MS4 PROGRAM PLAN

PERMIT NUMBER VAR040106

Oct 2020

George Mason University
Land Development, Facilities
4400 University Drive MSN 2C1
Fairfax Virginia 22030

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Table of Contents

Appendices

ACCRONYMS AND ABBREVIATIONS

Abbreviation/ Acronym	Term
AS&S	Annual Standards and Specifications
BMP	Best Management Practice
CWA	Clean Water Act
CWP	Northern Virginia Clean Waters Partners
DEQ	Virginia Department of Environmental Quality
EHS	Environmental, Health, & Safety
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
FM	Facilities Maintenance
GIS	Geographic Information System
GPS	Global Position System
HUC	Hydrologic Unit Code
IDDE	Illicit Discharge Detection and Elimination
Mason	George Mason University
Mason LD	George Mason University Land Development
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
OoS	Office of Sustainability
OCR	Office of Community Relations
ORI	Outfall Reconnaissance Inventory
POC	Pollutants of Concern
PSA	Public Service Announcement
P&TS	Parking and Transportation Services
R&WM	Recycling and Waste Management
SWPPP	Stormwater Pollution Prevention Plan
SWM	Stormwater Management
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
VDOT	Virginia Department of Transportation
VESCL&R	Virginia Erosion and Sediment Control Law and Regulations
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program

I. BACKROUND

Controlling the quality and quantity of stormwater in urbanized areas has become of greater concern since the passage of the Clean Water Act (CWA). Despite earlier attempts to address water pollution, it was not until 1972 that the Environmental Protection Agency (EPA) was given the authority to develop and implement a stormwater management program, which regulates the amount of pollutants being discharged in U.S. water bodies. In response to amendments to the CWA, in 1990 the EPA created an enforcement management mechanism called the National Pollutant Discharge Elimination System (NPDES). With the implementation of the NPDES, it became obligatory for all operators of a Municipal Separate Storm Sewer System (MS4) who intend to discharge stormwater into surface waters to obtain a NPDES permit. Depending on the size of the municipality, the NPDES issued Phases I and Phase II Final Rule. Phase I requires a NPDES permit for medium and large cities or municipalities with populations greater than 100,000, industrial activities, and construction activities that disturb 5 or more acres. Phase II requires a NPDES permit holder to implement programs and practices to control and minimize polluted runoff for small MS4s and small construction sites. The EPA delegated the regulatory authority and oversight of the NPDES programs to the State governments. As authorized under the State Water Control Law and the federal Clean Water Act, the Virginia Pollutant Discharge Elimination System (VPDES) permitting program regulates point source pollution, which is administrated by Virginia Department of Environmental Quality (DEQ).

II. EXECUTIVE SUMMARY

Stormwater discharges within George Mason University (Mason) are regulated under the terms of VPDES General Permit for Discharges from Small Municipal Separate Storm Sewer System (General Permit No. VAR040106). This MS4 permit is issued to Mason by Virginia DEQ, consistent with the provisions of Section 402 of the Clean Water Act and the Virginia Stormwater Management Act, which authorizes the Virginia Stormwater Management Program (VSMP) regulations.

The initial MS4 permit was issued to Mason on July 9, 2008 for permit year 2008-2013. The second permit was issued on July 2, 2013 for the permit year 2013-2018.

On October 31, 2018, the permit was re-issued with an effective date of November 1, 2018 and with an expiration date of October 31, 2023. Since the commencement of the permit coverage, Mason has begun implementing permit requirements and continues to work on improving existing control measures developed to reduce the discharges of pollutants into the MS4.

To achieve the required water quality goals, the MS4 permit requires Mason to control the discharges of pollutants by addressing the following six minimum control measures (MCM):

(1) Public Education and Outreach
(2) Public Involvement and Participation
(3) Illicit Discharge Detection and Elimination

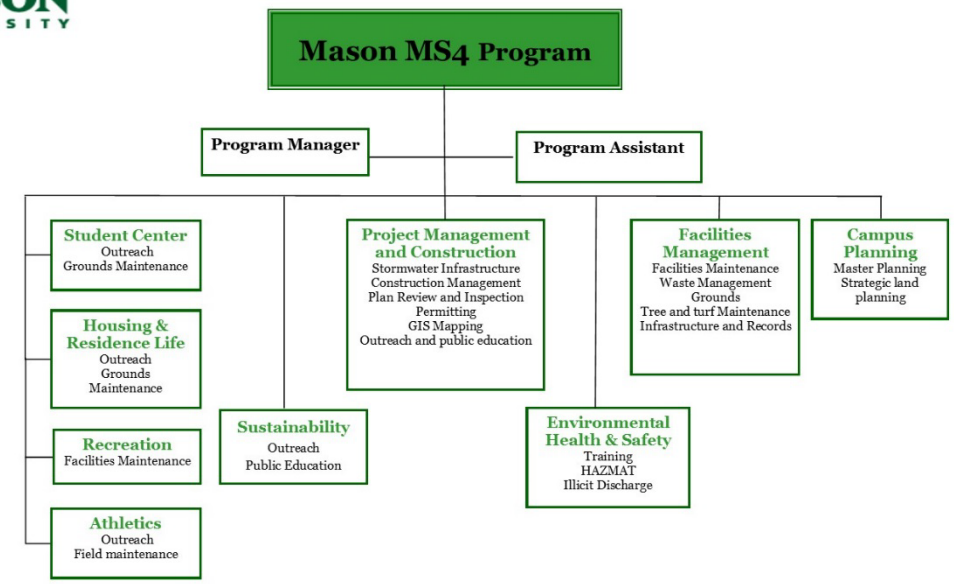
(4) Construction Site Stormwater Runoff Control
(5) Post-Construction Stormwater Management in New Development and Development on Prior Developed Lands
(6) Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by Mason

In addition, the MS4 permit includes special conditions to address Chesapeake Bay Total Maximum Daily Load (TMDL). Mason is required to develop and implement a TMDL Action Plan for the second phase Chesapeake Bay TMDL to achieve the approved pollutant reduction goals through implementations of best management practices (BMP).

Therefore, it is the intent of this document to establish and define Mason's MS4 program and demonstrate Mason's plan to meet the permit requirements through October 31, 2023. Due to the extent and scale of the new permit requirement, the permit requires Mason to update the Program Plan no later than six months after the effective date of the permit. The Program Plan will be a "living" document, with the major updates corresponding with the annual report submittals.

III. ORGANIZATION OF MASON STORMWATER MANAGEMENT PROGRAM

While stormwater activities and functions are divided among several different departments and divisions, the Land Development (Mason LD) has the primary responsibility for overall compliance with the permit. MS4 permit compliance activities are coordinated with Environmental Health and Safety Office (EHS), Facility Management (FM) and other Mason units. While Mason LD is the responsible for overall program compliance, including annual report submittal, several other departments and divisions play important roles in implementing the MS4 permit. These departments are shown in the following organization chart.



IV. DESCIRPTION OF MS4 DRAINAGE AREA

Mason MS4 Permit covers two separate Northern Virginia campuses in Fairfax and Prince William County, which are located in the Potomac watershed within the larger Chesapeake Bay watershed.

Fairfax Campus consists of approximately 585 acres of developed and undeveloped land comprised of academic buildings, research facilities, residential buildings, auxiliary buildings, and athletic facilities. Approximately 220 acres drains to Popes Head Creek. The remaining 365 acres drains to Pohick Creek. As Figure 1 indicates, Fairfax Campus is physically interconnected to these MS4's: Fairfax County, City of Fairfax, and the Virginia Department of Transportation's (VDOT) MS4.

Science and Technology Campus is located in Prince William County and consists of approximately 135 acres of developed and undeveloped land that includes academic buildings, research facilities, auxiliary buildings, and athletic facilities. All 135 acres are within the Broad Run drainage area. Interconnections between the Science and Technology campus and other MS4s are depicted in Figure 2.

Currently, over 36,000 students attend Mason with approximately 5,500 living on the main campus in Fairfax. Mason anticipates continued growth in enrollment in the future.

V. STORM WATER COLLECTION AND CONVEYANCE SYSTEM

All structural controls and conveyance features are depicted on the campus utility maps. The utility map is based on construction drawings and survey data collected by Mason personnel for record drawings verification. The campus utility maps are regularly updated as land use changes, or as necessary, based on the information reflected on new projects as-built (construction documents), as well as, surveying data.

Record drawings and field/survey data, including outfall reconnaissance, GPS measurements as well as other observations obtained by staff were reviewed to develop a complete MS4 map.

A complete MS4 system is currently mapped and maintained by Facilities Management. The MS4 map is periodically reviewed and updated with construction activities. These updates include the removal of the existing stormwater facilities and/or addition of newly constructed stormwater management facilities, piping and outfalls which are added to the existing GIS mapping system.

The MS4 map at Fairfax Campus encompasses roughly 680 drain inlets and 16 miles of storm sewer pipe. Fairfax Campus storm sewer discharges into Popes Head Creek and Pohick Creek via approximately 50 internal outfalls.

Drainage from the Science and Technology Campus is captured by roughly 50 inlets and transported through 2 miles of storm sewer pipe into a tributary to Cannon Branch via approximately 10 outfalls.

The stormwater map including stormwater BMPs is available on the Mason website

VI. Special Condition for the Chesapeake Bay TMDL

The MS4 permit for Mason includes special condition to address Chesapeake Bay TMDL. It requires Mason to implement necessary reductions to meet the Level 2(L2) scoping run for the existing developed lands.

For compliance with the first permit cycle ending June 30, 2018, Mason utilized credit from existing oversized stormwater best management practices (BMPs) and implemented 320' of urban stream restoration on the Fairfax Campus for the Phase 1 TMDL Action Plan. This provided reductions above and beyond the 5% requirement in loading of the pollutants of concern (POCs), which are nitrogen, phosphorus and total suspended solids (TSS). These additional reductions will be credited toward the Phase 2 TMDL Action Plan reduction requirements.

This permit requires Mason to develop and implement the Phase 2 TMDL action plan to provide additional 35% reduction in loading of the POCs.

Mason drafted the Phase 2 Chesapeake Bay TMDL action plan and proposed to retrofit an existing pond to achieve the additional 35% reduction goal. The draft action plan was posted on Mason MS4 website to solicit public comments between December 17, 2018 and February 15, 2019. The Phase 2 Chesapeake Bay TMDL action plan is finalized and is available on https://stormwater.gmu.edu/

VII. MINIMUN CONTROL MEASURES

The following sections describe the best management practices (BMP) that Mason plans to utilize and implement to meet each of the six minimum control measures.

1. Public Education and Outreach on Stormwater impacts

The MS4 program at Mason seeks to alert students, faculty and staff on the impacts of stormwater runoff on water quality through free training sessions, workshops, and the distribution of educational materials. The public outreach program at Mason also provides guidance on how the community can help in minimizing adverse impacts of urban runoff in waterways.

Mason utilizes existing programs, organizations, boards, and committees within the community to implement public education activities. The Public Education and Outreach program at Mason uses existing forums and outreach materials established by the EPA and Northern Virginia Clean Water Partners (CWP), in addition to educational brochures and materials developed by Mason staff. These materials are widely distributed by Mason staff members at various events and meetings. As a member of the Northern Virginia Clean Water Partners (CWP), Mason participates in the CWP education campaign through a multi-media approach.

<u>High-priority Water Quality Issues, Target Audience and Relevant Messages</u>

Mason and CWP have determined the high priority regional water quality issues that contribute the pollution of stormwater runoff at Mason: bacteria, nutrients, and motor oil/chemical

contaminants. These high priority water quality issues are listed below along with the rationale for their selection.

Bacteria: Bacteria pollution in stormwater runoff come from leaking sanitary sewer pipes, wildlife (i.e. Canada geese), and improper disposal of pet waste. Due to the significant number of geese population and pet owners in the community, Mason chooses students, faculty, staff members and campus visitors as the target audience and the education and outreach messages focused on proper disposal of pet waste.

Nutrients: Nitrogen and phosphorus are two of the three pollutants listed in the MS4 General Permit requiring an action plan for the Chesapeake Bay TMDL. Over fertilization of lawns provides a direct runoff source of nitrogen and phosphorous to streams. With approximately 134 acres of turf areas in the Mason and over 5,000 residential students/faculty on campus, the public awareness and of the effects of over-fertilization is important to reducing those pollutants in stormwater.

Motor Oil/Chemical Contaminants: Oils that leaks from cars onto roads and parking lots is washed into storm drains and then flows directly to a pond or stream. With 4 million square feet of parking lots and over 26,000 active parking permits, Mason chooses to target students, faculty and staff members with educational messages focused on prevention of fuel spills, illicit discharges, and improper handling of motor oils, anti-freeze and other hazardous waste.

Regional Coordination

Public education and outreach on stormwater issues is accomplished through both Mason local activities and participation in the CWP. CWP is a collaborative effort representing 19 Northern Virginia local governments, school systems, independent water and sanitary sewer authorities, and local businesses. It is dedicated to help its members to achieve the MS4 permit requirements related to education, outreach and public participation.

CWP meets regularly to plan, implement, and review regional stormwater education campaign, called “Only Rain Down the Drain Campaign”. The campaign was initiated in 2003 to enable Northern Virginia jurisdictions to pool outreach funds to achieve common goals regarding stormwater education and outreach and promote consistent messages across the Northern Virginia region. The campaign uses the storm drain markers symbol, the blue and green shad, as its logo. In addition, the campaign uses multi-media approach to educate the public on stormwater pollutions. Cable televisions, ads, promotional items, website, print materials, and internet banner ads are used to reach a large audience around the regions.

CWP has produced effective and far-reaching education and outreach programs that have benefited from variety of expertise and resources each partner offers.

Local Focus

In addition to the participation in the CWP, Mason LD leads local activities to focus on the education and outreach effort:

Traditional written materials: Mason has developed series of educational pamphlets, bookmarks, postcards, and posters to be distributed at various outreach events/activities.

Alternative materials: Mason has designed various promotional items such as keychains, mini hand sanitizer, pens, and pet waste dispensers with stormwater massages. These promotional items will be distributed at various outreach events/activities.

Stormwater BMP signage: Mason implements a design standard to develop permanent signage to identify surface structural stormwater BMPs. The signage serves as a highly effective platform for outreach and education of students/faculty/staff/visitors that might not otherwise be aware of such requirements and opportunities. Mason will install the signage when a new stormwater BMP is implemented.

Storm sewer inlet marking: Mason has installed markers on existing storm drain inlets. In addition, Mason requires new development and redevelopment projects to mark storm sewer inlets covers. The storm sewer inlet marking reduces dumping by providing a visual way of alerting students/faculty/visitors that storm drain empty into local streams and eventually Chesapeake Bay. Mason will install drain markers when new stormwater facilities are constructed.

Adjusting Target Audience and Messages

As necessary, Mason will adjust target audience and messages to address any observed weaknesses or shortcoming in the public education and outreach program.

Anticipated Time Periods of Message Communication

Mason distributes written materials and alternative materials throughout the academic year in highly visible locations on campus to engage students, faculty and staff. Media ad placement from partner agencies that reach the Mason population occur throughout the year. The timing and content of these media pieces are controlled by CWP. Stormwater BMPs and facilities are labeled at the time of their installation which occurs periodically as campus infrastructure is installed, rehabilitated and/or replaced.

2. Public Involvement and Participation

Mason encourages residents and students to participate in volunteer programs hosted on campus for conservation and improvement of water resources. Projects such as the Patriot Pack Out and the Campus Stream Cleanups are conducted every year with the purpose of getting the community involved in the Mason's efforts on reducing the amount of pollutant loads in stormwater. Educational workshops and materials, offered by Mason, also provide information to the public about stormwater management practices implemented on campus and different sustainable practices that can help restore and protect surface waters.

At Mason, public involvement is greatly encouraged as the community can provide valuable input and assistance to Mason on improving the MS4 program. In many cases public opinion helps identify problems promptly, and therefore, solutions can be accomplished in shorter

time. Volunteer work may also offer a broader base of expertise to supplement limited resources of Mason LD, while shortening time of program implementation as well, due to a greater number of members.

