

Virginia State University
MS-4 Permit: VAR040119
July 1, 2018 - June 30, 2019 Annual Report



Prepared for
Virginia State University
Capital Outlay & Facilities Management
PO Box 9414
Virginia State University, VA 23806

October 1, 2019

Prepared by: Timmons Group
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Appendices & Documentation

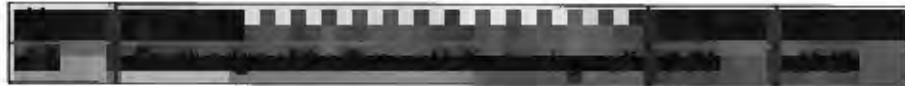
- MCM1: VSU Annual Standards and Specifications for E&S Control Notification
 - Trees & Water Quality Fact Sheet Notification
 - Dumpster Fact Sheet Notification
 - Cigarette Litter Fact Sheet Notification
- MCM2: Tree Campus USA Program Documentation
 - Fall Service Event Documentation
 - Classroom Guest Speakers Documentation
 - Illicit Discharge Inspection Demo Documentation
 - Spring Service Event Documentation
- MCM3: Outfall Map
 - Outfall Database
 - Stormwater Outfall Inspection Forms
- MCM4: Planned Land Disturbing Activities
- MCM5: BMP Inspection Forms
- MCM6: Staff Training Documentation




1.0 Background Information



- Name and permit number of the program submitting the annual report.
Virginia State University, Permit # VAR040119
- The annual report permit year.
This serves as the annual report for permit year one of the 2018-2023 General Permit term. This annual report covers a time period from approximately July 2018 – June 2019.
- Modifications to any operator's department's roles and responsibilities.
The operator's roles and responsibilities have been provided in the Program Plan and are not considered to be modified for the purposes of this report.
- Number of new MS4 outfalls and associated acreage by HUC added during the permit year
Outfall 27 was added with construction of the Appomattox River Overlook project.



- Signed certification in accordance with 9VAC25-870-370
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Jonathan D. Taylor



27 1'



2.0 Status of Permit Condition Compliance

The status of compliance with permit conditions, an assessment of the appropriateness of the identified best management practices and progress towards achieving the identified measurable goals for each of the minimum control measures.

2.1. Assessment of BMP Appropriateness/Self Audit

The Program Plan elements and BMPs are considered appropriate based on the 2018-2023 General Permit requirements.

2.2. Measurable Goals Progress

MCM 1: Public Education and Outreach

Annual Reporting Requirement 1: List the high-priority stormwater issues addressed in the public education and outreach program.

The three high-priority stormwater issues addressed in the public education and outreach program are as follows:

1. *Land and Vegetation Management*
2. *General Stormwater Awareness*
3. *Dumpster and Litter Management on Campus*

Annual Reporting Requirement 2: List of the strategies used to communicate each high-priority issue.

<i>High-Priority Stormwater Issue</i>	<i>Strategy to Communicate Issue</i>
<i>Land and Vegetation Management</i>	<i>Media materials (electronic media)</i>
<i>General Stormwater Awareness</i>	<i>Signage, media materials (electronic media), or speaking engagements</i>
<i>Dumpster and Litter Management on Campus</i>	<i>Media materials (electronic media)</i>

MCM 2: Public Involvement and Participation

Annual Reporting Requirement 1: A summary of any public input on the MS4 program received (including stormwater complaints) and how VSU responded.

VSU received no public input during the reporting period.

Annual Reporting Requirement 2: A webpage address to the permittee's MS4 program and stormwater website.

The MS4 Program Plan and Annual Report are available for public review at the following website: <http://www.vsu.edu/capital-outlay/programs-resources-procedures.php>

Annual Reporting Requirement 3: A description of the public involvement activities implemented by VSU.



