MS4 PROGRAM PLAN ANNUAL REPORT

JAMES MADISON UNIVERSITY

Reporting Period: July 1, 2013 - June 30, 2014

James Madison University – Harrisonburg, Virginia
MS4 Program Plan Annual Report

Reporting Period: July 1, 2013 – June 30, 2014

Registration Number: VAR040112

In compliance with the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4)

Report Prepared by:
Dale Chestnut
Stormwater Coordinator
Facilities – Engineering & Construction
James Madison University
181 Patterson St., MSC 7004
Harrisonburg, VA 22807
(540) 568-7606
chestndl@jmu.edu

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Appendix A: Illicit Discharge Detection and Elimination (IDDE) Policy & Procedure
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Acronyms and Abbreviations

Bay	Chesapeake Bay	EPA	Environmental Protection Agency
BMP	Best Management Practice	ERP	Enforcement Response Plan
CWA	Clean Water Act	ESC	Erosion & Sediment Control
CSS	Combined Sewer System	FM	Facilities Management
DCR	Department of Conservation and Recreation	GIS	Geographic Information Systems
		GPS	Global Positioning System
DEQ	Department of Environmental Quality	HUC	Hydrologic Unit Code

IDDE	Illicit Discharge Detection & Elimination
JMU	James Madison University
MEP	Maximum Extent Practicable
MCM	Minimum Control Measure
MS	Minimum Standard
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
NOI	Notice of Intent
NOV	Notice of Violation
POC	Pollutants of Concern
RLD	Responsible Land Disturber
SOP	Standard Operating Procedures
TMDL	Total Maximum Daily Load
UA	Urbanized Area
VPDES	Virginia Pollution Discharge Elimination System
VSMP	Virginia Stormwater Management Program
WLA	Waste Load Allocation

Introduction

This document represents James Madison University's plan to meet the requirements of 9VAC25-890 General Virginia Stormwater Management Program (VSMP) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems.

Registration Statement

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

VSMP GENERAL PERMIT REGISTRATION STATEMENT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS [VAR04]

(Please Type or Print All Information)
(The applicable fee specified in Form DCR 199-145 must additionally be submitted to the address given in that form to obtain coverage)

1. **Regulated Small MS4**

Name: James Madison University

Type: ☐ City ☐ County ☐ Incorporated Town ☐ Unincorporated Town ☒ College or University
☐ Local School Board ☐ Military Installation ☐ Transport System ☐ Federal or State Facility ☐ Other

Location (County or City): City of Harrisonburg

2. **Regulated Small MS4 Operator**

Name: James Madison University

Address: 181 Patterson St., MSC 7004

City: Harrisonburg State: VA Zip: 22807

3. **Hydrologic Unit Code(s) as identified in the most recent version of Virginia's 6th Order National Watershed Boundary Dataset currently receiving discharges or that have potential to receive discharges from the regulated small MS4:**
020700050602 - PS22 - Blacks Run

4. **Attach a description of the estimated drainage area, in acres, served by the regulated small MS4 discharging to any impaired receiving surface waters listed in the most recent Virginia 305(b)/303(d) Water Quality Assessment Integrated Report, and a description of the land use of each such drainage area.**
See Section 1.3 Description of Drainage Areas of plan.

5. **Any TMDL waste loads allocated to the regulated small MS4 (this information may be found at http://www.deq.state.va.us/tmdl/develop.html):**
None

6. **The name(s) of any regulated physically interconnected MS4s to which the regulated small MS4 discharges.**
City of Harrisonburg, Virginia Department of Transportation (VDOT)

7. **A copy of the MS4 Program Plan that includes:**

a. A list of BMPs that the operator proposes to implement for each of the stormwater minimum control measures and their associated measurable goals pursuant to 4VAC50-60-1240, Section II B; that includes:

i. A list of the existing policies, ordinances, schedules, inspection forms, written procedures, and other documents necessary for BMP implementation; and

ii. The individual, department, division, or unit responsible for implementing the BMP;

b. The objective and expected results of each BMP in meeting the measurable goals of the stormwater minimum control measures;

c. The implementation schedule including any interim milestones for the implementation of a proposed new BMP; and

(DCR 199-148) (07/08)

d. The method that will be utilized to determine the effectiveness of each BMP and the program as a whole.

8. List all existing signed agreements between the operator and any applicable third parties where the operator has entered into an agreement in order to implement minimum control measures or portions of minimum control measures.

JMU does not have any signed agreements with other parties.

9. The name, address, telephone number and e-mail address of either the principal executive officer or ranking elected official as defined in 4VAC50-60-370.

Charles W. King, Jr., Senior Vice President, 91 Alumnae Drive MSC 7606, Harrisonburg, VA 22807
(540) 568-3400, kingcw@jmu.edu

10. The name, position title, address, telephone number and e-mail address of any duly authorized representative as defined in 4VAC50-60-370.

Dale Chestnut, Stormwater Coordinator, 181 Patterson St. MSC 7004, Harrisonburg, VA 22807, (540) 568-7606, chestndl@jmu.ed

11. **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."

Print Name: Charles W. King, Jr. Title: Senior Vice President

Signature: Charles W King Date: 2-11-13

For Department of Conservation and Recreation Use Only

Accepted/Not Accepted by: _____ Date: _____

Basin _____ Stream Class _____ Section _____ Special Standards _____

(DCR 199-148) (07/08)

SECTION 1: MS4 OVERVIEW

1.1 Organizational Structure

The Department of Sustainability is responsible for coordinating James Madison University's VSMP Phase II permit and for implementing a majority of the permit requirements. Additional information is gathered from several other departments including: Grounds/Landscaping, Operations, Power Plant, Recycling/Waste Management, Transportation, Risk Management, Integrated Science & Engineering and the Office of Environmental Stewardship & Sustainability.

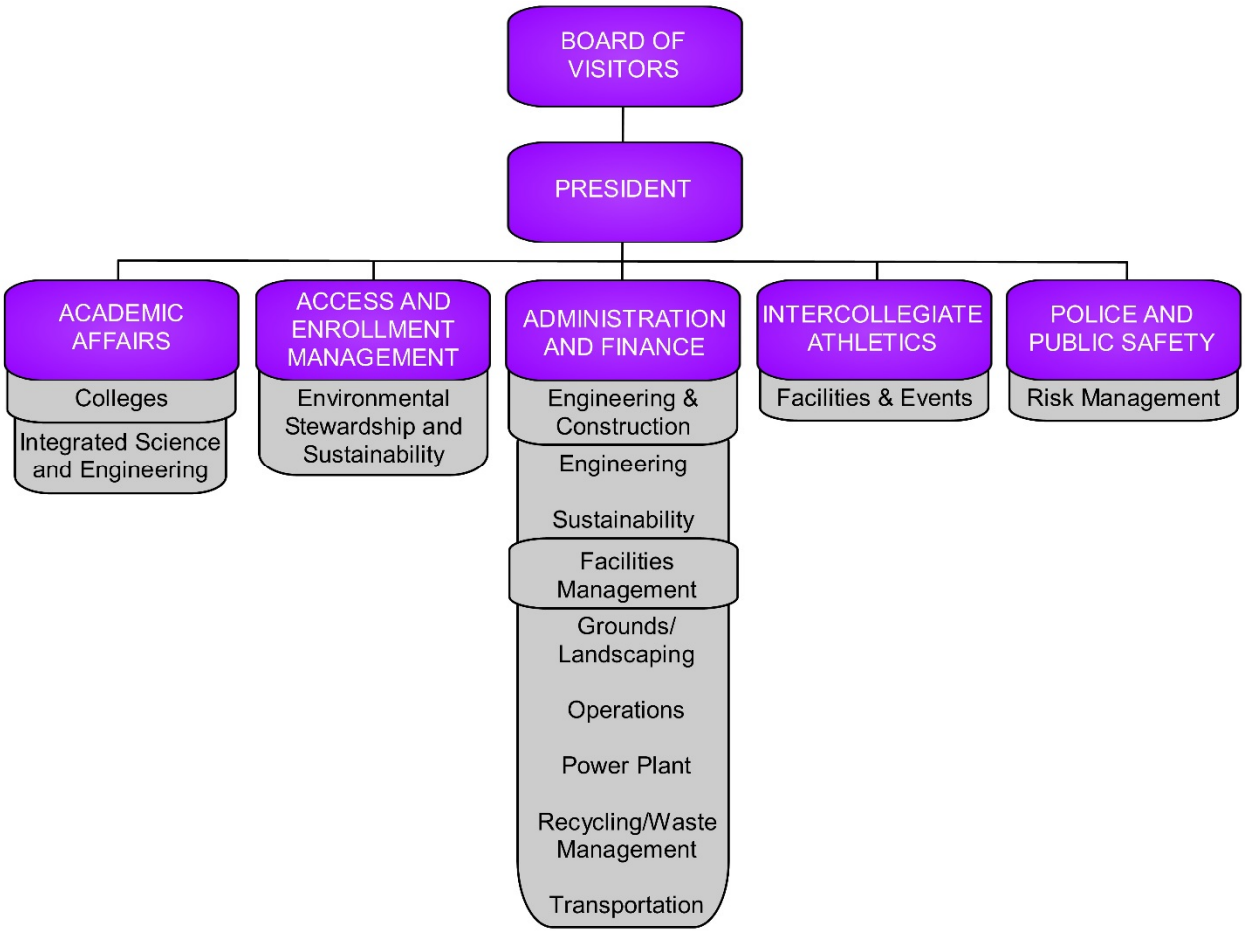

Figure 1. James Madison University Stormwater Management Organizational Structure

1.2 Contact Information

Principle Executive Officer:		Duly Authorized Representative:	
Title:	Senior Vice President	Title:	Stormwater Coordinator
Name:	Charles W. King, Jr.	Name:	Dale Chestnut
Address:	91 Alumnae Drive, MSC 7606 Harrisonburg, VA 22807	Address:	181 Patterson St., MSC 7004 Harrisonburg, VA 22807
Phone:	(540) 568-3400	Phone:	(540) 568-7606
Email:	kingcw@jmu.edu	Email:	chestndl@jmu.edu

Administration and Finance:		Sustainability:	
Title:	Senior Vice President	Title:	Stormwater Coordinator
Name:	Charles W. King, Jr.	Name:	Dale Chestnut
Address:	91 Alumnae Drive, MSC 7606 Harrisonburg, VA 22807	Address:	181 Patterson St., MSC 7004 Harrisonburg, VA 22807
Phone:	(540) 568-3400	Phone:	(540) 568-7606
Email:	kingcw@jmu.edu	Email:	chestndl@jmu.edu
Office of Environmental Stewardship & Sustainability:		FM – Grounds/Landscaping:	
Title:	Executive Director	Title:	Manager
Name:	C.J. Hartman	Name:	Frank Lucas
Address:	MSC 1106 Harrisonburg, VA 22807	Address:	MSC 7007 Harrisonburg, VA 22807
Phone:	(540) 568-3202	Phone:	(540) 568-3411
Email:	brodricj@jmu.edu	Email:	lucascf@jmu.edu
Risk Management:		FM – Operations:	
Title:	Environmental Health Coordinator	Title:	Administrative Analyst
Name:	Marcella Mullenax	Name:	Carlene Heatwole
Address:	131 W. Grace St., MSC 6703 Harrisonburg, VA 22807	Address:	MSC 7002 Harrisonburg, VA 22807
Phone:	(540) 568-4959	Phone:	(540) 568-1773
Email:		Email:	heatwocc@jmu.edu
Integrated Science & Technology:		FM – Power Plant:	
Title:	Professor	Title:	Manager
Name:	Thomas Benzing	Name:	Dennis Hart
Address:	MSC 4102 Harrisonburg, VA 22807	Address:	MSC 0501 Harrisonburg, VA 22807
Phone:	(540) 568-2794	Phone:	(540) 568-6235
Email:	benzintr@jmu.edu	Email:	hartdb@jmu.edu
Integrated Science & Technology:		FM – Recycling/Waste Management:	
Title:	Associate Professor	Title:	Manager
Name:	Wayne Teel	Name:	Tony Smith
Address:	MSC 4102 Harrisonburg, VA 22807	Address:	MSC 7007 Harrisonburg, A 22807
Phone:	(540) 568-2798	Phone:	(540) 568-8144
Email:	teelws@jmu.edu	Email:	smith2tr@jmu.edu

Integrated Science & Technology:	FM – Transportation:
Title: Assistant Professor	Title: Shop Supervisor
Name: Robert Brent	Name: Terry Hemp
Address: MSC 4102 Harrisonburg, VA 22807	Address: 181 Patterson St., MSC 7001 Harrisonburg, VA 22807
Phone: (540) 568-2728	Phone: (540) 568-6364
Email: brentrn@jmu.edu	Email: hemptl@jmu.edu
Facilities & Events:	
Title: Assistant Athletics Director	
Name: Ty Phillips	
Address: MSC 4703 Harrisonburg, VA 22807	
Phone: (540) 568-8810	
Email: phillidt@jmu.edu	

1.3 Description of Drainage Areas

James Madison University is located within the City of Harrisonburg and has approximately 20,000 students and 4,000 faculty and staff. The campus consists of nearly 686 acres of developed and undeveloped land comprising of academic buildings, student housing, recreation buildings, conference halls, parking areas, maintenance yards, athletic fields, a power plant and an arboretum.

Approximately 117 acres of the campus drain directly to Blacks Run while an additional 539 acres drain to either Sibert Creek or Newman Lake. Sibert Creek then flows into Blacks Run directly adjacent to the campus. The hydrologic unit code (HUC) from Virginia's 6th Order National Watershed Boundary Dataset (NWBD) for this drainage area is PS-22. Blacks Run is included on the state's Draft 2012 305(b)/303(d) Integrated Report as a Category 4A water body. Category 4A waters are those that are impaired and have been assigned a TMDL to address the impairments. Blacks Run has been deemed to be impaired due to elevated levels of fecal coliform and escherichia coli, as well as benthic-macroinvertebrate bioassessments.