MS4 Website

Mason LD has developed a website dedicated to water quality and stormwater management https://stormwater.gmu.edu/. The site provides information on Mason's MS4 program, serves as a forum to distribute educational materials, and includes information on where to report potential illicit discharges. It provides a tool to provide water quality and pollution prevention information to the general public in an easily accessible format. It also provides public access to documents such as the program plan, annual reports, and TMDL action plan.

Mason Stream Clean-up Events

Mason LD hosts stream clean-up events every year. Many students/faculty/staff/visitors participate events to keep the streams free of trash and debris. The events provide a hands-on opportunity to learn about ways to protect the streams and environment. Mason LD keeps records on the number of participants and the weight of trash collected (recyclable and non-recyclable) at each events.

Mason Classroom Outreach

Mason LD visits multiple classrooms throughout the academic year to promote conservation and improvement of water resources while supporting the classroom curriculum. Mason LD presents MS4 program and relevant elements/activities to the students and faculty, provide them stormwater brochure, and discuss the stormwater related subjects. Mason LD keeps records on the number of participants at each classroom outreach.

Educational events

Mason LD presents stormwater materials and relevant projects in various community events, such as EcoFest, Connect Fair, and Health and Wellness Expo. During these events, Mason LD engages participants in discussion on stormwater and water quality, and distribute brochures and promotional items. Mason LD keeps records on the number of engagements.

3. Illicit Discharge Detection and Elimination

In order to detect and eliminate both direct and indirect illicit discharges, Mason has developed an Illicit Discharge Detection and Elimination Program (IDDE), which relies on Mason's *Illicit Discharge Detection and Elimination Policy* to prohibit any non-stormwater discharges into the sewer system or any receiving waterway. The policy is enforced by both Mason LD and EHS, who rely strongly on regular inspections and public notification. Mason encourages the community's contribution in discovering and reporting possible polluted runoff and maintains appropriate staffing to address such reported concerns.

Instructions on how to report concerns or potential illicit discharges are available online at the Facilities website.

MS4 mapping

Mason publishes interactive stormwater maps using online GIS. The maps can be found on Mason website. The complete MS4 map with outfall information table are available upon request.

Outfall Reconnaissance Inventory

Outfall Reconnaissance Inventory (ORI) is another important component of the IDDE program at Mason. The ORI is performed annually in order to identify possible illicit connections and discharges, as well as, to keep track of all existing stormwater management facilities and structures within the MS4. During the ORI, outfalls are also evaluated for structural damages or uncommon conditions that might indicate the present of pollutants. Outfalls are also inspected for possible maintenance necessity to avoid detrimental conditions on stream banks and bed. *Appendix A* provides the procedures on outfall reconnaissance.

Interconnection

Mason has interconnections with the stormwater system operated by Fairfax County, Fairfax City, Prince William County and Virginia Department of Transportation (VDOT). The sample of written notification is included in *Appendix C.*

4. Construction Site Storm Water Runoff Control

Under the VSMP permit, Mason is required to develop, implement and enforce a program to reduce the discharge of pollutants associated with construction activity into the MS4.

Mason's Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management (AS&S) is an integral component of all design, construction, maintenance, and management of the University's facilities and campuses. It is enforced during the planning, permitting and construction phases by Mason LD staff. Mason personnel receive training by DEQ on ESC and SWM, in order to enforce such programs. Certified staff is responsible for reviewing plans during the permitting process and conducting regular inspections of the site during construction. Inspections and Plan review procedure are implemented in accordance with state laws and regulations and Mason's AS&S. A copy of Mason's AS&S is available at the Facilities website and/or provided upon request.

Public concern associated with runoff from construction activity is received via email at MasonLD@gmu.edu. Instructions on how to report concerns or potential illicit discharges are available online at the Facilities website.

After public comment is received, Mason EHS is responsible for investigating the incident and contacting the appropriate spill response coordinator in accordance to Integrated Contingency Plan.

5. Post-Construction Storm Water Management in New Development and Redevelopment

As a non-traditional small MS4, Mason has direct control over planning, design, construction

and post-construction of stormwater management facilities, also called best management practices or BMPs. The MS4 program at Mason consists of minimizing the impacts of runoff associated with land disturbance such as flooding, erosion, and water pollution. Due its current developmental expansion, Mason's goal is to implement cost-effective measures that provide water quantity and quality control while complying with laws and regulations. Current practices implemented by Mason in managing and controlling stormwater focus on promoting natural hydrologic processes as well as minimizing contact of pollutants with rainwater. As land disturbing activities take place, Mason incorporates measures that protect and/or improve natural areas during and after construction. In addition to the ongoing efforts to preserve the natural landscape, Mason strives to reduce impervious areas as much as possible and create more vegetated regions.

Inspections on Mason owned stormwater management facilities are performed in accordance with state laws and regulations and Mason's AS&S, which is available at the Facilities website and/or provided upon request.

6. Pollution Prevention/ Good Housekeeping

Under the MS4 permit, Mason is required to develop and implement an operation and maintenance program designated to reduce and prevent the discharges of pollutants into the MS4. The operation and maintenance program for Mason includes activities, schedules, inspection procedures, as well as, corrective actions to ensure proper performance of each facility. Maintenance activities are managed by Facilities Maintenance on a schedule basis via Maintenance Direct. Maintenance Direct is a subsection of *School Dude Computer Software* where work orders are placed by staff member and received Facilities Maintenance. Facilities Maintenance uses a programmed "work order" to perform maintenance on each stormwater management facilities in accordance with frequency parameters established in the *Stormwater Management Maintenance Guide (Appendix B).*

Mason identified three high priority facilities that have a high potential of discharging pollutants. They are maintenance storage yard at Fairfax Campus, west campus yard, and facilities management site at Science and Technology campus. Mason has developed site specific stormwater pollution prevention plan (SWPPP) for each facilities and will implement them in accordance with the plans.

The operation and maintenance program also incorporates a training component focusing on groups and/or departments that are likely to have significant stormwater impacts. The EHS office is responsible for training Mason personnel involved in hazardous materials and petroleum product handling activities. Major Training elements of the Mason MS4 Program can be found in *Appendix D*

Mason developed the nutrient management plans for turf/landscape areas and athletic fields. The plans apply to 92.8 acres of turf areas and 19.5 acres of athletic fields on Fairfax Campus and 21.6 acres of turf areas on Science and Technology Campus. The current nutrient management plans are valid through August 18, 2021 and are available upon request.

VI. ANNUAL REPORT AND PROGRAM EVALUATION

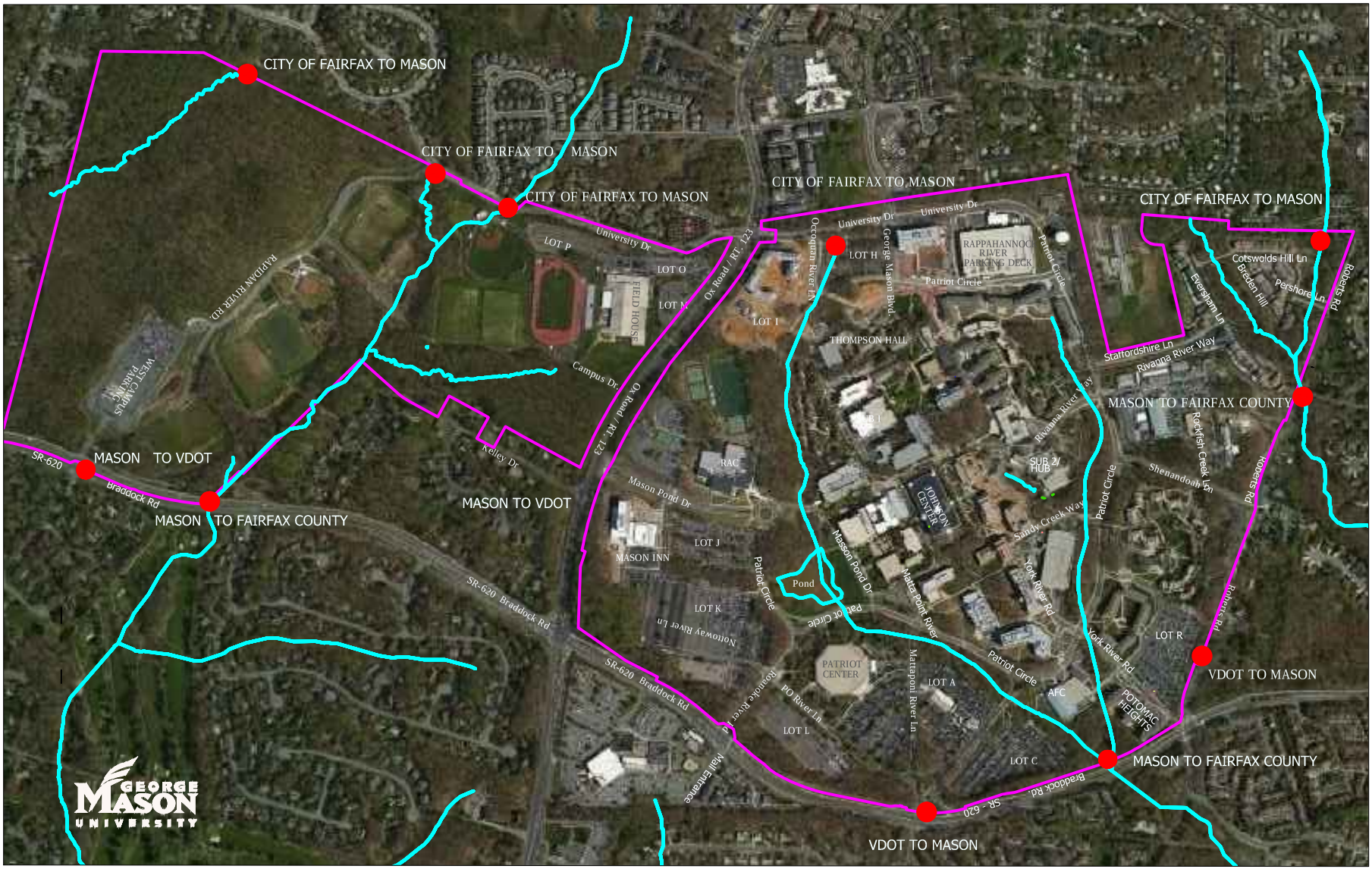
This program is to be evaluated annually by Mason LD personnel to ensure compliance with

all provision of the MS4 permit. Program plan modifications will take place as necessary or as required by DEQ.

An annual report is to be submitted for review to DEQ on MS4 Program Plan updates. The annual MS4 report is to be submitted by October 1st of each year. Copies of previously submitted Annual Reports can be reviewed on the Mason website: https://stormwater.gmu.edu/

Figures

Map of MS4 Interconnectivity
George Mason University-Fairfax Campus



LEGEND

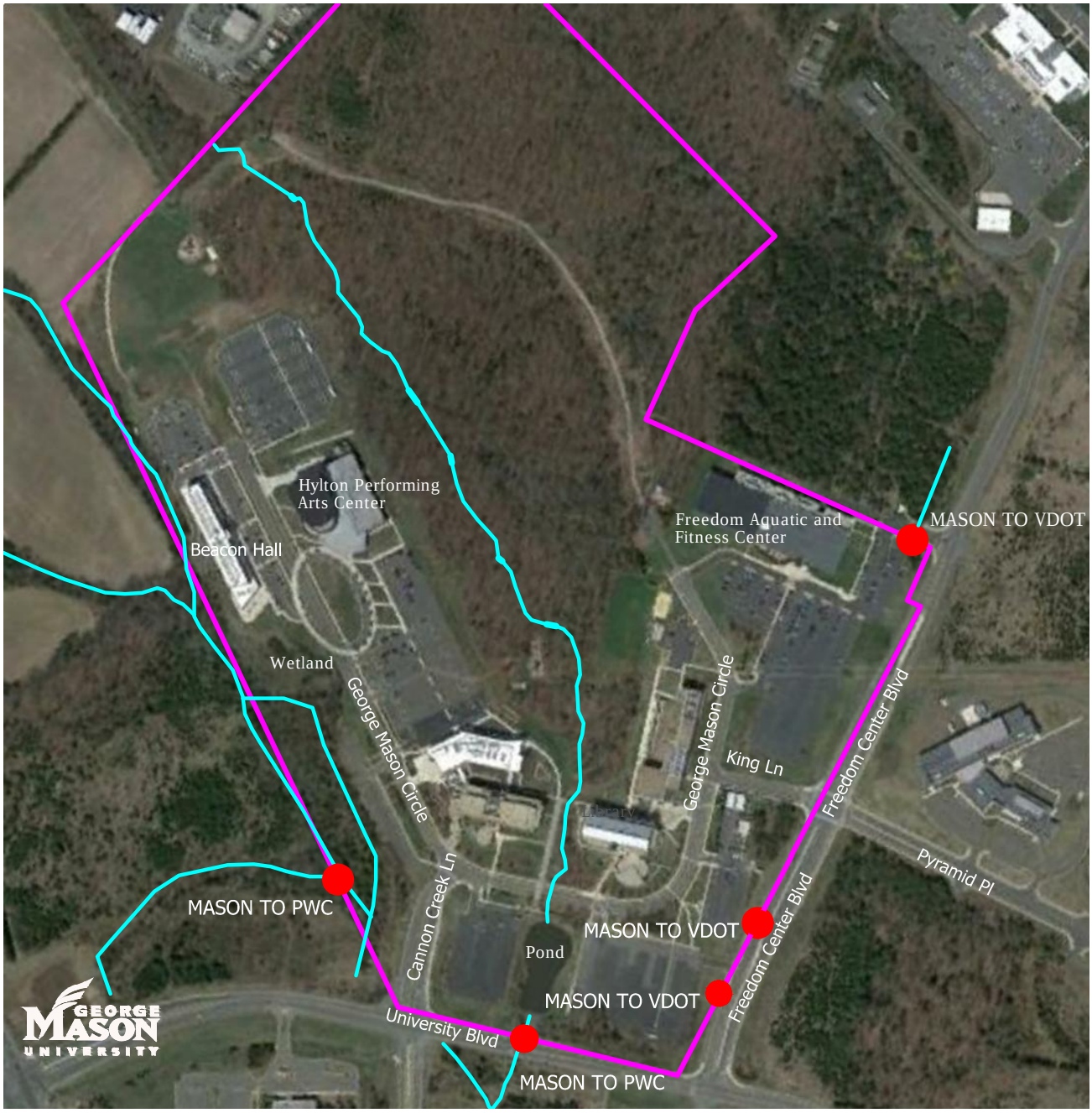
- STREAMS
- MASON BOUNDARY
- MASON GEORGE MASON UNIVERSITY
- VDOT VIRGINIA DEPARTMENT OF TRANSPORTATION

N

0 1000′ 2000′

SCALE: 1" = 1000'

Map of MS4 Interconnectivity
George Mason University - Science and Technology Campus



LEGEND

	STREAMS
	MASON BOUNDARY
MASON	GEORGE MASON UNIVERSITY
PWC	PRINCE WILLIAM COUNTY
VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION

N

0 500' 1000'

SCALE: 1" = 500'

Appendix A:

Outfall Reconnaissance Procedures and Guidelines

Outfall Reconnaissance Procedures and Guidelines

PURPOSE

As legislated by Virginia Stormwater Management Program (VSMP) Permit Regulations, Virginia Department of Water Quality (DEQ) issued George Mason University (Mason) a VSMP General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) General Permit No. VAR040106. The effective date of the permit is from Nov 1, 2018 to Oct 31, 2023.

The permit requires Mason to develop and implement procedures to detect, identify and address the unauthorized non-stormwater discharges including illegal dumping.

Mason's Outfall Reconnaissance Inventory (ORI) procedures are developed to:

- Identify and record characteristics of existing drain outfall.
- Prioritize screening schedule
- Detect and assess the severity of illicit discharge problems, if any.
- Report illicit discharge problems, if any

SCHEDULE

ORI are to be performed twice a year, at spring and fall, during prolonged dry periods and non-growing season with low base flow levels. Moreover, ORI field work will be conducted at least 48 hours after the last rain event.

STAFFING

The ORI requires at least a two-person crew, for safety and efficiency. All crew members are to be trained on how to complete the ORI and have a basic understanding on illicit discharges and water quality impacts. Training on ORI would be conducted by Mason LD as necessary.

