sized to prevent stormwater from unintentionally bypassing the protection measure.

Construction Specifications

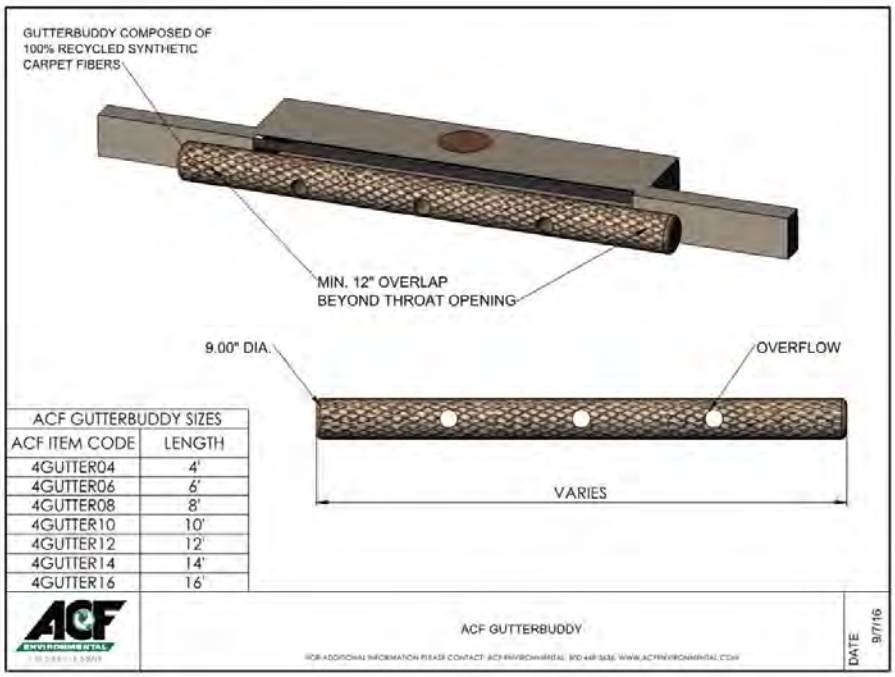
Erosion Eel

1. Place Erosion Eel at curb inlet. Bed the Eel in a jute mesh (or Flocmat) cradle.
2. If more than one Erosion Eel is placed in a row, install the Eels by firmly butting the sewn end against tied end of the Eels together to form a butt join. No wraps are required around the joint locations.
3. Eels shall be installed where the handles will be positioned at the very top of the bag.



Gutter Buddy

1. Choose an appropriately sized Gutter Buddy and Install the measure in front of the curb inlet.
2. Ensure the Gutter Buddy overlaps a minimum of 12″ beyond the throat opening.



Maintenance/Inspections

1. Structures shall be inspected after each runoff producing rain event and repairs shall be made as needed.
2. Sediment shall be removed, and the protection device restored to its original dimensions when sediment has accumulated to one half the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
3. Replace the inlet protection measure if any rips, tears, or holes are found.

Silt Sack

Definition
A sediment filter around a storm drain drop inlet or curb inlet.

Purpose
To prevent sediment from entering storm drainage systems prior to permanent stabilization of the disturbed area.

Conditions Where Practice Applies
Where storm drain inlets are to be made operational before permanent stabilization of the corresponding disturbed drainage areas.

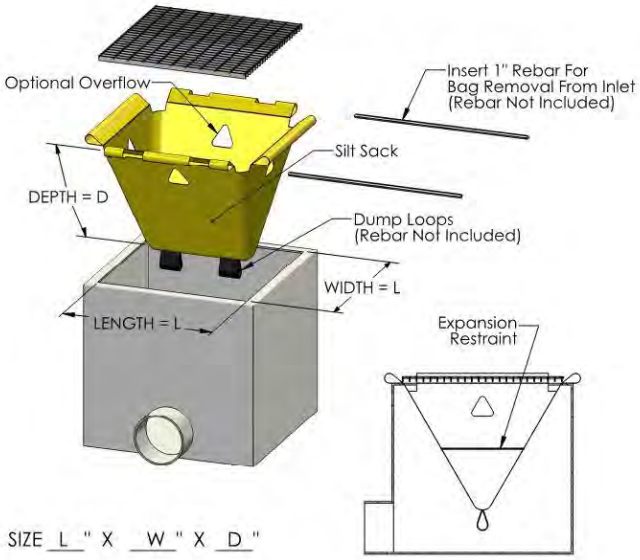
Planning Considerations
Storm sewers which are made operation prior to stabilization of the association drainage areas can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

This practice contains several types of inlet filters and traps which have different applications dependent upon site conditions and type of inlet. The following inlet protection devices are for drainage areas of one acre or less.

Design Criteria
1. The drainage area shall be no greater than 1 acre.
2. The inlet protection device shall be constructed in a manner that will facilitate clean-out and disposal of trapped sediment and minimize interference with construction activities.
3. The inlet protection measure shall be appropriately sized to prevent stormwater from unintentionally bypassing the protection measure.

Construction Specifications
1. Remove the grate and place the sack in the opening. Hold approximately six inches of the sack outside the frame. This is the area of the lifting straps.
2. Replace the grate to hold the sack in place.

Silt Sack - Type A



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Richmond, VA 23234
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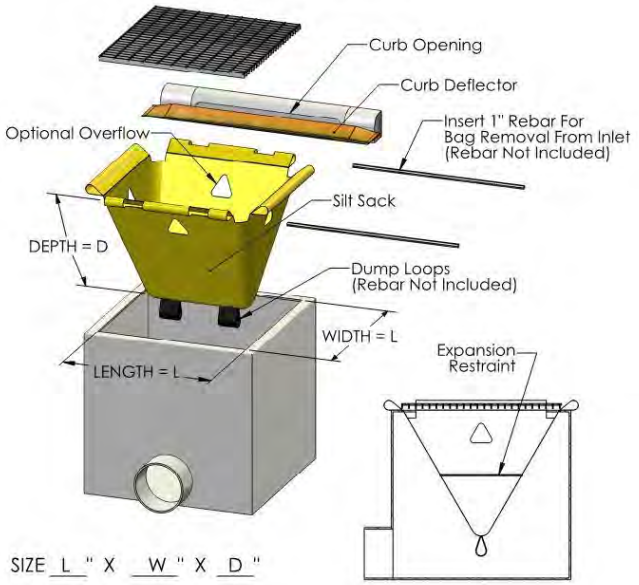
Silt Sack - Type B



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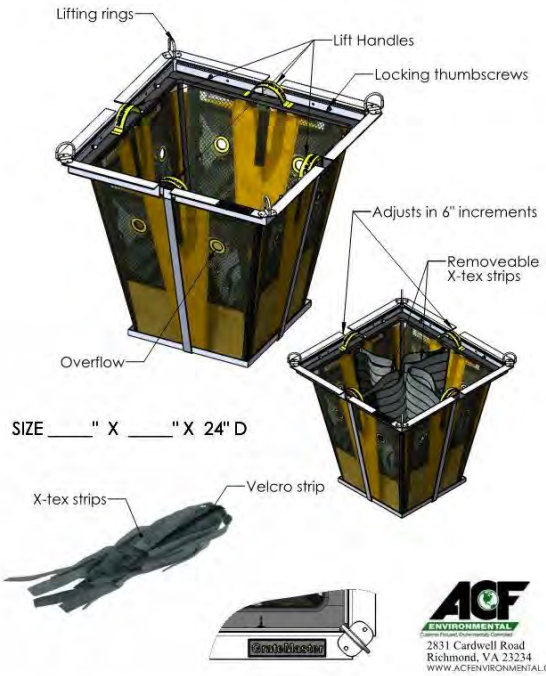
GrateMaster - Type C



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Maintenance/Inspections

1. Inlet protection shall be inspected immediately after each runoff producing rain event.
2. Check for tears, rips, or holes in sack. If noticed, have replaced immediately.
3. When the restraint cord is no longer visible, the Silt Sack is full and should be emptied.
4. To remove the Silt Sack, take two pieces of 1" diameter rebar and place through the lifting loops on each side of the sack to facilitate the lifting of the Silt Sack.
5. To empty the Silt Sack, place the unit where the contents will be collected. Place the rebar through the lift straps and lift. This will lift the bottom and empty the contents. Clean out and rinse. Return the Silt Sack to its original shape and place back in the basin.
6. Silt Sacks are reusable. Once the construction cycle is complete, remove the Silt Sack from the basin and clean. Silt Sacks should be stored out of sunlight until next use.

Section 4: Perimeter Control

Erosion Eel

Definition
A temporary sediment barrier used to prevent sediment from leaving the site

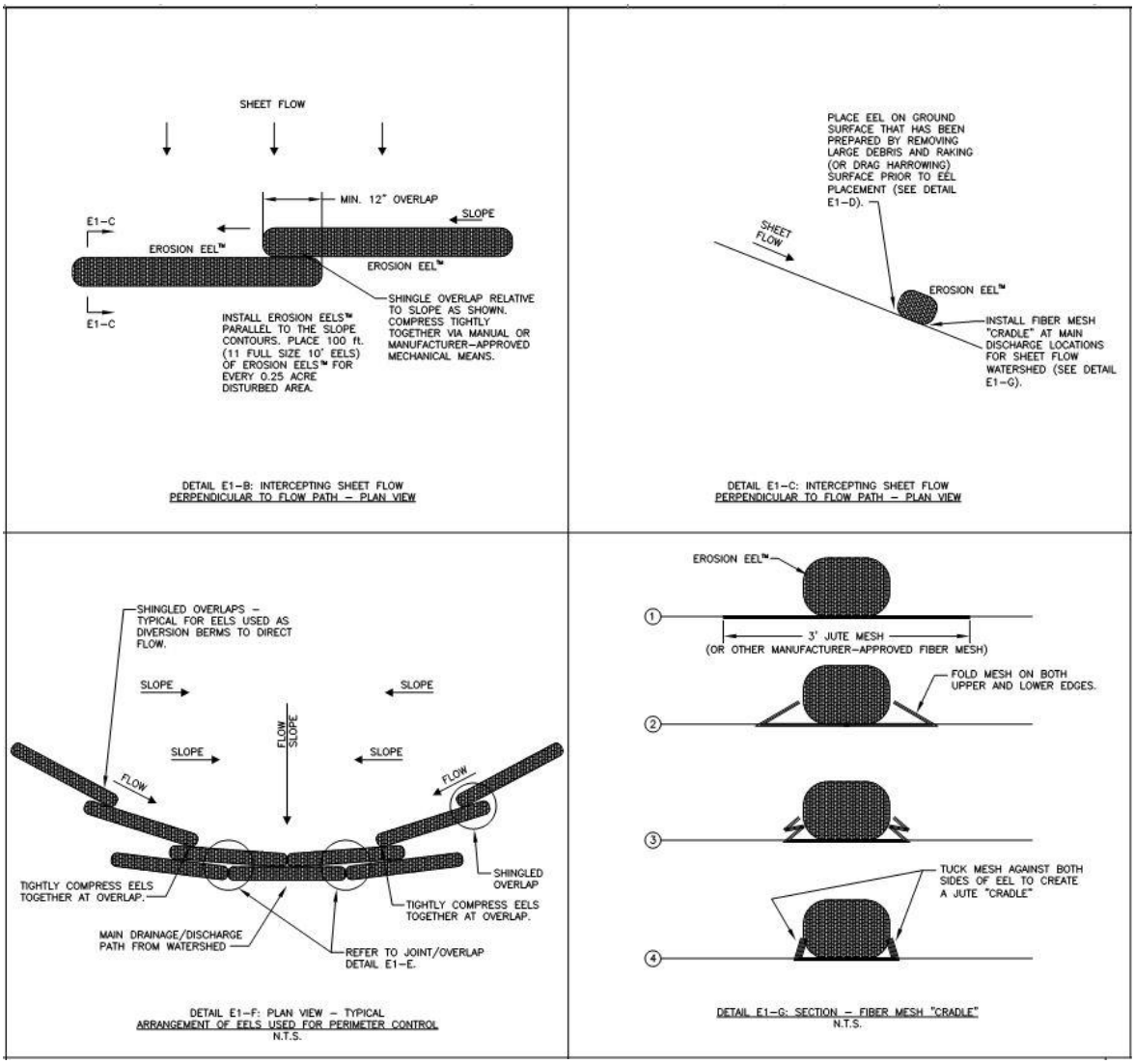
Purpose
1. To intercept and detain small amounts of sediment from disturbed areas during construction operations in order to prevent sediment from leaving the site.
2. To decrease the velocity of sheet flows and low-to-moderate level channel flows.

Conditions Where Practice Applies
1. Below disturbed areas where erosion would occur in the form of sheet and rill erosion
2. Where the size of the drainage area is no more than one quarter acre per 100 feet of Erosion Eels length; the maximum slope behind the barrier is 100 feet; and the maximum gradient behind the barrier is 50 percent (2:1).

Planning and Considerations
1. Erosion Eels can be placed at the top, on the face, or at the toe of slopes to intercept runoff, reduce flow velocity, releasing the runoff as sheet flow, and provide reduction/removal of suspended solids from the runoff.
2. Erosion Eels shall be installed along ground contour, at the toe of slopes, at an angle to the contour to direct flow as a diversion berm, in a ditch as a check dam to help reduce suspended solids loading and retain sediment, or as a general filter for any disturbed soil area.
3. No trenching is required for installation of Erosion Eels.

Design Criteria
1. The size of the drainage area should be no more than one quarter acre per 100 feet of Erosion Eels.
2. See spacing recommendations chart included below for slope percentages.

Construction Specifications
1. Prepare bed for Eel installation by removing any large debris including rocks, soil clods, and woody vegetation (greater that 1 inch in size). Erosion eels can also be placed over paved surfaces including concrete and asphalt with no surface preparation required.
2. Rake bed area with a hand rake or by drag harrow.
3. All surfaces shall be uniformly and well-compacted for maximum seating and stability of the Eels in place.
4. Do not place Eel directly over rills and gullies until area has been hand excavated and raked to provide a level bedding surface in order for the Eels to seat uniformly with no bridging effects that would allow flow to bypass under the bag.
5. Bed the Eels in a jute mesh (or FlocMat) cradle.
6. If more than one Erosion Eel is placed in a row, install the Eels by firmly butting the sewn end against tied end of Eels together to form a butt join. No wraps are required around the joint locations.
7. Eels shall be installed where the handles will be positioned at the very top of the bag.