VSU identified and participated in the following four local events/activities provided in the 2018-2023 Program Plan to address public involvement with stormwater and environmental activities:

- 1. Fall Service Day Event: VSU held a Fall Environmental Service Event (Tree Campus USA Service Activity) on October 25, 2018 for students and faculty where they learned about water quality through a demonstration on retention pond design and function and planted a bulb garden.*
- 2. Spring Service Day Event: VSU held a Spring Environmental Service Event (Tree Campus USA Service Activity) on April 23, 2019 for students and faculty at the opening of the Appomattox River Overlook. Speakers presented on the importance of maintaining clean water quality in making waterways a place for healthy communities. Participants had the opportunity to learn about and make clay seed bombs and then threw them on a nearby hillside to attract wildlife and add color to the space.*
- 3. Tree Campus USA Advisory Committee: The Tree Campus USA Advisory Committee held several meetings throughout the reporting period to discuss planning of Fall and Spring Service Days and work to maintain the Tree Campus USA designation.*
- 4. Classroom Guest Presentations: Timmons Group gave several presentations regarding the University's MS4 program and stormwater management on February 11 and 13, 2019. A third presentation conducted on April 17, 2019 involved a demonstration on how VSU inspects MS4 stormwater outfalls for illicit discharges.*

Annual Reporting Requirement 4: A report on the metric as defined for each activity and an evaluation as to whether the activity is beneficial to improving water quality.

- 1. Fall Service Day Event: Approximately 80 students, faculty, staff, and guests attended the service day. This event was beneficial to improving water quality by educating participants on the purpose of stormwater management facilities and how individuals can improve water quality by disposing of trash appropriately.*
- 2. Spring Service Day Event: Approximately 50 students, faculty, staff, alumni, and volunteers attended the service day. This event was beneficial to improving water quality by educating participants on the importance of riparian buffers.*
- 3. Tree Campus USA Advisory Committee: Approximately seven meetings were held over the course of the reporting period. These events are beneficial to improving water quality because it gives stakeholders the opportunity to meet in person and help ensure that VSU continues to maintain its commitment to improving water quality.*



4. *Classroom Guest Presentations: Approximately 50 of students were reached over the course of three presentations. These activities were beneficial to improving water quality because they gave the participants an opportunity to learn about stormwater management and how individuals can directly improve water quality within their MS4. The illicit discharge demonstration gave the participants hands-on experience on identifying illicit discharges.*

Annual Reporting Requirement 5: The name of other MS4 permittees with whom VSU collaborated with.

VSU did not collaborate with other MS4 permittees for this reporting period.

MCM 3: Illicit Discharge Detection and Elimination

Annual Reporting Requirement 1: A confirmation statement that the MS4 outfall map and information table have been updated.

The outfall mapping and database table were updated and are provided in the updated Program Plan. A summary of changes is below:

1. *Outfall 7 – Removed from the database because it was determined that this outfall returns to sheet flow prior to entering surface waters.*
2. *Outfall 13 – Removed from the database because it was determined that the discharge at this location enters existing stormwater infrastructure and ultimately discharges to surface waters at Outfall 16.*
3. *Outfall 21 – Location moved to more accurately identify the point at which the discharge leaves VSU's MS4 regulated area rather than the physical end of the pipe.*
4. *Outfall 22 – Location moved to more accurately identify the point at which the discharge leaves VSU's MS4 regulated area rather than the physical end of the pipe.*
5. *Outfall 23 – Removed from the database because it was determined that this outfall returns to sheet flow prior to entering surface waters.*
6. *Outfall 25 – Location moved to more accurately identify the point at which the discharge leaves VSU's MS4 regulated area rather than the physical end of the pipe.*
7. *Outfall 26 – Removed from the database as it was determined during the last screening that the outfall and its immediately upstream infrastructure was abandoned in place many years ago, most likely as part of drainage improvements along Chesterfield Avenue.*
8. *All outfalls – Estimation of regulated acreage draining to the outfall or point of discharge was adjusted to only consider area within VSU's MS4 regulated area.*
9. *All outfalls – The predominant land use for each outfall was added.*



10. *Overall – VSU’s MS4 regulated area was revised to more accurately reflect properly lines changed during the River Road widening project and other changes*

Annual Reporting Requirement 2: The total number of outfalls screened during the reporting period.

21 outfalls were screened during the reporting period.