RESOURCES NEEDED TO CONDUCT THE ORI

Maps:

ORI maps of each campus are to provide labeled streets and hydrologic features (streams, stormwater pipes, wetlands and lakes). ORI maps should be used to check the accuracy and quality of pre-existing mapping information, such as location of outfalls and stream origins. Refer to Appendix A for Mason Stormwater maps.

Field Sheets:

ORI field sheets are used to record descriptive and qualitative information about each outfall inventoried in the field. Data from the field sheets represent Mason's outfall tracking system. ORI field sheets are to be completed in the field by the inspection crew and are to be entered and updated in the Mason LD's stormwater management GIS database.

Outfall Reconnaissance Inventory Form contains:

- Information such as the location map, outfall description, invert elevations, etc. Locations of outfalls and invert elevations are determined with the GPS equipment.
- Physical characteristics including outfall structure type, shape, dimensions, material, etc

Outfall Inspection Form contains:

- Information associated with quality of outfall with regards to:
  - Concentration of water- pipe flow and surface water elevation, which determines the presence of a pipe blockage or scouring velocities
  - Physical conditions/ indicators: including but not limited to outfall damages, deposits, abnormal vegetation, sediment, etc.
  - Characteristics of flow: including but not limited to odor, color, clarity, floatables, etc.
  - Signs of dumping and illicit discharges
- An overall rating to determine corrective actions required and level of priority for maintenance.

A copy of the Outfall Reconnaissance Inventory form and the Outfall inspection form is provided in Appendix B.

Field crews are expected to carry Mason identification and report any emergency leaks, spills, obvious illicit discharges, and/or other water quality problems to Mason Land Development and other emergency contacts below.

Emergency Contacts:

Mason Police (Fairfax Campus)	703 993-2800
Mason Police (Science and Technology Campus)	703 993-8370
Mason Environmental Health & Safety Office (Fairfax Campus)	703 993-8448
Mason Environmental Health & Safety Office (Science and Technology Campus)	703 993-1766
Mason Land Development	703 993-4051

FIELD EQUIPMENT:

Basic equipment needed during field work includes:

Required	Optional
• GPS Survey Unit • Camera • Measuring Tape • Watch • Flashlight • Clipboard, pencils and ORI sheets	• Thermometer • Flow meter • Test Strips • Test Bottles • Broom

Basic safety items

- Surgical Gloves
- Cell phones or walkie-talkies
- First Aid Kit (Minimum needed: repellents packet, insect sting relief packet, sun block).

PROCEDURE

The ORI is to perform survey on streams and/or channels within Mason's MS4 using Field Maps and field equipment to locate existing and/or new outfalls as needed, and to verify existing outfalls depicted in the stormwater map. Field crews are to inspect at minimum the listed "high priority" outfalls. The "high priority" outfalls, are identified annually based upon physical conditions, age of the infrastructure, land use, interconnection with other MS4s jurisdictions; previously identified as potential illicit discharges and maintenance needs. The list will be updated as needed. At least one additional outfalls within each quadrant covering Mason campus is to be inspected at the permit year and shall not be as part of the previous year inspection. The goal is to inspect all outfalls every two years.

Newly installed outfalls will be located and described as part of the ORI. Inspection will be performed after substantial completion of the construction, unless illicit discharge is identified.

Field crews conduct an ORI by walking along streams and channels to verify existing and/or new outfalls, perform field screening of the minimum amount selected outfalls, and record the spatial location with a GPS unit as needed. Each outfall is to be photographed and marked by directly writing a unique identifying number that serves as its sub-"watershed address." (See section Outfall Identification for numbering system). A sample of the flow may be taken for water quality examination in case of potential illicit discharges by the Mason Environmental, Health and Security (EHS). Photographs and a ORI Inspection report for each outfall, are to be submitted to Mason LD. Inspection report should include data on outfall characteristic and observations.

The ORI applies to all outfalls encountered during the stream walk, with the following exceptions:

- Drop Inlets from roads in culverts (Unless evidence of illegal dumping, dumpster leaks, etc.)
- Weep holes
- Discharges from roof downspouts that sheet flow over ground

Outfalls to be recorded:

- Both large and small diameter pipes that appear to be part of the storm drain infrastructure.
- Field connections to culverts
- Submerged or partially submerged outfalls
- Outfalls that are blocked with debris or sediment deposits
- Small diameter pipes

Common outfalls encountered in the field are illustrated Appendix D.

Outfall Identification Number

The outfall identification number is assigned based on the outfall location in relation to the stormwater map of each campus. The stormwater map of each campus is divided by quadrants which cover approximately 33 acres of land. Each quadrant is divided in 16 smaller sub-quadrants numbered left to right and top to bottom. Outfall identification numbers reflect the number of the quadrant and respective sub-quadrant in which they are located with respect to the stormwater map. A to Z suffix is assigned as available. For example: A-2-7-A outfall located on quadrant A-2, sub-quadrant 7 and labeled A suffix.

Form Description

<u>Outfall Reconnaissance Inventory</u>

Section 1: General Information

This section is used to record basic information about the survey and is used to create an accurate record of when and where data was collected. Information in this section is to include GPS coordinates for the outfall, stream, campus location, etc.

Section 2: Outfall Description

This section is used to provide basic characteristics for the outfall including type, shape, invert elevation, material, dimensions and depth of submergence or water elevation when water is present. This information is used to confirm and supplement existing storm drain maps.

Outfall Inspection

Section 1: General Data

This section is used to record basic information about the survey including date and time, temperatures, weather conditions, GPS coordinates, etc. This section provides information on when and where and under what conditions data was collected.

Section 2: Outfall Description

This section indicates if the pipe is submerged and the amount of flow in the pipe.

Section 3: Physical Conditions/ Indicators

This section is used to provide information any physical indicators or conditions that might require attention. This section can be associated with both flowing and non-flowing outfalls. Indicators can be detected by smell or sight, and require no measurement equipment. Such indicators do not always predict illicit discharges (See Definitions section for Illicit Discharges detection and Elimination Policy). Some of the indicators described in this section include, outfall damage, deposits, stains, abnormal vegetation, sediment, etc. See Appendix D for common examples of physical indicators and severity. Many of these physical indicators can represent an intermittent or transitory discharge that has occurred in the past, even if the pipe is not flowing at the time of the inspection.

Section 4: Quantitative Characterization

This section is to be determined on the field.

This section is used to provide information on any measurements taken in the field, such as, flow depth and width of discharge flow rate.

Flow rate can be measured using the following two techniques: (1) *For flat and shallow flow*: Recording the time it takes to fill a container of a known volume and; (2) *For Flow of larger discharges:* measure the velocity and multiply it by the estimated cross-sectional area of the flow.

The velocity of the flow is to be determined by defining a fixed flow length and observing the time it takes for a light object (ping pong ball, crumble leave, etc.) to travel across the length. The velocity of flow is computed as the length of the flow path (in feet) divided by the travel time (in seconds). The cross-sectional area (in square feet) is measured by multiplying readings of depth and width of flow. Once the cross-sectional area is determined, the flow rate (cubic feet/second) is computed by multiplying the cross-sectional area by the flow velocity (feet/second).

The quality of water in flowing outfalls is optional and can be measured by collecting a sample of the discharge. All measurements should be made from a sample bottle that

contains flow captured from the outfall. Measurements should be recorded in this section. When interpolation is required, results should not exceed mid-range between two color points.

Section 5: Physical Characteristics/ Indicators for Flowing Outfalls

Section 5 records data about four sensory indicators: odor, color, turbidity and floatables, which are based on the investigator's sense of smell or sight. No equipment is required to complete this part of the inspection form. While sensory indicators are not always reliable in predicting ALL illicit discharges, these are important indicators of severe or obvious discharges. Severity of the sensory indicator is to be recorded on a scale of 1 through three. Types and severity of indicators and discharges are defined in ORI sheets.

Section 6: Data Collection

This section records sample identification number for future reference.

Section 7: Overall Condition

This section describes the general condition of the outfall based on the number of indicators and the severity of such indicators. Any comments to this section should be noted in section 8.

Section 8: Recommendation

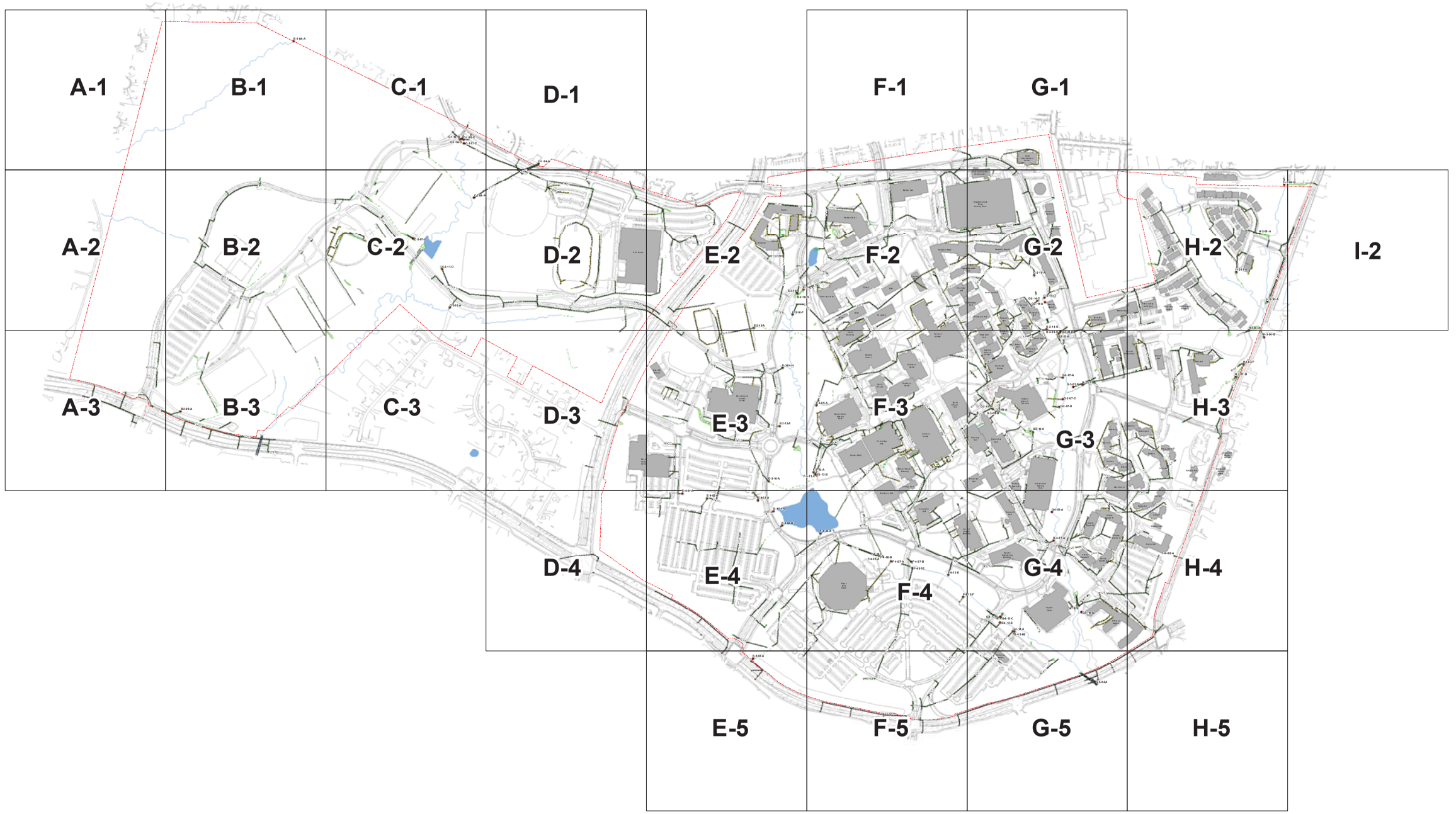
This section summarizes the discharge potential, infrastructure repairs and debris removal needs of each outfall. Based on the field visit and the data collected, the field crew is to give a final recommendation that summarizes the correctives actions necessary to restore the conditions of the outfall. This section is very important as it helps identify and prioritize outfalls that need more attention. Corrective maintenance schedules are to be based on the overall conditions of the outfall. If illicit discharge is identified, EHS will be notified to perform investigation and record the findings in the Incident Investigation and Response form.

Lastly, both the outfall reconnaissance and the inspection forms allow for additional comments from the field crew, which are to be recorded in the last section of the sheet. Additional information can be submitted as attachments when necessary.

APPENDIX A:

GMU Stormwater

Sewer System Maps



GMU Fairfax Campus Stormwater Sewer System

Revised: 03/2019

Legend

- Storm Outfalls
- StormStructure
- Storm Inlets
- Storm Manhole
- Storm Outlets
- Ditchline Swales
- Trench Drains
- Storm Culvert
- Storm Pipe
- Storm Riprap
- Storm Pipes Abandoned
- Storm Pipe < 12"
- Storm Inlets < 12"
- Storm Manholes < 12"
- Storm Outlets < 12"
- Water Features
- Fairfax Stream
- Fairfax Buildings
- MS4 Grid
- GMU Boundary

N

0 800 1,600 Feet

GMU Prince William Campus Stormwater Sewer System

Revised: 03/2019

Legend

- Outfalls
- Storm Inlets
- Storm Manhole
- Storm Outlets
- Trench Drain
- Ditchline/Swale
- Storm Culvert
- Storm Pipe
- Storm Pipe Abandoned
- Storm Riprap
- Storm Pipe < 12"
- Sci-Tech Stream
- Water Features
- Buildings
- Grid
- Campus Boundary

N

0 490 980 Feet

APPENDIX B:

Outfall Reconnaissance Inventory and Inspection Forms

OUTFALL RECONNAISSANCE INVENTORY

Entry Date:_____

Form Completed by:_____ **Investigator:** _____

Section 1: General Information

Outfall ID:_____ **GPS Location:** (N)_____(E)_____

Stream:_____ **Community:**_____

Origin of Discharge:_____ **Outfall on Map:** ☐ Yes ☐ No

Outfall Photograph	Location Map

Section 2: Outfall Description

Type	Material	Shape	Dimensions	Submerged
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Single ☐ Eliptical ☐ Double ☐ Box ☐ Triple ☐ Other: _____	Height (in): _____ Width (in): _____ Diameter (in): _____	In water: ☐ No ☐ Partially ☐ Full
☐ Open Drainage	☐ Concrete ☐ Earthen ☐ Rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ V-shaped ☐ Other:_____	Depth (ft): _____ Top width (ft): _____ Bottom width (ft): ____	Water depth (ft):_____ Height from invert to stream flow (ft):_____
☐ Outfall Protection	Length = _____	Width = _____	Size of Rip Rap = _____	

Invert Elevation: _____

Was there dry weather flow during the last inspection? ☐ Yes ☐ No ☐ N/A

Was there an investigation as to the source of the flow? ☐ Yes ☐ No ☐ N/A

If yes, describe the investigation:_____

The informaition provided has been field verified by the investigator to the best of his/her knowledge and judgement.

Investigator's Signature:_____

Note: First Inspection:_____

OUTFALL INSPECTION

Section 1: General Data

Outfall ID:_____ **GPS Location:** (N)_____(E)_____

Date:_____ **Time:** _____

Temperature:_____ **Rainfall (in)**: Last 24 hours_____Last 48 hours_____

Inspector:_____ **Time of last Rain:** ☐ < 24 hrs ☐ < 48 hrs ☐ < 72 hrs ☐ > 72 hrs

Photos #s:_____

Outfall Photograph	Location Map

Section 2: Outfall Description

Pipe Flow:	☐ None	☐ < 1/4 Pipe	☐ < 1/2 Pipe	☐ < 3/4 Pipe	☐ Full	☐ Trickle
Pipe Submergence:	☐ None	☐ < 1/4 Pipe	☐ < 1/2 Pipe	☐ < 3/4 Pipe	☐ Full	

Comments:

Section 3: Physical Conditions/ Indicators

Indicator	Check if present	Decription	comments
Outfall Damage	☐	☐ Spalling,Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/ Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:_____	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor Pool Quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Suds ☐ Oil Sheen ☐ Excessive Algae ☐ Other	
Pipe Benthic Growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other	
Sediment	☐	☐ No ☐ Partially ☐ Full	
Rip-rap/ Energy Dissipation	☐	☐ Good ☐ Fair ☐ Poor ☐ N/A	
Other Observations:			

Skip sections 4 and 6 if no flow is present.