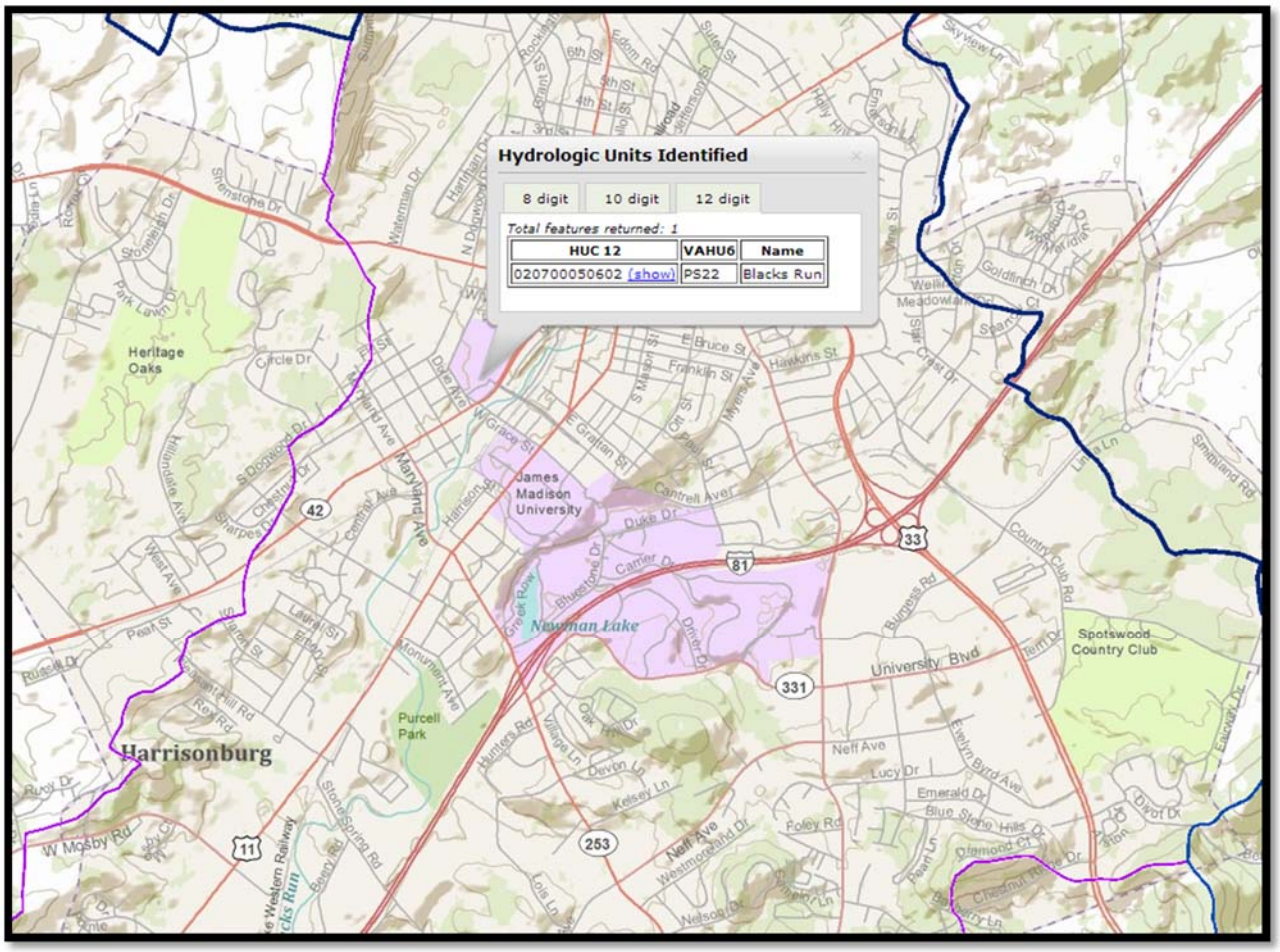

Figure 2. Hydrologic Unit Code (HUC), Source: Virginia Department of Conservation & Recreation

The University also owns a 30 acre tract of land located outside of the urbanized area, approximately 9 miles southeast of the main campus. This property consists primarily of wooded land and does not contain a storm sewer system.

SECTION 2: PROGRAM OVERVIEW

2.1 Program History

The 1972 amendments to the Federal Water Pollution Control Act, also known as the Clean Water Act or CWA; provide the statutory basis for the National Pollution Discharge Elimination System (NPDES) permit program and the basic structure for regulating the discharge of pollutants from point sources to waters of the United States. Under Section 402 of the CWA the Environmental Protection Agency is the authorized agency to develop and implement the NPDES program. Therefore, Congress amended the Federal Water Pollution Control Act (CWA) to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. The NPDES program is designed to track point sources and require the implementation of the best management

practices or controls necessary to minimize the discharge of pollutants. Initial efforts to improve water quality under the NPDES program primarily focused on reducing pollutants in industrial process wastewater and municipal sewage. These discharge sources were easily identified as responsible for poor water quality.

As pollution control measures for industrial process wastewater and municipal sewage were implemented and refined, it became increasingly evident that stormwater runoff was found to be a major cause of water quality impairment. In response to the 1987 Amendments to the Clean Water Act (CWA), the U.S. Environmental Protection Agency (EPA) developed Phase I of the NPDES Stormwater Program in 1990. The Phase I program addressed sources of stormwater runoff that had the greatest potential to impact water quality. Under Phase I, EPA required NPDES permit coverage for stormwater discharges from Medium and Large Municipal Separate Storm Sewer Systems with populations of 100,000 or more people, industrial activities, and construction activities that disturbed 5 or more acres.

In 1999, the EPA developed the Stormwater Phase II Final Rule which tightened the regulations that requires operators of regulated small municipal separate storm sewer systems (MS4s) to obtain a NPDES permit and develop a stormwater management program designed to prevent pollutants from being washed into the MS4 system during a storm event (or from being discharged directly into the MS4) and then discharged from the MS4 into local water bodies.

James Madison University falls under the Phase II regulations as a small municipal storm sewer system operator. Based on 40 CFR 122.26(b)(8), the definition of a "municipal separate storm sewer" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States. (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2."

Also what defines James Madison University under the MS4 program is that the university is considered to be within an urbanized area. By definition, an urbanized area (UA) is a land area comprising one or more places – central place(s) – and the adjacent densely settled surrounding area – urban fringe – that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile. It is a calculation used by the Bureau of the Census to determine the geographic boundaries of the most heavily developed and dense urban areas.

2.2 Program Type

As a state university, JMU is considered to be a non-traditional MS4. Due to this unique structure, some of the traditional program elements will need to be modified or may not be entirely applicable. Concerning the interpretation of "public" as it relates to the university for education, outreach and involvement, JMU considers its employees as part of the "public" for the purposes of compliance with this permit. This is in line with EPA's statement regarding "public" and its applicability to MS4 Programs administered by state entities as published in the Federal Register, Volume 64, No. 235 page 68,750 on December 8, 1999.

2.3 Program Evaluation

In accordance with the provisions of 9VAC25-890-40 Section II.E, James Madison University will annually evaluate the MS4 Plan for program compliance, the appropriateness of identified BMP's and the progress towards achieving the identified measurable goals.

SECTION 3: MINIMUM CONTROL MEASURES

The Phase II MS4 Program requirement found in 9VAC25-890-40 Section II.A states:
"*The operator of a small MS4 must develop, implement, and enforce a MS4 Program designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP), to protect water quality, to ensure compliance by the operator with water quality standards, and to satisfy the appropriate water quality requirements of the Clean Water Act and its attendant regulations. The MS4 Program must include the minimum control measures described in paragraph B of this section. Implementation of best management practices consistent with the provisions of an iterative MS4 Program required pursuant to this section constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable," protects water quality in the absence of a TMDL wasteload allocation, ensures compliance by the operator with water quality standards, and satisfies the appropriate water quality requirements of the Clean Water Act and regulations in the absence of a TMDL WLA.*"

The six minimum control measures described in 9VAC25-890-40 Section II.B are:
1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

The following are James Madison University's best management practices (BMPs) that have been developed in order to meet the minimum control measures.

3.1 MCM 1: Public Education and Outreach on Stormwater Impacts

This section describes the best management practices that will be implemented in order to meet regulatory requirements for public education and outreach on stormwater impacts as set forth by Section II.B.1 of the General Permit found in 9VAC25-890-40.

3.1.1 BMP: Stormwater Management Website

Program Description: Provide information on the JMU website regarding the impacts of stormwater runoff and steps people can take to reduce stormwater pollution. The website will also have information

on the JMU MS4 plan and general information about illicit discharge detection and elimination. JMU's stormwater information can be found on the web at http://www.jmu.edu/stormwater.

Measurable Goals / Expected Results: Record the number of visits to the Stormwater Management Website. Increase the overall awareness of the impacts of stormwater and the measures that the University is undertaking to improve stormwater quality.

Annual Report Achievements/Notes: The JMU Stormwater Management website (www.jmu.edu/stormwater) is reviewed/updated on a regular basis to ensure accurate and up-to-date information is available to the public. There were 744 visitors to the site during this reporting period.

Schedule of Activities: Evaluate website annually and update as necessary.

Responsible Department: Engineering and Construction - Sustainability

3.1.2 BMP: Classroom Education on Stormwater Impacts

Program Description: A variety of classes are offered at the University that cover issues related to the impact of urban stormwater runoff on the environment.

Measurable Goals / Expected Results: Record the number of classes that are offered at the University that cover stormwater impacts. Increase the overall awareness of the impacts of stormwater among the students at the University.

Annual Report Achievements/Notes: Three sections of ISAT 320 were taught in Fall 2013. These classes included a total of 66 students. ISAT 320 specifically covers stormwater impacts and includes a semester-long water project. The water project includes water quality surveys and water quality sampling of local streams.

Schedule of Activities: Courses will be taught as scheduled by the academic departments.

Responsible Department: Various Academic Departments – Integrated Science & Technology

3.1.3 BMP: Recycling & Trash Management

Program Description: Provide information on JMU's website regarding recycling & trash management and work with the Office of Environmental Stewardship & Sustainability to promote recycling activities. The mission statement of the Recycling Department is "to reduce the flow of waste and materials into the landfill, educate the JMU community on the proper disposal of waste items as well as the future impact of global waste stream issues".

Measurable Goals / Expected Results: Record the participation and amount of material that is recycled annually. JMU currently recycles more than 25% of its waste materials which exceeds the state guideline. Continue to meet or exceed the state guideline for recycling and "keep resources out of our waste stream".

Annual Report Achievements/Notes: The University's recycling rate for calendar year 2013 was 44%. Approximately 6,078,737 pounds of waste was received and 2,680,441 pounds was recycled.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Recycling/Waste Management

3.1.4 BMP: Proper Disposal & Reduction of Hazardous Materials

Program Description: The University has hired an Environmental Health Coordinator who performs informal "area tours" to check for potential problems and assists in identifying hazardous materials which are no longer necessary and may be properly disposed of.

Measurable Goals / Expected Results: During area tours, ensure all safety and health issues, including improper storage and/or handling of hazardous materials, are noted and communicated to the responsible parties. Follow-up to verify that issues have been satisfactorily addressed and to facilitate on-going compliance and environmental stewardship. Assist all areas of the University in identifying, and determining proper disposal for unnecessary hazardous materials. Unnecessary hazardous materials will be identified and properly disposed of reducing their likelihood of polluting the environment. Report amount and type of hazardous materials disposed of during permit cycle.

Annual Report Achievements/Notes: There were 257 containers of hazardous waste from the academic laboratories and studio spaces that were disposed. Also, due to a couple of renovation projects on campus, there were approximately 2,900 pounds of lead-contaminated waste disposed.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Police & Public Safety - Risk Management

3.1.5 BMP: Office of Environmental Stewardship and Sustainability

Program Description: The Office of Environmental Stewardship and Sustainability (OESS) is responsible for facilitating implementation of JMU's 18th defining characteristic, "The University will be an environmentally literate community whose members think critically and act, individually and collectively, as model stewards of the natural world." OESS has a role in carrying out the mission and vision of the university with regard to environmental stewardship.

The OESS coordinates the Institute for Stewardship of the Natural World (ISNW). The ISNW is currently divided into four committees with over 100 stakeholders who advance environmental stewardship via annual recommendations and programs that advocate for best environmental practices.

Measurable Goals / Expected Results: Document the activities that the OESS is participating in that facilitate environmental stewardship as it relates to stormwater. Improved coordination and communication between various departments within the University regarding their efforts towards environmental sustainability.

Annual Report Achievements/Notes: Working with the OESS, JMU became a sustainability partner in the DEQ's Virginia Environmental Excellence Program (VEEP) Sustainability Partners Program. This program demonstrates JMU's continued commitment to environmental stewardship through leadership, innovation, and continual improvement.

The OESS also partnered in recognition of receiving the 2014 Governor's Environmental Excellence Award Silver Medal for JMU's East Campus Hillside Naturalization Project. James Madison University transformed a traditionally manicured grassy area, known as the East Campus Hillside Area, into a unique naturalized educational landscape. The project consisted of three parts: a 1.6 acre native meadow on a hillside; a 2 acre tree planting area; and, a 1,000 linear foot restored stream channel with riparian buffer. The project began in the 2010-11 academic year when faculty, students, campus facilities staff, a dean, the campus environmental stewardship coordinator, and community representatives collaborated with a Scholar-In-Residence to create the educational landscape. The group proposed an expanded vision of the educational and functional roles of the grounds, diversifying the landscape aesthetic, providing educational programming for the campus and the broader community, and demonstrating environmental stewardship.

The resulting project is eye-catching from the interstate and has received compliments and criticism for its atypical appearance. It is a bold departure for a university previously noted for its hand-watered flower beds and manicured lawns. An important goal of the project was reducing the need for chemicals, thereby reducing pollutant runoff into the Chesapeake Bay. Equally important, the naturalization project plays an educational role for a variety of the university's departments and colleges

and is an important resource for visitor and outreach programs. The project serves as an affordable and replicable initiative with potentially high educational impact and measurable environmental impact.

During the week of 3/24, five tours of the east campus dining hall were given to 148 GISAT students highlighting the sustainability measures used inside and the campus stormwater management practices outside.

Schedule of Activities: Activities will be coordinated by the OESS.