Spacing Recommendations for the Erosion Eel™ for Perimeter Controls and Intercepting Sheet Flow on Slopes

slope(%)	single eel spacing (ft)	*Stacked Dual eel spacing (ft)
0.5	300	N/A
1	200	N/A
2	160	N/A
3	80	N/A
4	50	N/A
5	40	N/A
6	35	N/A
8	30	N/A
10	25	N/A
15	17	N/A
20	12	25
25	7	15
33	N/A	10
50	N/A	6

* DUAL STACK REFERS TO TWO EELS STACKED ATOP ONE ANOTHER AND STABILIZED WITH T–POSTS. SEE DETAIL E2–E ON SHEET E–2.

Maintenance/Inspections

1. Structures shall be inspected after each runoff producing rain event and repairs shall be made as needed. Any required repairs shall be made immediately.
2. Sediment shall be removed when sediment and debris accumulation affects the performance of the devices. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

Appendix E MINIMUM CONTROL MEASURE 5 (MCM5) SUPPLEMENTAL INFORMATION

MCM Responsible Party and Key Personnel List

Post-Construction BMP Inspections BMP (5.3)

BMP E-tracking (BMP 5.4)

Other information on MCM2 can be found in:

Appendix C: CNU Stormwater Study (BMP 3.2, 5.2)

MCM No. 1 – Public Education and Outreach		
BMP	**Responsible Party**	**Key Personnel**
1.1 – MS4 Program Update	Dean Whitehead	Dean Whitehead
1.2 – CNU MS4 Website	Dean Whitehead	Bruce Bronstein
1.3 – CNU Sustainability Facebook Site	Dean Whitehead	Bruce Bronstein
1.4 – Premium Item Giveaways	Dean Whitehead	Dean Whitehead
1.5 – Storm Drain Medallions	Dean Whitehead	Scott Gesele
1.6 – Construction Signage	Dean Whitehead	Bruce Bronstein Scott Gesele Dean Whitehead
1.7 – Construction Site Runoff Training	Dean Whitehead	Dean Whitehead
1.8 – Litter and Street Debris Education	Dean Whitehead	Dean Whitehead
1.9 – Nutrient Management Training	Dean Whitehead	Chris Webb
MCM No. 2 – Public Involvement/Participation		
BMP	**Responsible Party**	**Key Personnel**
2.1 – MS4 Program Update	Dean Whitehead	Dean Whitehead
2.2 – CNU MS4 Website	Dean Whitehead	Bruce Bronstein
2.3 – Community Service	Dean Whitehead	Dean Whitehead
2.4 – Campus Stormwater Events	Dean Whitehead	Dean Whitehead
2.5 – Garden Symposium	Dean Whitehead	Dean Whitehead
2.6 – Pet Waste Stations	Dean Whitehead	Dean Whitehead
MCM No. 3 – Illicit Discharge Detection and Elimination		
BMP	**Responsible Party**	**Key Personnel**
3.1 – IDDE Policy	Jackie Roquemore	Jackie Roquemore
3.2 – CNU Stormwater Study	Dean Whitehead	Michelle Campbell David Duncan, TG Mr. JD Hines, VHB
3.3 – CNU MS4 Website	Dean Whitehead	Bruce Bronstein
3.4 – Illicit Discharge Detection Tracking and Reporting	Jackie Roquemore	Jackie Roquemore
3.5 – Outfall Inspections	Dean Whitehead	Chris Webb
3.6 – Pollution Prevention Materials	Dean Whitehead	Dean Whitehead
3.7 – Pollution Prevention Training	Dean Whitehead	Dean Whitehead
MCM No. 4 – Construction Site Stormwater Runoff Control		

BMP	Responsible Party	Key Personnel
4.1 – Annual Standards and Specifications	Michelle Campbell	Michelle Campbell Scott Roberts Dean Whitehead
4.2 – Project Inspections	Michelle Campbell	Michelle Campbell Scott Roberts Dean Whitehead Chris Webb
4.3 – ESC Contract Provisions	Michelle Campbell	Michelle Campbell Scott Roberts Dean Whitehead David Duncan, TG Mr. JD Hines, VHB
4.4 – Construction Site Runoff	Dean Whitehead	Dean Whitehead
4.5 – Construction Signage	Dean Whitehead	Bruce Bronstein Scott Gesele Dean Whitehead Chris Webb
4.6 – Land Disturbing Activities Tracking	Michelle Campbell	Michelle Campbell David Duncan, TG Mr. JD Hines, VHB
MCM No. 5 – Post-Construction Stormwater Management		
BMP	**Responsible Party**	**Key Personnel**
5.1 – CNU Stormwater Study	Dean Whitehead	Michelle Campbell Mr. JD Hines, VHB
5.2 – ESC Contract Provisions	Dean Whitehead	Michelle Campbell Scott Roberts Scott Gesele Dean Whitehead Chris Webb David Duncan, TG Mr. JD Hines, VHB
5.3 – BMP Inspections	Dean Whitehead	Dean Whitehead Chris Webb
5.4 – BMP Tracking	Dean Whitehead	Michelle Campbell David Duncan, TG
5.5 – BMP Maintenance	Dean Whitehead	Dean Whitehead Chris Webb
MCM No. 6 – Pollution Prevention/Good Housekeeping for Municipal Operations		
BMP	**Responsible Party**	**Key Personnel**
6.1 – Pollution Prevention Materials	Dean Whitehead	Dean Whitehead
6.2 – Pollution Prevention Training	Dean Whitehead	Dean Whitehead
BMP	**Responsible Party**	**Key Personnel**
6.3 – Grounds Clean-Up	Dean Whitehead	Dean Whitehead

		Chris Webb
6.4 – Illicit Discharge Detection Tracking and Reporting	Jackie Roquemore	Jackie Roquemore
6.5 – Nutrient Management Plan	Dean Whitehead	Dean Whitehead Chris Webb
6.6 – Nutrient Management Training	Dean Whitehead	Dean Whitehead
6.7 – Underground Infrastructure Cleaning	Dean Whitehead	Scott Gesele Dean Whitehead Chris Webb
6.8 – Street Sweeping	Dean Whitehead	Dean Whitehead Chris Webb
6.9 – Storm Drain Medallions	Dean Whitehead	Scott Gesele Dean Whitehead Chris Webb
6.10 – Daily Good Housekeeping Procedures	Dean Whitehead	Jackie Roquemore Dean Whitehead

CNU Post-Construction BMP Inspection Permit Year 5

BMP	Location	Type	Inspection Date	Condition	Notes	Photos
BMP 2	James River Residence Hall	Extended Detention	6/26/2023	Routine Maintenance Needed	Sediment debris/buildup	
BMP 4	Lake Maury	Retention	N/A	N/A	This BMP is inspected by the City of Newport News	N/A
BMP 5	Parking Lot A	Bioretention	6/26/2023	Routine Maintenance Needed	Clogged underdrain	
BMP 6	Turf Field Replacement	Bioretention	6/26/2023	Acceptable	Plants and Vegetation healthy	
BMP 7	Parking Lot C1/C2	Stormkeeper Sediment Strip	6/26/2023	Routine Maintenance Needed	Sediment debris/buildup	

Christopher Newport University
BMPs 2022 - 2023

BMP	Description	Type	Coordinates	HUC	Discharge into Impaired Water	Acres Treated
BMP 2	James River Residence Hall	Extended Detention	Lat. 37.064330 Long -76.496709	JL 38	N/A	5.37
BMP 4	Lake Maury	Wet Pond	Lat. 37.056520 Long. -76.484747	JL 43	N/A	153.7
BMP 5	Parking Lot A	Bioretention	Lat. 37.060208 Long. -76.489488	JL 43	N/A	1.69
BMP 6	Turf Field Replacement	Bioretention	Lat. 37.063252 Long. -76.498511	JL 43	N/A	2.18
BMP 7	Parking Lot C1/C2	Stormkeeper Sediment Strip	Lat. 37.062798, Long. -76.489513	JL 43	N/A	1.39

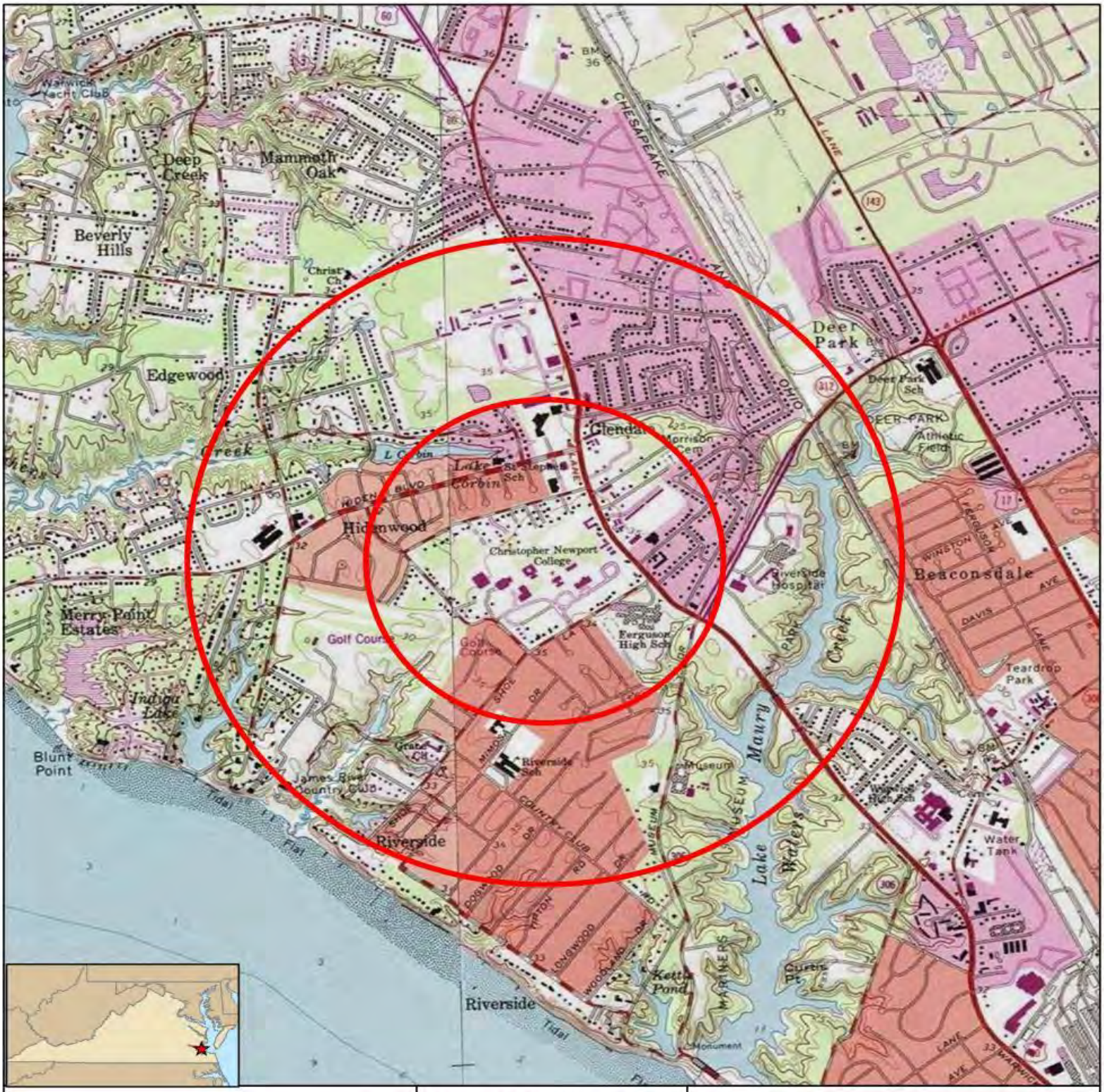
Notes:

Appendix F MINIMUM CONTROL MEASURE 6 (MCM6) SUPPLEMENTAL INFORMATION

High-Priority SWPPPs (BMP 6.2)

Other information on MCM6 can be found in:

Appendix A: Public Education and Outreach (1.3, 1.4, 1.5, 1.8, 1.9, 2.4, 2.5, 3.7, 6.1, 6.8)



The red concentric circles represent a radius of 0.5 miles and 1 mile from the center of the University.

0 0.15 0.3 0.45 0.6

Miles

N

1:24,000

1 inch~2,000 feet

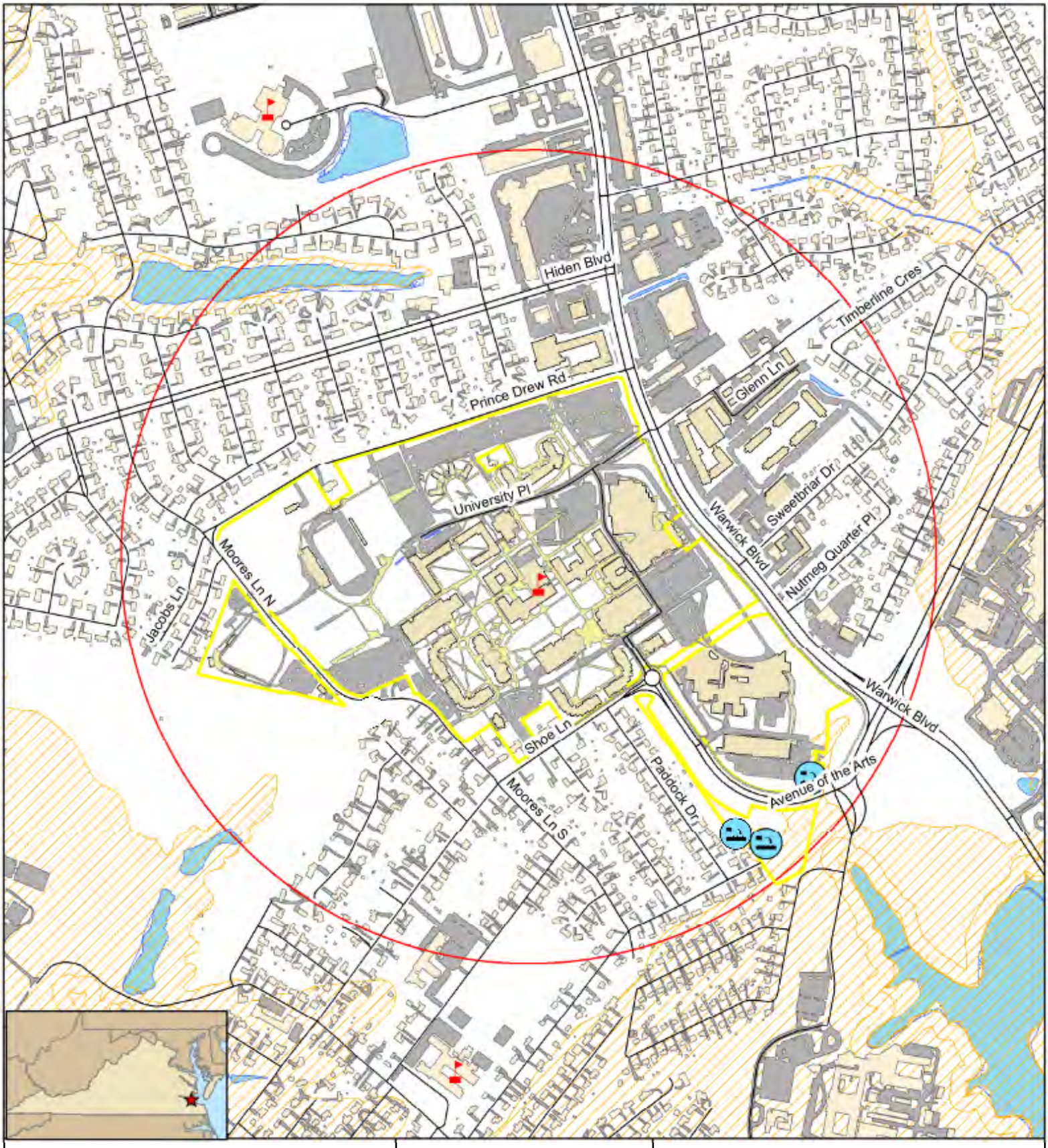
Figure 1: SWPP Site Locus

Christopher Newport University
1 Ave. of the Arts
Newport News, VA
June 2016

CHRISTOPHER NEWPORT UNIVERSITY

Document Path: Z:\Infrastructure Design\Private\Projects\SWPPP_1_site_locus.mxd

Last Updated: 5/31/2016



Legend

- Buildings
- Chesapeake Bay Preservation Areas
- CNU MS4 Boundary
- Half Mile Radius
- PavedAreas
- Roads
- Schools
- WaterBodies
- Wetlands
- Outfalls

Service Layer Credits: MS4 Boundary and outfalls derived from Koontz-Bryant, PC; 2014. All other data derived City of Newport News GIS; 2015. Updated by Timmons Group; 2021.