Section 4: Quantitative Characterization for flowing outfalls ONLY

FIELD DATA FOR FLOWING OUTFALLS				
Flow #1 = Flat and Shallow Flow *Flow #2 = Flow of larger discharges*				
Parameter		**Result**	**Unit**	**Equipment**
☐ Flow #1	Volume		Liter	Bottle
	Time to Fill		Sec	
	Discharge Rate (Volume x Time)		Cubic Feet/ Sec	
☐ Flow #2	Flow Depth		Ft	Tape Measure
	Flow Width		Ft	Tape Measure
	Cross-sectional Area (Flow Depth x Flow Width)		Square Ft	
	Measured Length	_____' _____"	Ft, in	Tape Measure
	Time of Travel	_____' _____"	Sec	Stop Watch
	Flow Velocity (Length x Time)		Ft/Sec	
	Discharge Rate (Cross-sectional Area x Flow Velocity)		Cubic Feet/ Sec	
Temperature (Optional)			^{o}F	Thermometer
pH (Optional)			pH Units	Test strip/ Probe
Ammonia (Optional)			mg/L	Test strip

Section 5: Physical Characteristics/ Indicators for flowing outfalls ONLY

Indicator	Check if present	Decription	Relative Severity Index (1-3)
Odor	☐	☐ Sewage ☐ Rancid/Sour ☐ Sulfide ☐ Petroleum/ gas ☐ Other	☐ 1-Faint ☐ 2-Easily Detected ☐ 3-Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other	☐ Faint Colors in Sample Bottle ☐ Clearly Visible in Sample Bottle ☐ Clearly Visible in Outfall
Turbidity	☐	Severity	☐ 1- Slight Cloudiness ☐ 2- Cloudy ☐ 3- Opaque
Floatables - Do not Include Trash	☐	☐ Sewage (Toilet Paper, etc) ☐ Suds ☐ Petroleum (Oil Sheen) ☐ Other	☐ 1- Few/ Slight ☐ 2- Some ☐ 3- Some; Origin Clear

Comment:

Section 6: Data Collection

Sample Collected: ☐ Yes ☐ No **Sample ID:** _____

Sample for Lab: ☐ Yes ☐ No *If yes* , **Collected From:** ☐ Flow ☐ Pool

Section 7: Overall Outfall Characterizations

Overall Conditions: ☐ Good ☐ Fair^1 ☐ Poor^2 ☐ Critical

[1] Fair: Presence of two or more indicators [2] Poor: One or more indicators with a severity of 3

Section 8: Recommendations

☐ Investigate Illicit Discharge Corrective Action:_____ Priority: ☐ 1 ☐ 2 ☐ 3

☐ Infrastructure Repairs Needed Corrective Action:_____ Priority: ☐ 1 ☐ 2 ☐ 3

☐ Debris Removal Needed Corrective Action:_____ Priority: ☐ 1 ☐ 2 ☐ 3

Priority 1: Inmediate action is required *Priority 2: Needs attention* *Priority 3: Regular Maintenance*

Comments:

APPENDIX C:

Typical Outfalls

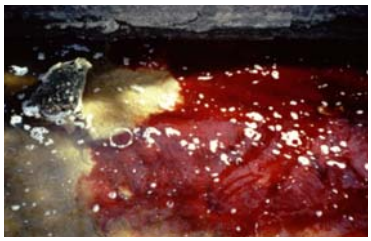
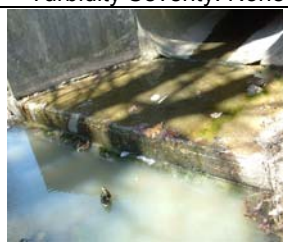
 Ductile iron round pipe	 4-6” HDPE; Check if roof leader connection (legal)	 Field connection to inside of culvert; Always mark and record.
 Small diameter (<2”) HDPE; Often a sump pump (legal), or may be used to discharge laundry water (illicit).	 Elliptical RCP; Measure both horizontal and vertical diameters.	 Double RCP round pipes; Mark as separate outfalls unless known to connect immediately up-pipe
 Culvert (can see to other side); Don’t mark as an outfall.	 Open channel “chute” from commercial parking lot; Very unlikely illicit discharge. Mark, but do not return to sample (unless there is an obvious problem).	 Small diameter PVC pipe; Mark, and look up-pipe to find the origin.
 CMP outfall; Crews should also note upstream sewer crossing.	 Box shaped outfall	 CMP round pipe with two weep holes at bridge crossing. (Don’t mark weep holes)

Typical Outfall Types Found in the Field

Source: U.S. EPA Illicit Discharge Detection and Elimination: A Guidance Manual

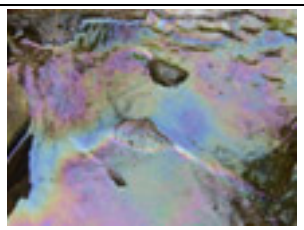
APPENDIX D:

Interpreting Indicators/
Determining Severity of Indicators

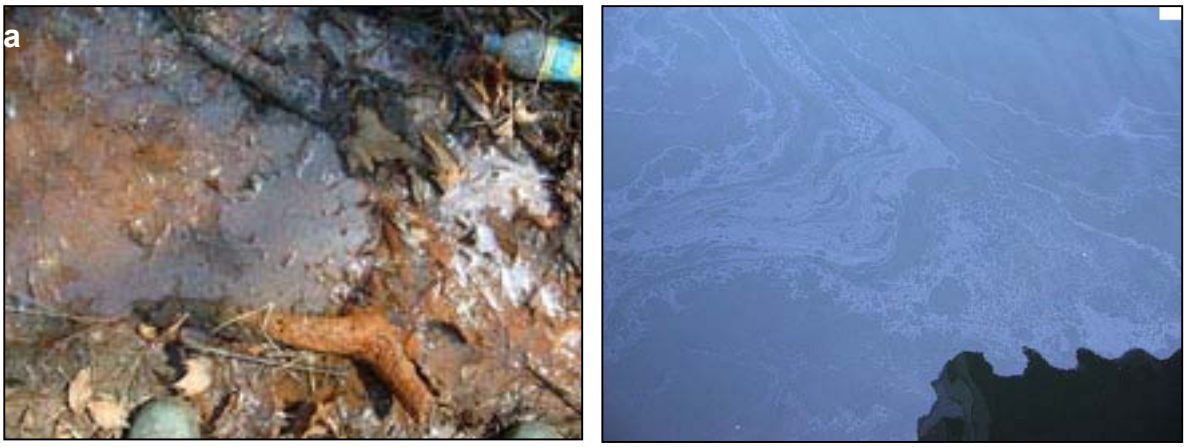
 Color: Brown; Severity: 2 Turbidity Severity: 2	 Chromium Spill Color: Green; Severity: 3 Turbidity Severity: None	 Highly Turbid Discharge Color: Brown; Severity: 3 Turbidity Severity: 3
 Sewage Discharge Color: 3 Turbidity: 3	 Paint Color: White; Severity: 3 Turbidity: 3	 Industrial Discharge Color: Green; Severity: 3 Turbidity Severity: 3
 Blood Color: Red; Severity: 3 Turbidity Severity: None	 Failing Septic System: Turbidity Severity: 3	 Turbidity in Downstream Plume Turbidity Severity: 2 (also confirm with sample bottle)
 High Turbidity in Pool Turbidity Severity: 2 (Confirm with sample bottle)	 Iron Floc Color: Reddish Orange; Severity: 3 (Often associated with a natural source)	 Slight Turbidity Turbidity: 1 (Difficult to interpret this observation; May be natural or an illicit discharge)
Construction Site Discharge Turbidity Severity: 3		 Discharge of Rinse from Floor Sanding (Found during wet weather) Turbidity Severity: 3	

Interpreting Color and Turbidity

Source:U.S.EPA Illicit Discharge Detection and Elimination: A Guidance Manual 2008

SUDS		
 Natural Foam Note: Suds only associated with high flows at the “drop off” Do not record.	 Low Severity Suds Rating: 1 Note: Suds do not appear to travel; very thin foam layer	 High severity suds Rating: 3 Sewage
OIL SHEENS		
 Low Severity Oil Sheen Rating: 1	 Moderate Severity Oil Sheen Rating: 2	 High Severity Oil Film Rating: 3

Determining the Severity of Floatables



Synthetic versus Natural Sheen (a) Sheen from bacteria such as iron floc forms a sheet-like film that cracks if disturbed (b) Synthetic oil forms a swirling pattern suds

Source:U.S.EPA Illicit Discharge Detection and Elimination: A Guidance Manual 2008

Bacterial growth at this outfall indicates nutrient enrichment and a likely sewage source.

This bright red bacterial growth often indicates high manganese and iron concentrations. Surprisingly, it is not typically associated with illicit discharges.

Sporalitis filamentous bacteria, also known as “sewage fungus” can be used to track down sanitary sewer leaks.

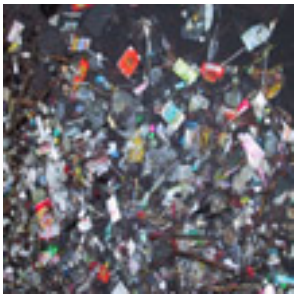
Algal mats on lakes indicate eutrophication. Several sources can cause this problem. Investigate potential illicit sources.

Illicit discharges or excessive nutrient application can lead to extreme algal growth on stream beds.

The drainage to this outfall most likely has a high nutrient concentration. The cause may be an illicit discharge, but may be excessive use of lawn chemicals.

This brownish algae indicates an elevated nutrient level.

Interpreting Benthic and Other Biotic Indicators

 Reddish staining on the rocks below this outfall indicate high iron concentrations.	 Toilet paper directly below the storm drain outlet.	 Watershed Protection??
 Trash is not an indicator of illicit discharges, but should be noted.	 Staining at the base of the outfall may indicate a persistent, intermittent discharge.	 Excessive vegetation may indicate enriched flows associated with sewage.
 Brownish stain of unclear origin. May be from degradation of the brick infrastructure.	 Cracked rock below the outfall may indicate an intermittent discharge.	 Poor pool quality. Consider sampling from the pool to determine origin.

Typical Findings at both Flowing and Non-Flowing Outfalls

Source:U.S.EPA Illicit Discharge Detection and Elimination: A Guidance Manual 2008

Appendix B:

Stormwater Management Maintenance Guide

Stormwater Management Maintenance Guide

Facility:	Detention (Dry) Pond			
Feature	**Potential Problem**	**Maintenance Needed**	**Desired Outcome**	**Notes/ Maintenance Suggested Frequency**
General	Sediment	Once every 5 years or if sediment accomulation exceeds 10% of the design pond depth. If less than treshold, sediment to be removed as part of next schedule maintenance.	Sediment clear from the site	Check sediment levels inside the forebay and main pool, record the depth at the same time each year. Conduct bathymetric survey annually.
	Trash and Debris	There should be no visual evidence of dumping.	Trash clear from the site.	Regular Inspection (once a month) is required to control presence of trash and floatables.
	Poisonous Vegetation and Noxious Weeds.	Presence of vegetation which may constitute to a hazard to maintenance personnel or the public	No danger of poisonous vegetation where maintenance personnel and public might be present.	Compliance with State or local policies for eradication and use of herbicides required.
	Contaminants and Pollution.	Any evidence of oil, gasoline, contaminants or other pollutants.	No contaminants or pollutants present	All outfalls are to be examined for the presence of non-stormwater discharges every 3 months. Coordinate removal/cleanups as necessary.
	Animal and Pest Control (Beaver and Rodents)	Presence of animal holes or evidence of water piping through dam or berm due to animal rodent holes. Any changes or funtion of the facility.	Rodents Exterminated and damages in structure repaired.	Regular inspection required
	Tree Growth and Hazard Trees	Tree growth that does not allow maintenance access or interferes with maintenance activity. If dead, diseased or dying trees are identified.	Accessible site for maintenance and inpection.	Do not remove vegetation that does not interfere with access or maintenance.
Side Slopes	Erosion	Any erosion observed on side slopes.	Stabilized slopes using appropiate control measures (see GMU-ESC manual)- Rock, planting of grass, etc.	Regular inspection required. Reseed as needed.

Storage Area	Sediment	Once every 5 years or if sediment accomulation exceeds 1 foot of depth or 10% of the design pond depth. If less than treshold, sediment to be removed as part of next schedule maintenance.	Sediment clear from the site	Check sediment levels inside the forebay and main pool, record the depth at the same time each year.
Pond Berms	Settlements	Any part of the berm that has settled.	Berms are repaired and set to designed elevation.	Measure amount of settlement regularly. Settlement can be an indicator of more severe problems, source of settlement should be determined.
	Piping	Noticible water flow through the berm of the pond. Erosive conditions.	Piping eliminated. Potential erosion problem resolved.	Regular inspection required
Emergency Overflow/ spillway and berms over 4 ft in height	Tree Growth	Tree growth on emergency spillways creates blockage problems and may cause failure of the berm due to uncotrolled overtopping. Tree growth on berms over 4 ft in height may lead to piping through the berm which could lead to berm failure.	Trees removed. Roots should be removed when base is greater that 4 inches.	Regular inspection required. Restore berm as necessary.
	Piping	Noticible water flow through the berm of the pond. Erosive conditions.	Piping eliminated. Potential erosion problem resolved.	Regular inspection required
Emergency overflow/ spillway	Armoring Missing	Any exposure of soil at the top of outflow path of spillway.	Rock and pad depth are restored to design standards.	Regular inspection required
	Erosion	Any erosion observed on side slopes.	Stabilized slopes using appropiate control measures (see GMU-ESC manual)- Rock, planting of grass, etc.	Regular inspection required.

Stormwater Management Maintenance Guide

Facility:	Retention (Wet) Pond			
Feature	**Potential Problem**	**Maintenance Needed**	**Desired Outcome**	**Notes/ Maintenance Suggested Frequency**
General	Sediment	Once every 5 years or if sediment accomulation exceeds 1 foot of depth or 10% of the design pond depth. If less than treshold, sediment to be removed as part of next schedule maintenance.	Sediment clear from the site	Check sediment levels inside the forebay and main pool, record the depth at the same time each year. Conduct bathymetric survey annually.
	Floating Trash	There should be no visual evidence of dumping.	Trash clear from the site.	Regular Inspection (once a month) is required to control presence of trash and floatables.
	Oil Sheen on Water	Prevalent or visible oil sheen.	Oil removed from water and source of oil located	Oil removal using Oil absorbent pads or vactor truck. If chronic low levels of oil persist, plant wetland plants such as Juncus effusus (soft rush) which can uptake small concentrations of oil.
	Poisonous Vegetation and Noxious Weeds.	Presence of vegetation which may constitute to a hazard to maintenance personnel or the public.	No danger of poisonous vegetation where maintenance personnel and public might be present.	Compliance with State or local policies for eradication and use of herbicides required.

Stormwater Management Maintenance Guide

Facility:	Extended Detention Pond			
Feature	**Potential Problem**	**Maintenance Needed**	**Desired Outcome**	**Notes/ Maintenance Suggested Frequency**
General	Sediment	Once every 5 years or if sediment accomulation exceeds 1 foot of depth or 10% of the design pond depth. If less than treshold, sediment to be removed as part of next schedule maintenance.	Sediment clear from the site	Check sediment levels inside the forebay and main pool, record the depth at the same time each year. Conduct bathymetric survey annually.
	Trash and Debris	There should be no visual evidence of dumping.	Trash clear from the site.	Regular Inspection (once a month) is required to control presence of trash and floatables.
	Poisonous Vegetation and Noxious Weeds.	Presence of vegetation which may constitute to a hazard to maintenance personnel or the public	No danger of poisonous vegetation where maintenance personnel and public might be present.	Compliance with State or local policies for eradication and use of herbicides required.
	Contaminants and Pollution.	Any evidence of oil, gasoline, contaminants or other pollutants	No contaminants or pollutants present	All outfalls are to be examined for the presence of non-stormwater discharges every 3 months. Coordinate removal/cleanups yearly.