Responsible Department: Access and Enrollment Management - Office of Environmental Stewardship and Sustainability

3.1.6 BMP: Distribute Educational Materials/Promote Education

Program Description: Seek innovative methods to distribute information related to stormwater impacts to students and staff. Three main issues have been identified as; (i) public awareness and reporting of water quality issues, (ii) litter prevention at outdoor athletic events, and (iii) pollution prevention related to facilities management operations. These three issues have been selected as they target audiences that are most likely to have significant impacts on stormwater quality. Possible methods of increasing public knowledge include; printed materials (newspaper advertisements, brochures, flyers, etc.), signage, websites, social media, training (seminars, presentations), and other activities deemed appropriate. As with most targeted audiences, there will be some overlap in promotion.

Public Awareness of Pollution Prevention and Reporting of Water Quality Issues

Rationale: Illicit discharges to the MS4 can be acutely harmful to aquatic life, and pose a risk to health and safety on campus. These factors make it a critical issue of which the entire university community should be aware. The focus of this high priority issue is recognizing and reporting illicit discharges (water quality issues). While minimum control measure 3 requires JMU to "promote, publicize, and facilitate public reporting of illicit discharges into or from" the MS4, the general public doesn't necessarily know how to identify or prevent such, or why. To maximize outreach effectiveness, this issue will combine education on general awareness with outreach on reporting water quality issues on campus.

Target Audience: Stormwater literacy and illicit discharges are general awareness issues, and thus affect everyone on campus. An illicit discharge could be noticed by anyone, at any time, necessitating broad outreach to the campus community. The target audiences for these issues include the faculty (2,400), staff (1,530), and students (19,500). Faculty and staff are considered long-term members of the university community, and as such, will receive outreach on this topic cumulatively over the years. Students are short-term members of the campus community, but will carry these lessons with them when they move on. Together these groups are the eyes and ears of the stormwater management staff, and play a critical role in addressing illicit discharges on campus.

Annual Report Achievements/Notes: The following methods were utilized in efforts to reach the target audience for public awareness of pollution prevention and reporting of water quality issues.

Description	Estimated # of people reached	% of target audience
Stormwater Pollution Prevention ad in JMU's "the Breeze" publication. With a circulation of 9,500 people, the Breeze serves a readership of more than 22,000 including more than 18,000 students, 3,000 faculty and staff and members of the Harrisonburg community. In addition, local businesses receive more than 1,000 free copies of the Breeze for their patrons.	4,750	20%
Stormwater Pollution Prevention poster at Carrier and Rose Libraries.	9,750	42%
Table tent advertisement at campus dining hall.	9,750	42%
Social media advertisement on JMU's Facebook page.	5,200	22%
Storm drain markers.	6,300	27%
FM training and class presentations.	646	3%

Litter Prevention at Outdoor Athletic Events

Rationale: JMU welcomes a large number of visitors, in addition to faculty, staff, and students to events that take place on campus. While JMU hosts other outdoor events, there are none that are as numerous and regularly scheduled as athletic events. Athletic events are more prone to create litter than normal campus activities and events, as attendees often participate in tailgating and other activities, involving eating, drinking, and vending in outdoor areas for extended periods of time, and the use of disposable items is the norm. Various promotional debris related to these events can also be left behind at the facilities, in the parking lots, and on the roads. Thus, targeting outdoor athletic events maximizes the opportunity to reduce litter on campus.

By rain and wind, litter can end up in drainage ways, storm sewers, stormwater controls, and ultimately Sibert Creek and Blacks Run. While JMU's Landscaping Department is tasked with cleaning up the debris created by athletic events, there is the opportunity to reduce litter before it is created. Preventing litter from entering stormwater infrastructure is a priority.

Target Audience: JMU will focus on football game attendees. Football games account for approximately 94% of outdoor athletic event activity, accounting for the audience that is most likely to create the largest amount of litter, and providing the best potential for litter prevention outreach. The population size of the target audience is approximately 22,000 people per game. All other outdoor athletic events combined attract only approximately 300 people per event. This includes seven additional sports team schedules including track, soccer, lacrosse, baseball, softball, field hockey and tennis.

Annual Report Achievements/Notes: The Athletics Department has committed to making at least two public service announcements at each outdoor event to promote pollution prevention by requesting spectators to be responsible and discard all wastes in the trash and recycling receptacles located throughout the sports facility. With approximately 130,000 spectators at about 90 events, these targeted announcements are expected to reach more than 90% of the target audience.

Pollution Prevention Related to Facilities Management Operations

Rationale: JMU manages a wide variety of land and infrastructure that allows each student to be well prepared in the educational process. These facilities require operation and maintenance using materials and methods that can pose a risk to water quality. Examples include housekeeping, fueling stations, solid waste facilities, energy generation, landscaping, and snow removal. These operations are likely the biggest threat to water quality on campus, qualifying them as a high priority issue on which to focus outreach activities. Risks to water quality will be minimized by performing outreach on basic watershed and stormwater literacy, laws and regulations, and appropriate management techniques to minimize stormwater pollution.

Target Audience: As a nontraditional MS4, one segment of JMU's public is its staff (~1,530 total people). Facilities management (FM) staff (~580 people) is the segment of the staff that is most likely to have an effect on water quality, as it is responsible for the operations described above. FM staff is the target audience for this high priority issue.

Annual Report Achievements/Notes: Over a week long period, twelve presentations were given reaching 438 out of 572 facilities management staff covering topics of stormwater pollution prevention, IDDE, good housekeeping and reporting of water quality issues. As part of FM's new employee orientation, 15 presentations with a brief introduction to stormwater pollution prevention, IDDE, and good housekeeping were given for 84 new employees. The annual training provided was able to reach 77% of the target audience.

Measurable Goals / Expected Results: Record the number of methods utilized to distribute information to the target audiences described above. Increase the overall awareness of the impacts of stormwater and the measures that the University is undertaking to improve stormwater quality.

Schedule of Activities: Utilize adequate and similar methods previously used aimed at reaching at least 20% of the estimated target audience for each priority issue annually.

Responsible Department: Engineering and Construction - Sustainability

3.1.7 BMP: Pollution Reporting Hotline

Program Description: Create and publicize a phone number and email that students and staff can call to report illicit discharges or other pollution issues. Use the creation of a pollution hotline to educate staff and students of the hazards of illicit discharges and improper waste disposal. The stormwater pollution hotline can be found on the main JMU stormwater web page and illicit discharge detection and elimination webpage.

Measurable Goals / Expected Results: Track the number of calls or emails received through the hotline number. Increase the public knowledge of the implications of illicit discharges and improper waste disposal.

Annual Report Achievements/Notes: One report of an illicit discharge was made through the hotline this reporting period. After an investigation, a hot water line leak was detected and repaired.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.1.8 BMP: Storm Drain Marking Campaign

Program Description: The University has purchased stainless steel storm drain markers which state "No Dumping - Drains to Stream". The markers will be installed on storm drain inlets across campus.

Measurable Goals / Expected Results: Document the number of inlets that are marked across campus on an annual basis. Increased public knowledge and awareness of the fact that stormwater drains to waterways and not a public treatment facility.

Annual Report Achievements/Notes: A total of 28 markers were installed on storm drains this permit cycle.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.2 MCM 2: Public Involvement/Participation

This section describes the best management practices that will be implemented in order to meet regulatory requirements for public involvement/participation as set forth by Section II.B.2 of the General Permit found in 9VAC25-890-40.

3.2.1 BMP: Forming Partnerships

Program Description: James Madison University seeks to build active partnerships with local groups and government agencies in respect to stormwater concerns to share information and resources whenever possible.

Measurable Goals / Expected Results: Record the partnership activities that JMU is involved in over the course of annual reporting period. The formation of partnerships will help to pool resources to complete shared objectives and provide for a consistent message to nearby municipalities.

Annual Report Achievements/Notes: JMU partnered with the Central Shenandoah Planning District Commission and Ecosystem Services on grant opportunities for design and construction funds for a stream restoration project in JMU's Arboretum. The National Fish and Wildlife Foundation awarded nearly $40,000 in design funds for this project. The grant for construction funds for phase 1 of that project are still waiting to be awarded. JMU continues to partner with the City of Harrisonburg for the Annual Blacks Run CleanUp Day (See BMP 3.2.5). JMU also continues to have active membership in the Virginia Municipal Stormwater Association (VAMSA). Faculty are also involved in the Friends of the Shenandoah River and the Pure Water Forum.

Schedule of Activities: Continue involvement with partnerships as opportunities become available.

Responsible Department: Engineering and Construction - Sustainability

3.2.2 BMP: Promote Availability of MS4 Program Plan & Reports

Program Description: Publish MS4 Program Plan and annual reports on Facilities Management website. Also provide printed copies of the MS4 Program Plan and annual reports to interested parties. Public comment on the MS4 Program Plan is always available through the Stormwater Coordinator. Contact information is provided on the stormwater and MS4 web pages at http://www.jmu.edu/sustainability/Stormwater

Measurable Goals / Expected Results: Record the frequency of updates to the website regarding program plan modifications and annual reports. Increase the accessibility of the information regarding the efforts JMU is taking to improve stormwater quality.

Annual Report Achievements/Notes: An up-to-date copy of JMU's MS4 Program Plan is provided on the Facilities Management webpage at www.jmu.edu/stormwater. Copies of annual reports are also available.

Schedule of Activities: Update website as necessary to include program plan modifications

Responsible Department: Engineering and Construction - Sustainability

3.2.3 BMP: Encourage Student Efforts to Improve Stormwater Quality

Program Description: Continue to support student efforts to improve stormwater quality by providing information and materials whenever possible.

Measurable Goals / Expected Results: Record the number of student activities that occur each semester which relate to stormwater quality. Increase the effectiveness of student activities by providing assistance whenever possible.

Annual Report Achievements/Notes: Five students worked on two separate senior thesis projects that focused on stormwater. Three students completed a senior thesis project titled, "Quantifying the Health and Water Quality of Blacks Run." For this project, students sampled 11 different water quality parameters at 4 stations on Blacks Run biweekly for 9 months. In addition, the study specifically targeted stormwater impacts and included intensive field surveys at 16 stations during dray and wet-weather conditions. Two separate students initiated a senior thesis project title, "Performance Efficiency Testing of University Park BMP System." This study involved the installation of flow monitoring and sampling equipment at the University Park filtration and detention BMP. This study is ongoing.

Schedule of Activities: Offer assistance to students when requested.

Responsible Department: Engineering and Construction - Sustainability, and Integrated Science & Technology

3.2.4 BMP: Student Water Quality Testing

Program Description: Students from the Environmental Instrumentation class perform water quality sampling of Newman Lake and Sibert Creek. Parameters measured include depth, water clarity, specific conductivity, pH, dissolved oxygen and Fecal Coliform / E. Coli counts. Facilities Management provides support for this activity as requested.

Measurable Goals / Expected Results: Record the number of students and sections of this course that is offered each semester. Increase the awareness of local water quality issues within the student body.

Annual Report Achievements/Notes: The ISAT 302 (Instrumentation and Measurement in the Environment) course offered 3 sections in the fall and 2 sections in the spring with a total of 57 students.

Schedule of Activities: This course is scheduled to be offered in both fall and spring semesters.

Responsible Department: Academic Department – Integrated Science & Technology

3.2.5 BMP: Stream Clean-up Events

Program Description: Participate with the City of Harrisonburg in stream clean-up events.

Measurable Goals / Expected Results: Document the activities that JMU students or staff participate in related to stream clean-ups. Increase the awareness among students and staff of the opportunity to help improve the local water quality through these events.

Annual Report Achievements/Notes: Approximately 400 volunteers collected about 4,460 pounds of trash during the 17th Annual Blacks Run CleanUp Day and Arbor Day Event held on April 12, 2014. Several JMU sororities, clubs and alumni participated in this event. Exhibits from several groups were also onsite for educational purposes, including Climate Action Alliance of the Valley, the Department of Environmental Quality, Shenandoah Valley Bicycle Coalition, Wild Virginia, The Natural Garden, Virginia Master Naturalist, Harrisonburg Tree Stewards, Valley Conservation Council, Ten Thousand Villages, Harrisonburg-Rockingham Regional Sewer Authority, Shenandoah Group of the Sierra Club, and the Chesapeake Bay Foundation.

Schedule of Activities: Blacks Run/Downtown Clean-Up Day occurs annually in April.

Responsible Department: Engineering and Construction - Sustainability

3.3 MCM 3: Illicit Discharge Detection and Elimination

This section describes the best management practices that will be implemented in order to meet regulatory requirements for illicit discharge detection and elimination as set forth by Section II.B.3 of the General Permit found in 9VAC25-890-40.

3.3.1 BMP: Storm Drain System Map

Program Description: The University currently has a storm sewer system GIS map and corresponding database. This map contains locations and attributes of the entire storm sewer system maintained by JMU and includes culverts, pipes, inlets, catch basins, trench drains, and outfalls. MS4 outfalls are further identified to include receiving waters, HUC, a unique identifier, estimated MS4 acreage served and any applicable TMDL's. This GIS data is used for illicit discharge tracking and recording maintenance activities.

Measurable Goals / Expected Results: Continue to update and maintain GIS map to ensure all known structures are located. An accurate and up-to-date storm sewer system map will aid in illicit discharge detection and elimination.

Annual Report Achievements/Notes: JMU's GIS data is continually updated as new structures are built, located and/or removed. A part-time GIS Technician was recently hired to create, edit and maintain GIS data.

Schedule of Activities: Update map as new structures are completed. Report completed projects that are added to the storm sewer system.

Responsible Department: Engineering and Construction - Sustainability

3.3.2 BMP: Stormwater Outfall Inspections

Program Description: Conduct field investigations and inspections of MS4 stormwater outfalls. Monitor for dry weather discharges using visual observation, odor and other indicators to identify for possible illicit discharges.

Measurable Goals / Expected Results: Maintain records of outfalls that were inspected and number of illicit discharges detected. Prompt detection and elimination of illicit discharges.

Annual Report Achievements/Notes: A total of 101 inspections were conducted on the 87 outfalls within JMU's jurisdiction. Two outfalls had discharges that required further investigation.