0 500 1,000

Feet

N

1:10,000

1 inch~833 feet

Figure 2: SWPP GIS Data

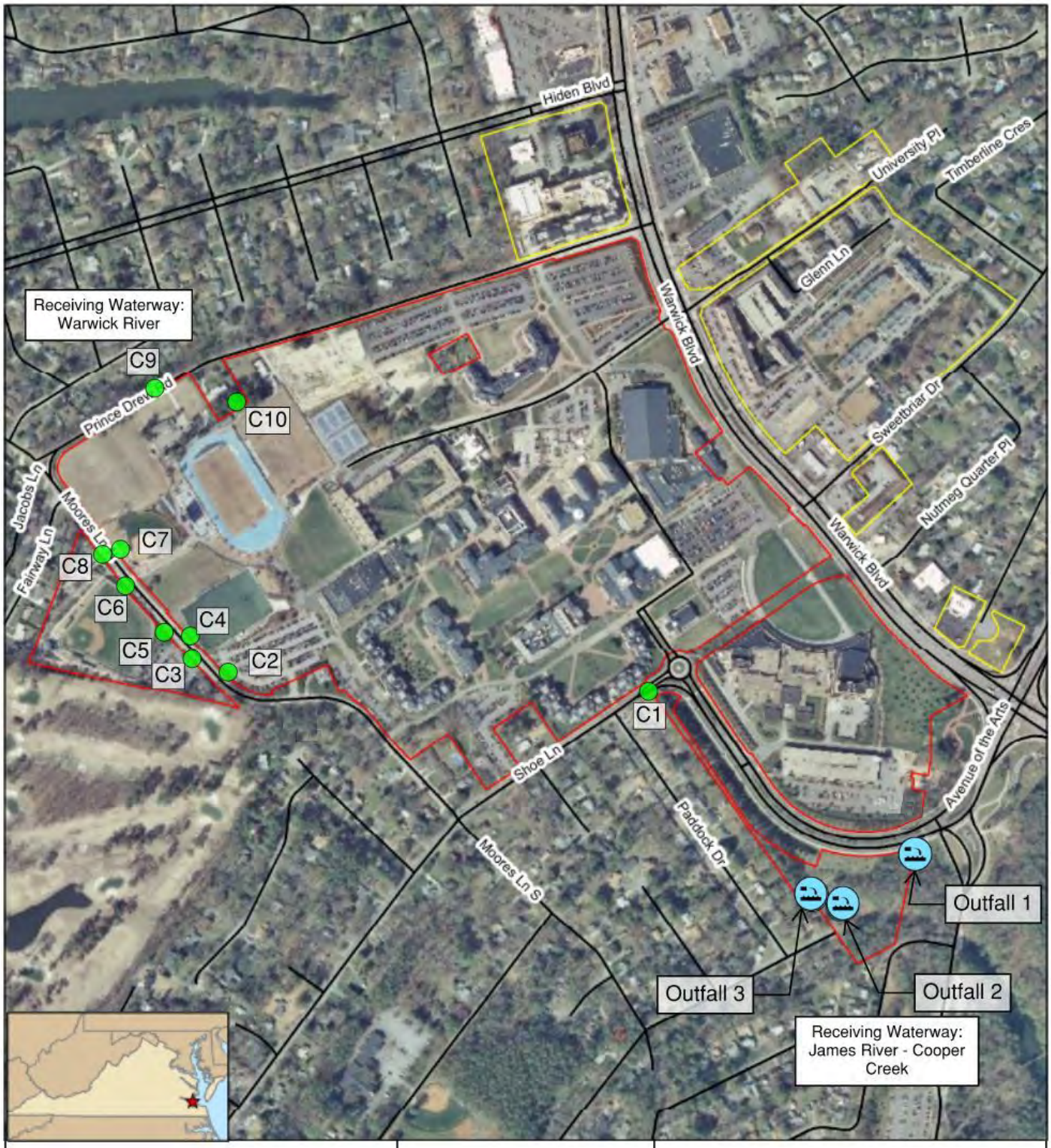
Christopher Newport University
1 Ave. of the Arts
Newport News, VA

June 2016

CHRISTOPHER NEWPORT UNIVERSITY

Document Path: Z:\Infrastructure Design\Private\Projects\SWPPP_2_GIS_Data.mxd

Last Updated: 1/27/2021



Legend

- CNU MS4 General Permit Boundary
- CNU Property under Newport News' MS4
- Roads
- Outfalls
- Connection with City of Newport News

Service Layer Credits: Virginia Geographic Information Network; Road Data from City of Newport News' GIS, 2015. MS4 Boundary data from Koontz-Bryant, PC; 2015.Updated by Timmons Group; 2021.

0 450 900
Feet

N

1:7,000
1 inch ~ 600 feet

Figure 3: SWPP Orthophotograph

Christopher Newport University
1 Ave. of the Arts
Newport News, VA

June 2016

CHRISTOPHER NEWPORT UNIVERSITY

Document Path: Z:\Infrastructure Design\Private\Projects\SWPPP_3_Ortho.mxd Last Updated: 1/27/2021

Legend

F# = Facility [#]
W# = Waste Receptacle [#]

- Roads
- CNU MS4 General Permit Boundary
- CNU Property under Newport News' MS4

High Priority Areas

- Facilities Support Operations
- Food Services - Waste Management Area
- Landscaping Operations
- Waste Management Area

0 450 900
Feet

N

1:7,000

1 inch = 600 feet

Figure 4: SWPP Areas of High Priority

Christopher Newport University
1 Ave. of the Arts
Newport News, VA

September 2020

Appendix G Chesapeake Bay TMDL Action Plan Implementation

VHB Crediting Calculations

HRDS Crediting Purchase Documentation

MASTER PLAN

Chesapeake Bay TMDL Master Plan

Christopher Newport University

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May 2023

CHRISTOPHER NEWPORT UNIVERSITY

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List of Abbreviations

Title	Abbreviation
Best Management Practice	BMP
Chesapeake Bay Preservation Act	CBPA
Capital Improvement Project	CIP
Christopher Newport University	CNU
Virginia Department of Conservation and Recreation	DCR
Virginia Department of Environmental Quality	DEQ
Department of General Services	DGS
Division of Engineering & Buildings	DEB
Edge of Stream	EOS
Environmental Protection Agency	EPA
Intensely Developed Area	IDA
Leadership in Energy and Environmental Design	LEED
Low Impact Design	LID
Minimum Control Measure	MCM
Minimum Standard	MS
Municipal Separate Storm Sewer Systems	MS4
National Pollution Discharge Elimination System	NPDES
Pollutant of Concern	POC
Resource Protection Area	RPA
Stormwater Improvement Project	SIP
Stormwater Management	SWM
Stormwater Management Masterplan	SWMP
Stormwater Pollution Prevention Plan	SWPPP
Total Maximum Daily Load	TMDL
Total Nitrogen	TN
Total Phosphorus	TP
Total Suspended Solids	TSS
Vanasse Hangen Brustlin	VHB
Virginia Erosion and Sediment Control Program	VESCP
Virginia Pollution Discharge Elimination System	VPDES
Virginia Stormwater Management Handbook	VSMH
Virginia Stormwater Management Program	VSMP
Watershed Implementation Plan	WIP

1. Introduction

Purpose

This Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan was written to describe the means and methods by which Christopher Newport University (CNU) intends to meet the Special Condition for the Chesapeake Bay TMDL. This Special Condition is located in the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems which was effective as of July 1, 2013, and states that Small Municipal Separate Storm Sewer Systems (MS4) must create a TMDL Action Plan and submit the plan to the Virginia Department of Environmental Quality (DEQ).

The University's MS4 permit (VAR040090) requires action plans to be implemented for the impaired bodies of water to which CNU discharges stormwater runoff. The ultimate discharge point for CNU is the Chesapeake Bay. The CNU campus has four (4) major outfalls which discharge to Lake Maury and Cooper Creek. A TMDL is assigned to determine a waste load allocation to the University that establishes the maximum amount of pollutant that can enter an impaired water without violating water quality standards.

The TMDL for the Chesapeake Bay was established by the EPA in 2010 and targets specific Pollutants of Concern (POCs). POCs included in the TMDL are total nitrogen (TN), total phosphorous (TP), and total suspended solids (TSS). Virginia developed a Chesapeake Bay TMDL Watershed Implementation Plan (WIP) that implements an outline for meeting the Chesapeake Bay TMDL. The WIP requires a phased approach over three five-year permit cycles for meeting required POC reductions for the final TMDL target goal. The reductions include:

- 5% first permit cycle reduction, met at the end of the first permit cycle (June 30, 2018)
- 35% second permit cycle reduction, which will need to be accomplished by the end of the second permit cycle (June 30, 2023)
- 60% third permit cycle reduction which will need to be accomplished by the end of the third permit cycle (June 30, 2028). The total reduction thus is 100% of the TMDL requirement.

Reductions are applied to 2009 Edge of Stream (EOS) loading rates for each POC as defined by the Chesapeake Bay Program Watershed Model Phase 5.3.2 for the James River Basin. A target reduction percent in the 2009 EOS loading rates must be met in order meet the TMDL target goal at the end of the third permit cycle. The reduction target percent is defined for each POC by the Chesapeake Bay WIP. Target reduction percentages are further broken into two categories for impervious and pervious cover. Impervious areas must show a reduction of 9.0% for nitrogen loads, 16% for phosphorous loads, and 20% for total sediment loads.

Pervious areas must show a reduction of 6.0% for nitrogen, 7.25% for phosphorous, and 8.75% for total sediment loads.

This plan establishes how CNU intends to meet the 35% and 60% reduction requirements by the end of the second and third permit cycles to stay in compliance with their MS4 Permit and the Chesapeake Bay TMDL Special Condition Guidance developed by DEQ. This report follows the order specified in Guidance Memo No. 15-2005 set forth by DEQ and dated May 18, 2015.

The following elements are included within this Action Plan:

1. Current Program and Existing Legal Authority
2. New or Modified Legal Authority
3. Means and Methods to Address Discharges from New Sources
4. Estimated Existing Source Loads and Calculated Total Pollutant of Concern Required Reductions
5. Means and Methods to Meet the Required Reductions and Schedule
6. Means and Methods to Offset Increased Loads from New Sources Initiating Construction Between July 1, 2009 and June 30, 2014
7. Means and Methods to Offset Increased Loads from Grandfathered Projects that Begin Construction After July 1, 2014
8. List of Future Projects and Associated Acreage that Qualify as Grandfathered
9. An Estimate of the Expected Cost to Implement the Necessary Reductions
10. Public Comments on Draft Action Plan

MS4 Permit Compliance

Table 1 provides the requirements of CNU's MS4 permit and the specific section of this report where the requirement is met by CNU's MS4 Program Plan. Additionally, *Table 1* describes actions CNU has taken to meet the MS4 permit requirements.

Table 1: MS4 Permit Compliance

CNU TDML Action Plan Section	Element from DEQ TMDL Special Condition Guidance	MS4 General Permit Section	MS4 Permit Requirement
2	Part VI.1 - Current Program and Existing Legal Authority	I.C.2.a(1)	A review of the current MS4 program implemented as a requirement of this state permit including a review of the existing legal authorities and the operator's ability to ensure compliance with this special condition

2	Part VI.2 - New or Modified Legal Authority	I.C.2.a(2)	The identification of any new or modified legal authorities such as ordinances, state and other permits, orders, specific contract language, and interjurisdictional agreements implemented or needing to be implemented to meet the requirements of this special condition
3	Part VI.3 - Means and Methods to Address Discharges from New Sources	I.C.2.a(3)	The means and methods that will be utilized to address discharges into the MS4 from new sources
4	Part VI.4 - Estimated Existing Source Loads and Calculated Total Pollutants of Concern (POC) Required Reductions	I.C.2.a(4) and I.C.2.a(5)	An estimate of the annual POC loads discharged from the existing sources as of June 30, 2009, based on the 2009 progress run. The operator shall utilize the applicable versions of Tables 2 a-d in this section based on the river basin to which the MS4 discharges by multiplying the total existing acres served by the MS4 on June 30, 2009, and the 2009 Edge of Stream (EOS) loading rate. A determination of the total pollutant load reductions necessary to reduce the annual POC loads from existing sources utilizing the applicable versions of Tables 3 a-d in this section based on the river basin to which the MS4 discharges. This shall be calculated by multiplying the total existing acres served by the MS4 by the corresponding permit cycle required reduction in loading rate. For the purposes of this determination, the operator shall utilize those existing acres identified by the 2000 U.S. Census Bureau urbanized area and served by the MS4
5	Part VI.5 - Means and Methods to Meet the Required Reductions and Schedule	I.C.2.a(6)	The means and methods, such as management practices and retrofit programs that will be utilized to meet the required reductions included in subdivision 2 a (5) of this subsection, and a schedule to achieve those reductions. The schedule should include annual benchmarks to demonstrate the ongoing progress in meeting those reductions

Summary

In accordance with the MS4 Permit, the University must calculate required permit cycle reductions and offsets for the following:

- Existing sources as of June 30, 2009
- Sources beginning construction between July 1, 2009 and June 30, 2014,
- Grandfathered sources beginning construction after July 1, 2014

The additional treatment provided by existing best management practices (BMPs) that were constructed to meet project development goals met the offset for the required first permit cycle reductions.