Stormwater Management Maintenance Guide

Facility:	Biofiltration Swale			
Feature	**Potential Problem**	**Maintenance Needed**	**Desired Outcome**	**Notes/ Maintenance Suggested Frequency**
General	Sediment Accumulation on Grass	Sediment depth that exceeds 2 inches in depth. Areas of standing water when no inflow is present.	Sediment clear from grass treatment area of the bio-swale, Swale should be leveled from side to side and drain freely towards the outlet.	Check sediment regularly. Reseed as necessary.
	Standing Water	Areas of standing water in the swale between storms and does not drain freely and is still present 72 hours after hydrologic event.	Biofiltration swale should be clear from sediment and debris or any other blockage that does not allow water to drain freely.	Any of the following may apply: remove sediment or trash blockages, improve grade from head to foot of swale, remove clogged check dams, add underdrains orconvert to a wet biofiltration swale. Regular inspection is required.
	Trash	There should be no visual evidence of dumping.	Trash clear from the site.	Regular Inspection (once a month) is required to control presence of trash.
	Flow Spreader (if applicable)	Flow spreader uneven or clogged. Flow that is not uniformly distributed through entire swale width.	Clean and level spreader. Flows are spread evenly over entire swale width.	Regular inspection required.

Stormwater Management Maintenance Guide

Facility:	Rain Gardens			
Feature	**Potential Problem**	**Maintenance Needed**	**Desired Outcome**	**Notes/ Maintenance Suggested Frequency**
General	Dead Plant Material	Presence of dead plant material	Rain garden should be clear from dead plant material	Cut off dead plant material every spring. Plant new vegetation as necessary.
	Trash	There should be no visual evidence of dumping.	Trash clear from the site.	Regular Inspection (once a month) is required to control presence of trash.
	Vegetation Coverage	When grass is sparse or bare or eroded patches occur at various places. When poisonous or nuisance vegetation exists.	Continuous vegetation growth. No danger of poisonous vegetation.	Re-seed and/or mow as necessary. Regular inspecition required.
	Invasive Species	Presence of noxious weeds as defined by State and local regulations.	Eradication of noxious weeds.	Compliance with State or local eradication policies required.

Stormwater Management Maintenance Guide

Facility:	Infiltration Trenches and Trench Drains			
Feature	**Potential Problem**	**Maintenance Needed**	**Desired Outcome**	**Notes/ Maintenance Suggested Frequency**
General	Contaminants and Pollution.	Any evidence of oil, gasoline, contaminants or other pollutants.	No contaminants or pollutants present.	Identify and remove source, Report to Mason LD's Illicit Discharge Detection and Elimination Program.
	Slow Drainage	Decrease capacity that indicates slow drainage.	Facility's drainage rate as designed.	Verify facilities design rate. Clean perforated drain pipe.
	Trash and Debris	There should be no visual evidence of dumping.	Trash clear from the site.	Regular Inspection (once a month) is required. Remoe trash, debris, and other large vegetation from trench perimenter and dispose properly.
	Excessive Vegetation	Woody vegetation present.	Trench clear from woody vegetation.	Mow and trim vegetation as needed (annually) to prevent establishment of woody vegetation.

Appendix C:

MS4 Interconnection Notifications

Facilities Project Management & Construction
4400 University Drive - MSN 1E4
Fairfax, VA 22030-4444

(703) 993-2542
Fax: (703) 993-2539
e-mail: fstrike@gmu.edu

Subject: MS4 Permit; Notice of Potential Interconnected Stormwater System

George Mason University (Mason) is a Phase II small MS4 and is covered under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (Permit Number VAR040106).

The purpose of this letter is to notify you of the potential for interconnections between the stormwater system operated by Mason and the stormwater systems that you operate. The MS4 permit requires Mason notify in writing, any downstream regulated MS4 to which Mason is physically interconnected. We have identified several points where Mason discharges stormwater into your regulated MS4 stormwater system. Please see attached Figure 1: Map of MS4 Interconnectivity. There is no action required on your part at this time, as this letter is for notification purposes only. Please keep this for your records.

If you have any questions or desire additional information related to this subject, please contact me or

Zhongyan Xu
Manager, Civil and Environmental Engineering
(703) 993-4051
Email: zxu8@gmu.edu

Sincerely,

Frank Strike
Interim Vice President of Facilities
Phone: (703) 993-2542
Email: fstrike@GMU.EDU

Attachment(s):
(1) Figure 1: Map of MS4 Interconnectivity

Appendix D:

Mason MS4 Training Plan

George Mason University MS4 Training Matrix							
Permit Requirement	Facilities Administration	Facility Management	Environmental Health & Safety	Dept. of Police & Public Safety	Housing	Office of Athletics	Resources
Illicit Discharge Detention (IDDE) MCM6.m.1	X	X	X	X	X	X	Biennial EHS Training Courses (General Safety training, Hazard Communication Training, Hazardous & Universal Waste Handling and Storage Training, Lab Safety Training , etc.) https://ehs.gmu.edu/training/ EPA Illicit Discharge Detection and Elimination webinars https://www.epa.gov/npdes/npdes-stormwater-webcasts
Good Housekeeping and Pollution Prevention (GHPP) MCM6.m.2-3		X			X	X	Biennial EPA Pollution Prevention/Good Housekeeping webinars https://www.epa.gov/npdes/npdes-stormwater-webcasts Stormwater Pollution Prevention Training Series (DVD available in Land Development office)
Certified Pesticide Applicator (PA) MCM6.m.4		X					VDACS Training Courses http://www.vdacs.virginia.gov/pesticide-applicator-training.shtml
Certified ESC Inspector/Plan Reviewer (ESC) MCM6.m.5	X						DEQ Training Courses https://www.deq.virginia.gov/ConnectWithDEQ/TrainingCertification.aspx
Certified SWM Inspector/Plan Reviewer (SWM) MCM6.m.6	X						DEQ Training Courses https://www.deq.virginia.gov/ConnectWithDEQ/TrainingCertification.aspx
Spill Response (SR) MCM6.m.7		X	X	X			EHS Training Courses (40-hour Hazardous Waste Operations (HAZWOPER); HAZWOPER First Responder, 8-hour annual HAZWOPER refresher, etc.) https://ehs.gmu.edu/training/

Appendix E:

Minimum Control Measures

MCM #1 Subsection	Specific Requirement of MCM	BMP Description of MCM	Standard Operating Procedures to Implement BMP
a	*The permittee shall implement a public education and outreach program designed to:*		
a.1	Increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;	The permittee implements a public education and outreach program designed to increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns	Mason shall implement a public education and outreach program designed to increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns
a.2	Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and	The permittee implements a public education and outreach program designed to increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications.	Mason shall implement a public education and outreach program designed to increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications.
a.3	Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.	The permittee implements a public education and outreach program designed to implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.	Mason shall implement a public education and outreach program designed to implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.
b	The permittee shall identify no less than three high-priority stormwater issues to meet the goal of educating the public in accordance with Part I E 1 a. High-priority issues may include the following examples: Chesapeake Bay nutrients, pet wastes, local receiving water impairments, TMDLs, high-quality receiving waters, and illicit discharges from commercial sites.	The permittee identifies no less than three high-priority stormwater issues to meet the goal of educating the public in accordance with Part I E 1 a.	The permittee shall identify no less than three high-priority stormwater issues to meet the goal of educating the public in accordance with Part I E 1 a.
c	*The high-priority public education and outreach program, as a whole, shall:*		
c.1	Clearly identify the high-priority stormwater issues.	The high-priority public education and outreach program, as a whole, clearly identifies the high-priority stormwater issues.	The public education and outreach program, as a whole, will clearly identify the high-priority stormwater issues.
c.2	Explain the importance of the high-priority stormwater issues.	The high-priority public education and outreach program, as a whole, explains the importance of the high-priority stormwater issues.	The public education and outreach program, as a whole, will explain the importance of the high-priority stormwater issues.
c.3	Include measures or actions the public can take to minimize the impact of the high priority stormwater issues.	The high-priority public education and outreach program, as a whole, includes measures or actions the public can take to minimize the impact of the high priority stormwater issues.	The public education and outreach program, as a whole, will include measures or actions the public can take to minimize the impact of the high priority stormwater issues.
c.4	Provide a contact and telephone number, website, or location where the public can find out more information.	The high-priority public education and outreach program, as a whole, provides a contact and telephone number, website, or location where the public can find out more information.	The public education and outreach program, as a whole, will provide a contact and telephone number, website, or location where the public can find out more information.
d	The permittee shall use two or more of the strategies listed in Table 1 per year to communicate to the public the high-priority stormwater issues identified in accordance with Part I E 1 b including how to reduce stormwater pollution.	Mason uses two or more of the strategies listed in Table 1 per year to communicate to the public the high-priority stormwater issues identified in accordance with Part I E 1 b including how to reduce stormwater pollution.	Mason will use two or more of the strategies listed in Table 1 per year to communicate to the public the high-priority stormwater issues identified in accordance with Part I E 1 b including how to reduce stormwater pollution.
e	The permittee may coordinate its public education and outreach efforts with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of its state permit requirements.	Mason coordinates its public education and outreach efforts with CWP, however Mason is individually responsible for meeting all of its state permit requirements.	Mason coordinates its public education and outreach efforts with CWP, however Mason will be individually responsible for meeting all of its state permit requirements.
f	*The MS4 Program shall include:*		
f.1	A list of the high-priority stormwater issues the permittee will communicate to the public as part of the public education and outreach program	The MS4 program plan includes a list of the high-priority stormwater issues the permittee communicates to the public as part of the public education and outreach program.	The MS4 program plan shall include a list of the high-priority stormwater issues Mason will communicate to the public as part of the public education and outreach program.

MCM #1 Subsection	Specific Requirement of MCM	BMP Description of MCM	Standard Operating Procedures to Implement BMP
f.2	The rationale for selection of each high-priority stormwater issue and an explanation of how each education or outreach strategy is intended to have a positive impact on stormwater discharges.	The MS4 program plan includes the rationale for selection of each high-priority stormwater issue and an explanation of how each education or outreach strategy is intended to have a positive impact on stormwater discharges.	The MS4 program plan shall include the rationale for selection of each high-priority stormwater issue and an explanation of how each education or outreach strategy is intended to have a positive impact on stormwater discharges.
f.3	The identification of the public audience to receive each high-priority stormwater message	The MS4 program plan includes the identification of the public audience to receive each high-priority stormwater message.	The MS4 program plan shall include the identification of the public audience to receive each high-priority stormwater message.
f.4	The strategies from Table 1 of Part I E 1 d to be used to communicate each high-priority stormwater message	The MS4 program plan includes the strategies from Table 1 of Part I E 1 d to be used to communicate each high-priority stormwater message.	The MS4 program plan shall include the strategies from Table 1 of Part I E 1 d to be used to communicate each high-priority stormwater message.
f.5	The anticipated time periods the messages will be communicated or made available to the public.	The MS4 program plan includes the anticipated time periods the messages will be communicated or made available to the public.	The MS4 program plan shall include the anticipated time periods the messages will be communicated or made available to the public.
g	*The annual report shall include the following information:*		
g.1	A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program; and	The annual report includes a list of the high-priority stormwater issues the permittee addressed in the public education and outreach program.	The annual report shall include a list of the high-priority stormwater issues the permittee addressed in the public education and outreach program.
g.2	A list of the strategies used to communicate each high-priority stormwater issue.	The annual report includes a list of the strategies used to communicate each high-priority stormwater issue.	The annual report shall include a list of the strategies used to communicate each high-priority stormwater issue.

MCM #2 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
a	*The permittee shall develop and implement procedures for the following:*		
a.1	The public to report (1) potential illicit discharges, improper disposal, or spills to the MS4, (2) complaints regarding land disturbing activities, or (3) other potential stormwater pollution concerns.	Mason shall develop and implement procedures for the public to report (1) potential illicit discharges, improper disposal, or spills to the MS4, (2) complaints regarding land disturbing activities, or (3) other potential stormwater pollution concerns.	MS4 Program inlcudes the procedures for the public to report (1) potential illicit discharges, improper disposal, or spills to the MS4, (2) complaints regarding land disturbing activities, or (3) other potential stormwater pollution concerns.
a.2	The permittee shall develop and implement procedures for the public to provide input on the permittee's MS4 program plan.	Mason shall develop and implement procedures for the public to provide input on the permittee's MS4 program plan.	MS4 program documents the procedures for the public to provide input on the Mason's MS4 program plan.
a.3	The permittee shall develop and implement procedures for receiving public input or complaints.	Mason shall develop and implement procedures for receiving public input or complaints.	MS4 program documents procedures for receiving public input or complaints.
a.4	The permittee shall develop and implement procedures for responding to public input received on the MS4 program plan or complaints.	Mason shall develop and implement procedures for responding to public input received on the MS4 program plan or complaints.	MS4 Program documents procedures for responding to public input received on the MS4 program plan or complaints.
a.5	The permittee shall develop and implement procedures for maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response.	Mason shall develop and implement procedures for maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response.	MS4 program documents procedures for maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the permittee's response.
b	*No later than three months after this permit's effective date, the permittee shall develop and maintain a webpage dedicated to the MS4 program and stormwater pollution prevention. The following information shall be posted on this webpage:*		
b.1	The effective MS4 permit and coverage letter	Mason shall develop and maintain a webpage which includes the effective MS4 permit and coverage letter.	Mason has a dedicated stormwater webpage which includes the effective MS4 permit and coverage letter.
b.2	The most current MS4 program plan or location where the MS4 program plan can be obtained	Mason shall develop and maintain a webpage where the MS4 program plan can be obtained.	Mason has a dedicated stormwater webpage where the MS4 program plan can be obtained.
b.3	The annual report for each year of the term covered by this permit no later than 30 days after submittal to the department	Mason shall develop and maintain a webpage where the annual report for each year of the term covered by this permit is available.	Mason has a dedicated stormwater webpage where the annual report for each year of the term covered by this permit is available.
b.4	A mechanism for the public to report (1) potential illicit discharges, improper disposal, or spills to the MS4, (2) complaints regarding land disturbing activities, or (3) other potential stormwater pollution concerns in accordance with Part I E 2 a (1)	Mason shall develop and maintain a webpage which provides a mechanism for the public to report (1) potential illicit discharges, improper disposal, or spills to the MS4, (2) complaints regarding land disturbing activities, or (3) other potential stormwater pollution concerns.	Mason has a dedicated stormwater webpage which provides a mechanism for the public to report (1) potential illicit discharges, improper disposal, or spills to the MS4, (2) complaints regarding land disturbing activities, or (3) other potential stormwater pollution concerns.
b.5	Methods for how the public can provide input on the permittee's MS4 program plan in accordance with Part I E 2 a (2).	Mason shall develop and maintain a webpage which provides a methods for how the public can provide input on the permittee's MS4 program plan.	Mason has a dedicated stormwater which the public can provide input on the permittee's MS4 program plan.
c	The permittee shall implement no less than four activities per year from two or more of the categories listed in Table 2 to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.	Mason shall implement no less than four activities per year from two or more of the categories listed in Table 2 to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.	MS4 annual report documents no less than four activities per year from two or more of the categories listed in Table 2 to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects.
d	The permittee may coordinate the public involvement opportunities listed in Table 2 with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of the permit requirements.	Mason could coordinates its public involvement and participation efforts with other MS4 permittees.	Mason coordinate its public involvement and participation efforts with other MS4 permittees through CWP. However, Mason is responsible for meeting all permit requirements.
e	*The MS4 Program Plan shall include:*		

MCM #2 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
e.1	The webpage address where mechanisms for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns.	The MS4 program plan shall include the webpage address with mechanisms for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns.	The MS4 program plan documents the webpage address with mechanisms for the public to report (i) potential illicit discharges, improper disposal, or spills to the MS4, (ii) complaints regarding land disturbing activities, or (iii) other potential stormwater pollution concerns.
e.2	The webpage address that contains the methods for how the public can provide input on the permittee's MS4 program.	The MS4 program plan shall include the webpage address that contains the methods for how the public can provide input on the permittee's MS4 program.	The MS4 program plan includes the webpage address that documents the methods for how the public can provide input on the permittee's MS4 program.
e.3	A description of the public involvement activities to be implemented by the permittee, the anticipated time period the activities will occur, and a metric for each activity to determine if the activity is beneficial to water quality. An example of metrics may include the weight of trash collected from a stream cleanup, the number of participants in a hazardous waste collection event, etc.	The MS4 program plan shall include a description of the public involvement activities to be implemented by the permittee, the anticipated time period the activities will occur, and a metric for each activity to determine if the activity is beneficial to water quality.	The MS4 program plan documents a description of the public involvement activities to be implemented by the permittee, the anticipated time period the activities will occur, and a metric for each activity to determine if the activity is beneficial to water quality.
f	*The Annual Report shall include:*		
f.1	A summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded.	The annual report shall include a summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded.	The annual report documents a summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded.
f.2	A webpage address to the permittee's MS4 program and stormwater website.	The annual report includes a webpage address to the permittee's MS4 program and stormwater website.	The annual report documents a webpage address to the permittee's MS4 program and stormwater website.
f.3	A description of the public involvement activities implemented by the permittee.	The annual report shall include a description of the public involvement activities implemented by the permittee.	The annual report documents a description of the public involvement activities implemented by the permittee.
f.4	A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality.	The annual report shall include a report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality.	The annual report documents a report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality.
f.5	The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.	The annal report should include names of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.	Mason does not coordinate its on-campus public involvement efforts with other MS4 permittees. Mason receives support from CWP and the Alice Ferguson Foundation who provide trash bags, gloves and dog waste bags for the stream cleanup events.