Structure ID BR-6444-OF was found to have a discharge with trace amounts of ammonia on June 23rd, 2014. After consulting with the firm that did the environmental assessment of the property before JMU made the purchase, it was confirmed that this pipe system was only connected to an underdrain system that only received ground water. The previous owner of the property, Rockingham Cooperative, had stored large amounts of fertilizer in the general area. As part of the mitigation, the top 3 ½' to 4 ½' of soil was removed from the area and replaced with clean soil. Efforts to remove more soil was thwarted by the high ground water table in this area. No further action has been recommended and the investigation was closed on June 26th, 2014.

Structure ID SC-6305-OF was found to have a discharge on April 1st, 2014 and after testing was found to be municipal water. The water was traced to Montpelier Hall and current efforts are underway trying to determine the exact source of the municipal water leak. The leak is suspected to be underneath the existing building which is currently scheduled for demolition later this summer. The plan is to locate the pipe and repair or abandon during demolition. While this source of discharge has been found to be from a potable water source and is not then defined as an illicit discharge, this file will remain open until the source is found and repaired.

Schedule of Activities: Continue current program and evaluate annually. At a minimum, inspect at least 50 of outfalls per year.

Responsible Department: Engineering and Construction - Sustainability

3.3.3 BMP: IDDE Policy & Procedures

Program Description: Being a non-traditional MS4, JMU will implement a campus wide IDDE policy which will include procedures for the detection and elimination of illicit discharges. Refer to appendix A for a copy of JMU's IDDE policy.

Measurable Goals / Expected Results: Policy will be updated as needed to remain compliant with applicable regulations. Students, faculty, staff, contractors, affiliates and visitors of JMU will have access to IDDE policy and procedures via JMU's website.

Annual Report Achievements/Notes: An IDDE Policy & Procedures document was created and approved campus wide during this permit cycle. This policy will be evaluated annually to stay compliant with regulations.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.3.4 BMP: Spill Prevention Control & Countermeasure (SPCC) Plan

Program Description: A SPCC Plan was initially prepared for the University in 1975 and last updated in February 0f 2010. Continue to implement plan to reduce the risk of hazardous substances from entering the storm sewer system.

Measurable Goals / Expected Results: Maintain and update SPCC plan as needed. Reduce the risk of hazardous substances from entering the storm sewer system.

Annual Report Achievements/Notes: The current SPCC plan continues to be implemented.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Power Plant

3.3.5 BMP: Trace and Remove Illicit Discharges

Program Description: Promptly address illicit discharges and utilize storm sewer system map to determine source of discharge. Determine best method of eliminating the discharge in a timely manner.

Measurable Goals / Expected Results: Track the number of illicit discharges detected and eliminated through a database. Timely removal of illicit discharge from storm sewer system.

Annual Report Achievements/Notes: See notes from BMP 3.1.7 and 3.3.2.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction – Sustainability, FM - Operations

3.3.6 BMP: Illicit Discharge Detection & Elimination (IDDE) Education

Program Description: Refer to BMP 3.1.6, 3.1.7, 3.1.8 and 3.6.7. Establish pollution reporting hotline and storm drain marking campaign to increase awareness of what illicit discharges are.

Measurable Goals / Expected Results: Refer to BMP 3.1.6, 3.1.7, 3.1.8 and 3.6.7. Increase the awareness among students and staff that storm drains are only intended to receive stormwater.

Annual Report Achievements/Notes: Annual stormwater training was conducted teaching basic stormwater pollution prevention, good housekeeping and illicit discharge detection and elimination. This training was conducted over a week long period consisting of 12 sessions for 572 facilities management staff. There were also 15 training sessions held throughout the year for 84 new employee orientations.

Schedule of Activities: Refer to BMP's 3.1.6, 3.1.7, 3.1.8 and 3.6.7.

Responsible Department: Engineering and Construction - Sustainability

3.3.7 BMP: Notification of Downstream MS4 Interconnections

Program Description: Notify downstream MS4's of known physical interconnections.

Measurable Goals / Expected Results: Record when notification was given to the City of Harrisonburg. The City of Harrisonburg and VDOT has been made aware of JMU's physical interconnection with their system.

Annual Report Achievements/Notes: In June of 2014, both the City of Harrisonburg and VDOT was informed of our continued interconnection with their stormwater conveyance systems. Mapping data has been made available upon request.

Schedule of Activities: Notification of MS4 interconnection has been sent to MS4's downstream.

Responsible Department: Engineering and Construction - Sustainability

3.4 MCM 4: Construction Site Stormwater Runoff Control

This section describes the best management practices that will be implemented in order to meet regulatory requirements for construction site stormwater runoff control as set forth by Section II.B.4 of the General Permit found in 9VAC25-890-40. Progressive compliance and enforcement shall be met through the use of the following BMP's.

3.4.1 BMP: ESC/SWM Annual Standards and Specifications

Program Description: JMU initially received approval from DCR to operate its own erosion and sediment control program under a set of annual standards and specifications on July 6, 2009. JMU continues to submit ESC standards and specifications to DEQ on an annual basis to continue its program. JMU included stormwater management to its annual standards and specifications in response of amended stormwater regulations. Combined ESC/SWM Annual Standards and Specifications was approved by DEQ on May 28, 2014. Refer to Appendix D for a complete copy of the JMU ESC/SWM Annual Standards & Specifications.

Measurable Goals / Expected Results: JMU's ESC/SWM Annual Standards and Specifications shall be kept current. With annual submissions, standards will keep up to date with any changes DEQ implements into the Virginia Erosion and Sediment Control Laws and Regulations and Virginia Stormwater Management Laws and Regulations.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.4.2 BMP: Requirement for ESC Plan and Review

Program Description: Site specific ESC plans shall be prepared for all JMU projects involving a regulated land-disturbing activity as defined in §62.1-44-15:51 of the Virginia Erosion and Sediment Control Law and submitted to JMU's Engineering and Construction department for review. Plans will be reviewed by a certified plan reviewer.

Measurable Goals / Expected Results: Plan review process will be able to be tracked through use of database and reports created as needed.

Annual Report Achievements/Notes: All JMU projects which disturb over 10,000 square feet, or are considered part of a larger common plan of development, were required to prepare and submit a plan for review with adequate erosion and sediment control (ESC) measures. Refer to section 5.12 for a list of projects requiring an approved ESC plan for this permit cycle.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.4.3 BMP: Contract Language

Program Description: 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 as issued by DGS and included in every contract, stipulates in Section 31(e) that:

"The Contractor shall have, On-Site, an employee certified by the Department of Conservation and Recreation as a Responsible Land Disturber who shall be responsible for the installation, inspection and maintenance of erosion control and stormwater management measures and devices. The Contractor shall prevent Site soil erosion, the runoff of silt and/or debris carrying water from the Site, and the blowing of debris off the Site in accordance with the applicable requirements and standards of the Contract and the Virginia Department of Conservation and Recreation's Erosion and Sediment Control Regulations and the Virginia Stormwater Management Regulations."

Measurable Goals / Expected Results: Ensure contractors comply with the Erosion and Sediment Control Law and attendant regulations and implement applicable ESC controls.

Annual Report Achievements/Notes: All site projects at JMU included contract language requiring certified personnel be on-site for land disturbing activities. Refer to section 5.12 for a list of projects requiring approved ESC plans for this permit cycle.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.4.4 BMP: Construction and Professional Services Manual

Program Description: 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. Furthermore, language is included in construction specifications for each project as required by CPSM 902.2.4 stating that contractors are responsible for satisfying any and all erosion control and stormwater management requirements for any land disturbing activities.

Measurable Goals / Expected Results: Ensure contractors obtain the necessary approval and applicable permits from DCR before any land disturbing activities begin.

Annual Report Achievements/Notes: All site projects at JMU received proper approval from local and state agencies before site work began. Refer to section 5.12 for a list of projects requiring and approved ESC and/or SWM plan for this permit cycle.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.4.5 BMP: Requirement for Pre-Construction Meeting with Contractors

Program Description: JMU will notify the local DEQ office of estimated construction start dates and invite DEQ personnel to the pre-construction meeting to discuss the erosion and sediment control and stormwater management plans with the contractor.

Measurable Goals / Expected Results: Approved plans will be able to be tracked through a database and reports created as needed. Ensure contractors fully understand the ESC and SWM measures shown in plans before construction begins.

Annual Report Achievements/Notes: Pre-construction meetings were held to discuss ESC measures and stormwater management facilities for all JMU site projects requiring an ESC and/or SWM plan. Refer to section 5.12 for a list of projects requiring ESC and/or SWM approval for this permit cycle.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.4.6 BMP: Requirement for ESC Site Inspections

Program Description: Projects approved for land-disturbance shall be inspected for compliance with the approved plan. A database shall be used to record inspections and violations for each project. Site inspector shall be certified by DEQ for inspections. During site visits, all applicable ESC measures will be visually assessed to ensure continued performance of their intended function. Any comments and/or violations noted in an inspection report and forwarded to the project manager, RLD, and/or any other persons of interest involved in the project.

Site inspections will be made 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 storm event, and at the completion of the project prior to the release of any performance bonds.

Measurable Goals / Expected Results: Track the number of inspections and noted violations through the use of a database. Routine site inspections can help identify problems sooner to reduce ESC related problems.

Annual Report Achievements/Notes: A total of 248 ESC inspections were conducted over the permit cycle on 17 projects. There were 8 violations issued, which consisted mainly of vehicular tracking, one for inlet protection and one for improper dewatering practices. All incidents were addressed in an acceptable manor and time frame, thus requiring no further methods of enforcement. Most items observed on-site are noted as comments on inspection reports and taken care of within 24 to 48 hours. Copies of inspection reports are kept on file and are available upon request.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.4.7 BMP: Pollution Reporting Hotline

Program Description: Refer to BMP 3.1.7. Establish pollution reporting hotline and provide the public a method to share any information regarding stormwater runoff and construction activities. Any information submitted by the public will be reviewed by a JMU project manager.

Measurable Goals / Expected Results: Track the number of calls and emails received through the hotline number. Increase the public knowledge and awareness of issues regarding stormwater runoff from construction sites.

Annual Report Achievements/Notes: One report of a possible illicit discharge was made through the hotline this reporting period on July 30, 2013. After an investigation, a hot water line leak was detected and repaired. Investigation was closed on August 30, 2013.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.5 MCM 5: Post-Construction Stormwater Management

This section describes the best management practices that will be implemented in order to meet regulatory requirements for post-construction stormwater management as set forth by Section II.B.5 of the General Permit found in 9VAC25-890-40.

Please note that as a non-traditional MS4, JMU has not created special criteria for stormwater facilities on individual residential lots as this is not applicable. All known structural BMPs are included in the University's stormwater facility database and will be inspected and maintained to meet compliance with the stormwater regulations.

3.5.1 BMP: Requirement for SWM Plan and Review

Program Description: Site specific SWM plans shall be prepared for all JMU projects involving regulated construction activity as defined in 9VAC25-870-10 of the Virginia Stormwater Management Program Regulations and submitted to JMU's Engineering and Construction department for review. Plans will be reviewed by a certified plan reviewer.

Measurable Goals / Expected Results: Track the number of regulated construction activities and report the total disturbed acreage. Ensure construction activity operators obtain the necessary approval from DEQ for land disturbing activities.

Annual Report Achievements/Notes: All SWM site plan review for this permit cycle was conducted by DEQ. This BMP has been initiated in preparation of JMU being transferred responsibility of plan review by DEQ on July 1, 2014.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.5.2 BMP: Stormwater Management Facilities Policy

Program Description: Continue to implement the University's Stormwater Management Facilities Policy which sets forth requirements and procedures for stormwater BMP design, plan review, installation and approval, inspections, maintenance and reporting.

Measurable Goals / Expected Results: Record the number of structural management facilities that are added to the University's BMP inventory and the number of inspections performed each year. Ensure structural stormwater management facilities are maintained and operating properly.

Annual Report Achievements/Notes: JMU's Stormwater Management Facilities Policy was updated to include requirements and procedures for BMP design, plan review, and installation and approval.

Four new structural BMP's were brought on line this permit cycle bringing JMU's total to 68 structural BMP's. A total of 79 inspections were performed on BMP's with 14 noted to require minor maintenance. Work orders were placed for remedial work and all but one have been completed.

Schedule of Activities: Each stormwater management facility shall be inspected at least annually. Any required maintenance shall be documented and information forwarded for remedial work.

Responsible Department: Engineering and Construction - Sustainability

3.5.3 BMP: Map Structural BMP's

Program Description: Track all known permanent stormwater management facilities that discharge to the regulated small MS4.

Measurable Goals / Expected Results: Maintain list of facilities and other required information about facility. Report number of structural BMPs added to system. Comply with conditions of MS4 General Permit.

Annual Report Achievements/Notes: A GIS map and separate database continues to be updated with all known SWM facilities. See section 5.13 for a list of BMPs added this permit cycle.

Schedule of Activities: Map new structures as built.

Responsible Department: Engineering and Construction - Sustainability

3.6 MCM 6: Pollution Prevention/Good Housekeeping for Municipal Operations

This section describes the best management practices that will be implemented in order to meet regulatory requirements for pollution prevention/good housekeeping for municipal operations as set forth by Section II.B.6 of the General Permit found in 9VAC25-890-40.

3.6.1 BMP: Spill Prevention Control and Countermeasure (SPCC) Plan

Program Description: A SPCC Plan was initially prepared for the University in 1975 and last updated in February of 2010. Continue to implement plan to reduce the risk of hazardous substances from entering the storm sewer system.

Measurable Goals / Expected Results: Maintain and update SPCC plan as needed. Reduce the risk of hazardous substances from entering the storm sewer system.

Annual Report Achievements/Notes: The current SPCC plan continues to be implemented. There are a total of 21 certified members of JMU's HAZWOPER Team.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Power Plant

3.6.2 BMP: Hazardous Materials and Chemical Storage

Program Description: Inspect and evaluate storage locations and method of storing hazardous materials and chemicals to ensure compliance with State and EPA regulations and ensure proper disposal of these materials. Continue to phase out the use of hazardous materials and chemicals whenever possible.