Two of the Stormwater Improvement projects outlined in the 2019 CNU Stormwater Master Plan, if implemented, will provide the pollutant offset required for the third permit cycle reductions.

Total POC Load Reductions required by the permit cycles and associated offsets can be found in *Table 2*. A breakdown of total phosphorus removal provided by the existing BMPs and project requirements can be found in *Appendix B*.

2. Current Program and Legal Authority

Current Program and Existing Legal Authority

As an operator of an MS4, Christopher Newport University must develop, implement, and enforce an MS4 Program Plan as stated in Phase II MS4 regulations. CNU has created an MS4 Program Plan that is continually updated and monitored to ensure CNU meets MS4 regulations. This MS4 Program Plan ensures the CNU is acting in the most effective manner to reduce pollutant discharge, protect water quality, and ensure compliance with water quality standards. Additionally, the MS4 Program Plan ensures that CNU is adhering to the Clean Water Act, the MS4 permit regulations, and other associated regulations.

The CNU MS4 Program Plan is managed by the Grounds Department and includes updating the MS4 Program Plan and the MS4 General Permit Annual Report. Six minimum control measures (MCMs) are outlined in the Phase II MS4 General Permit:

- Public Education and Outreach on Stormwater Impacts
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post Construction Stormwater Management
- Pollution Prevention and Good Housekeeping for Municipal Operations

Best Management Practices have been integrated into these six MCMs to assist in protecting the water quality within the regulated acreage that ultimately discharges into the Chesapeake Bay. The University's MS4 Program Plan lists each of the six MCMs and activities that CNU is pursuing to meet them.

Stormwater policies have been implemented by CNU within the MS4 Program Plan to administer the Program and comply with the MCMs. These policies can be found on CNU's Stormwater Management Webpage.

- Stormwater Management Master Plan, June 2019
- Illicit Discharge Detection and Elimination Program, August 2022
- Stormwater Pollution and Prevention Plan (SWPPP), June 2016
- Standard Operating Procedures (SOPs), September 2016
- Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management, December 2019

New or Modified Legal Authority

New or modified legal authorities are not required for compliance with the Special Condition for the Chesapeake Bay TMDL. CNU possesses the authorities necessary to meet pollution reduction goals.

CNU and neighboring MS4 jurisdictions are responsible for the drainage within their boundaries. If an agreement is made with a neighboring MS4 operator (City of Newport News) to meet pollution reduction goals, this TMDL Action Plan will be updated.

On January 19, 2005, CNU established a Lake Maury Watershed Plan with The Mariners' Museum and the City of Newport News to detail the maintenance of the Lake as well as shoreline stabilization and cost-effective water quality measures. Any maintenance or stormwater upgrades to the Lake will be required to be discussed with both The Mariners' Museum and the City of Newport News.

3. Means and Methods to Address Discharges from New Sources

The University must introduce and implement means and methods to offset pollutant loads from new sources. To offset pollutant loads, provisions of the Virginia Stormwater Management Handbook (VSMH), as of the 2014 revisions, require that if a redevelopment project site is less than 1 acre, phosphorus loadings from that site be reduced by 10% as compared to the existing developed conditions. Phosphorous loadings must be reduced by 20% when the project area is greater than 1 acre. Virginia Stormwater Management Program (VSMP) Regulations identify phosphorus loading as the "keystone" indicator of runoff water quality. As phosphorus is present in stormwater runoff in both particulate and soluble form, its concentration in stormwater runoff is considered indicative of the presence of other pollutants (nitrogen, TSS) that exist in either form. VSMP regulations requires all new developments to remove 0.41 pounds of phosphorus per acre per year. The VSMH evaluates

BMP pollutant removal performance in terms of percentage of Total Phosphorus (TP) removed. Total phosphorus removal loads are used to determine TN and TSS removal loads through use of pollutant loading ratios found in *Table 4* of the MS4 General Permit regulations.

For the plan approval and application process, refer to CNU Annual Standards and Specifications. Construction documents are developed by a design team hired by CNU which includes surveyors, engineers, and landscape architects. Plans are designed to the Virginia Standards and to comply with the MS4 General Permit regulations.

Following plan approval, general contractors are responsible for obtaining the necessary land disturbance permits and attending preconstruction meetings with CNU officials. A purpose of the preconstruction meeting is to review all erosion and sediment controls once they are installed on site and to confirm they comply with the approved plans. The contractor is also responsible for maintaining the latest approved set of plans and the SWPPP on-site for each project during the extent of construction. A certified inspector is responsible for making sure each inspection is completed for the site.

A preconstruction meeting is also held prior to installation of any permanent water quality BMPs. Following construction, permanent stormwater facilities are inspected for conformance with plans, specifications, and standards. Annual inspection of stormwater facilities will be conducted with maintenance being performed as required by the contractor, or CNU Facilities Management & Grounds Department staff.

In addition to measures discussed within this TMDL Action Plan, CNU has completed a Stormwater Master Plan in 2019. This Master Plan outlines several Stormwater Improvement and Capital Improvement projects that can be implemented on campus to meet future Permit Cycle pollutant reduction goals. Campus wide Stormwater Pollution Prevention Plans are to be submitted as part of the University's MS4 Program Plan to assist in facilitating the measures for maintaining current and future best management practices.

4. Estimated Existing Source Loads and Calculated Total Pollutant of Concern (POC) Required Reductions

MS4 Area Delineation

In order to estimate the existing source loads within CNU's regulated area, an MS4 boundary for the campus must be outlined. The MS4 area delineation as well as areas of pervious and impervious regulated land were determined based on data from the 2019 Stormwater Master Plan (SWMP). Area delineation was calculated in the SWMP using GIS data and survey for the CNU campus that was generated from previous CAD files and the City of Newport News GIS system. GIS data was supplemented by various record drawings of completed projects on the

CNU campus. If CNU expands or reduces its current campus area, the MS4 area delineation will need to be revised. A map of CNU's MS4 boundary can be found in *Appendix A*.

In accordance with DEQ's Chesapeake Bay TMDL Special Guidance, the University may exclude from its MS4 service area land regulated under any general VPDES permit that addresses industrial stormwater or forested land one half contiguous acre or more that meets specific criteria. The University has not identified any property with a VPDES industrial stormwater permit or forested area within its MS4 boundary. In the event that a property within the CNU campus obtains an industrial stormwater permit, further analysis would be necessary to determine if this property meets specific criteria to be excluded from the MS4 service area delineation.

Existing Source Loads

Existing source loads for phosphorus, nitrogen, and total suspended solids were calculated using 2009 Edge of Stream (EOS) loading rates specified in the MS4 General Permit. Since the CNU campus is the James River watershed, 2009 EOS rates were taken from *Table 3* of the MS4 General Permit. Loading rates were applied to impervious and pervious cover and summed in order to determine total existing source loads.

Refer to *Figure 2: TMDL Reduction Requirements* for existing source load calculations.

Total POC Reduction Requirements

Total pollutant of concern (POC) reduction requirements were calculated using 2009 EOS loading rates that were reduced to meet the final TMDL target goals as required by the Chesapeake Bay Watershed Implementation Plan (WIP). Loading rates for the James River watershed can be found in *Table 3* of the MS4 Permit. The loading rate reduction percentage is defined by the Chesapeake Bay WIP for each specific POC and land cover type. MS4 Impervious areas must show a reduction of 9.0% for nitrogen loads, 16% for phosphorous loads, and 20% for total sediment loads. MS4 Pervious areas must show a reduction of 6.0% for nitrogen, 7.25% for phosphorous, and 8.75% for total sediment loads. Reduced loading rates were then used to determine reduced final POC loads required at the end of the third permit cycle.

After determining the total net reduction required to meet TMDL target goals, the percent reduction for each POC for each permit cycle was calculated. Reduction required for pervious and impervious cover were summed to determine a total reduction required for each POC for each permit cycle. *Table 2* summarizes POC reduction requirements.

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Table 2: TMDL Reduction Requirements

Table 3a

		A	B	C	D	E	F	G	H	I	J
Pollutant	Subsource	Loading Rate (lbs/ac/ yr)[1]	Existing developed lands as of 6/30/09 served by the MS4 wihtin the 2010 CUA (acres)[2]	Loads (lbs/yr) [3]	Percentage of MS4 required Chesapeake Bay Total L2 loading	Percentage of L2 Required by 6/30/2023 (lbs/yr)	40% Cumulative reduction required by 6/30/2023 (lbs/yr) [4]	Sum of 40% cumulative reduction (lbs/yr) [5]	Percentage of L2 Required by 6/30/2028 (lbs/yr)	100% Cumulative reduction required by 6/30/2028 (lbs/yr)[6]	Sum of 100% cumulative reduction (lbs/yr)[7]
Nitrogen	Regulated Urban Impervious	9.39	76.90	722.09	9%	40%	26.00	39.79	100%	**64.99**	99.47
	Regulated Urban Pervious	6.99	82.22	574.72	6%	40%	13.79		100%	**34.48**	
Phosphorus	Regulated Urban Impervious	1.76	76.90	135.34	16%	40%	8.66	9.85	100%	**21.66**	24.64
	Regulated Urban Pervious	0.5	82.22	41.11	7.25%	40%	1.19		100%	**2.98**	
Sediment	Regulated Urban Impervious	676.94	76.90	52,056.69	20%	40%	4164.53	4455.41	100%	**10411.34**	11138.53
	Regulated Urban Pervious	101.08	82.22	8,310.80	8.75%	40%	290.88		100%	**727.19**	

1. Edge of stream loading rate based on the Chesapeake Bay Watershed Model Progress Run 5.3.2
2. To determine the existing developed acres required in column B, permittees should first determine the existing of their regualted service area based on the 2010 Census urbanized
3. Column C= Column A x Column B
4. Column F= Column C x Column D x Column E
5. Column G= The sum of subsource cumulative reduction required by 6/30/23 (lbs/yr) as calcaulted in Column F
6. Column I= Column C x Column D x Column H
7. Column J= The sum of subsource cumulative reduction required by 6/30/28 (lbs/yr) as calcaulted in Column I

Note: From Christopher Newport University- Municipal Separate Storm Sewer System (MS4) Annual Report- Reporting Year July 1, 2017-June 30, 2018. Revised for property on Shoe Lane, University Place, Sweetbriar Drive, Yoder Barn, President's House, and 232 Prince Drew Road.

Table 3a

		A	B	C	D	E	F	G	H	I	J
Pollutant	Subsource	Loading Rate (lbs/ac/ yr)[1]	Existing developed lands as of 6/30/09 served by the MS4 wihtin the 2010 CUA (acres)[2]	Loads (lbs/yr) [3]	Percentage of MS4 required Chesapeake Bay Total L2 loading	Percentage of L2 Required by 6/30/2023 (lbs/yr)	40% Cumulative reduction required by 6/30/2023 (lbs/yr) [4]	Sum of 40% cumulative reduction (lbs/yr) [5]	Percentage of L2 Required by 6/30/2028 (lbs/yr)	100% Cumulative reduction required by 6/30/2028 (lbs/yr)[6]	Sum of 100% cumulative reduction (lbs/yr)[7]
Nitrogen	Regulated Urban Impervious	9.39	2.65	24.88	9%	40%	0.90	1.08	100%	**2.24**	2.70
	Regulated Urban Pervious	6.99	1.10	7.69	6%	40%	0.18		100%	**0.46**	
Phosphorus	Regulated Urban Impervious	1.76	2.65	4.66	16%	40%	0.30	0.31	100%	**0.75**	0.79
	Regulated Urban Pervious	0.5	1.10	0.55	7.25%	40.00%	0.02		100.00%	**0.04**	
Sediment	Regulated Urban Impervious	676.94	2.65	1,793.89	20%	40%	143.51	147.40	100%	**358.78**	368.51
	Regulated Urban Pervious	101.08	1.10	111.19	8.75%	40.00%	3.89		100.00%	**9.73**	

Note: Shenandoah Hall transfer from real estate foundation to campus property.

5. Means and Methods to Meet the Required Reductions and Schedules

Best Management Practices

Best Management Practices (BMP) are used extensively by CNU to offset sources of pollutant loads. The University presently has a total of 2 BMPs to meet these offsets. The existing James River Residence Hall – Extended Detention Basin and Track Complex Stadium Seating – Extended Detention Basin are not included within the TMDL phosphorous loading as they were replaced by the Lake Maury BMP. It is a common CNU practice to construct BMPs as part of Capital Improvement Projects located on the University campus. These BMPs are intended to provide water quality treatment and to offset increases in pollutant loads that are associated with new developments. Additionally, these BMPs provide surplus treatment that can be used to offset permit cycle reduction requirements. The sum offset provided by existing condition BMPs provides enough pollutant removal credit to meet the 5% first permit cycle reduction requirements. In addition, existing BMPs provide surplus pollutant removal credits that can be applied to the second and third permit cycles. BMPs that are planned to be constructed with future CIPs and SIPs will provide additional credit towards the second and third permit cycle reduction requirements. Since phosphorus is considered a "keystone" pollutant, reduction calculations were performed to target solely phosphorus. Pollutant loading ratios found in *Table 4* of the MS4 General Permit regulations were used to calculate required TN and TSS reductions. Refer to *Appendix B* for a summary of the BMPs and associated pollutant offsets.

2019 Christopher Newport University Master Plan

The latest CNU Stormwater Master Plan (SWMP) is dated June 2019. One of the goals of the SWMP was provide a "menu" of Capital Improvement Projects, and Stormwater Improvement Projects that could be implemented to meet TMDL reduction goals through the use of a variety of BMPs. Of these projects, CNU is considering Stream Restoration of the Lake Maury Outfall Tributary and the installation of the Lot E1 Water Quality Structure. These projects provide the majority of the pollutant offset required to meet the University's TMDL goals. The remaining requirement will be met by the purchasing of offsite nutrient credits. An agreement with City of Newport News (neighboring MS4 operator) would be required with the stream restoration as it would treat both City and State property.

Stream Restoration of the Lake Maury Tributary is located on the southeast boundary of the CNU campus. Restoring the stream will provide significant pollutant reduction while also reestablishing heavily eroded stream banks. The restored stream channel will improve sediment and biological processes within the stream as well as the receiving Lake Maury.

Table 3 of this report summarize the means and methods to meet the required reductions.