MCM #3 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
a	*The permittee shall develop and maintain an accurate MS4 map and information table as follows:*		
a.1	*A map of the storm sewer system owned or operated by the permittee within the census urbanized area identified by the 2010 decennial census that includes, at a minimum:*		
a.1.a	MS4 outfalls discharging to surface waters, except as follows: (i) In cases where the outfall is located outside of the MS4 permittee's legal responsibility, the permittee may elect to map the known point of discharge location closest to the actual outfall; and (ii) In cases where the MS4 outfall discharges to receiving water channelized underground, the permittee may elect to map the point downstream at which the receiving water emerges above ground as an outfall discharge location. If there are multiple outfalls discharging to an underground channelized receiving water, the map shall identify that an outfall discharge location represents more than one outfall. This is an option a permittee may choose to use and recognizes the difficulties in accessing outfalls to underground channelized stream conveyances for purposes of mapping, screening, or monitoring.	Mason shall develop and maintain an accurate MS4 map illustrating the storm sewer system owned or operated by Mason within the census urbanized area identified by the 2010 decennial census that includes MS4 outfalls discharging to surface waters.	Mason develops an accurate MS4 map illustrating the storm sewer system owned within the census urbanized area identified by the 2010 decennial census that includes MS4 outfalls discharging to surface waters.
a.1.b	A unique identifier for each mapped item required in Part I E 3;	Mason shall develop and maintains an accurate MS4 map illustrating the storm sewer system owned or operated by Mason within the census urbanized area identified by the 2010 decennial census that includes, a unique identifier for each mapped item required in Part I E 3.	Mason develops an accurate MS4 map illustrating the storm sewer system within the census urbanized area identified by the 2010 decennial census that includes, a unique identifier for each mapped item required in Part I E 3.
a.1.c	The name and location of receiving waters to which the MS4 outfall or point of discharge discharges;	Mason shall develop and maintain an accurate MS4 map illustrating the storm sewer system owned or operated by Mason within the census urbanized area identified by the 2010 decennial census that includes the name and location of receiving waters to which the MS4 outfall or point of discharge discharges.	Mason develops an accurate MS4 map illustrating the storm sewer system within the census urbanized area identified by the 2010 decennial census that includes the name and location of receiving waters to which the MS4 outfall or point of discharge discharges.
a.1.d	MS4 regulated service area	Mason shall develop and maintain an accurate MS4 map illustrating the storm sewer system owned or operated by Mason within the census urbanized area identified by the 2010 decennial census that includes the MS4 regulated service area.	Mason develops an accurate MS4 map illustrating the storm sewer system owned by Mason within the census urbanized area identified by the 2010 decennial census that includes the MS4 regulated service area.
a.1.e	stormwater management facilities owned or operated by the permittee.	Mason shall develop and maintain an accurate MS4 map illustrating the storm sewer system owned or operated by Mason within the census urbanized area identified by the 2010 decennial census that includes the stormwater management facilities owned or operated by the permittee.	Mason develops an accurate MS4 map illustrating the storm sewer system owned by Mason within the census urbanized area identified by the 2010 decennial census that includes the stormwater management facilities owned by Mason..
a.2	*The permittee shall maintain an information table associated with the storm sewer system map that includes the following information for each outfall or point of discharge for those cases in which the permittee elects to map the known point of discharge in accordance with Part I E 3 a (1) (a):*		
a.2.a	A unique identifier as specified on the storm sewer system map;	Mason shall maintain an information table associated with the storm sewer system map that includes a unique identifier for each mapped MS4 outfall or point of discharge.	Mason maintains an information table associated with the storm sewer system map that includes a unique identifier for each mapped MS4 outfall or point of discharge.
a.2.b	The latitude and longitude of the outfall or point of discharge;	Mason shall maintain an information table associated with the storm sewer system map that includes the latitude and longitude of each mapped MS4 outfall or point of discharge.	Mason maintains an information table associated with the storm sewer system map that includes the latitude and longitude of each mapped MS4 outfall or point of discharge.
a.2.c	The estimated regulated acreage draining to the outfall or point of discharge;	Mason shall maintain an information table associated with the storm sewer system map that includes the estimated regulated acreage draining to the outfall or point of discharge for each mapped MS4 outfall or point of discharge.	Mason maintains an information table associated with the storm sewer system map that includes the estimated regulated acreage draining to the outfall or point of discharge for each mapped MS4 outfall or point of discharge.
a.2.d	The name of the receiving water;	Mason shall maintain an information table associated with the storm sewer system map that includes the name of the receiving water for each mapped MS4 outfall or point of discharge.	Mason maintains an information table associated with the storm sewer system map that includes the name of the receiving water for each mapped MS4 outfall or point of discharge.
a.2.e	The 6th Order Hydrologic Unit Code of the receiving water;	Mason shall maintain an information table associated with the storm sewer system map that includes the 6th Order Hydrologic Unit Code of the receiving water for each mapped MS4 outfall or point of discharge.	Mason maintains an information table associated with the storm sewer system map that includes the 6th Order Hydrologic Unit Code of the receiving water for each mapped MS4 outfall or point of discharge.

MCM #3 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
a.2.f	An indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report;	Mason shall maintain an information table associated with the storm sewer system map that includes an indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report for each mapped MS4 outfall or point of discharge.	Mason maintains an information table associated with the storm sewer system map that includes an indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report for each mapped MS4 outfall or point of discharge.
a.2.g	The predominant land use for each outfall discharging to an impaired water	Mason shall maintain an information table associated with the storm sewer system map that includes the predominant land use for each mapped MS4 outfall or point of discharge to an impaired water.	Mason maintains an information table associated with the storm sewer system map that includes the predominant land use for each mapped MS4 outfall or point of discharge to an impaired water.
a.2.h	The name of any EPA approved TMDLs for which the permittee is assigned a wasteload allocation.	Mason shall maintain an information table associated with the storm sewer system map that includes the name of any EPA approved TMDLs for which the permittee is assigned a wasteload allocation for each mapped MS4 outfall or point of discharge.	Mason maintains an information table associated with the storm sewer system map that includes the name of any EPA approved TMDLs for which the permittee is assigned a wasteload allocation for each mapped MS4 outfall or point of discharge.
a.3	No later than July 1, 2019, the permittee shall submit to DEQ a GIS-compatible shapefile of the permittee's MS4 map as described in Part I E 3 a. If the permittee does not have an MS4 map in a GIS format, the permittee shall provide the map as a PDF document.	No later than July 1, 2019,Mason shall submit to DEQ a GIS-compatible shapefile of the permittee's MS4 map as described in Part I E 3 a. If the permittee does not have an MS4 map in a GIS format, the permittee shall provide the map as a PDF document.	Mason provided DEQ with a GIS-compatible shapefile of the permittee's MS4 map as described in Part I E 3 a. prior to July 1, 2019
a.4	No later than October 1 of each year, the permittee shall update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate preceding reporting period.	No later than October 1 of each year,Mason shall update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate preceding reporting period.	No later than October 1 of each year, Mason will update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate preceding reporting period.
a.5	The permittee shall provide written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of this permit.	Mason shall provide written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of this permit.	Mason provides written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of this permit.
b	The permittee shall prohibit, through ordinance, policy, standard operating procedures, or other legal mechanism, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized nonstormwater discharges into the storm sewer system. Nonstormwater discharges or flows identified in 9VAC25-890-20 D 3 shall only be addressed if they are identified by the permittee as a significant contributor of pollutants discharging to the MS4. Flows that have been identified by the department as de minimis discharges are not significant sources of pollutants to surface water.	Mason shall prohibit, through ordinance, policy, standard operating procedures, or other legal mechanism, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized nonstormwater discharges into the storm sewer system. Nonstormwater discharges or flows identified in 9VAC25-890-20 D 3 shall only be addressed if they are identified by the permittee as a significant contributor of pollutants discharging to the MS4. Flows that have been identified by the department as de minimis discharges are not significant sources of pollutants to surface water.	Mason prohibits, through Mason's IDDE policy, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized nonstormwater discharges into the storm sewer system. Nonstormwater discharges or flows identified in 9VAC25-890-20 D 3 shall only be addressed if they are identified by Mason as a significant contributor of pollutants discharging to the MS4.
c	The permittee shall maintain, implement, and enforce illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge. Written procedures shall include:	Mason shall maintain, implement, and enforce illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge.	Mason maintains, implements, and enforces illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized nonstormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge.
c.1	A description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to the permittee to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.	The written procedures shall include a description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to the permittee to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.	Mason's IDDE policy includes a description of the legal authorities, policies, standard operating procedures or other legal mechanisms available toMason to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.
c.2	*Dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include:*		
c.2.a	A prioritized schedule of field screening activities and rationale for prioritization determined by the permittee based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections;	The written procedures shall include dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include a prioritized schedule of field screening activities and rationale for prioritization determined by the permittee based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections.	Mason's Outfall Reconnaissance Procedures documents dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall document a prioritized schedule of field screening activities and rationale for prioritization determined by the permittee based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections.
c.2.b	If the total number of MS4 outfalls is equal to or less than 50, a schedule to screen all outfalls annually;	The written procedures shall include dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include a schedule to screen all outfalls annually if the total number of MS4 outfalls is equal to or less than 50.	Mason's Outfall Reconnaissance Procedures documents dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall document a schedule to screen all outfalls annually if the total number of MS4 outfalls is equal to or less than 50.

MCM #3 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
c.2.c	If the total number of MS4 outfalls is greater than 50, a schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period. The 50% criteria is not applicable if all outfalls have been screened in the previous three years; and	The written procedures shall include dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include a schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period.	Mason's Outfall Reconnaissance Procedures documents dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall document a schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period.
c.2.d.i	The written procedures shall include a mechanism to track the unique outfall identifier.	The written procedures shall include a mechanism to track the unique outfall identifier.	Mason's Outfall Reconnaissance Procedures documents a mechanism to track the unique outfall identifier.
c.2.d.ii	The written procedures shall include a mechanism to track the Time since the last precipitation event.	The written procedures shall include a mechanism to track the Time since the last precipitation event.	Mason's Outfall Reconnaissance Procedures documents a mechanism to track the time since the last precipitation event.
c.2.d.iii	The written procedures shall include a mechanism to track the estimated quantity of the last precipitation event.	The written procedures shall include a mechanism to track the estimated quantity of the last precipitation event.	Mason's Outfall Reconnaissance Procedures documents a mechanism to track the estimated quantity of the last precipitation event.
c.2.d.iv	The written procedures shall include a mechanism to track the Site descriptions.	The written procedures shall include a mechanism to track the Site descriptions	Mason's Outfall Reconnaissance Procedures documents a mechanism to track the Site descriptions.
c.2.d.v	The written procedures shall include a mechanism to track whether or not a discharge was observed.	The written procedures shall include a mechanism to track whether or not a discharge was observed.	Mason's Outfall Reconnaissance Procedures documents a mechanism to track whether or not a discharge was observed.
c.2.d.vi	The written procedures shall include a mechanism to track the estimated discharge rate (e.g., width and depth of discharge flow rate) and visual characteristics of the discharge (e.g., odor, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology).	The written procedures shall include a mechanism to track the estimated discharge rate and visual characteristics of the discharge.	Mason's Outfall Reconnaissance Procedures document a mechanism to track the estimated discharge rate and visual characteristics of the discharge.
c.3	A timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized nonstormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.	The written procedures shall include a timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized nonstormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.	Mason's Outfall Reconnaissance Procedures documents a timeframe upon which to conduct an investigation to identify and locate the source of any observed unauthorized nonstormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.
c.4	Methodologies to determine the source of all illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.	The written procedures shall include methodologies to determine the source of all illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.	Mason's Outfall Reconnaissance Procedures document methodologies to determine the source of all illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.
c.5	Methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that permittees expect to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part I E 3 c (4);	The written procedures shall include methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that permittees expect to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part I E 3 c (4);	Mason's Outfall Reconnaissance Procedures documents methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that permittees expect to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part I E 3 c (4);
c.6	*A mechanism to track all illicit discharge investigations to document the following:*		
c.6.a	The dates that the illicit discharge was initially observed, reported, or both;	The written procedures shall include a mechanism to track all illicit discharge investigations to document the dates that the illicit discharge was initially observed, reported, or both.	Mason's IDDE policy includes a mechanism to track all illicit discharge investigations to document the dates that the illicit discharge was initially observed, reported, or both.
c.6.b	The results of the investigation, including the source, if identified;	The written procedures shall include a mechanism to track all illicit discharge investigations to document the results of the investigation, including the source, if identified.	Mason's IDDE policy includes a mechanism to track all illicit discharge investigations to document the results of the investigation, including the source, if identified.