Annual Reporting Requirement 3: A list of illicit discharges with information on: The source; the date the discharge was observed, reported, or both; whether the discharge was discovered by VSU during dry weather screening, reported by the public, or other method; how the investigation was resolved; a description of any follow-up activities; and the date the investigation was closed.

No illicit discharges were reported during the reporting period.

MCM 4: Construction Site Stormwater Runoff Control

Annual Reporting Requirement 1: 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.

No land disturbing activities occurred under the University’s General Permit coverage for Discharges of Stormwater from Construction Activities within the reporting period.

Annual Reporting Requirement 2: If one or more of the land disturbing projects were not conducted with the department approved standards and specifications, an explanation as to why they did not.

There were no land disturbing projects during this reporting period.

Annual Reporting Requirement 3: Total number of inspections conducted

No inspections were conducted within this reporting period.

Annual Reporting Requirement 4: Total number and type of enforcement actions taken.

No enforcement actions were taken.

MCM 5: Post Construction Stormwater Management in New Development and Development on Prior Developed Lands

Annual Reporting Requirement 1: Total number of inspections conducted on SWM facilities owned or operated by VSU.

23 inspections were conducted on SWM facilities owned or operated by VSU during the fall and 49 inspections were conducted in the spring.



Annual Reporting Requirement 2: Description of the significant maintenance, repair, or retrofit activities performed on the SWM facilities.

No significant maintenance, repair, or retrofit activities were performed on the SWM facilities during the reporting period.

Annual Reporting Requirement 3: A confirmation statement that VSU submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for land disturbing activities required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities or a statement that no such projects were completed.

VSU did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities.

Annual Reporting Requirement 4: A confirmation statement that VSU reported BMPs using the DEQ BMP Warehouse and the date on which the information was submitted.

No new BMPs were constructed during the reporting period.

MCM 6: Pollution Prevention/Good Housekeeping for Municipal Operations

Annual Reporting Requirement 1: A summary of any operational procedures developed or modified.

No operational procedures were developed or modified during the reporting period.

Annual Reporting Requirement 2: A summary of any new SWPPPs developed.

No new SWPPPs were developed during the reporting period.

Annual Reporting Requirement 3: A summary of any SWPPPs modified after an unauthorized discharge or any high priority facilities that have been delisted.

There are no SWPPPs that have been modified after an unauthorized discharge nor any high priority facilities that have been delisted during the reporting period.

Annual Reporting Requirement 4: A summary of any new turf and landscape nutrient management plans developed that includes:

1. The location and total acreage of each land area:

No new turf and landscape nutrient management plans were developed during the reporting period.

2. The date of the approved plan:

No new turf and landscape nutrient management plans were developed during



the reporting period.

Annual Reporting Requirement 5: A list of training events including the training date, the number of employees who attended the training, and the objective of the training.

1. *Spill Prevention Training – This training was conducted in June 2019 and approximately five employees attended. The purpose of the training was to educate employees on how to prevent discharges and clean up discharges from above ground storage tanks. This training also covered good housekeeping practices including how to properly dispose of waste.*
2. *VSU Asbestos Awareness Training – This training was conducted in June 2019 and approximately five employees attended. The purpose of the training was to educate employees on the definition of asbestos, describe where asbestos is found, explain the health hazards of asbestos, and inform employees how to protect themselves and other from asbestos hazards.*
3. *VSU Hazardous Waste Management Training – This training was conducted in June 2019 and approximately five employees attended. The purpose of the training was to describe hazardous waste and explain proper storage, labeling and disposal.*

3.0 Results of Collected Data

Results of information collected and analyzed, including monitoring data, if any, during the reporting period.

Virginia State University was not required to collect and analyze any formal monitoring data during this reporting period.

4.0 Future Stormwater Activities

A summary of the stormwater activities the operator plans to undertake during the next reporting cycle.