Table 3: Means and Methods to Offset Increased Loads

Permit Cycle	Removal	POC Removal		
		TP	TN	TSS
TMDL (40%)	Removal Required	9.84	39.63	4,452.06
Lake Maury (40%)	Removal Required	0.58	3.02	244.14
2023 Prop Addition	Removal Required	0.79	2.70	368.51
2023	**Total Removal Required**	**10.63**	**42.33**	**4,820.57**
	2018 Removal Achieved	1.83	13.99	593.81
	2023 Removal Achieved	-0.16	-1.80	-1,837.39
2023	**Total Removal Achieved**	**1.67**	**12.19**	**-1,243.59**
2023	**TMDL Excess Removal***	**-8.96**	**-30.14**	**-6,064.16**
	Lake Maury Outfall- Stream Restoration	24.55	33.31	110,133.58
	Lot E1- Water Quality Structure	3.32	19.00	1,633.97
TMDL (100%)	Removal Required	24.60	99.07	11,130.14
Lake Maury (100%)	Removal Required	1.46	7.59	614.56
2028	**Total Removal Required****	**26.85**	**109.36**	**12,113.21**
2028	**TMDL Excess Removal**	**2.69**	**-44.86**	**98,410.74**
*Deficit to be supplemented by the purchase of offsite nutrient credits				
**2028 Total Removal Required includes 2023 Property Addition				
Note: Negative values indicate a deficit in the POC				

Offsite Nutrient Credit Purchases

In addition to using nutrient credits to aid CIPs in meeting their development goals the "General VPDES Permit for Discharges or Stormwater from Small Municipal Separate Storm Sewer Systems" effective November 1, 2018 allows the use of nutrient credits to meet TMDL requirements. Refer to the CNU MS4 permit (VAR040090) including nutrient credit requirements. A combination of Stormwater Improvement Projects and offsite nutrient credits will be required to meet the requirements of the 2023 and 2028 permit cycles. CNU plans to purchase offsite nutrient credits for the 2023 cycle to supplement the deficit shown in Table 3. The approximate rate of nutrient trading for the James River watershed is $15,000- $18,000 per pound phosphorus. This is a one-time fee. Another alternative being investigated by CNU, is the purchasing of HRSD SWIFT credits.

6. Means and Methods to Offset Increase Loads from New Sources Initiating Construction between July 1, 2009 and June 30, 2014

Between July 1, 2009 and June 30, 2018, a number of projects were constructed on the CNU campus. Projects constructed between July 1, 2009 and June 30, 2014 were subject to Technical Criteria IIC under the VSMP regulations and the technology-based criteria. Capital improvement projects typically offset increased pollutant loads on a project by project basis using BMPs. Projects during this time created a surplus of pollutant removal that was used for smaller projects and maintained to aid in campus requirements. To determine the deficit pollutant requirement for Lake Maury, the campus CBPA (technology-based criteria) was used to define the BMP credit and impervious area change from 36% to 16%. If project areas were not available an area was assumed based on the design plans.

7. Means and Methods to Offset Increased Loads from Grandfathered Projects Beginning Construction after July 1, 2014

CNU does not have any projects that qualify for grandfathering under 9VAC25-870-48. The Lake Maury BMP was designed based on the old CBPA technical criteria and constructed in 2009 and has been utilized for many of CNU's past development projects. However, according to CNU Athletics Expansion II- New Tennis Courts (Eyre Tennis Courts Phase II) the water quality capacity of the Lake Maury BMP has been met. Therefore, the Lake Maury BMP cannot be used for any future projects and does not provide treatment credit towards the TMDL Reductions goals.

8. List of Future Projects Qualifying as Grandfathered

CNU has not identified any projects that qualify to be grandfathered under 9VAC25-870-48.

9. Estimated Cost of Compliance

Since existing BMPs provided first permit cycle pollutant offsets, estimated costs include only operation and maintenance that are required to keep existing BMPs functioning. These costs are summarized in *Table 4* of this report.

Table 4: Costs of Compliance (Operations and Maintenance)

BMP Type	Typical Cycle (years)	Cycle Cost ($)		Qty	Total Cost ($/year)
Bioretention Basin	1	1,000	per basin	4	$ 4,000
Detention Basins	1	750	per basin	1	$ 750
Water Quality Structure	1	2,500	per structure	1	$ 2,500
Stream Restoration	1	5	per LF	570	$ 2,850
Underground Detention	1	2,000	per pond	1	$ 2,000
Permeable Pavers	1	1,500	per acre	0.50	$ 750
Lake Maury*	1	10,000		1	$ 10,000
Total BMP's				10	
Yearly Cost					$ 22,850

*Based on the Lake Maury Watershed Management Plan dated May 9, 2003

**Includes existing and proposed BMPs listed in Appendix B for the 2023 permit cycle

Projects including the construction of stream restoration and the Lot E1 water quality structure are expected to provide pollutant offsets in the third permit cycles. Estimated construction costs are summarized in *Table 5* of this report. Cost breakdowns of the Lake Maury Outfall Stream Restoration can be found in *Appendix C*.

Table 5: Costs of Compliance (New Projects)

Name/Description	Reduction Means/Methods	Estimated Total Cost ($)	Phosphorus Removed (lbs.)	Estimated Cost per Pound of Phosphorus Removed ($/lb.)
Lake Maury Outfall	Stream Restoration	$1,017,750	38.76*	$26,258
Lot E1- Water Quality Structure	Water Quality Structure	$565,800	3.32	$170,422

*Note: Total Phosphorous Removed includes both City of Newport News and CNU credit. The anticipated CNU credit is 24.55 lbs./yr.

10. Public Comment

Part of the University's MS4 program includes Public Education and Outreach to students, faculty and staff. As part of this program, this TMDL Action Plan will be available on the University's Stormwater Management webpage. A two-week public comment period will take place which will provide an opportunity the CNU community to provide feedback. Public comments and feedback will be considered and incorporated into this Action Plan before final completion.

Appendix A: Figures

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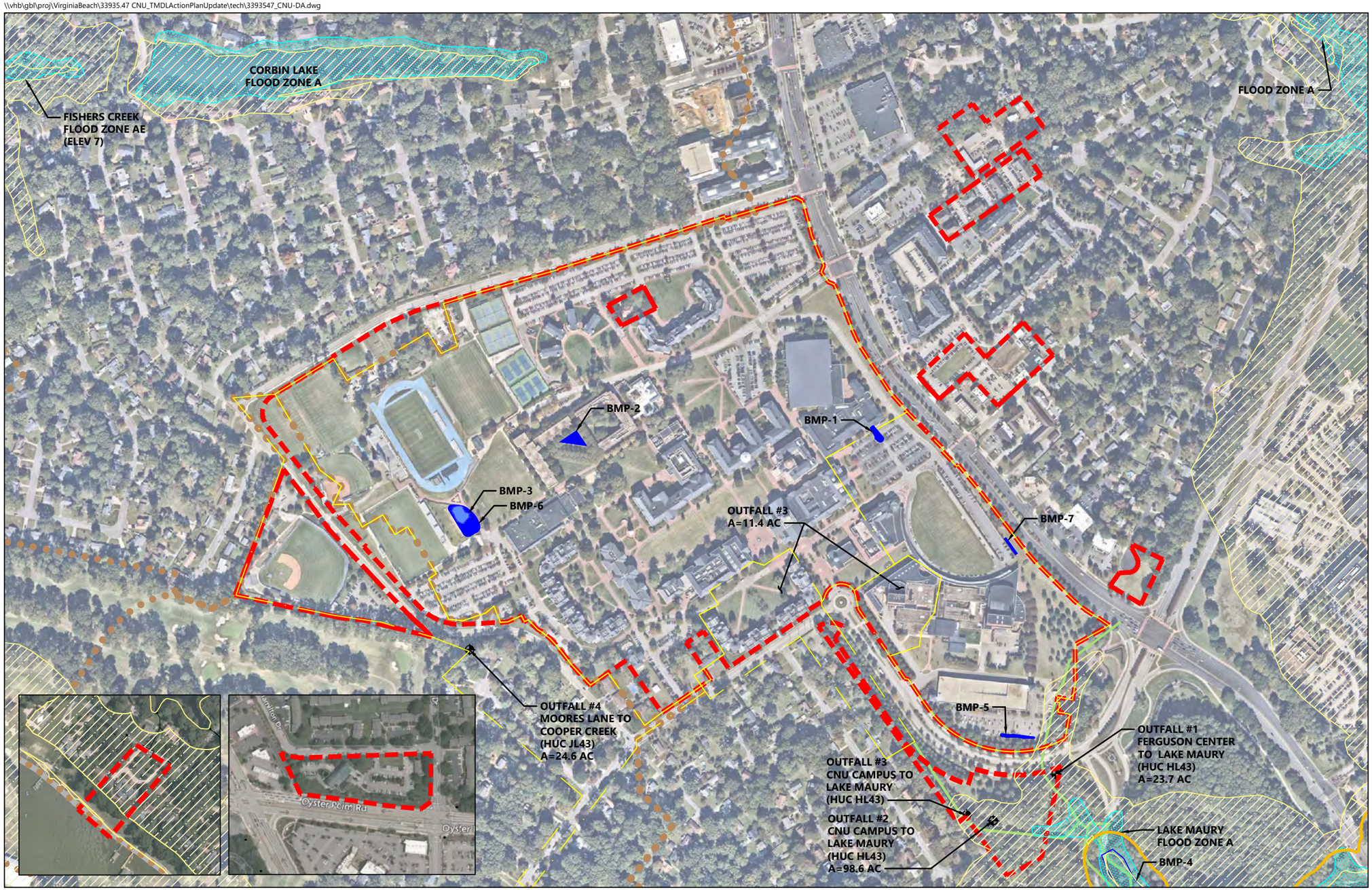

CHRISTOPHER NEWPORT UNIVERSITY

Legend

- CAMPUS AREA
- HUC DIVIDES
- DRAINAGE AREA
- WETLAND
- RESOURCE PROTECTION AREA (RPA)
- RESOURCE MANAGEMENT AREA (RMA)
- FLOOD ZONE
- EXISTING BMP
- DRAINAGE OUTFALL

EXISTING BMP

BMP-1	CONVOCATION, SPORTS & WELLNESS CENTER- WET POND (REMOVED)
BMP-2	JAMES RIVER RESIDENCE HALL- EXTENDED DETENTION BASIN
BMP-3	TRACK COMPLEX STADIUM SEATING- EXTENDED DETENTION BASIN (REMOVED)
BMP-4	LAKE MAURY
BMP-5	LOT A- BIORETENTION (LEVEL 1)
BMP-6	CAPTAINS TURF FIELD REPLACEMENT - BIORETENTION (LEVEL 1)
BMP-7	C2 PARKING - STORMKEEPER

OFFSITE CAMPUS AREA

YODER BARN- 660 HAMILTON DR

PRESIDENT'S HOUSE- 1205 RIVERSIDE DR

Figure 1: Existing Conditions

Stormwater Managment Master Plan

Christopher Newport University

Source:
Prepared for: **CNU**
Date: **January 2023**

0 250 500 1000Feet

vhb

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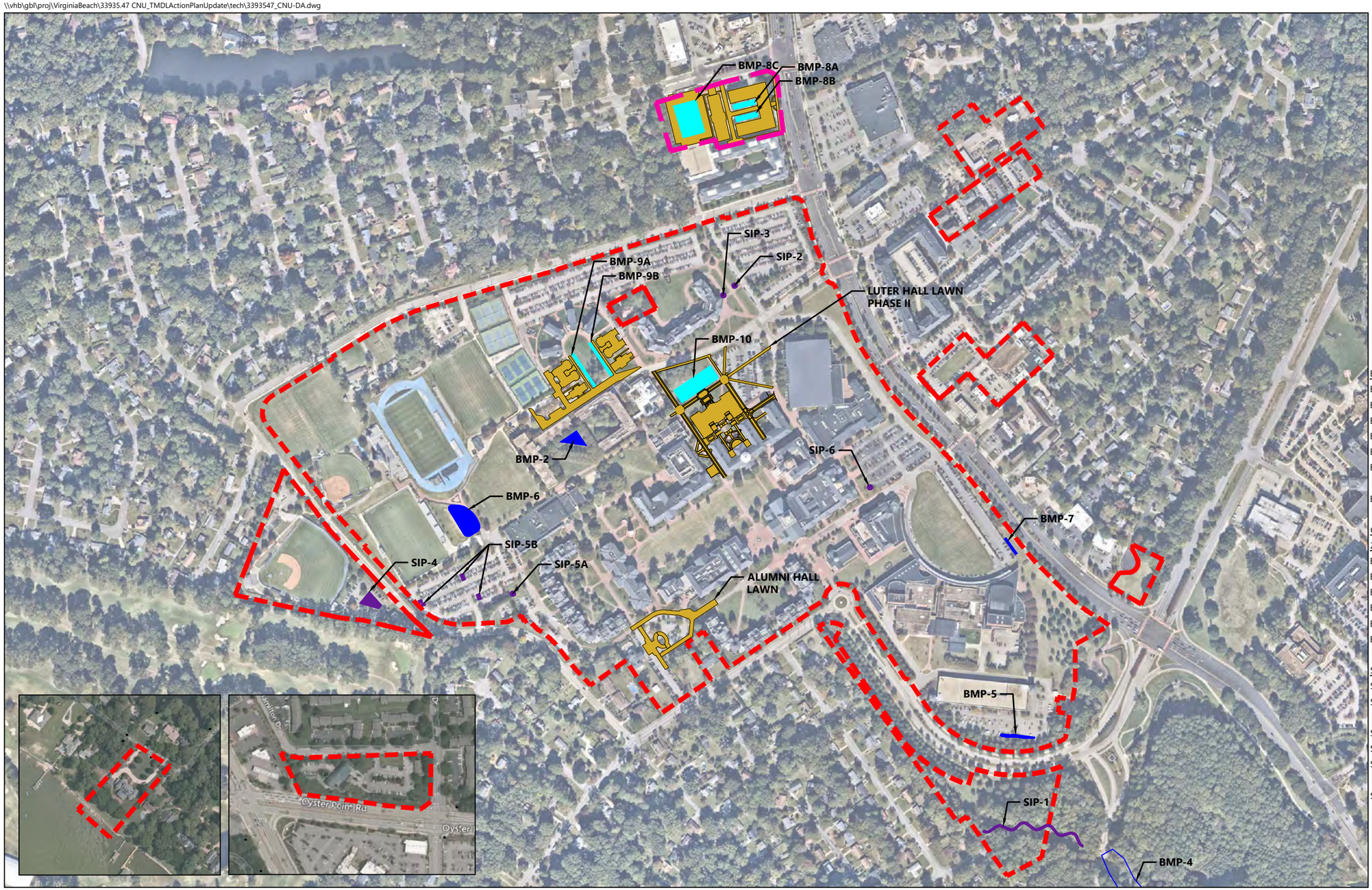