MCM #3 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
c.6.c	Any follow-up to the investigation;	The written procedures shall include a mechanism to track all illicit discharge investigations to document the any follow-up to the investigation.	Mason's IDDE policy includes a mechanism to track all illicit discharge investigations to document the any follow-up to the investigation.
c.6.d	Resolution of the investigation; and	The written procedures shall include a mechanism to track all illicit discharge investigations to document the resolution of the investigation.	Mason's IDDE policy includes a mechanism to track all illicit discharge investigations to document the resolution of the investigation.
c.6.e	The date that the investigation was closed.	The written procedures shall include a mechanism to track all illicit discharge investigations to document the date that the investigation was closed.	Mason's IDDE policy includes a mechanism to track all illicit discharge investigations to document the date that the investigation was closed.
d	*The MS4 program plan shall include:*		
d.1	The MS4 map and information table required by Part I E 3 a. The map and information table may be incorporated into the MS4 program plan by reference. The map shall be made available to the department within 14 days upon request;	The MS4 program plan shall include the MS4 map and information table required by Part I E 3 a. The map and information table may be incorporated into the MS4 program plan by reference. The map shall be made available to the department within 14 days upon request.	The MS4 program plan includes the map and information table by reference. The map will be made available to the department within 14 days upon request.
d.2	Copies of written notifications of new physical interconnections given by the permittee to other MS4s; and	The MS4 program plan shall include copies of written notifications of new physical interconnections given by the permittee to other MS4s.	The MS4 program includes copies of written notifications of new physical interconnections given by the permittee to other MS4s.
d.3	The IDDE procedures described in Part I E 3 c.	The MS4 program plan shall include the IDDE procedures described in Part I E 3 c.	The MS4 program plan inlcudes the IDDE procedures described in Part I E 3 c.
e	*The annual report shall include:*		
e.1	A confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year.	The annual report shall include a confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting yea.	The annual report will include a statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting yea.
e.2	The total number of outfalls screened during the reporting period as part of the dry weather screening program.	The annual report shall include the total number of outfalls screened during the reporting period as part of the dry weather screening program.	The annual report will provide the total number of outfalls screened during the reporting period as part of the dry weather screening program.
e.3	*A list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:*		
e.3.a	The source of illicit discharge;	The annual report shall include a list of illicit discharges to the MS4 including spills reaching the MS4 with the source of illicit discharge.	The annual report will provide a list of illicit discharges to the MS4 including spills reaching the MS4 with the source of illicit discharge.
e.3.b	The dates that the discharge was observed, reported, or both;	The annual report shall include a list of illicit discharges to the MS4 including spills reaching the MS4 with the dates that the discharge was observed, reported, or both.	The annual report will provide a list of illicit discharges to the MS4 including spills reaching the MS4 with the dates that the discharge was observed, reported, or both.
e.3.c	Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);	The annual report shall include a list of illicit discharges to the MS4 including spills reaching the MS4 with whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe).	The annual report will provide a list of illicit discharges to the MS4 including spills reaching the MS4 with whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe).
e.3.d	How the investigation was resolved;	The annual report shall include a list of illicit discharges to the MS4 including spills reaching the MS4 with how the investigation was resolved.	The annual report will provide a list of illicit discharges to the MS4 including spills reaching the MS4 with how the investigation was resolved.
e.3.e	A description of any follow-up activities; and	The annual report shall include a list of illicit discharges to the MS4 including spills reaching the MS4 with a description of any follow-up activities.	The annual report will provide a list of illicit discharges to the MS4 including spills reaching the MS4 with a description of any follow-up activities.
e.3.f	The date the investigation was closed.	The annual report shall include a list of illicit discharges to the MS4 including spills reaching the MS4 with the date the investigation was closed.	The annual report will provide list of illicit discharges to the MS4 including spills reaching the MS4 with the date the investigation was closed.

MCM #4 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
a	*The permittee shall utilize its legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to address discharges entering the MS4 from regulated construction site stormwater runoff. The permittee shall control construction site stormwater runoff as follows:*		
a.1	If the permittee is a city, county, or town that has adopted a Virginia Erosion and Sediment Control Program (VESCP), the permittee shall implement the VESCP consistent with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq.of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840);	N/A	N/A
a.2	If the permittee is a town that has not adopted a VESCP, implementation of a VESCP consistent with the Virginia Erosion and Sediment Control Law (§ 62.1-44:15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840) by the surrounding county shall constitute compliance with Part I E 4 a; such town shall notify the surrounding county of erosion, sedimentation or other construction stormwater runoff problems;	N/A	N/A
a.3	If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has developed standards and specifications in accordance with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840), the permittee shall implement the most recent department approved standards and specifications.	Mason shall implement the most recent department approved standards and specifications.	Mason has implemented Annuual Standards and specificaitons for Stormwater and Erosion and Sediment Control approved by DEQ
a.4	*If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has not developed standards and specifications in accordance with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840), the permittee shall inspect all land disturbing activities as defined in § 62.1-44.15:51 of the Code of Virginia that result in the disturbance activities of 10,000 square feet or greater, or 2,500 square feet or greater in accordance with areas designated under the Chesapeake Bay Preservation Act, as follows:*	N/A	N/A
a.4.a	During or immediately following initial installation of erosion and sediment controls;	N/A	N/A
a.4.b	At least once per every two-week period;	N/A	N/A
a.4.c	Within 48 hours following any runoff producing storm event; and	N/A	N/A
a.4.d	At the completion of the project prior to the release of any performance bond.	N/A	N/A
a.5	*If the permittee is a subdivision of a local government such as a school board or other local government body, the permittee shall inspect those projects resulting in a land disturbance as defined in § 62.1-44.15.51 of the Code of Virginia occurring on lands owned or operated by the permittee that result in the disturbance of 10,000 square feet or greater, 2,500 square feet or greater in accordance with areas designated under the Chesapeake Bay Preservation Act, or in accordance with more stringent thresholds established by the local government, as follows:*	N/A	N/A

MCM #4 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
a.5.a	During or immediately following initial installation of erosion and sediment controls;	N/A	N/A
a.5.b	At least once per every two-week period;	N/A	N/A
a.5.c	Within 48 hours following any runoff producing storm event; and	N/A	N/A
a.5.d	At the completion of the project prior to the release of any performance bond.	N/A	N/A
b	The permittee shall require implementation of appropriate controls to prevent nonstormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land disturbing activity inspections of the MS4. The discharge of nonstormwater discharges other than those identified in 9VAC25-890-20 D through the MS4 is not authorized by this state permit.	Mason shall require implementation of appropriate controls to prevent nonstormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land disturbing activity inspections of the MS4. The discharge of nonstormwater discharges other than those identified in 9VAC25-890-20 D through the MS4 is not authorized by this state permit.	Mason has required implementation of appropriate controls to prevent nonstormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified during land disturbing activity inspections of the MS4.
c	*The permittee's MS4 program plan shall include:*		
c.1	If the permittee implements a construction site stormwater runoff control program in accordance with Part I E 4 a (1), the local ordinance citations for the VESCP program;	N/A	N/A
c.2	*If the permittee implements a construction site stormwater runoff control program in accordance with Part I E 4 a (3):*		
c.2.a	The most recently approved standards and specifications or if incorporated by reference, the location where the standards and specifications can be viewed	Mason's MS4 program plan shall include the most recently approved standards and specifications or if incorporated by reference, the location where the standards and specifications can be viewed.	Mason's MS4 program plan has incorporated by reference the location where the standards and specifications can be viewed.
c.2.b	A copy of the most recent standards and specifications approval letter from the department	Mason's MS4 program plan shall include a copy of the most recent standards and specifications approval letter from the department.	Mason's MS4 program plan has incorporated by reference the location of a copy of the most recent standards and specifications approval letter from the department.
c.3	A description of the legal authorities utilized to ensure compliance with Part I E 4 a to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, policies, and interjurisdictional agreements	Mason's MS4 program plan shall include a description of the legal authorities utilized to ensure compliance with Part I E 4 a to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, policies, and interjurisdictional agreements.	Mason's MS4 program plan has incorporated by reference the location of the standards and specifications which describes the legal authorities utilized to ensure compliance with Part I E 4 a to control construction site stormwater runoff control such as ordinances, permits, orders, specific contract language, policies, and interjurisdictional agreements.
c.4	Written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule;	Mason's MS4 program plan shall include written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule.	Mason's MS4 program plan has incorporated by reference the location of the standards and specifications which includes written inspection procedures to ensure the erosion and sediment controls are properly implemented and all associated documents utilized during inspection including the inspection schedule.
c.5	Written procedures for requiring compliance through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms.	Mason's MS4 program plan shall include written procedures for requiring compliance through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms.	Mason's MS4 program plan has incorporated by reference the location of the standards and specifications procedures which includes written procedures for compliance through corrective action or enforcement action to the extent allowable under federal, state, or local law, regulation, ordinance, or other legal mechanisms.
c.6	The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the construction site stormwater runoff control requirements in Part I E 4.	Mason's MS4 program plan shall include written documentation on the roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the construction site stormwater runoff control requirements in Part I E 4.	Mason's MS4 program plan has incorporated by reference the location of the standards and specifications which includes written documentation on the roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the construction site stormwater runoff control requirements in Part I E 4.

MCM #4 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
d	*The annual report shall include the following:*		
d.1	*If the permittee implements a construction site stormwater runoff program in accordance with Part I E 4 a (3):*		
d.1.a	A confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control; and	The annual report shall include a confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control.	The annual report will include a confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved standards and specifications for erosion and sediment control.
d.1.b	If one or more of the land disturbing projects were not conducted with the department approved standards and specifications, an explanation as to why the projects did not conform to the approved standards and specifications.	The annual report shall includean explanation as to why the projects did not conform to the approved standards and specifications if one or more of the land disturbing projects were not conducted with the department approved standards and specifications.	The annual report will include, if any, an explanation as to why the projects did not conform to the approved standards and specifications if one or more of the land disturbing projects were not conducted with the department approved standards and specifications.
d.2	Total number of inspections conducted	The annual report shall include the total number of inspections conducted.	The annual report will include the total number of inspections conducted.
d.3	The total number and type of enforcement actions implemented and the type of enforcement actions.	The annual report shall include the total number and type of enforcement actions implemented and the type of enforcement actions.	The annual report will include the total number and type of enforcement actions implemented and the type of enforcement actions.

MCM #5 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
a	*The permittee shall address post-construction stormwater runoff that enters the MS4 from the following land disturbing activities by implementing a post-construction stormwater runoff management program as follows:*		
a.1	If the permittee is a city, county, or town, with an approved Virginia Stormwater Management Program (VSMP), the permittee shall implement the VSMP consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) as well as develop an inspection and maintenance program in accordance with Parts I E 5 b and c;	N/A	N/A
a.2	If the permittee is a town that has not adopted a VSMP, implementation of a VSMP consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) by the surrounding county shall constitute compliance with Part I E 5 a; such town shall notify the surrounding county of erosion, sedimentation, or other post-construction stormwater runoff problems and develop an inspection and maintenance program in accordance with Part I E 5 b and c.	N/A	N/A
a.3	If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has developed standards and specifications in accordance with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870), the permittee shall implement the most recent department approved standards and specifications and develop an inspection and maintenance program in accordance with Part I E 5 b.	Mason should implement Annuual Standards and specificaitons for Stormwater and Erosion and Sediment Control approved by DEQ	The permittee has implemented the most recent department approved standards and specifications and developed an inspection and maintenance program in accordance with Part I E 5 b.
a.4	If the permittee is a state agency; public institution of higher education including community colleges, colleges, and universities; or federal entity and has not developed standards and specifications in accordance with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and Virginia Stormwater Management Regulations (9VAC25-870) the permittee shall implement a postconstruction stormwater runoff control program through compliance with 9VAC25-870 and with the implementation of a maintenance and inspection program consistent with Part I E 5 b.	N/A	N/A
a.5	If the permittee is a subdivision of a local government such as a school board or other local government body, the permittee shall implement a post-construction stormwater runoff control program through compliance with 9VAC25-870 or in accordance with more stringent local requirements, if applicable, and with the implementation of a maintenance and inspection program consistent with Part I E 5 b.	N/A	N/A
b	*The permittee shall implement an inspection and maintenance program for those stormwater management facilities owned or operated by the permittee that discharges to the MS4 as follows:*		
b.1	The permittee shall develop and maintain written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of its stormwater management facilities.	Mason shall develop and maintain written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of its stormwater management facilities.	Mason has developed and maintained written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of its stormwater management facilities.
b.2	The permittee shall inspect stormwater management facilities owned or operated by the permittee no less than once per year. The permittee may choose to implement an alternative schedule to inspect these stormwater management facilities based on facility type and expected maintenance needs provided that the alternative schedule and rationale is included in the MS4 program plan. The alternative inspection frequency shall be no less than once per five years.	Mason shall inspect stormwater management facilities owned or operated by the permittee no less than once per year. The permittee may choose to implement an alternative schedule to inspect these stormwater management facilities based on facility type and expected maintenance needs provided that the alternative schedule and rationale is included in the MS4 program plan. The alternative inspection frequency shall be no less than once per five years.	Mason inspects stormwater management facilities owned by Mason no less than once per year.
b.3	If during the inspection of the stormwater management facility conducted in accordance with Part I E 5 b (2), it is determined that maintenance is required, the permittee shall conduct the maintenance in accordance with the written procedures developed under Part I E 5 b (1).	If during the inspection of the stormwater management facility conducted in accordance with Part I E 5 b (2), it is determined that maintenance is required, the permittee shall conduct the maintenance in accordance with the written procedures developed under Part I E 5 b (1).	Mason conducts the maintenance if maintenance is required,
c	*For those permittees described in Part I E 5 a (1) or (2), the permittee shall:*		

MCM #5 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
c.1	*Implement an inspection and enforcement program for stormwater management facilities not owned by the permittee (i.e., privately owned) that includes.*	N/A	N/A
c.1.a	An inspection frequency of no less than once per five years for all privately owned stormwater management facilities that discharge into the MS4; and	N/A	N/A
c.1.b	Adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop and record a maintenance agreement, including an inspection schedule to the extent allowable under state or local law or other legal mechanism;	N/A	N/A
c.2	Utilize its legal authority for enforcement of the maintenance responsibilities if maintenance is neglected by the owner; and	N/A	N/A
c.3	The permittee may develop and implement a progressive compliance and enforcement strategy provided that the strategy is included in the MS4 program plan.	N/A	N/A
d	The permittee shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4. The database shall also include all BMPs implemented by the permittee to meet the Chesapeake Bay TMDL load reduction as required in Part II A. A database shall include the following information as applicable:	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4. The database shall also include all BMPs implemented by the permittee to meet the Chesapeake Bay TMDL load reduction as required in Part II A.	Mason maintains an electronic BMP database of all known Mason owned stormwater management facilities that discharge into the MS4. The database also includes all BMPs implemented by Mason to meet the Chesapeake Bay TMDL load reduction as required in Part II A.
d.1	The stormwater management facility or BMP type;	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4 which includes the stormwater management facility or BMP type.	Mason maintains an electronic BMP database which includes the stormwater management facility or BMP type.
d.2	The stormwater management facility or BMPs location as latitude and longitude;	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4 which includes the stormwater management facility or BMPs location as latitude and longitude.	Mason maintains an electronic BMP database which includes stormwater management facility or BMPs location as latitude and longitude.
d.3	The acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres;	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4 which includes the acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres.	Mason maintains an electronic BMP database which includes the acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres.
d.4	The date the facility was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use June 30, 2005;	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4 which includes the date the facility was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use June 30, 2005.	Mason maintains an electronic BMP database which includes the date the facility was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use June 30, 2005.
d.5	The 6th Order Hydrologic Unit Code in which the stormwater management facility is located;	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the 6th Order Hydrologic Unit Code in which the stormwater management facility is located.	Mason maintains an electronic BMP database which includes the 6th Order Hydrologic Unit Code in which the stormwater management facility is located.
d.6	Whether the stormwater management facility or BMP is owned or operated by the permittee or privately owned;	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4 which includes whether the stormwater management facility or BMP is owned or operated by the permittee or privately owneds.	Mason maintains an electronic BMP database which includes the stormwater management facility or BMP is owned by Mason

MCM #5 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
d.7	Whether or not the stormwater management facility or BMP is part of the permittee's Chesapeake Bay TMDL action plan required in Part II A or local TMDL action plan required in Part II B, or both;	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4 which includes whether or not the stormwater management facility or BMP is part of the permittee's Chesapeake Bay TMDL action plan required in Part II A or local TMDL action plan required in Part II B, or both.	Mason maintains an electronic BMP database which includes the stormwater management facility or BMP that is part of the permittee's Chesapeake Bay TMDL action plan required in Part II A.
d.8	If the stormwater management facility or BMP is privately owned, whether a maintenance agreement exists; and	N/A	N/A
d.9	The date of the permittee's most recent inspection of the stormwater management facility or BMP.	Mason shall maintain an electronic database or spreadsheet of all known permittee owned or permittee-operated and privately owned stormwater management facilities that discharge into the MS4 which includes the date of the permittee's most recent inspection of the stormwater management facility or BMP.	Mason maintains an electronic BMP database which includes the date of most recent inspection of the stormwater management facility or BMP.
e	The electronic database or spreadsheet shall be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction as required in Part II, or discovered if it is an existing stormwater management facility.	The electronic database or spreadsheet shall be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction as required in Part II, or discovered if it is an existing stormwater management facility.	The electronic BMP database or spreadsheet will be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction as required in Part II, or discovered if it is an existing stormwater management facility.
f	The permittee shall use the DEQ Construction Stormwater Database or other application as specified by the department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.	Mason shall use the DEQ Construction Stormwater Database or other application as specified by the department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.	Mason has used the DEQ Construction Stormwater Database or other application as specified by the department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.
g	No later than October 1 of each year, the permittee shall electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template for any practices not reported in accordance with Part I E 5 f including stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.	No later than October 1 of each year, the permittee shall electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template for any practices not reported in accordance with Part I E 5 f including stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.	By no later than October 1 of each year, Mason will electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template for any practices not reported in accordance with Part I E 5 f including stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.
h	*The MS4 program plan shall include:*		
h.1	*If the permittee implements a VSMP in accordance with Part I E 5 a (1) and (2):*	N/A	N/A
h.1.a	A copy of the VSMP approval letter issued by the department;	N/A	N/A
h.1.b	Written inspection procedures and all associated documents utilized in the inspection of privately owned stormwater management facilities; and	N/A	N/A
h.1.c	Written procedures for compliance and enforcement of inspection and maintenance requirements for privately owned BMPs.	N/A	N/A
h.2	*If the permittee implements a post-development stormwater runoff control program in accordance with Part I E 5 a (3):*	N/A	N/A
h.2.a	The most recently approved standards and specifications or if incorporated by reference, the location where the standards and specifications can be viewed.	The MS4 program plan shall include the most recently approved standards and specifications or if incorporated by reference, the location where the standards and specifications can be viewed.	The MS4 program plan has incorporated by reference the location of the standards and specifications.