Measurable Goals / Expected Results: Perform periodic audits to verify accuracy of the records and monitor overall inventory for opportunities to reuse, recycle, or reduce the amount of hazardous materials at JMU. Ensure hazardous materials are properly stored. Report the number of spills. Reduction in the overall presence of hazardous materials on Campus.

Annual Report Achievements/Notes: There were a total of 3 incidents that required JMU's HAZWOPER team for cleanup. All clean-ups were contained before transporting into the storm sewer system.

Date	Description	Approximate Amount
8/1/13	Hydraulic fluid leak	10 gallons
10/25/13	Low concentration acid	1 pint
2/17/14	Diesel fuel	2-4 gallons

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Police and Public Safety - Risk Management

3.6.3 BMP: Oil & Antifreeze Recycling

Program Description: Continue to collect and recycle used oil and antifreeze.

Measurable Goals / Expected Results: Monitor the locations where vehicle maintenance operations take place. Document any incidents where waste materials were improperly disposed of. Ensure waste materials are properly disposed of.

Annual Report Achievements/Notes: There were no documented incidents of improper disposal of oil and antifreeze from activities involving the Recycling/Waste Management Department this permit period. Approximately 585 pounds of anti-freeze and 11,780 pounds of oil was recycled.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Recycling/Waste Management

3.6.4 BMP: Storage of Erodible Materials

Program Description: Evaluate the storage of all soil, sand and other erodible materials on campus to ensure proper techniques are being utilized to minimize stormwater pollution.

Measurable Goals / Expected Results: Monitor the locations where erodible materials are being stored to check for the possibility of stormwater pollution. Prevent the storage of erodible materials on campus from causing stormwater pollution.

Annual Report Achievements/Notes: JMU has a soil stockpile location that is operating under a current general construction permit. The project is known as the South Main Spoils Site (Eby Property), and is listed in section 5.12.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.6.5 BMP: Salt Storage, Application and Snow Removal

Program Description: Salt is currently stored under a cover and on an impervious surface to minimize the amount of infiltration and runoff that leaves the site. The minimum amount of salt necessary is being used for deicing and more environmentally friendly alternatives are currently being evaluated by the Landscaping Department. Following a storm event where salt or other materials are applied, regularly scheduled street sweeping will occur to remove the materials from roadways and parking lots to prevent it from entering the storm sewer system. Also, whenever possible, snow stockpiles will be stored in a way that they do not block stormwater inlets and away from environmentally sensitive areas such as streams, lakes and swales.

Measurable Goals / Expected Results: Document the estimated amount of salt applied each winter and the other types of materials applied to aid in ice and snow removal. Ensure snow and ice removal on campus is done in a manner that minimizes stormwater pollution.

Annual Report Achievements/Notes: Approximately 800 tons of salt, 386 bags of magnesium chloride, 227 bags of purple heat and 180 bags of calcium chloride were used this permit cycle for snow/ice removal.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Operations

3.6.6 BMP: Vehicle and Equipment Washing

Program Description: The University has a contract with a car wash vendor where the majority of vehicles are washed. Equipment is washed at the Sports Park facility or the Main Street Landscaping facility. Continue to work with the Landscaping Department to determine suitable locations to wash their equipment.

Measurable Goals / Expected Results: Monitor the locations where vehicles or equipment are washed and seek alternative washing practices to reduce stormwater pollution. Reduction in illicit discharges from vehicle and equipment washing operations.

Annual Report Achievements/Notes: Vehicle and equipment washing are done at approved locations. Approved locations for cleaning are mentioned during annual and new employee stormwater training.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Operations

3.6.7 BMP: Employee Training

Program Description: A "Stormwater Pollution Prevention/IDDE" presentation has been developed for employee training. This training is offered once a year for Facilities Management (FM) staff and during FM new employee orientation. Material in this presentation teaches basic stormwater information, stormwater pollution prevention, good housekeeping measures, and how to recognize and report illicit discharges.

Appropriate emergency response employees shall have training in spill response.

Measurable Goals / Expected Results: Document the number of individuals which attend training when it is offered. Increase the overall awareness of the impacts of stormwater and the measures that the University is undertaking to improve stormwater quality.

Annual Report Achievements/Notes: Facilities Management is primarily responsible for maintenance of buildings and grounds. Over a week long period, twelve presentations were given reaching 438 out of 572 facilities management staff covering topics of stormwater pollution prevention, IDDE, good housekeeping and reporting of water quality issues. As part of FM's new employee orientation, 15 presentations with a brief introduction to stormwater pollution prevention, IDDE, and good housekeeping were given for 84 new employees. There are also a total of 21 team members on the HAZWOPER team that are certified in spill response.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability

3.6.8 BMP: Parking Lot and Street Sweeping

Program Description: The University owns and regularly operates a street sweeper to pick up litter and debris from parking lots and streets on campus. All campus parking lots and streets are scheduled to be swept three times each month, or on an as needed basis, with additional measures taken to address the cleanup of parking lots that are used during football games.

Measurable Goals / Expected Results: Record the number of times the street sweeper cleans campus streets and parking lots. Reduce the amount of sediment and debris that enters the storm sewer system from streets and parking lots.

Annual Report Achievements/Notes: The landscaping department spent approximately 221 hours on street and parking lot sweeping. Streets and parking lots are swept as needed, as well as before special events and weather related events. There was 8.3 tons of materials taken to the landfill or Green Earth this permit cycle.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Operations

3.6.9 BMP: Storm Structure Maintenance and Cleaning

Program Description: Storm structures are inspected and cleaned by Facilities Management staff to ensure they remain free of obstructions and to prevent sediment and other pollutants from entering the storm sewer system.

Measurable Goals / Expected Results: Record the number of structures cleaned and/or man-hours spent performing maintenance on storm structures. Reduce the amount of sediment and debris that enters the storm sewer system.

Annual Report Achievements/Notes: Landscaping spent approximately 160 man hours inspecting and performing maintenance to storm drains on campus during this permit cycle.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Landscaping

3.6.10 BMP: Outdoor Trash, Ground Litter and Landscaping Debris Collection

Program Description: The Recycling Department oversees the collection of outdoor trash and ground litter. The mission statement of the Recycling Department is "to reduce the flow of waste and materials into the landfill, educate the JMU community on the proper disposal of waste items as well as the future impact of global waste stream issues. The Grounds Department is responsible for the collection of landscaping debris and performs this activity on a regular basis. During the fall there are up to 20 people performing leaf collection daily.

Measurable Goals / Expected Results: Record the activities that the Recycling and Landscaping Department undertakes regarding outdoor trash, litter and landscaping debris collection. Reduce the amount of trash, ground litter, and landscaping debris that enters the storm sewer system.

Annual Report Achievements/Notes: There was approximately 5,200 total hours dedicated to ground litter cleanup during this report cycle, with four part-time employees working during the schools regular sessions at a combined 116 hours per week, and approximately 60 hours per week during the summer months.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: FM – Landscaping, and FM – Recycling/Waste Management

3.6.11 BMP: Fertilizer & Pesticide Application

Program Description: The application of all fertilizers and pesticides will be conducted in accordance with the Virginia Department of Agriculture and Consumer Services (VDACS) rules and regulations for agricultural chemical operations. The University currently has an Integrated Pest Management (IPM) program which seeks to control pests with a minimum of pesticide use while maximizing effectiveness and cost efficiency. The University also has a Nutrient Management Plan which outlines the proper application of fertilizer. Only property trained and/or certified employees or contractors will apply fertilizer or pesticides on campus.

Measurable Goals / Expected Results: Record the number of certified applicators for fertilizer and pesticides. Ensure the proper application of fertilizer and pesticides.

Annual Report Achievements/Notes: JMU has 22 Certified Fertilizer Applicators and 20 Certified Pesticide Applicators.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Facilities Management – Operations

3.6.12 BMP: Nutrient Management Plan

Program Description: The University is currently implementing a Nutrient Management Plan. The Nutrient Management Plan covers all lawn and landscaped areas of the University that receive nutrients and outlines the rates and frequencies that nutrients may be applied. The plan also covers best practices to follow regarding the application of these nutrients. A copy of this plan can be located in the office of the Landscape Manager and the Stormwater Coordinator.

Measurable Goals / Expected Results: Maintain records of nutrient applications per requirements outlined in Nutrient Management Plan. Ensure nutrients are applied in a manner that will minimize their impact on stormwater quality.

Annual Report Achievements/Notes: JMU continues to implement a NMP that was originally approved by DCR on August 24, 2012 with an expiration date of May 25, 2015. The original NMP was created for managing 189.40 acres. A supplemental plan was created in November 2012 which included an additional 41.82 acres. Application records are kept on file and are available upon request.

Schedule of Activities: Continue current program and evaluate annually.

Responsible Department: Engineering and Construction - Sustainability, and FM – Operations

3.6.13 BMP: SWPPPs for High-Priority Facilities

Program Description: SWPPP's shall be developed and implemented (as scheduled in state permit) for all high-priority facilities identified as (i) composting facilities, (ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities, (v) public works yards, (vi) recycling facilities, (vii) salt storage facilities, (viii) solid waste handling and transfer facilities, and (ix) vehicle storage and maintenance yards.

Measurable Goals / Expected Results: List the number of facilities/groups of facilities that have SWPPP's or will require SWPPP's.

Annual Report Achievements/Notes: Below is a table listing the facilities that currently will require a SWPPP be developed and implemented before July 1, 2017.

Facility/Group	Type of Facility
Arboretum Storage Yard	Materials storage
Grounds Equipment Storage (Main St.)	Equipment storage.
Grounds Storage Area (CoOp Building)	Materials and equipment storage.
R2 Lot Storage Yard	Materials and salt storage.
South Main Facilities	Composting and materials storage, recycling facilities, and vehicle storage and maintenance.
University Park Maintenance Shop	Maintenance yard.
University Services Building	Equipment and vehicle storage. Maintenance facilities.

Schedule of Activities: Continue to identify high-priority facilities as new development is completed. Have SWPPP's implemented on identified facilities within 48 months of coverage under this state permit.

Responsible Department: Engineering and Construction – Sustainability

3.6.14 BMP: Daily Operational Procedures

Program Description: Implement a policy with procedures for daily operations and maintenance activities associated with facilities management. This policy shall include 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. These procedures will be utilized as part of new FM employee orientation training.

Measurable Goals / Expected Results: The number of FM employees in attendance at FM new employee orientation and annual stormwater training. FM employees will be made aware of proper procedures associated with daily operations and possible impacts on waterways. Policy will be updated as needed to remain compliant with applicable regulations.

Annual Report Achievements/Notes: Policy and procedures are under development.

Schedule of Activities: Have procedures approved by administration and implemented by required deadline of 6/30/2015.

Responsible Department: Engineering and Construction - Sustainability

SECTION 4: TMDL ACTION PLANS

In order to meet pollutant reductions required for the Chesapeake Bay, an Action Plan will be developed that will outline the means and methods to be implemented to meet the required goals for each general permit cycle. The first Action Plan is due to be completed within 24 months after permit coverage (July 1st, 2015).

Two studies have been completed to assist in determining the best way to meet the Chesapeake Bay TMDL. One study, completed by Vanasse Hangen Brustlin, Inc. (VHB) looked at two options: (1) Constructing a series of stand-alone stormwater improvement projects; and (2) Requiring all Capital Improvement Projects to reduce post-construction pollutant loading by roughly 2.25 times the required amount. The second study, completed by the Center for Watershed Protection (CWP), looked at meeting the required reductions through stormwater retrofits. As a note, both these studies were completed before draft action plan guidance was circulated.

SECTION 5: ADDITIONAL INFORMATION

Following is additional information required as part of the annual report.

5.1 Modification to Operator's Department Roles & Responsibilities.

There were no modifications to the operator's department's roles and responsibilities in this permit year. JMU continued to operate their own erosion and sediment control (ESC) program under a set of annual standards and specifications, and starting July 1, 2014 will start to operate under a combined ESC/SWM annual standards and specifications.

5.2 New MS4 Outfalls

No new MS4 outfalls were added to the storm sewer system.

5.3 Signed 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 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 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."

Print Name: Dale Chestnut Title: Stormwater Coordinator

Signature: Date: 8/12/14

5.4 Status of Compliance with Permit Conditions

A review of the MS4 Program Plan currently implemented at JMU has found that we are in compliance with all conditions of the permit. An assessment of the identified BMP's has determined that they are appropriately addressing the minimum control measures outlined in the MS4 General Permit. The progress towards achieving identified measurable goals for each of the minimum control measures is included in Section 3 of this report.

5.5 Results of Information Collected and Analyzed

The results of information collected by the students in the Environmental Instrumentation course (BMP 3.2.4) is used for reference purposes only and is not included in this report.

5.6 Summary of Future Stormwater Activities

A summary of future activities for each BMP is listed in Section 3 with each individual BMP measure.

5.7 Modifications to BMP's or Measurable Goals

1.1: JMU's organizational structure has changed and figure 1 has been updated to reflect that change. Any affected BMP's have been updated to reflect the responsible party.

3.1.3 BMP Recycling and Trash Management: This BMP has been amended to show that Recycling/Waste Management now works more with the Office of Environmental Stewardship and Sustainability.

3.1.6 BMP Distribute Educational Materials/Promote Education: Three high-priority items have been identified along with rationale for the selection and an estimated target audience.

3.3.3 BMP Identify Locations with a High Probability of Illicit Discharges: This BMP has been moved to 3.6.13 and renamed SWPPP's for High-Priority Facilities and text amended to coincide with the new permit language.

3.3.3 BMP IDDE Policy & Procedures: The vacant spot created from moving the former BMP 3.3.3 to 3.6.13 has been replaced with a BMP to meet the permit requirement for IDDE procedures.

3.4.1 BMP ESC/SWM Annual Standards and Specifications: This BMP has been amended to include stormwater management in JMU's annual standards and specifications.

3.5.1 BMP Requirement for SWM Plan and Review: This BMP has been amended to reflect that JMU will be responsible for stormwater plan review.

3.5.2 BMP Stormwater Management Facilities Policy: This BMP has been amended to reflect a change to JMU's policy concerning stormwater management facilities. The previous policy only considered maintenance. The updated policy considers design, plan review, installation and approval, inspections, maintenance and reporting.