CHRISTOPHER NEWPORT UNIVERSITY

Legend

- CAMPUS AREA
- NEW CAMPUS AREA
- CAPITAL IMPROVEMENT PROJECT
- EXISTING BMP
- CAPITAL IMPROVEMENT BMP
- STORMWATER IMPROVEMENT BMP

EXISTING BMP

BMP-1	REMOVED
BMP-2	JAMES RIVER RESIDENCE HALL- EXTENDED DETENTION
BMP-3	REMOVED WITH BMP-6
BMP-4	LAKE MAURY
BMP-5	LOT A- BIORETENTION (LEVEL 1)
BMP-6	CAPTAINS TURF FIELD REPLACEMENT- BIORETENTION (LEVEL 1)
BMP-7	C2 PARKING- STORMKEEPER

CIP PROJECTS

2028 BMP

BMP-8A	SHENANDOAH RIVER HALL- BIORETENTION (LEVEL 1)
BMP-8B	SHENANDOAH RIVER HALL- BIORETENTION (LEVEL 1)
BMP-8C	SHENANDOAH RIVER HALL- PERMEABLE PAVERS (LEVEL 1)
BMP-9A	GREEK HOUSING PHASE II- WATER QUALITY STRUCTURE
BMP-9B	GREEK HOUSING PHASE II- WATER QUALITY STRUCTURE
BMP-10	ISCIII - WATER QUALITY STRUCTURE

SIP PROJECTS

SIP-1	LAKE MAURY OUTFALL- STREAM RESTORATION
SIP-2	LOT E1- (A) HYDRODYNAMIC DEVICE/ (B) WATER QUALITY STRUCTURE
SIP-3	LOT E2/E3- HYDRODYNAMIC DEVICE
SIP-4	LOT H- BIORETENTION (LEVEL 1)
SIP-5	LOT I- (A) WATER QUALITY STRUCTURE/ (B) LOT I- WATER QUALITY INLETS
SIP-6	LOT C1- HYDRODYNAMIC DEVICE

Figure 2: Proposed Conditions

Stormwater Managment Master Plan

Christopher Newport University

Source:
Prepared for: **CNU**
Date: **January 2023**

0 250 500 1000Feet

vhb

Appendix B:
Load Pollutant Offsets

CHRISTOPHER NEWPORT UNIVERSITY

Campus TMDL Summary
Dated January 2023

vhb

			Site Area						BMP Information										TMDL					
Permit Cycle	Year	Project	Area (Acres)	Pre Impervious Area (acres)	Post Impervious Area (acres)	TP Removal Req (1)	TN Removal Req (2)	TSS Removal Req (2)	BMP Name	BMP Type	Location	Drainage Area	Impervious Area	P Percent Removal (1)	P Removal Provided (1)	N Percent Removal (3)	N Removal Provided (4)	TSS Percent Removal (3)	TSS Removal Provided (4)	TP	Campus	TN	Campus	TSS	Campus
		2018 Requirements				**1.23**	**4.95**	**556.51**													1.23		4.95		556.51
2018	Lake Maury	Lake Maury- Includes Folloiwng Projects	147.24	59.00	72.22	39.43	205.04	16597.40	Lake Maury			153.73	78.73	0.29	39.45	-	-	-	-	-	-	-	-	-	-
	2015	Student Success Center (Christopher Newport																							
	2013	New Hall Parking Lot Demo and Walkway Design (Luter Hall Lawn- Phase 1)																							
		CNU Bell Tower/ Hoinkes Plaza																							
	2014	CNU Tennis Center/ Eyre Tennis Courts Phase II																							
		Greek Housing Project - Phase 1																							
		Lake Maury Deficit (36-16%)- Permit 1				0.07	0.36	29.47												-0.07		-0.36		-29.47	
		David Student Union- Regattas																		0.00		0.00		0.00	
	2012	Grounds Maintenance Facility				1.14	5.93	479.86		Nutrient Credits				-	1.14	-	5.928	-	479.83	0.00		0.00		-0.04	
	2012	Demo Moores Lane	0.36	0.15	0.00	-0.20	-1.04	-84.19												0.20		1.04		84.19	
	2016	Demo 72 Shoe Lane	0.76	0.16	0.00	-0.19	-0.99	-79.98												0.19		0.99		79.98	
	2017-2018	Trible Library Expansion																		0.00		0.00		0.00	
	2018	BMP at Parking Lot A	1.69	1.06	1.06	0.00	0.00	0.00	BMP-5	Bioretention (Level 1)	Lot A	1.69	1.06	0.25	1.44	0.40	11.96	0.55	429.68	1.44		11.96		429.68	
																			SUM	**1.83**		**13.99**		**593.81**	
																			2018 Surplus		**0.60**		**9.04**		**37.30**
		2023 Requirements				**8.61**	**34.68**	**3895.55**													8.61		34.68		3895.55
		Lake Maury Deficit (36-16%)- Permit 2				0.51	2.65	214.68												-0.51		-2.65		-214.68	
	2019	E4 Parking (gravel)	0.90	0.00	0.63	1.12	5.82	471.45												-1.12		-5.82		-471.45	
	2021	Fine Arts Center	4.00	2.06	2.44	1.74	9.05	732.42	-	Nutrient Credits				-	1.74	-	3.83	-	0.00	0.00		-5.22		-732.42	
	2019	Captains Turf Field Replacement	5.30	1.33	1.87	1.92	9.98	808.19	-	Nutrient Credits				-	0.54	-	1.19	-	0.00	-1.38		-8.80		-808.19	
2023									BMP-6	Bioretention (Level 1)- Dry Swale		2.18	0.88	0.20	1.38	0.25	10.41	0.55	399.91	1.38		10.41		399.91	
	2021	C2 Parking	2.13	0.48	1.54	2.14	11.13	900.80	-	Nutrient Credits				-	1.29	-	2.84	-	0.00	-0.85		-8.29		-900.80	
									BMP-7	StormKeeper (Filtering Practice)		1.39	0.83	0.40	0.85	0.60	7.02	0.80	494.77	0.85		7.02		494.77	
		Added Property for Shenandoah River Hall				**0.79**	**2.70**	**368.51**												-0.79		-2.70		-368.51	
	future	Shenandoah River Hall	3.75	2.65	2.50	1.03	5.36	433.56		Permeable Pavement		1.00	1.00	0.25	1.27	0.25	9.10	0.55	372.32	0.24		3.74		-61.24	
										Bioretention (Level 1)		0.60	0.30	0.25	0.45	0.40	3.75	0.55	128.37	0.45		3.75		128.37	
	future	Alumni Hall Lawn	1.45	1.15	0.65	-0.27	-1.40	-113.65	-											0.27		1.40		113.65	
																			SUM	**-0.16**		**-1.80**		**-1837.39**	
																			2023 Surplus/Deficit		**-8.17**		**23.84**		**2020.86**
		2028 Requirements				**14.76**	**59.44**	**6678.08**													14.76		59.44		6678.08
2028		Lake Maury Deficit (36-16%)- Permit 3				0.88	4.58	370.42												-0.88		-4.58		-370.42	
	future	Greek Housing Phase II	2.80	1.50																0.00		0.00		0.00	
	future	Luter Hall Lawn Phase II	1.65	1.20																0.00		0.00		0.00	
	future	Indoor Batting Cages	0.22	0.04	0.15															0.00		0.00		0.00	
	future	Integrated Science Center Phase III	3.80	1.30	2.30															0.00		0.00		0.00	

Notes

(1) From Runoff Reduction Spreadsheet

(2) TP * Ratio of Phosphorous Loading Rate to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins

(3) From Guidance Memo 15-2005 Table V.C1- Chesapeake Bay Program BMPs, Established Effciencies

(4) BMP: Based on Loading Rates from Table 2a: Calculation Sheet for Estimating Existing Source Loads for the James River Basin Provided Removal= (Impervious * Loading Rate + Pervious * Loading Rate) * BMP Effciency

(4) Nutrient Credit: Based on Bank ratio of Phosphors to Nitrogen Removal (Cranston Mill Pond LLC bank ratio N= 2.2 *P)

Permit Cycle TMDL Requirements

Adjustments to Permit Cycle TMDL Requirements

No information provided

Based on Established Efficiences and Loading Rates

Nitrogen Removal based on Cranston Mill Pond LLC bank ratio to P of 2.2

Assumes removal based on "Ratio of Phosphorus to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins" for purchased Phosphorus nutrient credits.

No TSS credit provided for purchasing Phosophorus Credits for permit cycles after 2018

Based on Runoff Reduction

Table 2 a: Calculation Sheet for Estimating Existing Source Loads for the James River Basin (* Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)

Subsource	Pollutant	Total Existing Acres Served by MS4 (06/30/09)	2009 EOS Loading Rate (lbs/acre/yr)	Estimated Total POC Load Based on 2009 Progress Run (lbs/yr)
Regulated Urban Impervious	Nitrogen		9.39	
Regulated Urban Pervious			6.99	
Regulated Urban Impervious	Phosphorus		1.76	
Regulated Urban Pervious			0.5	
Regulated Urban Impervious	Total Suspended Solids		676.94	
Regulated Urban Pervious			101.08	

Table 4: Ratio of Phosphorous Loading Rate to Nitrogen and Total Suspended Solids Loading Rates for Chesapeake Bay Basins

Ratio of Phosphorous to Other POCs (Based on All Land Uses 2009 Progress Run)	Phosphorous Loading Rate (lbs/acre)	Nitrogen Loading Rate (lbs/acre)	Total Suspended Solids Loading Rate (lbs/acre)
James River Basin	1.0	5.2	420.9
Potomac River Basin	1.0	6.9	469.2
Rappahannock River Basin	1.0	6.7	320.9
York River Basin	1.0	9.5	531.6

Table V.C.1 – Chesapeake Bay Program BMPs, Established Efficiencies

BMP	Nitrogen Percent Effectiveness	Phosphorus Percent Effectiveness	Sediment Percent Effectiveness
Bioretention/raingardens	70	75	80
Bioswale	70	75	80
Dry Detention Ponds and Hydrodynamic Structures	5	10	10
Stormwater to the Maximum Extent Practicable (SW to the MEP)	50	60	90
Erosion and Sediment Control	25	40	40
Erosion and Sediment Control on non-regulated pervious urban	25	40	40
Erosion and Sediment Control on extraction land use	25	40	40
Dry Extended Detention Ponds	20	20	60
Urban Filtering Practices	40	60	80
*Urban Forest Buffers	*	*	*
Urban Infiltration Practices - no sandiveg no underdrain	80	85	95
Urban Infiltration Practices - with sandveg no underdrain	85	85	95
Permeable Pavement - no sandveg with underdrain with AB soils	45	50	70
Permeable Pavement - with sandveg with underdrain with AB soils	50	50	70
MS4 Permit-Required Stormwater Retrofit	25	35	65
*Street sweeping 25 times a year	*	*	*
Urban Nutrient Management	17	22	0
Vegetated Open Channel – Urban	45	45	70
Wet Ponds and Wetlands	20	45	60

* See most recent expert panel reports

Performance Based Water Quality Calculations Appendix 5D - VSMH

WORKSHEET 1

Project CNU Lake Maury PRJ #- Date : 5-Nov-19

1 Determine the Applicable Area (A) and the post-developed Impervious Cover (I_{post}):

Applicable Area (A) = 147.24 acres

Post-Development Impervious Cover:

I_a of structures = acres

I_a of parking lots = acres

I_a of site = 72.22 acres

Total I_{post} = 72.22 acres

I_{post} = (total I_{post} / A) x 100

I_{post} = 49.05 %

2 Determine the average land cover condition ($I_{watershed}$) or the existing impervious cover:

$I_{watershed}$ = 16.00 % (Default $I_{watershed}$ = 16%)

Existing Impervious Cover($I_{existing}$): Existing Served by a BMP? n

I_a of structures = acres

I_a of parking lots = acres

I_a of roadways = acres

I_a of site = 59.00 acres

Total I_{exist} = 59.00 acres

I_{exist} = (total I_{post} / A) x 100

I_{exist} = 40.07 %

3 Determine the appropriate development situation:

Situation 1 -
Situation 2 -
Situation 3 - X - Go to worksheet 3
Situation 4 -

Performance Based Water Quality Calculations Appendix 5D - VSMH

Worksheet 3 : Situation 3

Project CNU Lake Maury PRJ #- Date : 5-Nov-19

Summary of values from Worksheet #1:

Applicable Area (A) =	147.24	acres
I_{post} =	*49.05*	%
$I_{watershed}$ =	*16.00*	%
$I_{existing}$ =	*40.07*	%

4 Determine the relative pre-development load(L_{pre}):

Based on existing Impervious cover:

$L_{pre(existing)}$ = 137.85 lbs/year

Based on average land cover condition:

$L_{pre(watershed)}$ = 65.13 lbs/year

5 Determine the relative post-development load(L_{post}):

$L_{post)}$ = 164.98 lbs/year

6 Determine the relative pollutant removal requirement(RR):

RR = L_{post} - $L_{pre(watershed)}$

RR = 99.85 lbs/year

OR

RR = L_{post} - (0.9*$L_{pre(existing)}$)

RR = 40.91 lbs/year

Use the lesser of the two values:

RR = **40.91** lbs/year

7 Indentify best management practice(BMP) for the site:

A. Determine the required pollutant remoal efficiency for the site:

EFF = (RR/Lpost)*100

EFF = *24.80* %

B. Select BMP from Table 5-15 and give location on site:

BMP 1: Lake Maury	A_{bmp1}= 153.73	EFF_{bmp1}= 0.2929	I_{bmp1}= 51.2
BMP 2:	A_{bmp2}=	EFF_{bmp2}=	I_{bmp2}=
BMP 3:	A_{bmp3}=	EFF_{bmp3}= 0	I_{bmp3}= 0.0

A_{bmp} = Drainage area of proposed BMP(acres)

EFF_{bmp} = Pollutant removal efficiency of BMP(decimal form)

I_{bmp} = impervious percentage of A_{bmp} (expressed as a whole number)

Performance Based Water Quality Calculations Appendix 5D - VSMH

Worksheet 3 : Situation 3

Project CNU Lake Maury PRJ #- Date : 5-Nov-19

C. Determine the pollutant load entering the proposed BMP(s), L_{bmp}:

$$L_{bmp} = (0.05+(0.009*I_{bmp}))*A_{bmp}*2.28$$

L_{bmp1} =	179.07	lbs/year
L_{bmp2} =	0.00	lbs/year
L_{bmp3} =	0.00	lbs/year

D. Calculate the pollutant load removed by the proposed BMP(s):

$$L_{removed} = EFF_{bmp} * L_{bmp}$$

$L_{removed/bmp1}$ =	52.45	lbs/year
$L_{removed/bmp2}$ =	0.00	lbs/year
$L_{removed/bmp3}$ =	0.00	lbs/year