- *Continue to implement Chesapeake Bay TMDL Action Plan*
- *Continue to implement Standard Operating Procedures*
- *Continue to implement Training Program as developed in the 2018-2023 Program Plan*
- *Continue to implement Public Education and Outreach Program as proposed in the 2018-2023 Program Plan*
- *Continue to implement Public Involvement and Participation Program as identified in the 2018-2023 Program Plan*
- *Continue to implement the IDDE Program as identified in the 2018-2023 Program Plan*
- *Continue to implement Construction Site Stormwater Runoff Control Program as identified in the 2018-2023 Program Plan*
- *Continue to implement the Post-Construction Stormwater Management Program as identified in the 2018-2023 Program Plan*



- *Continue to implement the Pollution Prevention/Good Housekeeping for Municipal Operations Program as identified in the 2018-2023 Program Plan*
- *Continue to update outfall mapping*
- *Continue to implement "High Priority Facility" SWPPP*

5.0 Changes in BMPs and Minimum Control Measures

A change in any identified best management practices or measurable goals for any of the minimum control measures including steps taken to address deficiencies.

5.1. Changes in BMPs

No existing BMPs were changed during the reporting period beyond event or outreach materials updates described above.

5.2. Changes in Program Elements

The annual report was updated to reflect the current MS4 General Permit

5.3. Changes in Measurable Goals

No measurable goals were changed during the reporting period.



6.0 Government Reliance for Permit Obligations

Notice that the operator is relying on another government entity to satisfy some of the permit obligations (if applicable).

Not applicable at this time.

7.0 Section II C Program Status

The approval status of any programs pursuant to Section II C (if appropriate), or the progress towards achieving full approval of these programs

Not applicable at this time.

8.0 TMDL Special Conditions Contained in Section I

Information required for any applicable TMDL special condition contained in Section I

- *VSU has not been assigned any TMDL WLAs as of the preparation of this report.*
- *A Draft Phase II Chesapeake Bay TMDL Action Plan has been prepared and submitted to DEQ.*
- *Control measures implemented during the reporting period:*
 - *No control measures were implemented during this reporting period.*
- *Control measures expected to be implemented during the next reporting period:*

Expected Reduction (lbs)			
Measure	N	P	TSS
<i>Fleet's Branch Restoration</i>	<i>356.86</i>	<i>169.12</i>	<i>320,988.18</i>
<i>Total</i>	<i>356.86</i>	<i>169.12</i>	<i>320,988.18</i>

- *Progress toward meeting compliance targets:*
 - *Fleet's Branch Stream Restoration*
 - *Design is completed, construction documents have been prepared and are in the approval process.*
 - *The University is in the process of securing funding for construction.*

Appendix MCM 1

Matthew Webb

From: Jane S. Harris <jsharris@vsu.edu>
Sent: Monday, March 18, 2019 9:57 PM
To: All Freshmen; All Juniors; All Seniors; All Sophomores; Faculty; Staff
Cc: Aislinn Creel; Matthew Webb
Subject: Trees and Water Quality
Attachments: Trees and Water Quality.pdf

Did you know that VSU is a Tree Campus USA? In 2015, the Arbor Day Foundation named Virginia State University a "Tree Campus USA University" for its dedication to campus forestry management and environmental stewardship. The initiative was led by the College of Agriculture's Joel Koci who formed the committee in collaboration with faculty, Facilities, Police and Public Safety, and community groups. Our trees are not only beautiful but they also help keep our water clean and free of pollutants. Please take a moment to review the attached Spotlight on the Chesapeake Bay Watershed that explains the way trees and clean water work together.

Jane Harris
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At VSU, we are proudly committed to:

- *Providing a transformative experience for our students*
- *Strategically investing in our academic programs*
- *Embracing our position as a top Land Grant University*
- *Embracing our role as Virginia's Opportunity University*
- *Partnering together as a University to tell our story*
- *Fiscal Health*

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Matthew Webb

From: Jane S. Harris <jsharris@vsu.edu>
Sent: Monday, March 18, 2019 9:11 PM
To: All Freshmen; All Juniors; All Seniors; All Sophomores; Faculty; Staff
Cc: Aislinn Creel; Matthew Webb
Subject: Water Quality and VSU
Attachments: Stormwater Fact Sheet.pdf

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Did you know that Virginia State University owns and operates a network of storm water inlets, pipes, ditches, and storm water management ponds that is known as a Municipal Separate Storm Sewer System (MS4)? It is designed to keep Virginia's waterways clean and free of pollutants. The attached fact sheet shows you how you can help minimize water pollution and keep VSU's water clean and beautiful.