3.6.14 BMP Daily Operational Procedures: BMP has been created in order to comply with required updates associated with Table 1 of the general permit (9VAC25-890-40). This particular requirement is not due to be completed until 24 months after permit coverage, or June 30, 2015.

5.8 Notice that the Operator is Relying on another Government Entity

JMU is currently not relying on another government entity to satisfy any of the permit obligations.

5.9 Approval Status of any Programs Pursuant to Section II C

Currently, no existing program has required the implementation of any minimum control measures pursuant to Section II C.

5.10 Information Required for any applicable TMDL special condition contained in Section I

There are currently no applicable TMDL special conditions assigned to JMU.

5.11 Illicit Discharges Identified

Possible illicit discharges are identified in BMP's 3.3.2 and 3.6.2.

5.12 Regulated Land-Disturbing Activities

During this permit cycle, 17 regulated land-disturbing activities were active.

Project	Disturbed Acreage
Bluestone Trail Shared Use Path	0.85
Carrier Drive Left Turn Lane	0.43
Co-Op Demolition	2.61
Duke Hall Renovations	1.76
Grace Street Student Housing	3.70
East Tower	2.01
Field Hockey Sanitary Sewer	1.80
Newman Lake Dam Renovations	12.60
Salt Shed	0.30
Slope Remediation	0.78
South Main Spoils Site (Eby Property)	6.20
Student Success Center	2.70
Turf Soccer Fields	4.19
Turf Softball Field	1.49
University Park Event Parking Expansion	3.80
University Park Field Hockey Sod Placement	1.80
UREC Addition	14.00
Total	61.02

5.13 New Stormwater Management Facility Data

During this permit cycle, 4 BMP's were added to JMU's database and GIS.

BMP Type	HUC	Impaired Water	Acres Treated	Description
Bioretention	PS22	Blacks Run	1.29	CoOp Parking Lot
Bioretention	PS22	Blacks Run	0.89	Duke Hall Renovation
Bioretention	PS22	Blacks Run	0.26	Student Success Center
Manufactured BMP	PS22	Blacks Run	0.16	Student Success Center

5.14 Third Party Agreements

The University does not have any signed agreements with a third party to implement any of the minimum control measures.

5.15 MS4 Program Plan Comments

JMU's MS4 Program Plan is posted on-line for viewing and we accept comments at any time. The MS4 Program is also discussed during annual training and prior to requesting information for completing this annual report, all persons involved with submitting information as part of the annual report were asked to verify information on BMP's related to their department.

Two comments were received this permit period. One comment was to make an edit to BMP 3.1.3 which was done. The second comment received was asking if there were any items in STARS that could be incorporated into the plan. This is being evaluated.

5.16 Compliance with Public Participation Pursuant to Section II B 2(b).

Following is a list of some of the activities that JMU participated in through promotion, sponsorship or other involvement this permit cycle as required per section II B 2(b) of the permit.

Activity	Partner(s)	Timeframe
Faculty participates as President and board of directors of the Shenandoah Valley Pure Water Forum. Visit www.purewaterforum.org for more information.	Shenandoah Valley Pure Water Forum	Ongoing; Quarterly and annual meetings
Faculty participates as supervisor of the volunteer water quality monitoring for the Friends of the Shenandoah River. Visit www.fosr.org for more information.	Friends of the Shenandoah River	Ongoing
Solicit input from stakeholders in the development of the MS4 Program.		Ongoing
Participation in water quality monitoring programs. Refer to BMP 3.2.4 for additional information.	ISAT Department	Spring and Fall semesters.
Participation on City of Harrisonburg's Stormwater Advisory Committee	City of Harrisonburg	Ongoing; monthly meetings
Facilitated Leadership Work Session on MS4 Program	CSPDC, facilitators and presenters	July 17th, 2013
Facilitated a training seminar on upcoming stormwater regulations and BMP's to assist in meeting	Contech Engineered Solutions	September 17th, 2013

reduction goals sponsored by Contech Engineered Solutions. 15 participants consisting of project managers and inspectors.		
Facilitated Pure Water Forum's Annual Event at JMU's Festival Conference Center. Approximately 60 participants.	Shenandoah Valley Pure Water Forum	October 10th, 2013
East Dining Hall Sustainability/SWM Tour. 148 participants. Refer to BMP 3.1.5 for additional information.	OESS	Week of March 24th, 2014
Participated in the City of Harrisonburg's Blacks Run Cleanup Day. Refer to BMP 3.2.5 for additional information.	City of Harrisonburg	April 12th, 2014
Facilitated the Environmental Finance Centers "Shenandoah Valley Stormwater Financing Workshop: Local Decision Making Tools for Municipal Officials". Approximately 30 participants.	Environmental Finance Center	May 22nd, 2014

Appendix A

Illicit Discharge Detection and Elimination (IDDE) Policy & Procedure

Illicit Discharge Detection and Elimination (IDDE)

Date of Current Revision: February 2014
Responsible Officer: Associate Vice President, Business Services

1. PURPOSE

Establish methods for controlling the introduction of pollutants into the municipal separate storm sewer system (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 James Madison University (JMU).

2. AUTHORITY

The Board of Visitors has been authorized by the Commonwealth of Virginia to govern James Madison University. See Code of Virginia section 12-164.6; 23-9.2:3. The board has delegated the authority to manage the university to the president.

3. DEFINITIONS

Affiliate: An individual who has a formal affiliation with the university and receives some services from the university, but is not a student or employee of the university and receives no remuneration from the university (Formal affiliation means that a necessary relationship exists between the university and the individual to provide a service of value to the university). Affiliates are defined in Policy 1337 and include employees of contractors such as ARAMARK, Pitney Bowes, Follett, etc.

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices, including both structural and nonstructural practices, to prevent or reduce the pollution of surface waters and groundwater systems.

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

Illicit Discharge: Any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater, except discharges pursuant to 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: 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:

a. 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 Clean Water Act (CWA) that discharges to surface waters;
b. Designed or used for collecting or conveying stormwater;
c. That is not a combined sewer; and
d. That is not part of a publicly owned treatment works.

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

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

4. APPLICABILITY

This policy is applicable to all students, faculty, staff, contractors, affiliates and visitors of James Madison University.

5. POLICY

No university employee, student, visitor, contractor or department shall cause or allow discharges into the university’s storm sewer system which are not composed entirely of stormwater, except for the allowed discharges provided in the Virginia Stormwater Management Program (VSMP) Permit Regulations (9VAC25-870). Prohibited discharges include, but are not limited to: oil, anti-freeze, grease, chemicals, wash water, paint, animal waste, garbage, and litter. The spilling, dumping, or disposal of materials other than stormwater to the storm drainage system is prohibited.

6. PROCEDURES

a. Field Screening

Field observations of MS4 outfalls shall be conducted at least once per year during dry weather conditions. Observations shall be recorded using the current inspection form and information entered into a tracking database.

If flow is observed, or evidence suggests that illicit discharges may exist, further investigation shall be administered by any of the following methods:

i. Tracing discharge up storm sewer system;
ii. Taking a sample of discharge for analysis in order to determine if a pollutant is present and identify the pollutant;
iii. Implement best management practices to eliminate illicit discharges;
iv. Scheduling follow up observations; and
v. Any other appropriate measures deemed necessary.

b. Notification of Spills and Illicit Discharges

Once a spill or illicit discharge has been observed, the incident shall be reported to the Stormwater Coordinator and Safety & Training Coordinator. If those individuals are unavailable, contact Work Control or Campus Police. Failure to provide notification of the incident shall be a violation of this policy.

An initial investigation shall be performed within one business day of receiving notification and appropriate measures taken in order to prevent further discharge and begin remediation of pollution.

c. Tracking

Field observations shall be tracked in a database. Data fields to be included shall be:

i. Date discharge observed/reported

ii. Location of discharge
iii. Summary
    1. Results of investigation
    2. Any follow-up to investigation
    3. Resolution of investigation
iv. Date investigation closed

d. Enforcement

When a violation of this policy has been detected, JMU may order compliance, by either verbal notice or written notice, to the responsible party. Such notice may require without limitation:

i. The performance of monitoring, analyses, and reporting;
ii. The elimination of prohibited discharges or connections;
iii. Cessation of any violating discharges, practices, or operations;
iv. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
v. Payment of any fee, penalty, or fine assessed against JMU to cover remediation cost;
vi. The implementation of new stormwater management practices; and
vii. 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, JMU may issue work orders to correct the violation and bill the responsible party for expenses incurred.

If additional measures are required for enforcement, the president will be notified.

e. Training/Education

A training program for Stormwater Pollution Prevention/Good Housekeeping and Illicit Discharge Detection & Elimination (IDDE) will be presented for Facilities Management employees on an annual basis, and during new employee orientation for Facilities Management staff.

Educational materials for Stormwater Pollution Prevention and Illicit Discharge Detection & Elimination will be distributed through various forms of media to the members of the JMU community.

7. RESPONSIBILITIES

Stormwater Coordinator: Responsible for administration, implementation and enforcement of this policy.

All students, faculty, staff, contractors, affiliates and visitors of James Madison University are responsible for abiding by this policy and reporting illicit discharges to the proper authority.

8. SANCTIONS

Regarding employees of JMU and affiliates, sanctions will be commensurate with the severity and/or frequency of the offense and may include termination of employment.

Regarding students, sanctions will be commensurate with the severity and/or frequency of the offense and may include suspension or expulsion.

9. EXCLUSIONS

The following discharges to the municipal storm sewer system are allowed as they are considered to be not significant contributors of pollutants to the MS4:

a. Discharges that are covered under a separate individual or general Virginia Pollutant Discharge Elimination System (VPDES) or Virginia Stormwater Management Program (VSMP) permit for non-stormwater discharges.
b. Discharges or flows which are not significant contributors of pollutants to the municipal separate storm sewer system
    - Water line flushing
    - Landscape irrigation
    - Diverted stream flows
    - Rising ground waters
    - Potable water sources
    - Foundation drains
    - Air conditioning condensation
    - Irrigation water
    - Springs
    - Water from crawl space pumps
    - Footing drains
    - Flows from riparian habitats and wetlands
    - Dechlorinated swimming pool discharges
    - Street wash water

10. INTERPRETATION

Authority to interpret this policy rests with the President and is generally delegated to the Associate Vice President of Business Services.

Appendix B

Land-Disturbing Activities Policy & Procedure

POLICY: IV: 11 — Land-Disturbing Activities
Policy Review: Annually

DATED: July 2009
UPDATED: February 2014

APPROVED: *Towana Moore, Associate Vice President, Business Services*

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I. PURPOSE

The purpose of this policy is to establish guidelines to ensure all land-disturbing activities are in compliance with regulations set forth by the Department of Environmental Quality (DEQ).

II. DEFINITIONS

Best Management Practice (BMP) - A management practice that seeks to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land-disturbing activities.

Common Plan of Development – A contiguous area where separate and distinct construction activities may be taking place at different times on different schedules.

Erosion and Sediment Control Plan - A site-specific plan identifying best management practices to minimize accelerated soil erosion and sedimentation.

Land-disturbing activity - any land change that may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands in the commonwealth, including, but not limited to, clearing, grading, excavating, transporting, and filling of land.

Responsible Land Disturber (RLD) - Means an individual holding a certificate of competence issued by DEQ, or previously issued by DCR, who will be in charge of and responsible for carrying out the land-disturbing activity in accordance with the approved plan. The RLD may be the owner, applicant, permittee, designer, superintendent, project manager, contractor, or any other project or development team member. The RLD must be designated on the plan or permit as a prerequisite for plan approval by the Plan-Approving Authority

III. RESPONSIBILITIES

A. Director of Facilities Management - Responsible for the overall implementation of this procedure.

B. Assistant Director of Facilities Management for Operations and/or Service Managers - Responsible for ensuring that the requirements outlined in this procedure are followed for all land-disturbing activities undertaken by Facilities Management Operations.

C. Project Manager - Responsible for ensuring that the requirements outlined in this procedure are followed for all land-disturbing activities which they are managing.

D. Stormwater Coordinator - Responsible for reviewing and approving erosion and sediment control plans and conducting site inspections to ensure compliance with the James Madison University Erosion and Sediment Control Annual Standards and Specifications and the Virginia Erosion and Sediment Control Regulations.

IV. PROCEDURE

A. Any land-disturbing activity smaller than 10,000 square feet in area is not required to have a site-specific erosion and sediment control plan unless that activity is part of a common plan of development. Although a formal plan is not required, erosion and sediment control best management practices still need to be implemented to minimize soil erosion and sedimentation. Contact the Stormwater Coordinator if there are any questions regarding what practices should be implemented at the site.

B. An erosion and sediment control plan must be prepared and submitted to FM-Engineering for review and approval before any land-disturbing activity equal to or exceeding 10,000 square feet in area may commence. Please refer to the James Madison University Erosion and Sediment Control Annual Standards and Specifications for an outline of the requirements.

C. A stormwater management plan must be prepared and submitted for review and approval before any land-disturbing activity equal to or exceeding 1 acre in area may commence. The responsible land disturber for the activity must also obtain a VSMP General Permit for Discharges of Stormwater from Construction Activities and prepare all necessary attachments to meet permit requirements.

D. For all land-disturbing activities equal to or exceeding 1 acre the project manager must also ensure a copy of all the following materials is given to the Stormwater Coordinator for the reporting requirements of the University's MS4 permit:

1. Copy of signed VSMP permit application

2. Stormwater Pollution Prevention Plan (SWPPP)

3. Cover letter from DEQ with VSMP permit number and the date of coverage

4. Approved Stormwater Management Plan & Calculations

5. All inspection reports conducted by the RLD during construction

6. Any actions by DEQ (site inspections, correspondence, notices, etc.) that are issued for the project

7. Actions taken in response to the DEQ directives

8. Any incidents that occurred on the project during the reporting

9. “As Built” CAD files of all projects completed during the reporting period for updating the GIS system

10. Copy of the VSMP Notice of Termination form

Appendix C

Stormwater Management Facilities Policy & Procedure

FACILITIES MANAGEMENT DEPARTMENT

POLICY: IV: 10— Stormwater Management Facilities
Policy Review: Annually

DATED: September 1997
UPDATED: February 2014

APPROVED: *Towana Moore, Associate Vice President, Business Services*

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I. PURPOSE

The purpose of this policy is to establish guidelines for the design, installation, acceptance, inspection, and maintenance of stormwater management facilities installed on campus.