E. Calculate the **total** pollutant load removed by the BMP(s):

$L_{removed/total}$ =	**52.45**	lbs/year

F. Verify Compliance:

COMPLIANCE

$L_{removed/total}$	≥	RR
52.45	≥	**40.91**

13.00	**VDOT REQUIREMENT**
53.91	**TOTAL REQUIREMENT**
1.46	**DEFECIT FROM 36% TO 16%**
0.07	5% REQUIRED 1ST PERMIT CYCLE
0.51	35% REQUIRED 1ST PERMIT CYCLE
0.88	60% REQUIRED 1ST PERMIT CYCLE

Appendix C: References

VHB - Stormwater Group

2019 CNU Stormwater Master Plan

Construction Cost Opinion

PROJECT/PROJECT # : 33935.04

LOCATION : Newport News, VA

CLIENT: Christopher Newport University

DATE PREPARED : May 22, 2019

BASIS FOR ESTIMATE:

X STUDY

PRELIMINARY DESIGN

FINAL DESIGN

FILE NAME: \\vhb\gbl\proj\VirginiaBeach\33935.04 CNU SWMP\tech\Stormwater\FINAL\Cost Opinion\[Cost Opinion SIP.xls]Stream

4500 Main Street Suite 400
Virginia Beach, VA 23462
P 757.490.0132
F 757.490.0136

ITEM NO	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST	COMMENTS
	LAKE MAURY OUTFALL - STREAM RESTORATION					
1	MOBILIZATION	1	LS	$10,000	$10,000	
2	DEMOLITION	1	LS	$15,000	$15,000	
3	STREAM RESTORATION (MATERIALS, INSTALLATION, & MONITORING)	570	LF	$1,250	$712,500	
						Pounds Phosphorus Removed
						38.76
						Initial Cost per Pound of Phosphorus Removed
						$26,258
				TOTAL	**$737,500**	
				15% Design Contingency	$110,625	
				8% General Conditions	$59,000	
				15% Construction Contingency	$110,625	
				TOTAL	**$1,017,750**	

VHB - Stormwater Group

2019 CNU Stormwater Master Plan

Construction Cost Opinion

PROJECT/PROJECT # : 33935.04

LOCATION : Newport News, VA

CLIENT: Christopher Newport University

DATE PREPARED : May 22, 2019

BASIS FOR ESTIMATE:

X STUDY

PRELIMINARY DESIGN

FINAL DESIGN

FILE NAME: \\vhb\gbl\proj\VirginiaBeach\33935.04 CNU SWMP\tech\Stormwater\FINAL\Cost Opinion\[Cost Opinion SIP.xls]Lot E1- WQS

4500 Main Street Suite 400
Virginia Beach, VA 23462
P 757.490.0132
F 757.490.0136

ITEM NO	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST	COMMENTS
	LOT E1 - WATER QUALITY STRUCTURE					
1	MOBILIZATION	1	LS	$10,000	$10,000	
2	DEMOLITION	1	LS	$15,000	$15,000	
3	UTILITY ADJUSTMENTS	1	LS	$25,000	$25,000	
4	WATER QUALITY STRUCTURE	1	EA	$360,000	$360,000	
						Pounds Phosphorus Removed
						3.32
						Initial Cost per Pound of Phosphorus Removed
						$170,422

TOTAL	**$410,000**
15% Design Contingency	$61,500
8% General Conditions	$32,800
15% Construction Contingency	$61,500
TOTAL	**$565,800**

Christopher Newport University
Campus Map

BUILDINGS/AREAS

1. Christopher Newport Hall
   a. Admission Welcome Center
2. CNU Apartments
   a. Harrison
   b. Monroe
   c. Madison
   d. Jefferson
   e. Washington
3. CNU Landing
4. CNU North
5. CNU Village
   a. Taylor
   b. Tyler
   c. Wilson
6. Commonwealth Hall
7. David Student Union
   a. Captains Locker
   b. Regattas
8. Ferguson Center for the Arts
   a. Diamonstein Concert Hall
   b. Peebles Theatre
   c. Studio Theatre
9. Ferguson Center Parking Deck
   a. Parking Services
10. Forbes Hall
11. Freeman Center
    a. Field House
    b. Gaines Theatre
    c. Trieshmann Health & Fitness Pavilion
    d. Windsor Health & Counseling Center
12. Great Lawn
13. Greek Village
14. Grounds Department
15. Hiden-Hussey Commons
16. Hoinkes Plaza/Bell Tower
17. James River Hall
18. Klich Alumni House
19. Luter Hall
20. Mary M. Torggler Fine Arts Center
21. McMurran Hall
22. Military Science Building
23. Plant Operations Warehouse
24. Pope Chapel
25. Potomac River Hall
    a. North
    b. South
26. Presidents Hall
27. Rappahannock River Hall
28. Ratcliffe Hall
29. Santoro Hall
30. Saunders Plaza
31. Trible Library
    a. Einstein's Cafe
32. University Police
33. Warwick River Hall
34. York River Hall
    a. East
    b. West

ATHLETICS FIELDS

A1. Belk Track
A2. Captains Field - Soccer
A3. Captains Park - Baseball
A4. Captains Park - Softball
A5. Jennings Family Stadium - Field Hockey/Lacrosse
A6. Eyre Tennis Courts
A7. TowneBank Football Stadium
A8. Practice Fields

PARKING: (Lots are named by letter)

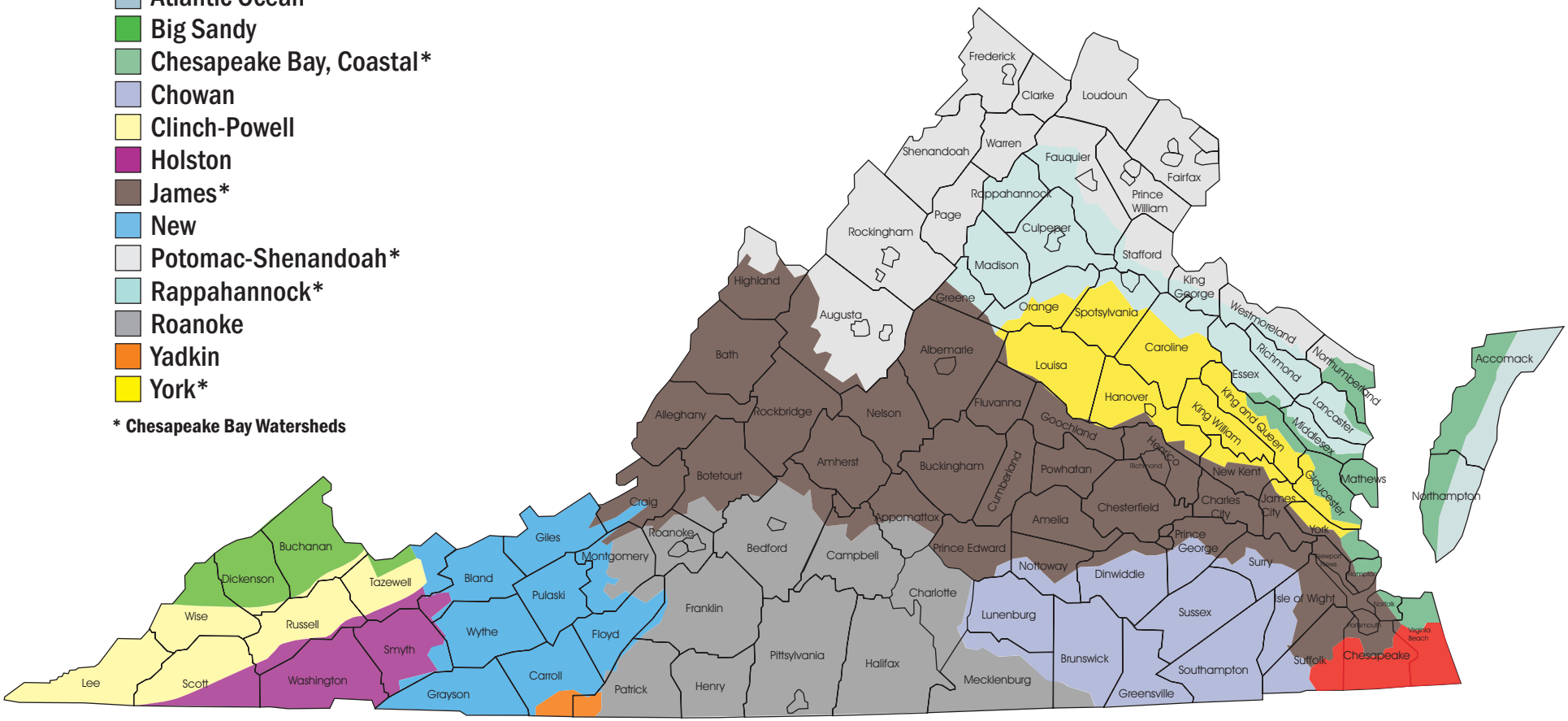
- CNU Apartments, CNU Landing, Presidents Hall
- CNU Village Parking Deck
- Main Campus Residents
- Main Campus Residents, Faculty/Staff
- Main Campus Residents, Day Student, Faculty/Staff
- Day Student, Faculty/Staff
- Faculty/Staff
- Rappahannock River Hall Parking Deck
- Open (with any valid CNU decal)
- Visitor Parking
- Retail Only

Updated: 08/2022

Virginia's Major Watersheds

- Albemarle Sound, Coastal
- Atlantic Ocean
- Big Sandy
- Chesapeake Bay, Coastal*
- Chowan
- Clinch-Powell
- Holston
- James*
- New
- Potomac-Shenandoah*
- Rappahannock*
- Roanoke
- Yadkin
- York*

* Chesapeake Bay Watersheds



DCR

Virginia Department of Conservation and Recreation

HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION

THIS HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION (this "Agreement") is made effective June 29, 2023, by and between the Hampton Roads Sanitation District, a public body and political subdivision of the Commonwealth of Virginia ("HRSD"), and Christopher Newport University, a public university of the Commonwealth of Virginia, located in Newport News ("CNU") (each a "Party" and jointly the "Parties").

BACKGROUND

A. The HRSD Plants. HRSD owns and operates various wastewater treatment plants that are authorized to discharge the nutrients total nitrogen ("TN") and total phosphorus ("TP") as well as sediment as total suspended solids ("TSS") to the Chesapeake Bay watershed (the "HRSD Plants"). The HRSD Plants have TN, TP and TSS waste load allocations assigned by the State Water Control Board and the Virginia Department of Environmental Quality (jointly, "DEQ") pursuant to the Water Quality Management Planning Regulation, 9 VAC 25-720, and by the U.S. Environmental Protection Agency ("EPA") pursuant to the Chesapeake Bay Total Maximum Daily Load ("TMDL") and related Virginia Watershed Implementation Plan ("WIP"). The HRSD Plants are subject to the General Virginia Pollutant Discharge Elimination System ("VPDES") Watershed Permit Regulation for TN and TP Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia, 9 VAC 25-820, most recently reissued by DEQ effective January 1, 2022, as hereafter modified or reissued from time to time (the "Watershed General Permit"). Due to exceptional performance and current operating conditions, the HRSD Plants currently discharge less TN, TP and TSS than they are authorized to discharge under the Watershed General Permit while protecting Chesapeake Bay water quality and, therefore, HRSD has the ability to provide TN, TP and TSS credits on at least a temporary basis.

B. The CNU MS4. CNU owns and operates a municipal separate stormwater sewer system ("MS4") authorized to discharge TN, TP and TSS to the Chesapeake Bay watershed. Like the HRSD Plants, the MS4 is subject to the Chesapeake Bay TMDL as derived from the Virginia WIP. The CNU MS4 is also subject to the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems ("MS4 Permit") issued by DEQ. Pursuant to the TMDL, WIP and MS4 Permit, it is anticipated that CNU will reduce MS4-related TN, TP and TSS discharges pursuant to CNU-developed and DEQ-approved TMDL Action Plans for each of three, five-year permit cycles, which are referred to as the First Bay TMDL Permit Cycle (5% Progress), Second Bay TMDL Permit Cycle (40% Progress), and Third Bay TMDL Permit Cycle (100% Progress). As of the date of this Agreement, CNU is in the final year of its Second Bay TMDL Permit Cycle.

C. The SWIFT Project. HRSD's Sustainable Water Initiative For Tomorrow ("SWIFT") Project was conceived with multiple benefits in mind for the Hampton Roads region. Aside from TMDL benefits, this innovative water purification project is designed to enhance the sustainability of the long-term groundwater supply and help address other environmental pressures such as sea level rise and saltwater intrusion. The SWIFT Project is intended to achieve these benefits by taking already-treated wastewater that would otherwise be discharged into the Chesapeake Bay watershed, purifying it through additional rounds of advanced water treatment to

meet drinking water standards, and injecting the resulting drinking quality water into the Potomac aquifer deep underground. With respect to TMDL benefits, SWIFT will result in a significant reduction in the total volume of HRSD discharge to the Chesapeake Bay watershed, to achieve greater environmental benefits with corresponding significant reductions of TN, TP and TSS discharges to the Chesapeake Bay watershed.

D. Legal Authority. Pursuant to Virginia Code § 62.1-44.19:21, CNU may acquire and use TN and TP credits for purposes of compliance with the Chesapeake Bay TMDL loading reductions of its MS4 Permit, including credits generated by the HRSD Plants by discharging less TN or TP than permitted under the Watershed General Permit. Pursuant to Virginia Code § 62.1-44.19:21.1, CNU may also acquire and use TSS credits for purposes of compliance with the Chesapeake Bay TMDL loading reductions of its MS4 Permit, including credits generated by the HRSD Plants by discharging less TSS than allocated under the Chesapeake Bay TMDL. With respect to all three parameters, it is recognized that this authority does not limit or otherwise affect the authority of DEQ to establish and enforce more stringent water quality-based effluent limitations in permits where such limitations are necessary to protect local water quality and, further, that the use of water quality credits does not relieve an MS4 permit holder of any requirement to comply with applicable local water quality-based limitations.