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Matthew Webb

From: Jonathan A. Taylor <jataylor@vsu.edu>
Sent: Wednesday, April 10, 2019 11:23 AM
To: Juan Martir; William J. Pipp; Robert C. Grammer; Victor_Landry@comcastspectacor.com; Sydnor Tetterton; Dan Hickok; Bill Boyce; Steve Hostetler; James Peace; jim@pace-pme.com; Mike Lindale; JT Smith; Keith Neubert; tmills@tamconsultants.com; Eric White at TAM Consultants
Cc: Jane S. Harris; Aislinn Creel; Matthew Webb; Gilbert Hanzlik; Dale Mason; Debra C. Albert; Sean Minor; Richard F Booker; Ronald M. Howell; George W. Bowles; Eric A. Martin; Cameron Stiles; Marian B. Barney; Otis O. Whaley
Subject: VSU Annual Standards and Specifications for Erosion and Sediment Control & Stormwater Management

To all of our Facility and Term Contract holders,

VSU has developed and implemented our own Annual Standards and Specifications for Erosion and Sediment Control & Stormwater Management. They are located on the VSU website for your use and for distribution to your Consultants at the link below:

<http://www.vsu.edu/files/docs/capital-outlay/annual-standards-erosion-sed-control.pdf>

The May 4, 2017 Annual Standards and Specifications for Erosion Control and Stormwater Management standards were administratively continued into the current period. They are on the VSU website, so please confirm that you are using the correct version at the outset of your projects.

These standards shall apply to all land disturbance projects exceeding 2,500 square feet of disturbance unless otherwise exempt. Please familiarize yourself with these guidelines. If you have any questions or suggestions, please email me.

Thank you

Jonathan A Taylor
Virginia State University
Director of Capital Outlay
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Matthew Webb

From: Jane S. Harris <jsharris@vsu.edu>
Sent: Saturday, April 27, 2019 10:22 AM
To: All Freshmen; All Seniors; All Juniors; All Sophomores; Faculty; Staff
Cc: Aislinn Creel; Matthew Webb
Subject: Cigarette Litter Facts
Attachments: Cigarette Litter Facts.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Did you know that throwing tobacco products, especially cigarette butts, on the ground or in the waterways creates litter and causes harm to the environment and animals? According to Keep America Beautiful, Inc., smokers litter about 4.5 trillion cigarette butts yearly and 32% of litter in storm drains is tobacco products. Cigarette butts leach toxic chemicals (arsenic, lead, cadmium, aromatic hydrocarbons) that could pollute the environment and harm its ecosystems. Made mostly of plastic, they are only biodegradable under ideal conditions, and can take anywhere from 2 to 25 years to biodegrade. Extinguishing cigarettes on the ground and in planting beds can also cause fires. For these reasons, all tobacco products should be extinguished and disposed of in smoking receptacles. Please take a moment to read the attached fact sheet on cigarette butts and consider what you can do to make sure they don't find their way into our waterways.

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Appendix MCM 2

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

August 2, 2018



Attendees: Bubba Bowles, Heather Barrar, Aislinn Creel, Chris Grammar, Gil Hanzlik, Jane Harris, Victoria Sanders, Jonathan Taylor, Matthew Webb

Meeting Minutes:

Date of Fall Event – October 10-12

- Fall break is Oct. 8&9, immediately following Mid-terms the previous week
- Homecoming is Oct. 20
- If date is set prior to next Concerned Citizens of Ettrick, they can be invited (Sept 6)

Draft Agenda

9 am – Registration

9:30 – Welcome – Jane Harris

10 am – BMP education – We will open and inlet MH, discuss stormwater quality and quantity, treatment mechanisms, and unveil BMP education sign

10:15-10:30 – Trolley rides to Summerseat House

10:30 – 12 – Planting of trees in Orchard – (in pre-dug holes)