II. DEFINITIONS

Best Management Practice (BMP) – Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices, including both structural and nonstructural practices to prevent or reduce pollution of surface waters and groundwater systems.

DEQ – Virginia Department of Environmental Quality

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains.

Stormwater Management Facility - A structural best management practice that controls stormwater runoff and changes the characteristics of that runoff, including but not limited to, the quantity and quality, the period of release, or the velocity of flow.

III. RESPONSIBILITIES

A. Director of Facilities Management- Responsible for the overall implementation of this procedure.

B. Assistant Director of Facilities Management for Operations and/or Service Managers- Responsible for ensuring that stormwater management facilities are properly maintained when work orders are issued for maintenance and/or repair.

C. Project Manager- Responsible for ensuring that stormwater management facilities are designed in accordance with the appropriate water quality and water quantity design criteria as required in 9VAC25-870 and installed in accordance with the approved site plan and applicable requirements of the Department of Environmental Quality (DEQ) and any annual standards and specifications adopted by the university..

D. Stormwater Coordinator - Responsible for overseeing site plan review, long-term maintenance inspections, preparation of report for work orders for BMPs requiring maintenance, and submitting the required annual report to the Department of Environmental Quality.

IV. PROCEDURE

A. Design & Plan Review

Project Manager will ensure that a site plan is designed to incorporate required stormwater management facilities that will meet water quality and water quantity standards and assist in meeting the University's MS4 reduction goals.

Stormwater Coordinator shall oversee review of plans to ensure compliance with stormwater regulations.

Project construction shall not begin until site plan has been approved for erosion and sediment control and stormwater management.

B. Installation & Approval

Project Manager, or project inspector, shall observe construction of the stormwater management facility to ensure compliance with approved plan.

Project Manager shall have contractor provide any requested as-built documentation and have engineer provide an as-built certification.

Stormwater Coordinator will file as-built certification with BMP files for use during maintenance inspections.

C. Long-Term Maintenance & Inspections

Stormwater Coordinator shall oversee required inspections on stormwater management facilities. Any required maintenance shall be documented and information included in a work order to Operations or outside contractor for remedial work.

Assistant Director of Facilities Management for Operations shall ensure that maintenance is performed as instructed by work order, unless outside contractor is hired for repair.

Stormwater Coordinator will perform a final inspection once informed of completion of remedial work.

D. Reporting

Stormwater Coordinator will be responsible for preparing and submitting required annual BMP report to DEQ. A copy of this report will be kept in the Engineering Department file. The report shall include the following information:

i. Type of structural stormwater facility installed as defined in the Virginia Stormwater Management Handbook or Virginia Stormwater BMP Clearinghouse
ii. Geographic Location (Hydrologic Unit Code)
iii. Where applicable, the impaired surface water that the stormwater management facility is discharging into
iv. Number of acres treated

E. Evaluation

This procedure shall be reviewed annually.

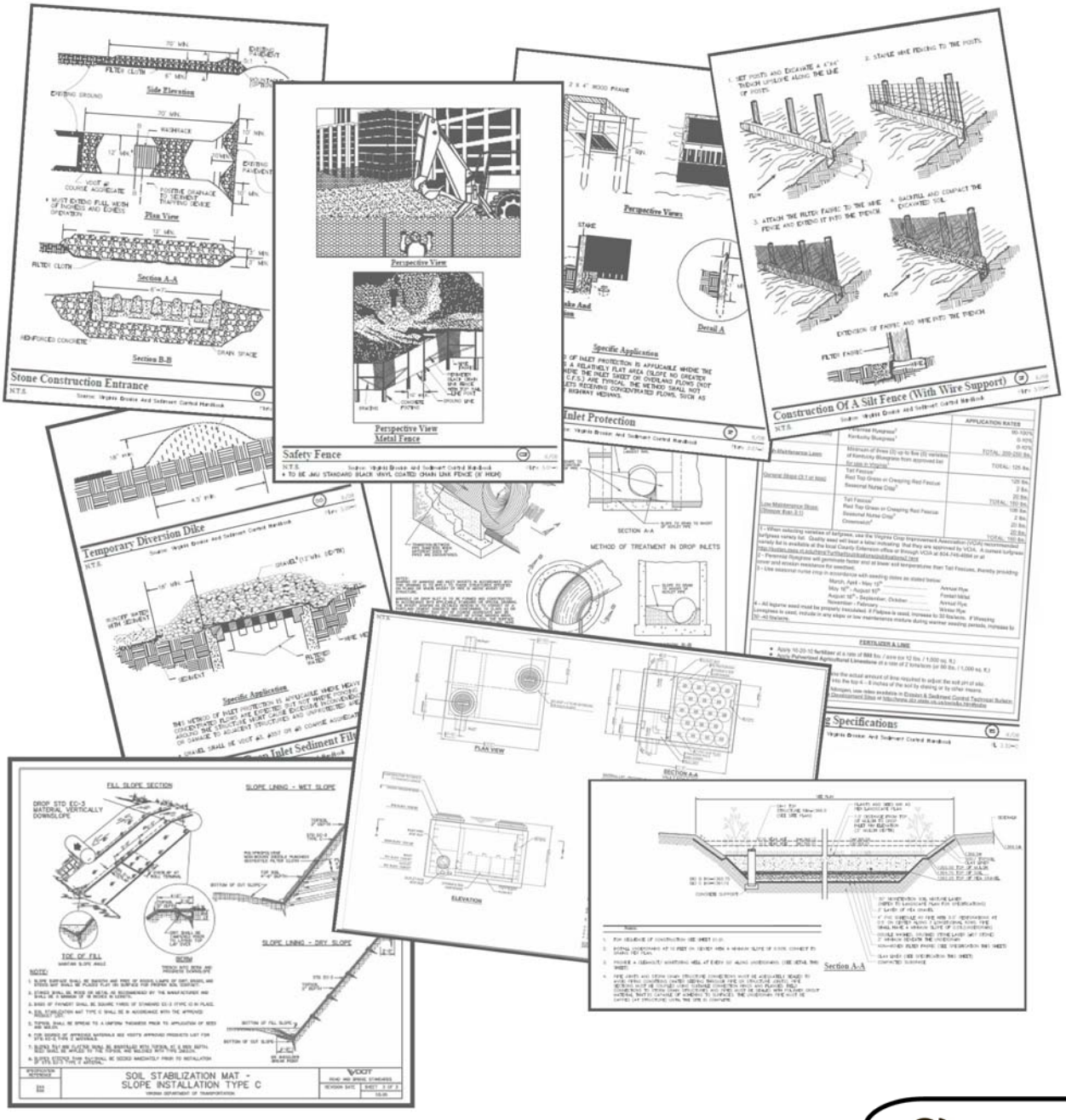
Appendix D

ESC/SWM Annual Standards & Specifications

Annual Standards & Specifications for

Erosion & Sediment Control and Stormwater Management

July 1, 2014 thru December 31, 2014



JAMES MADISON UNIVERSITY

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LETTER OF ENDORSEMENT

Subject: James Madison University Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management.

Dated:

I certify under penalty of law that all documents and all attachments related to the submission and updating of the James Madison 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,

Dale Chestnut
James Madison University Stormwater Coordinator

INTRODUCTION

James Madison University (JMU) has incorporated Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) that are integral components of James Madison University's design, construction, maintenance, and management of the university's facilities and campuses. The James Madison University Annual Standards and Specifications for ESC and SWM submittal has been developed to provide information regarding JMU'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.

James Madison University Annual Standards and Specifications for ESC and SWM shall be administered by Facilities Management Engineering Department and shall apply to all design, construction and maintenance activities undertaken by James Madison 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 James Madison University's land disturbing activities by DEQ, EPA or other such environmental agencies, compliance with the approved James Madison 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.

James Madison 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. James Madison University shall ensure that project specific plans are developed and implemented in accordance with these Annual Standards and Specifications. This submittal constitutes James Madison University's commitment to execute all provisions contained herein on our regulated land disturbing activities and land development projects. As such, this submittal will be made available and utilized as an

operational guidance by all appropriate James Madison University and DEQ personnel. This submittal and errata information are available for download as PDF files at: http://facmgt.jmu.edu/web/engineering/stormwater/index_html/.

ACRONYMS AND ABBREVIATIONS

Bay	Chesapeake Bay
BMP	Best Management Practice
Board	Virginia Soil & Water Conservation Board
CWA	Clean Water Act
CSS	Combined Sewer System
DCR	Department of Conservation and Recreation
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
ERP	Enforcement Response Plan
ESC	Erosion & Sediment Control
FM	Facilities Management
GIS	Geographic Information Systems
GPS	Global Positioning System
HUC	Hydrologic Unit Code
IDDE	Illicit Discharge Detection & Elimination
JMU	James Madison University
LID	Low Impact Development
MEP	Maximum Extent Practicable
MCM	Minimum Control Measure
MS	Minimum Standard
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
NOI	Notice of Intent
NOV	Notice of Violation
POC	Pollutants of Concern
RLD	Responsible Land Disturber
SOP	Standard Operating Procedures
SWM	Stormwater Management
SWPPP	Stormwater Pollution Protection Plan
TMDL	Total Maximum Daily Load
UA	Urbanized Area
VESCL&R	Virginia Erosion & Sediment Control Law & Regulations
VPDES	Virginia Pollution Discharge Elimination System
VSMP	Virginia Stormwater Management Program
WLA	Waste Load Allocation

SECTION 1: ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION

1.1 James Madison University follows the policies and procedures described in *the Virginia Erosion and Sediment Control Handbook* and the *Virginia Stormwater Management Handbook. James Madison University Annual Standards and Specifications for ESC & SWM* approved by DEQ are composed of general specifications. The general specifications for erosion and sediment control and Stormwater management apply to the land-disturbing activities included by referencing the following.

1.1.1 *Virginia Erosion and Sediment Control Law* (§62.1-44 et seq. as amended);
1.1.2 *Virginia Erosion and Sediment Control Regulations* (9VAC25-840 et seq. as amended);
1.1.3 *Virginia Erosion and Sediment Control Certification Regulations* (9VAC25-850 et seq. as amended);
1.1.4 *Virginia Erosion and Sediment Control Handbook*, 1992, as amended;
1.1.5 *Virginia Stormwater Management Act* (§62.1-44 et seq. as amended);
1.1.6 *Virginia Stormwater Management Permit Regulations* (9VAC25-870 et seq. as amended);
1.1.7 *Virginia Stormwater Management Handbook*, 1999, as amended;
1.1.8 Technical Bulletins, as amended, on the Virginia DEQ website at www.deq.virginia.gov; and
1.1.9 Memos, as amended, on the Virginia DEQ website at www.deq.virginia.gov.

1.2 Any land-disturbing activity, as defined by James Madison University shall comply with the *James Madison University Annual Standards and Specifications for ESC & SWM*.

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

1.4 Site specific ESC plans shall be prepared for all projects involving a regulated land-disturbing activity as defined in §62.1-44 or when deemed necessary by FM Engineering if development is outside the purview of the VESCL&R and poses potential environmental implications. Site specific ESC plans shall be submitted to FM Engineering for review. Prior to starting a land-disturbing project, the project must have plans stamped approved by FM Engineering. 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 regulated land—disturbing activity that requires:

(a) A Virginia Stormwater Management Program General Permit for Discharges from Construction Activities (VSMPP)
(b) Land-disturbing activity contained within a watershed of a regional water quality Stormwater management facility
(c) Incorporates the use of an LID and/or BMP.
(d) Changes the University MS4.

Site specific SWM plans shall be submitted to FM Engineering for review. Prior to starting a land-disturbing project requiring a SWM plan, the project must have an approval issued by FM Engineering.

1.6 FM Engineering may request DEQ to grant project specific variance or exception, in terms of ESC and SWM, respectively, to the approved James Madison 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.

SECTION 2: ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL

FM Engineering shall be the plan approving authority for James Madison University projects. The following is a breakdown in responsibilities and titles in regard to the James Madison University Annual 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 following titles are designated to ensure compliance with erosion and sediment control and stormwater management regulations on all James Madison University projects.

2.1 "Certified inspector for ESC" means an employee or agent of James Madison 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 inspector for SWM" means an employee or agent of James Madison 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 the construction of permanent stormwater management controls.

2.3 "Certified plan reviewer for ESC" means an employee or agent of James Madison University who: (i) holds a certificate of competence from the Board in the area of plan review; or, (ii) is enrolled in the Board's training program for plan review and successfully completes such program within one year after enrollment.

2.4 "Certified plan reviewer for SWM" means an employee or agent of James Madison 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 program administrator for ESC" means an employee or agent of James Madison 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 program administrator for SWM" means an employee or agent of James Madison 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 combined administrator for ESC" means an employee or agent of James Madison 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 combined administrator for SWM" means an employee or agent of James Madison 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.

SECTION 3: ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION

ESC and SWM plans shall comply with James Madison 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 Permit regulations (9VAC25-870 et. Seq.). Refer to Section 1.1 for more information on general specifications.

3.1 Submittals: Two complete sets of ESC/SWM plans, narratives and necessary attachments shall be submitted to the JMU FM-Engineering Department for review and approval prior to any land-disturbing activities. JMU FM-Engineering 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 FM-Engineering.

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 JMU for ESC/SWM. These plan sets will be allocated as follows: (1) Project Manager, (1) Design Engineer, (2) Contractor, (1) Stormwater Coordinator.

3.3 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 by the JMU Project Manager, JMU Construction Inspector, JMU Stormwater Coordinator and the project RLD.

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

3.5 Enforcement: The JMU Project Manager shall be responsible for ensuring that corrective action is taken in response to comments and violations listed on inspection reports.

3.6 Changes and Amendments to Approved Plans: Amendments to approved plans must be reviewed and approved by FM-Engineering. Revisions shall not be considered approved until written notice is provided.