E. Redevelopment-Based MS4 TMDL Action Plan. CNU expects to achieve its Chesapeake Bay TMDL reduction goals more cost-effectively by utilizing HRSD-generated TN, TP and TSS credits before and during operation of the SWIFT Project in lieu of stormwater retrofit projects coupled with ongoing stormwater quality improvements from redevelopment projects, which are subject to TP reduction criteria (and associated TN and TSS reductions) under the applicable water quality design requirements of DEQ's Virginia Stormwater Management Program Regulation, 9VAC25-870-63.A.2. In addition, this cost-effective approach to CNU's Chesapeake Bay TMDL Action Plan implementation will also conserve scarce state resources for other important water quality projects or public education purposes.

F. Credit Trading Premise of SWIFT. For all of the above reasons and others, the ability to generate TN, TP, and TSS credits through the SWIFT Project and apply those credits as progress under MS4 Permits and associated TMDL Action Plans of entities such as CNU is a fundamental premise for the SWIFT Project. HRSD is proceeding with the SWIFT Project, and CNU is supporting it, in large part based on reliance on these water quality trading-based benefits.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing premises (hereby incorporated as if fully set forth herein), the mutual covenants and conditions herein, and other good and valuable consideration, the receipt and sufficiency of which HRSD and CNU acknowledge, the Parties hereby agree as follows.

1. Credit Quantities. HRSD agrees to sell to CNU, and CNU agrees to purchase from HRSD, TN, TP and TSS credits generated by HRSD in accordance with the quantities established on the Credit Schedule set forth in Attachment A hereto, such quantities being in the amount

requested by CNU to comply with the requirements of CNU's DEQ-issued MS4 Permit and DEQ-approved Chesapeake Bay TMDL Action Plan for the Second Bay TMDL Permit Cycle by the applicable deadline of October 31, 2023. CNU shall purchase such credits from HRSD in the quantities shown in Attachment A, even if CNU actually needs a lesser amount based on its actual BMP implementation or other factors. For purposes of this Agreement, "credit" means a "point source nitrogen credit" or "point source phosphorus credit" as defined in the Watershed General Permit or "sediment credit" as defined in Virginia Code § 62.1-44.19:21.1.

2. Annual Transfers. For each compliance year for which HRSD has agreed to supply a specific quantity of annual credits to CNU, such Credits shall automatically be transferred to CNU by operation of this Agreement effective on May 20 of each Transfer Year shown in Attachment A, unless HRSD notifies CNU on or before April 1 of the Transfer Year that such credits are not available for transfer due to circumstances identified in Paragraph 8 or otherwise reason that prevents HRSD from supplying such credits. For purposes of documenting effective credit transfers under this Agreement for its annual MS4 Permit reporting purposes, CNU is authorized to use the Water Quality Credit Transfer Annual Documentation Form set forth in Attachment B hereto without further action by HRSD.

3. Lump Sum Payment. Within 60 days after execution of this Agreement, HRSD shall submit an invoice to CNU in the total amount of $1,042.00 for the credit purchase cost for the credit transfers set forth in Attachment A. CNU shall pay the invoice in full within 30 days of the invoice date.

4. Authorized Use. CNU agrees that its sole and limited use of the credits transferred under this Agreement shall be for the purpose of MS4 Permit compliance and Chesapeake Bay TMDL implementation and that it shall not transfer any portion of HRSD-generated credits to any other person or entity.

5. Term. This Agreement shall be in effect as of the date first shown above upon execution by both Parties and shall expire on June 30, 2028. Notwithstanding the preceding sentence, if either Party fails to perform a material obligation hereunder, and fails to cure such failure to perform within thirty (30) days of written notice from the non-defaulting Party, the non-defaulting Party may terminate this Agreement upon written notice to the other Party.

6. Regulatory Plans & Approvals. In furtherance of this Agreement, the Parties shall collaborate on appropriate submittals to and requests from DEQ as set forth in this paragraph; however, HRSD shall have no responsibility for the failure or refusal of DEQ or other governmental authority to approve the credit transfers contemplated by this Agreement.

a. CNU's TMDL Action Plan. For purposes of annual credit transfers, CNU shall include in its future Chesapeake Bay TMDL Action Plan updates a provision for the receipt and use of TN, TP and TSS credits from HRSD in the form set forth in Attachment C hereto (or such other provision or provisions as may be mutually agreeable to CNU and HRSD).

b. Exchange Compliance Plan. HRSD is a member of the Virginia Nutrient Credit Exchange Association (the "Nutrient Exchange") and a participant in its Exchange

Compliance Plan previously submitted by the Nutrient Exchange to, and approved by, DEQ pursuant to the Watershed General Permit. During the next annual update of the Exchange Compliance Plan due to DEQ on or before February 1, 2024, HRSD shall notify the Nutrient Exchange of the credit transfer provided by this Agreement and instruct the Nutrient Exchange to account for such transfer in next Exchange Compliance Plan annual update.

c. TMDL & WIP Updates. Upon the request of either Party, the Parties agree to collaboratively seek continuing acceptance of the type of annual credit transfers contemplated by this Agreement in any update or revision by EPA to the Chesapeake Bay TMDL or by the Commonwealth of Virginia to its Chesapeake Bay TMDL WIP.

7. Mutual Cooperation. The Parties shall continue to cooperate with each other as reasonably necessary to confirm or bring about the transfers contemplated by this Agreement.

8. Permits & Approvals. If for any reason any federal, state, regional or local government or agency fails to issue any necessary permit, approval or other authorization for the SWIFT Project or the transfers contemplated by this Agreement, HRSD shall be excused from its performance hereunder.

9. Force Majeure. The obligations of HRSD, including its credit transfer obligations, shall be suspended while and as long as performance is prevented or impeded by (a) strikes, disturbances, riots, fire, severe weather, epidemic, pandemic, acts of war, acts of terrorism, acts of God, government action (other than by HRSD), material technical, engineering, construction or regulatory related delays affecting HRSD treatment facilities' planned upgrades or actual performance, or any other cause similar or dissimilar to the forgoing that is beyond the reasonable control of and not due to the gross negligence of HRSD; (b) any facts or circumstances that qualify as an Extraordinary Condition within the meaning of the Water Quality Improvement Grant Agreement by and between DEQ and HRSD for the nutrient removal technology upgrades of its treatment facilities; or (c) any facts or circumstances that qualify as an Upset within the meaning of the VPDES Permit Regulation, 9 VAC 25-31, or any permits issued thereunder to the HRSD.

10. Change in Law. In the event of any material change in applicable laws or regulations, the Parties shall work together to attempt to amend this Agreement to conform to such change, while maintaining as closely as practicable the provisions and intent of this Agreement. If in any such event HRSD is unable to transfer credits as provided herein, CNU shall be solely responsible for otherwise meeting its TMDL and MS4 Permit obligations.

11. Significant Financial & Budgetary Constraints. Notwithstanding any other provision of this Agreement or any prior determination of feasibility of the SWIFT Project, HRSD reserves the right to terminate or renegotiate this Agreement in the event HRSD experiences significant financial or budgetary challenges which, in HRSD's opinion, would significantly impair its ability to perform its obligations hereunder. In such event, the Parties shall work together to attempt to amend this Agreement to accommodate such challenges, with the goal of providing annual credits to CNU (and to other Hampton Roads entities with similar water quality credit agreements) as practical.

12. Credit Supply Constraints. Notwithstanding any other provision of this Agreement, to the extent that HRSD determines in its sole discretion that its available quantity of water quality credits is insufficient to meet the total MS4 Chesapeake Bay TMDL Action Plan compliance requirements of CNU and of all other Hampton Roads entities that are party or become party to a similar water quality credit agreement, HRSD's obligations hereunder shall be limited to transferring to CNU its pro rata share of HRSD's available credits based on pollutant-specific total credit needs of all such Hampton Roads entities. HRSD agrees to provide CNU with notice of its ability only to transfer a pro rata share of HRSD's available credits as promptly as possible but no later than 90 days after becoming aware of the event limiting HRSD's ability to meet the total credit needs of all such Hampton Roads entities. For clarity, HRSD shall assume no obligation under this Agreement to install, upgrade, improve, or significantly alter the operation of any portion of its sewerage system or treatment works for purposes of providing water quality credits.

13. No Third-Party Beneficiaries. This Agreement is solely for the benefit of the Parties hereto and their permitted successors and assigns and shall not confer any rights or benefits on any other person or entity.

14. No Assignment. This Agreement, and the rights and obligations established hereunder, shall be binding upon and inure to the benefit of any successors of the Parties. However, no Party may transfer or assign this Agreement, or its rights or obligations hereunder, without the prior written consent of the other Party, which consent shall not be unreasonably withheld.

15. Expenses; Commissions. Except to the extent included in the lump sum payment due to HRSD as provided under Paragraph 2, each Party shall pay its own fees and expenses, including its own counsel fees, incurred in connection with this Agreement or any transaction contemplated hereby. The Parties represent and warrant to each other that they have not dealt with any business broker or agent who would be entitled to a brokerage commission or finder's fee as a result of this Agreement or any related transactions.

16. Governing Law; Venue; Severability. This Agreement shall be construed in accordance with and governed for all purposes by the laws of the Commonwealth of Virginia. In the event of any dispute concerning this Agreement that the Parties are unable to settle informally, exclusive venue for any legal action shall be the Commonwealth of Virginia. If any word or provision of this Agreement as applied to any Party or to any circumstance is adjudged by a court to be invalid or unenforceable, the same shall in no way affect any other circumstance or the validity or enforceability of any other word or provision.

17. No Waiver. Neither any failure to exercise or any delay in exercising any right, power or privilege under this Agreement by either Party shall operate as a waiver, nor shall any single or partial exercise of any right, power or privilege hereunder preclude the exercise of any other right, power or privilege. No waiver of any breach of any provision shall be deemed to be a waiver of any preceding or succeeding breach of the same or any other provision, nor shall any waiver be implied from any course of dealing.

18. Entire Agreement; Amendments. This Agreement contains the entire agreement between the Parties as to the subject matter hereof and supersedes all previous written and oral negotiations, commitments, proposals and writings. No amendments may be made to this Agreement except by a writing signed by both Parties.

19. Counterparts; Signatures; Copies. This Agreement may be executed in counterparts, both of which shall be deemed an original, but all of which together shall constitute one and the same instrument. A facsimile or scanned signature may substitute for and have the same legal effect as an original signature. Any copy of this executed Agreement made by photocopy, facsimile or scanner shall be considered the original for all purposes.

20. Authorization. Each Party represents that its execution, delivery and performance under this Agreement have been duly authorized by all necessary action on its behalf, and do not and will not violate any provision of its enabling legislation, charter, ordinances, articles of incorporation, bylaws, or regulations, as applicable, or result in a material breach of or constitute a material default under any agreement, indenture, or instrument of which it is a party or by which it or its properties may be bound or affected. To each Party's knowledge there are no actions, suits or proceedings, pending or threatened against such Party or any of its properties, before any court or governmental authority that, if determined adversely to such Party, would have a material adverse effect on the transactions contemplated by this Agreement. HRSD has caused this Agreement to be signed on its behalf by its General Manager in accordance with authorization granted by the HRSD Commission at its regular meeting held on April 25, 2023.

IN WITNESS WHEREOF, the Parties hereto have caused the execution of this Agreement as of the date first written above.

[SIGNATURES BEGIN ON NEXT PAGE]

HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION

SIGNATURE PAGE OF HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION BY AND BETWEEN HRSD AND CNU

HAMPTON ROADS SANITATION DISTRICT

By: _____

Jay A. Bernas
General Manager

[SIGNATURES CONTINUE ON FOLLOWING PAGE]

HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION

SIGNATURE PAGE OF HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION BY AND BETWEEN HRSD AND CNU

CHRISTOPHER NEWPORT UNIVERSITY

By: _____

[END OF SIGNATURES]

HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT
FOR CHESAPEAKE BAY RESTORATION

HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT
FOR CHESAPEAKE BAY RESTORATION
ATTACHMENT A

CREDIT SCHEDULE

Generation Year:	2022	2023	2024	2025	2026
Transfer Year:	2023	2024	2025	2026	2027
Parameter	Credit Quantity	Credit Quantity	Credit Quantity	Credit Quantity	Credit Quantity
TN	34.68	34.68	34.68	34.68	34.68
TP	8.61	8.61	8.61	8.61	8.61
TSS	3895.55	3895.55	3895.55	3895.55	3895.55

HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT FOR CHESAPEAKE BAY RESTORATION
ATTACHMENT B

WATER QUALITY CREDIT TRANSFER ANNUAL DOCUMENTATION FORM

Instructions: This form documents annual credit transfers for purposes of CNU's annual MS4 Permit reporting as provided in Paragraph 2 and Attachment A of the Hampton Roads Water Quality Credit Agreement for Chesapeake Bay Restoration by and between HRSD and CNU. Such transfers occur automatically each May 20 by operation of the Agreement, unless HRSD notifies CNU on or before April 1 that such credits are not available for transfer.

The following water quality credits, in the amounts specified below, have been transferred in by and in accordance with, and for the specific and limited purposes of, the Hampton Roads Water Quality Credit Agreement for Chesapeake Bay Restoration by and between HRSD and CNU.

Transferor:	HRSD James River Bubble
Transferee (MS4):	Christopher Newport University
TN Credit Quantity:	34.68 pounds
TP Credit Quantity:	8.61 pounds
TSS Credit Quantity:	3895.55 pounds
Year Generated / Date Transferred (check one):	___ 2022 Generation / May 20, 2023 Transfer
	___ 2023 Generation / May 20, 2024 Transfer
	___ 2024 Generation / May 20, 2025 Transfer
	___ 2025 Generation / May 20, 2026 Transfer
	___ 2026 Generation / May 20, 2027 Transfer

HAMPTON ROADS WATER QUALITY CREDIT AGREEMENT
FOR CHESAPEAKE BAY RESTORATION

ATTACHMENT C

DRAFT PROVISION FOR THE USE OF HRSD-GENERATED WATER QUALITY CREDITS FOR MS4 CHESAPEAKE BAY TMDL ACTION PLAN DEVELOPMENT

The intent of this plan is the generation and use of TN, TP and TSS credits before and during operation of the SWIFT Project in collaboration with HRSD pursuant to the Hampton Roads Water Quality Credit Agreement for Chesapeake Bay Restoration to which CNU and HRSD are signatories. This compliance method is in lieu of more traditional stormwater retrofit projects. Not only does this method have the advantage of more reliably meeting the MS4 Permit's short deadlines, but it is also beneficial to the public in that it will meet CNU's Chesapeake Bay TMDL reduction goals more cost-effectively than otherwise possible. This component of the plan is fully in accordance with Virginia Code §62.1-44.19:21 (TN and TP) and §62.1-44.19:21.1 (TSS). The quantity of reduction credits that are allocated to this TMDL Action Plan for the James River Basin are 34.68 lbs/yr TN, 8.61 lbs/yr TP, and 3,895.55 lbs/yr TSS.