12 – Lunch (need lunch sponsor)

Action Items

- TG ask EXACT to sponsor; determine needs for signage; check in with Mark Wehunt schedule and G. Chappell
- Jane – check with Dr. Faison -verify the concept plan, see if they will source trees, determine who will dig holes (Facilities), provide feedback to Aislinn regarding dates from Professors (Witiak and Weimer)
- Bubba – check with farm manager about Trolley
- Heather – convey date to Concerned Citizens of Ettrick at Sept 6 meeting; provide Aislinn additional names for invite, including new head of Chesterfield Community Enhancement department, historic corps contact; and invite student speaker – Tara C.

Next meeting: September 20 at 10am

Respectfully submitted,

A handwritten signature in cursive script that reads "Aislinn Creel".

Aislinn Creel, PE, LEED AP

Tree Campus USA Meeting Sign-in

8/2/2018

<u>Name</u>	<u>Organization</u>	<u>E-mail</u>
Matthew Webb	Timmons Group	matthew.webb@timmons.com
Chris Grammer	ABM	chris.grammer@ABM.com
Heather Barrar	Chesterfield Planning	he barrarhc@chesterfield.gov
Jane Harris	USU	js.harris@usu.edu
Gil Hanzlik	VSU	ghanzlik@vsu.edu
Victoria Sanders	VSU	(vsanders@vsu.edu vsgoodhealth@gmail.com)
Bubba Bowles	VSU	gbowles@vsu.edu

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

September 20, 2018



Attendees:

Jerry Bettis, Bubba Bowles, Aislinn Creel, Gil Hanzlik, Jane Harris, William Lehne, Jonathan Taylor, Amelia Wehunt

Meeting Minutes:

Date of Fall Event – October 11

Draft Agenda

8:45-9:15 – Trolley runs a loop from Foster to MPC to pick up students and bring them to event

9 am – Registration; snacks (need sponsor)

9:30 – Welcome

- Jane Harris
- Speaker from Ag College (Joel Koci)

10 am – BMP/Stormwater/MS4 presentation

- Discuss stormwater quality and quantity, treatment mechanisms, and unveil BMP education sign;
- Consider taking a water sample;
- Look inside storm drain, have Sean from EXACT talk about inlet trash rack

10:15-10:30 – Trolley rides to Summerseat House

10:30 – 12 – Summerseat - Planting of bulbs – (in prepared beds) and foundation plantings

12 – Regroup at MPC terrace; Lunch in MPC (EXACT sponsors)

Action items:

- TG/Aislinn
 - o Recommend 4 varieties of bulbs that will flower in May and have historical significance (natives, present c. 1860) AND blooming shrub/foundation plants (English boxwood?);
 - o Send recommendations to Gil/Chris Grammar TODAY on where to purchase the bulbs and how many;
 - o Provide rough sketch showing best location, approximate footprint, i.e., which side of the house, preferably the front or sides;
 - o TG to determine if we need to amend soil;
 - o TG to send Jane recommendations for water/soil test kits;
 - o Aislinn to bring easel, foam core board with graphic, flashlight, and manhole puller;
 - o Check with Sean
 - If he will speak and provide inlet trash rack examples;
 - if they will coordinate with Victor to have MPC do the lunch? 50-70 people for lunch; and
 - o Set up conference call for planning
 - Add Dr. Bettis, remove Ryan Hewitt

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

September 20, 2018



- Gil
 - o Prep area for bulb and foundation plantings, and determine if we need shovels;
 - o Buy soil;
 - o Water with yard hydrant after planting on the day of the service event;
 - o Set up tent at the registration site – at the plaza; and
 - o Provide trash cans at the registration booth.
- Bubba
 - o Reserve trolley (complete - Robert Fitz will pick up the trolley on the 10th)
 - o Email style guide with colors specifications to Aislinn so we can make sure the blue, orange, and grey on the educational sign are the correct color
 - o Make a trolley stop sign for day of event
 - o Provide event map for Jane to put in invite
- Dr Witiak
 - o bring nets and boots for water quality sampling on day of event
- Jane
 - o organize registration staff;
 - o snacks;
 - o coordinate Ag college speaker;
 - o Send invites, announcements, emails, *etc.*; and
 - o Ask Mass Comm if they want to sell donuts.
- Joel/Dr. Githinji/Dr. Faison/Dean McKinney from college of Ag
 - o Determine who will speak about Summerseat and Tree Campus USA,
 - o Are they planting trees and/or to what extent would they like to be involved; and
 - o Will they bring the Tree Campus USA banner so we can string it from the tent?