SECTION 4: PLAN REQUIREMENTS

Detailed requirements of specific items to be included in the ESC and SWM plans are located in the ESC/SWM Plan Preparer/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 maintenance of BMPs or reference the narrative section that contains the information.

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 include but are not limited to: ditch computations, stormwater routing, storm inlet computations, pipe capacity computations, BMP computations, pond routings and computations, etc.

h.) Proof of adequate outfall and adequacy of the receiving channel to the SWM treatment facility needs to be provided.

i.) Plans shall comply, to the maximum extent practicable, with any locality's VSMP ESC and SWM technical

requirements or demonstrate that the locality's VSMP ESC and SWM technical requirements are not practicable for the project.

j.) Plans should also include a detailed landscape plan with a planting schedule.

k.) Stockpile/lay-down areas and trailer locations shall be provided on the erosion and sediment control plans for all phases.

l.) Any on-site changes shall be documented on the approved site plan and within the SWPPP.

SECTION 5: INSPECTIONS

Periodic inspections shall be conducted, at a minimum, at least once in every 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: 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 project manager and any other persons identified during the pre-construction meeting.

5.2 Stormwater Management Inspections: 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 the project manager and any other persons identified during the pre-construction meeting.

5.3 Project Close-Out: As previously stated, project completion is defined as the achievement of permanent stabilization, verification of final product according to approved plans, completion of TV inspection of the installed storm sewer system 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.

5.4 Post-Construction Inspections: Post-construction (maintenance) inspections for permanent SWM BMPs shall be made in accordance with the manufacturer's recommendations, engineer's recommendations and/or stormwater regulation requirements. The BMP Field Assessment Worksheet provided in Appendix D shall be used during inspections. In the case where maintenance or repair is required, a work order shall be created to correct issues.

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 JMU FM, 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, JMU FM 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 JMU FM, site work may resume. All associated costs will be back-charged to 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 James Madison 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 JMU Stormwater Coordinator for 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 is sought. (Ref. 9VAC25-840-50).

6.1 Variance or Exception Request Policy and Procedure:

- 6.1.1 The design professional shall draft a letter of request to JMU FM and shall be accompanied by complete details and documentation, including justification and impacts associated with the request.
- 6.1.2 All requests shall be considered unapproved until written approval from JMU FM is received. Final approval rests with DEQ.
- 6.1.3 All approved variances or exceptions shall be listed in the General Notes section of the ESC/SWM plans for land disturbing activities and included in the Narrative.

SECTION 7: LAND-DISTURBING ACTIVITIES

7.1 A list of regulated land-disturbing activities currently under construction and expected to be under construction during this period are included in Appendix E.

7.2 James Madison University FM-Engineering will notify the DEQ Harrisonburg Regional Office of the RLD name and contact information at least two weeks prior to construction.

7.3 James Madison University FM-Engineering will notify the DEQ Harrisonburg Regional Office of any additional projects involving regulated land disturbing activities unknown at the time of Annual Standards & Specifications submission. This notification shall be provided at least two weeks in advance of land-disturbing activities.

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 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.

SECTION 9: LONG-TERM MAINTENANCE

Project plans shall contain information on long-term maintenance of BMPs. Permanent stormwater facilities will be inspected as required within stormwater regulations.

APPENDIX A

ESC/SWM Plan Preparer/Reviewer 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.

GENERAL

_____ 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
- □ Utility layout
- □ Landscaping
- □ On-site and off-site borrow and disposal areas that do not have separate approved ESC Plans
- □ Calculations

_____ 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.

_____ Number of plan sets - Two sets of ESC Plans are to be submitted initially. Five sets are required for approval. Distribution of the approved plans will be as follows:

1 – Project Manager
1 – Design Engineer
2 – Contractor
1 – Stormwater Coordinator

_____ 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 James Madison University Annual Standards and Specifications for ESC and SWM

_____ Completed Plan Preparer/Reviewer Checklist - Include a completed and signed ESC Plan Preparer/Reviewer Checklist.

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 narrative and 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 and 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) been 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 channels 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?

Yes	No	NA		
[]	[]	[]	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 end of each day, no 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 sediment deposition, erosion, and damage due to increases in volume, velocity and peak flow rate of stormwater runoff?
[]	[]	[]		Is concentrated stormwater runoff leaving the development site discharged to an adequate natural or 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 not adequate, have provisions been made to prevent downstream erosion?
[]	[]	[]		Have increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property been diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility?
[]	[]	[]		Variances requested at the time of plan submission are governed by Section 9VAC25-840-50 of the *Virginia Erosion and Sediment Control Regulations*.
[]	[]	[]		All Minimum Standards have been listed on a plan set.

NARRATIVE

_____ Project description - Briefly describe the nature and purpose of the land-disturbing activity.
- □ Provide the area (acres) to be disturbed. This disturbed area shall include laydown, access and any other areas that may be disturbed during the course of the project.
- □ Provide the existing impervious area and the increase, or decrease, in impervious area (acres).
- □ Estimated schedule for project.
- □ Ultimate developed condition of the site.

_____ Existing site conditions - A description of the existing topography (% slopes), ground cover, and drainage (on-site and receiving channels).
- □ Provide the size of drainage areas in pre-development and post-development conditions.
- □ Discuss any existing drainage or erosion problems and how they are to be corrected.

_____ Adjacent areas - 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 and any possible problems during and after construction (traffic issues, dust control, increases in runoff, etc.).

_____ Off-site areas - 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.

_____ Soils - 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 references for soil information.
- □ Provide a copy of soil survey map

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

_____ Erosion and sediment control measures - 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).

_____ Management strategies / Sequence of construction - Address management strategies, the sequence of construction, and any phasing of installation of ESC measures.

_____ Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed. List any soil testing requirements.

_____ Maintenance of ESC measures - 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.

_____ 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.

_____ 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? 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.

_____ 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.

_____ 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.

_____ Water Quality – Is the plan in compliance with the water quality criteria? 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.

_____ Specifications for stormwater and stormwater management structures - Provide specifications for stormwater and stormwater management structures, i.e., pipe materials, pipe bedding, stormwater structures.

_____ Page numbers – Number the pages of the Narrative and the Calculations.

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

SITE PLAN

_____ Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks that might assist in locating the site.

_____ Indicate north - The direction of north in relation to the site.

_____ 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.

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

_____ 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.

_____ Profile of storm drainage 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.

_____ Existing vegetation - The existing tree lines, grassed areas, or unique vegetation.

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

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

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

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

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

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

_____ 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.

_____ Off-site 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.

_____ 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.

_____ Erosion and sediment control notes - At a minimum, include the erosion and sediment control notes found appendix B. Ensure that all applicable Minimum Standards not covered elsewhere in the plan have been addressed.

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

_____ 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.

_____ 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 Preparers 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 at least 15 days 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 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 inspections 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

JAMES MADISON UNIVERSITY

ESC/SWM INSPECTION REPORT

FACILITIES MANAGEMENT - ENGINEERING
181 PATTERSON ST., HARRISONBURG, VA 22807
OFFICE: (540) 568-7606 FAX: (540) 568-3547

PROJECT INFORMATION

PROJECT NAME		INSPECTION DATE
PROJECT MANAGER	PROJECT NUMBER	INSPECTION TIME
RLD NAME	RLD NUMBER	INSPECTOR

Does the project require a VSMP General Construction Permit? Yes ◯ No ◯ Permit Number (if applicable):

WEATHER DATA

CURRENT CONDITIONS	TEMPERATURE	RAINFALL

ADDITIONAL INFORMATION

REASON FOR INSPECTION

- ◯ INSTALLATION OF CONTROLS
- ◯ SCHEDULED INSPECTION
- ◯ POST STORM EVENT
- ◯ PROJECT COMPLETION
- ◯ RE-INSPECTION
- ◯ OTHER: _____

STAGE OF CONSTRUCTION

- ◯ INSTALLATION OF E&S CONTROLS
- ◯ CLEARING & GRUBBING
- ◯ ROUGH GRADING
- ◯ BUILDING CONSTRUCTION
- ◯ FINISH GRADING
- ◯ FINAL STABILIZATION
- ◯ CONSTRUCTION OF SWM FACILITIES
- ◯ MAINTENANCE OF SWM FACILITIES
- ◯ OTHER: _____

RESULT OF INSPECTION

- ◯ SATISFACTORY
- ◯ SATISFACTORY w/ COMMENTS
- ◯ VIOLATION(S) NOTED
- ◯ NOTICE TO COMPLY
- ◯ STOP WORK ORDER

REQUIRED CORRECTION ACTION DEADLINE DATE

	VIOLATION CODE		
ITEM #1		◯ INITIAL ◯ REPEAT	*Description and location of problem/violation. Required or recommended corrective actions. Other Comments.*
ITEM #2		◯ INITIAL ◯ REPEAT	*Description and location of problem/violation. Required or recommended corrective actions. Other Comments.*
ITEM #3		◯ INITIAL ◯ REPEAT	*Description and location of problem/violation. Required or recommended corrective actions. Other Comments.*
ITEM #4		◯ INITIAL ◯ REPEAT	*Description and location of problem/violation. Required or recommended corrective actions. Other Comments.*

VIOLATION	BRIEF DESCRIPTION
JMU-1	Land Disturbance w/o Approved Plan
JMU-2	Non-Compliance w/ Approved Plan
JMU-3	Maintenance/Repair of Controls
JMU-4	Other/VSMP
MS-1	Stabilization
MS-2	Stockpiles, Waste & Borrow Areas
MS-3	Permanent Vegetation
MS-4	First Step Measures
MS-5	Earthen Structure Stabilization
MS-6	Trap and Basin Sizing
MS-7	Cut and Fill Slopes
MS-8	Concentrated Runoff
MS-9	Water Seeps
MS-10	Inlet Protection
MS-11	Channel / Outlet Protection
MS-12	Watercourse Construction
MS-13	Temporary Stream Crossing
MS-14	Other Watercourse Regulations
MS-15	Bed and Bank Stabilization
MS-16	Utility Construction
MS-17	Construction Entrance, Tracking
MS-18	Control Removal
MS-19	Downstream & Property Protection

COMMENTS/NOTES

Violation code refers to applicable regulation found in the most recent publication of the *Virginia Erosion and Sediment Control Regulations* (9VAC25-840), *Virginia Stormwater Management Permit Regulations* (9VAC25-870), or James Madison University's *Annual Standards & Specifications for ESC & SWM.*

The required corrective deadline date applies to all violations noted on this report. If listed violation(s) currently constitute non-compliance and/or required corrective actions are not completed by the deadline, a NOTICE TO COMPLY, STOP WORK ORDER, and/or other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.

VSMP AUTHORITY CONSTRUCTION GENERAL PERMIT CHECKLIST

		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 hard copy of SWPPP posted near main entrance: Part II(D)3			
3	Copy of complete SWPPP available onsite for operators: 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 ESSC plan, "agreement in lieu of a plan", or ESC plan developed in accordance with department approved annual standards and specifications: Part II(A)2			
3g	Approved SWM plan or SWM plan developed in accordance with department approved annual standards and specifications: Part II(A)3			
3h	Pollution prevention plan: Part II(A)4			
3i	Requirements for discharges to impaired waters, surface waters with an applicable TMDL, exceptional waters (if applicable): Part II(A)5			
3j	Contact information for qualified personnel conducting inspections: Part II(A)6			
3k	SWPPP signed in accordance with Part IIIK: Part II(A)8			
4	SWPPP is being amended, modified and updated: Part II(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 of dates when major grading activities occurred: Part II(B)4.a(1)			
4c	SWPPP amendments, modifications, or updates signed 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 II(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)			

APPENDIX D

BMP Field Assessment Worksheet

JAMES MADISON UNIVERSITY

FACILITIES MANAGEMENT
181 PATTERSON ST., HARRISONBURG, VA 22807
OFFICE: (540) 568-7606 FAX: (540) 568-3547

BMP FIELD ASSESSMENT WORKSHEET

BMP ID:		Zone:
Inspector:		Rating Key 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 Date:		
Inspection Time:		
Last Storm Event:		
Notes:		

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

APPENDIX E

Projects

James Madison University

Land Disturbing Activities

January 2014 - December 2014

Project Name	Project Location	Project Manager	Contact Information	Project Description	Area (acres)	Proposed Construction Start Date	Proposed Construction Finish Date
Field Hockey Sanitary Sewer Service	1200 Carrier Dr.	Gary Thayer	(540) 568-6720	Install sewer service for future building.	0.9	2/27/2014	4/30/2014
Grace Street Student Housing	50 W. Grace St.	Craig Short	(540) 568-7628	Construct 500 bed student housing facility.	3.7	10/1/2013	10/30/2014
Infrastructure Phase II: New Steam Lines	Bluestone Dr.	Scott Wachter	(540) 568-3006	Construct new steam lines to serve Student Success Center.	0.9	5/5/2014	11/14/2014
Newman Lake Dam Repair	501 Bluestone Dr.	Craig Short	(540) 568-7628	Upgrade dam in order to bring impoundment into compliance with state regulations.	12.6	5/19/2014	12/19/2014
RMH East Tower	235 Cantrell Ave.	Scott Wachter	(540) 568-3006	Demo and construct new building.	1.4	11/16/2014	7/16/2016
South Main Street Soil Stock Pile	1593 S. Main St.	Abe Kaufman	(540) 568-4201	Ongoing soil stock pile area.	6.2	1/4/2010	6/30/2019
Student Success Center	Cantrell Ave. & Mason St.	Glenn Wayland	(540) 568-6345	Renovate and expand existing building.	2.7	10/1/2012	5/1/2014
UPARK Parking Lot Expansion	948 Port Republic Rd.	Glenn Wayland	(540) 568-6345	Construct additional parking.	3.8	10/30/2013	5/30/2014
UPARk Field Hockey Sod Placement	1090 Devon Lane	Dale Chestnut	(540) 568-7606	Sod placement on practice field.	1.8	3/31/2014	4/30/2014
UREC Expansion	701 Driver Dr.	Glenn Wayland	(540) 568-6345	Expand and renovate existing building	10.0	4/29/2014	5/6/2016