MCM #5 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP	Measureable Goal by which each BMP strategy will be Evaluated
h.2.b	A copy of the most recent standards and specifications approval letter from the department.	The MS4 program plan shall include a copy of the most recent standards and specifications approval letter from the department	The MS4 program plan has incorporated the location of the standards and specifications, which includes a copy of most recent approval letter from DEQ
h.3	A description of the legal authorities utilized to ensure compliance with Part I E 5 a for post-construction stormwater runoff control such as ordinances (provide citation as appropriate), permits, orders, specific contract language, and interjurisdictional agreements.	The MS4 program plan shall include a description of the legal authorities utilized to ensure compliance with Part I E 5 a for post-construction stormwater runoff control such as ordinances (provide citation as appropriate), permits, orders, specific contract language, and interjurisdictional agreements.	The MS4 program plan has incorporated the location of the standards and specifications, which includes a description of the legal authorities utilized to ensure compliance with Part I E 5 a for post-construction stormwater runoff control.
h.4	Written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned or operated by the permittee.	The MS4 program plan shall include written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned or operated by the permittee.	The MS4 program plan has incorporated the location of the standards and specifications, which includes written inspection procedures and all associated documents utilized during inspection of stormwater management facilities owned by Mason
h.5	The roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the post-construction stormwater runoff control program.	The MS4 program plan shall include the roles and responsibilities of each of the permittee's departments, divisions, or subdivisions in implementing the post-construction stormwater runoff control program.	The MS4 program plan has incorporated the location of the standards and specifications, which describes responsibilities of each of Mason's departments, divisions, or subdivisions in implementing the post-construction stormwater runoff control program.
h.6	The stormwater management facility spreadsheet or database incorporated by reference and the location or webpage address where the spreadsheet or database can be reviewed.	The MS4 program plan shall include the stormwater management facility spreadsheet or database incorporated by reference and the location or webpage address where the spreadsheet or database can be reviewed.	The MS4 program plan has incorporated by reference the location of the BMP database.
i	*The annual report shall include the following information:*		
i.1	*If the permittee implements a Virginia Stormwater Management Program in accordance with Part I E 5 a (1) and (2):*	N/A	N/A
i.1.a	The number of privately owned stormwater management facility inspections conducted; and	N/A	N/A
i.1.b	The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action;	N/A	N/A
i.2	Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;	The annual report shall include the total number of inspections conducted on stormwater management facilities owned or operated by the permittee.	The annual report will include the total number of inspections conducted on stormwater management facilities owned by Mason
i.3	A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;	The annual report shall include a description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection.	The annual report will include a description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned by Mason to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection.
i.4	A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities; and	The annual report shall include a confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities.	The annual report will include a confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities.
i.5	A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.	The annual report shall include a confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.	The annual report will include confirmation statement that the Mason has electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.

MCM #6 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP
a	The permittee shall maintain and implement written procedures for those activities at facilities owned or operated by the permittee, such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers designed to:	
a.1	Prevent illicit discharges;	Mason shall maintain and implement written procedures at these facilities owned or operated by the permittee to prevent illicit discharges.
a.2	Ensure the proper disposal of waste materials, including landscape wastes;	Mason shall maintain and implement written procedures at these facilities owned or operated by the permittee to ensure the proper disposal of waste materials, including landscape wastes.
a.3	Prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit;	Mason shall maintain and implement written procedures at these facilities owned or operated by the permittee to prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit.
a.4	Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;	Mason shall maintain and implement written procedures at these facilities owned or operated by the permittee to require implementation of best management practices when discharging water pumped from utility construction and maintenance activities.
a.5	Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;	Mason shall maintain and implement written procedures at these facilities owned or operated by the permittee to minimize the pollutants in stormwater runoff from bulk storage areas through the use of best management practices.
a.6	Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and	Mason shall maintain and implement written procedures at these facilities owned or operated by the permittee to
a.7	Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.	Mason shall maintain and implement written procedures at these facilities owned or operated by the permittee to ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations
b	The written procedures established in accordance with Part I E 6 a shall be utilized as part of the employee training program at Part I E 6 m.	The written procedures established in accordance with Part I E 6 a shall be utilized as part of the employee training program at Part I E 6 m.

MCM #6 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP
c	Within 12 months of state permit coverage, the permittee shall identify which of the highpriority facilities have a high potential of discharging pollutants. The permittee shall maintain and implement a site specific stormwater pollution prevention plan (SWPPP) for each facility identified. High priority facilities that have a high potential for discharging pollutants are those facilities that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff: (1) Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater; (2) Materials or residuals on the ground or in stormwater inlets from spills or leaks; (3) Material handling equipment; (4) Materials or products that would be expected to be mobilized in stormwater runoff during loading or unloading or transporting activities (e.g., rock, salt, fill dirt); (5) Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants); (6) Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers; (7) Waste material except waste in covered, nonleaking containers (e.g., dumpsters); (8) Application or disposal of process wastewater (unless otherwise permitted); (9) Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.	Within 12 months of state permit coverage, Mason shall identify which of the highpriority facilities have a high potential of discharging pollutants. Mason shall maintain and implement a site specific stormwater pollution prevention plan (SWPPP) for each facility identified. High priority facilities that have a high potential for discharging pollutants are those facilities that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:
d	*Each SWPPP as required in Part I E 6 c shall include the following:*	
d.1	A site description that includes a site map identifying all outfalls, direction of stormwater flows, existing source controls, and receiving water bodies;	Each SWPPP as required in Part I E 6 c shall include a site description that includes a site map identifying all outfalls, direction of stormwater flows, existing source controls, and receiving water bodies.
d.2	A description and checklist of the potential pollutants and pollutant sources;	Each SWPPP as required in Part I E 6 c shall include a description and checklist of the potential pollutants and pollutant sources.
d.3	A description of all potential nonstormwater discharges;	Each SWPPP as required in Part I E 6 c shall include a description of all potential nonstormwater discharges.
d.4	Written procedures designed to reduce and prevent pollutant discharge;	Each SWPPP as required in Part I E 6 c shall include a written procedures designed to reduce and prevent pollutant discharge.
d.5	A description of the applicable training as required in Part I E 6 m;	Each SWPPP as required in Part I E 6 c shall include a description of the applicable training as required in Part I E 6 m.
d.6	Procedures to conduct an annual comprehensive site compliance evaluation;	Each SWPPP as required in Part I E 6 c shall include a procedures to conduct an annual comprehensive site compliance evaluation.

MCM #6 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP
d.7	An inspection frequency of no less than once per year and maintenance requirements for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP; and	Each SWPPP as required in Part I E 6 c shall include an inspection frequency of no less than once per year and maintenance requirements for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP.
d.8	*A log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the following information:*	
d.8.a	Date of incident;	Each SWPPP as required in Part I E 6 c shall include a log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the date of incident.
d.8.b	Material discharged, released, or spilled; and	Each SWPPP as required in Part I E 6 c shall include a log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the material discharged, released, or spilled.
d.8.c	Estimated quantity discharged, released or spilled.	Each SWPPP as required in Part I E 6 c shall include a log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the estimated quantity discharged, released or spilled.
e	No later than June 30 of each year, the permittee shall annually review any high-priority facility owned or operated by the permittee for which a SWPPP has not been developed to determine if the facility has a high potential to discharge pollutants as described in Part I E 6c. If the facility is determined to be a high-priority facility with a high potential to discharge pollutants, the permittee shall develop a SWPPP meeting the requirements of Part I E 6 d no later than December 31 of that same year.	No later than June 30 of each year,Mason shall annually review any high-priority facility owned or operated by the permittee for which a SWPPP has not been developed to determine if the facility has a high potential to discharge pollutants as described in Part I E 6c. If the facility is determined to be a high-priority facility with a high potential to discharge pollutants, Mason shall develop a SWPPP meeting the requirements of Part I E 6 d no later than December 31 of that same year.
f	The permittee shall review the contents of any site specific SWPPP no later than 30 days after any unauthorized discharge, release, or spill reported in accordance with Part III G to determine if additional measures are necessary to prevent future unauthorized discharges, releases, or spills. If necessary, the SWPPP shall be updated no later than 90 days after the unauthorized discharge.	Mason shall review the contents of any site specific SWPPP no later than 30 days after any unauthorized discharge, release, or spill reported in accordance with Part III G to determine if additional measures are necessary to prevent future unauthorized discharges, releases, or spills. If necessary, the SWPPP shall be updated no later than 90 days after the unauthorized discharge.
g	The SWPPP shall be kept at the high-priority facility with a high potential to discharge and utilized as part of staff training required in Part I E 6 m. The SWPPP and associated documents may be maintained as a hard copy or electronically as long as the documents are available to employees at the applicable site.	The SWPPP shall be kept at the high-priority facility with a high potential to discharge and utilized as part of staff training required in Part I E 6 m.
h	If activities change at a facility such that the facility no longer meets the criteria of a high-priority facility with a high potential to discharge pollutants as described in Part I E 6 c, the permittee may remove the facility from the list of high-priority facilities with a high potential to discharge pollutants.	Mason may remove the facility from the list of high-priority facilities with a high potential to discharge pollutants if activities change at a facility such that the facility no longer meets the criteria of a highpriority facility with a high potential to discharge pollutants as described in Part I E 6 c.

MCM #6 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP
i	The permittee shall maintain and implement turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the permittee where nutrients are applied to a contiguous area greater than one acre. If nutrients are being applied to achieve final stabilization of a land disturbance project, application shall follow the manufacturer's recommendations.	Mason shall maintain and implement turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia on all lands owned or operated by the permittee where nutrients are applied to a contiguous area greater than one acre. If nutrients are being applied to achieve final stabilization of a land disturbance project, application shall follow the manufacturer's recommendations.
j	Permittees with lands regulated under § 10.1-104.4 of the Code of Virginia, including state agencies, state colleges and universities, and other state government entities, shall continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.	Mason with lands regulated under § 10.1-104.4 of the Code of Virginia, including state agencies, state colleges and universities, and other state government entities, will continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.
k	The permittee shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.	Mason shall not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.
l	The permittee shall require through the use of contract language, training, standard operating procedures, or other measures within the permittee's legal authority that contractors employed by the permittee and engaging in activities with the potential to discharge pollutants use appropriate control measures to minimize the discharge of pollutants to the MS4.	Mason shall require through the use of contract language, training, standard operating procedures, or other measures within the permittee's legal authority that contractors employed by the permittee and engaging in activities with the potential to discharge pollutants use appropriate control measures to minimize the discharge of pollutants to the MS4.
m	*The permittee shall develop a training plan in writing for applicable staff that ensures the following:*	
m.1	Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months;	Mason shall develop a training plan in writing for applicable staff that ensures field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months.
m.2	Employees performing road, street, and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months;	Mason shall develop a training plan in writing for applicable staff that ensures employees performing road, street, and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months.
m.3	Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months;	Mason shall develop a training plan in writing for applicable staff that ensures employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months.

MCM #6 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP
m.4	Employees and contractors hired by the permittee who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VCACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement;	Mason shall develop a training plan in writing for applicable staff that ensures employees and contractors hired by the permittee who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VCACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement.
m.5	Employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations;	Mason shall develop a training plan in writing for applicable staff that ensures employees and contractors serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations.
m.6	Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations; and	Masoon shall develop a training plan in writing for applicable staff that ensures employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations.
m.7	Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law-enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.	Mason shall develop a training plan in writing for applicable staff that ensures employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law-enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.
n	*The permittee shall maintain documentation of each training event conducted by the permittee to fulfill the requirements of Part I E 6 m for a minimum of three years after the training event. The documentation shall include the following information:*	
n.1	The date of the training event;	The training event documentation shall include the date of the training event.
n.2	The number of employees attending the training event; and	The training event documentation shall include the date of the number of employees attending the training event.
n.3	The objective of the training event.	The training event documentation shall include the objective of the training event.
o	The permittee may fulfill the training requirements in Part I E 6 m, in total or in part, through regional training programs involving two or more MS4 permittees; however, the permittee remains responsible for ensuring compliance with the training requirements.	Mason shall fulfill the training requirements in Part I E 6 m, in total or in part, through regional training programs involving two or more MS4 permittees; however, the permittee shall remain responsible for ensuring compliance with the training requirements.
p	*The MS4 program plan shall include:*	
p.1	The written procedures for the operations and maintenance activities as required by Part I E 6 a;	The MS4 program plan shall include the written procedures for the operations and maintenance activities as required by Part I E 6 a.

MCM #6 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP
p.2	A list of all high-priority facilities owned or operated by the permittee required in accordance with Part I E 6 c, and whether or not the facility has a high potential to discharge;	The MS4 program plan shall include a list of all high-priority facilities owned or operated by the permittee required in accordance with Part I E 6 c, and whether or not the facility has a high potential to discharge.
p.3	*A list of lands for which turf and landscape nutrient management plans are required in accordance with Part I E 6 i and j, including the following information:*	
p.3.a	The total acreage on which nutrients are applied;	The MS4 program plan shall include a list of lands for which turf and landscape nutrient management plans are required in accordance with Part I E 6 i and j, including the total acreage on which nutrients are applied.
p.3.b	The date of the most recently approved nutrient management plan for the property	The MS4 program plan shall include the date of the most recently approved nutrient management plan for the property.
p.3.c	The location in which the individual turf and landscape nutrient management plan is located;	The MS4 program plan shall include the location in which the individual turf and landscape nutrient management plan is located.
p.4	A summary of mechanisms the permittee uses to ensure contractors working on behalf of the permittees implement the necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate; and	The MS4 program plan shall include a summary of mechanisms the permittee uses to ensure contractors working on behalf of the permittees implement the necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate.
p.5	The written training plan as required in Part I E 6 m.	The MS4 program plan shall include the written training plan as required in Part I E 6 m.
q	*The annual report shall include the following:*	
q.1	A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period;	The annual report shall include a summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period.
q.2	A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period;	The annual report shall include a summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period.
q.3	A summary of any SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period;	The annual report shall include a summary of any SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period.
q.4	*A summary of any new turf and landscape nutrient management plans developed that includes:*	
q.4.a	Location and the total acreage of each land area; and	The annual report shall include a summary of any new turf and landscape nutrient management plans developed that shall include the location and the total acreage of each land area.
q.4.b	The date of the approved nutrient management plan; and	The annual report shall include a summary of any new turf and landscape nutrient management plans developed that shall include the date of the approved nutrient management plan.
q.5	*A list of the training events conducted in accordance with Part I E 6 m, including the following information:*	

MCM #6 Subsection	Specific Requirement of MCM	Standard Operating Procedures to Implement BMP
q.5.a	The date of the training event;	The annual report shall include a list of the training events conducted in accordance with Part I E 6 m, including the date of the training event.
q.5.b	The number of employees who attended the training event; and	The annual report shall include a list of the training events conducted in accordance with Part I E 6 m, including the number of employees who attended the training event.
q.5.c	The objective of the training event.	The annual report shall include a list of the training events conducted in accordance with Part I E 6 m, including the objective of the training event.