Idea for Spring – have Arbor Society provide trees to plant on campus; perhaps have a National speaker come to campus

Next meeting:

Conference call on October 10 at 11 am. Dial (712) 775-7031; access code: 476224#

Respectfully submitted,

A handwritten signature in cursive script that reads "Aislinn Creel".

Aislinn Creel, PE, LEED AP

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

October 10, 2018



Attendees:

Neal Beasley, Bubba Bowles, Aislinn Creel, Jane Harris, Joel Koci, Juan Martir, Billy Pipp, Jonathan Taylor, Matt Webb, Amelia Wehunt, Molly Winegar

Meeting Minutes:

Date of Fall Event Rescheduled for **OCTOBER 25**
(October 11 – RAINED OUT! Also, Bob Ogle, guest speaker has canceled)

Agenda

- 8:45-9:15 AM: Trolley runs a loop from Foster to MPC to transport students to event
- 9 – 9:30 AM: Registration and snacks – Debbie Albert
- 9:30 AM: Welcome from the Tree Campus USA committee
Speaker: Jane Harris
- 9:45 AM: BMP/Stormwater/MS4 presentation
Timmons Group - Demonstration on retention pond design and function
Speakers: Amelia Wehunt and Aislinn Creel
EXACT - Water Quality Features – Inlet Trash Racks
Speaker: Sean Simonpietri
- Dedication of the Trojan Pond
- 10:15-10:30 AM: Trolley rides to Summerseat
Speaker: Bob Ogle - History of Ettrick
Speaker: Sarah Melissa Witiak – Heirloom Bulbs
Speaker: Joel Koci – Elm Tree
- 10:45 AM – NOON Summerseat - Planting of bulbs – Naturalized
- 10:30 AM – 1 PM Trolley runs a loop from MPC to Foster return students
- 12 noon Meet for Lunch in MPC (EXACT sponsors)

Action items (in no particular order):

- TG/Aislinn - Aislinn to bring easel, foam core board with graphic, flashlight, manhole puller, and water sample kit for demonstration;
- Gil- Set up tent at the registration site – at the plaza; and
- Juan - Provide trash cans at the registration booth.

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

October 10, 2018



- Bubba - Reserve trolley; Make a trolley stop sign for day of event; Provide event map update for Jane to put in invite
- Dr. Witiak - bring nets and boots for water quality sampling on day of event
- Jane – send updated invites; confirm Mr. Bob Ogle
- Joel – encourage attendance from Ag Department; pick up and deliver Elm Trees; bring Tree Campus USA banner
- Molly – update lunch order for new date

Idea for Spring – have Arbor Society provide trees to plant on campus; perhaps have a National speaker come to campus

Next meeting:

Conference call on October 24 at 2 PM. Dial (712) 775-7031; access code: 476224#

Respectfully submitted,

A handwritten signature in cursive script that reads "Aislinn Creel".

Aislinn Creel, PE, LEED AP



Attendance:

Neal Beasley, Jerry Bettis, Bubba Bowles, Aislinn Creel, Gil Hanzlik, Jane Harris, Joel Koci, Jonathan Taylor, Matthew Webb, Molly Winegar, Rodney Winfield, Sarah Melissa Witiak,

Meeting Agenda:

- **Tree Campus USA designation status update**
 - Information submitted prior to December 31, awaiting review
 - There had been a comment about public involvement – Jane suggested any involvement at Summerseat includes the Concerned Citizens of Ettrick; FOLAR – Aislinn to share MS4 public education and outreach language to Joel.
 - Arbor Day – Ettrick Elementary Tree Planting, tentatively scheduled for Friday April 26 at Summerseat
 - Tree Care Plan – investigation on root destruction at sidewalk by softball field. Jane suggests adding Joel Koci to sign off on excavation permits.
 - Joel still working on timeline for Elm slab

- **Fall Service Event Recap** – Discussion of the event; what went well and items/components that could be improved:
 - **Good**
 - Trolley – students really seemed to enjoy the ride
 - Fresh and new activity
 - Manhole investigation – students seemed to enjoy
 - Anxious to see how it looks in Spring, strategic with Master Plan, front door of University and anything that is attractive will help – Note, working on gravel path and edging on MLK, Jr. day
 - Good participation by classes for a cold, remote day; wide range of students’ focus
 - **Negative**
 - remote

- **Spring Event Planning**
 - Date – April 23, 10am-12pm, with lunch after (rain date April 25)**
 - Earth Day - Monday, April 22
 - VA Arbor Day - Friday, April 26
 - VSU Classes end – Wednesday, May 1
 - VSU Final Exams – Friday, May 3
 - Graduation – May 19

 - Location- Simms Hall**
 - Dr Witiak to send grants to Jane for shade and research meadow.



- Plant a meadow on hill? Refer to Lee Park in Petersburg, for example.
- Seed bombs! "RESTORING AN INDUSTRIALIZED AREA TO A NATIVE MEADOW HABITAT"

Draft Agenda

- 9:30 am – Trolley rides/Registration begins
- 10 am – Introduction/presentations
 - Simms Hall site and history
 - MS4/Water quality piece (FOLAR?/TG?)
 - Native meadow restoration and ancillary benefits
- 10:30-11:30 – prepare seed bombs; plant landscaping
- 11:30 – Bomb the Hillside!
- 12 pm - Lunch

Sponsors/Special Guests

- FOLAR?

• ***Action Items***

- Submit grants
- Identify seeds and run past Dr. Witiak – Neal recommend seeds and quantity
- Purchase seeds/supplies/landscape materials
- Jane/Aislinn contact FOLAR, DHR
- Jane to work on lunch ideas
- Tree removal and landscape plans for MT Carter and Annex
- Contact professors
- Bubba look at Trolley line routes
- Provide Petersburg contacts to Joel Koci for Tree City USA

• ***Next meeting***

- Conference call - February 13 at 3pm
- Face to face meeting – March 27 @ 2pm
- Fall Event – move Magnolia (9/11 commemorative tree)? Filterra maintenance and/or ROTC SWM Basin?



Attendance:

Heather Barrar, Neal Beasley, Bubba Bowles, Aislinn Creel, Chris Grammar, Gil Hanzlik, Jane Harris, Mike Hickman, Jonathan Taylor, Molly Winegar, Sarah Melissa Witiak

Meeting Agenda:

- **Spring Event Planning**

- Date – April 23, 10am-12pm, with lunch after (rain date April 25)
- Simms Hall
- “RESTORING AN INDUSTRIALIZED AREA TO A NATIVE MEADOW HABITAT”
- Draft Agenda
 - 9:30 am – Trolley rides/Registration begins
 - 10 am – Introduction/presentations
 - Simms Hall site and history
 - MS4/Water quality piece (FOLAR?/TG?)
 - Native meadow restoration and ancillary benefits
 - 10:30-11:30 – prepare seed bombs; plant landscaping
 - 11:30 – Bomb the Hillside!
 - 12 pm - Lunch

Sponsors/Special Guests

- FOLAR?

- **Action Items**

- Neal –
 - Planting Plan by Friday COB with options for planting areas with consideration for security and visibility. Jane would prefer trees identified to plant to tie in observance of Arbor Day as part of our activity.
- Jane –
 - Historical Ettrick speaker
 - Order Clay: approximately lbs, preferably a natural earth color
 - Organize lunch and snacks
 - Solicit volunteers to help
 - Publicize event
- Bubba –
 - Create event map, with locations for tables for lunch at Lockett Hall and seed prep tables at Simms Hall
 - Secure MondoPad and video for display at Simms Hall
 - Schedule trolley and figure route (already done)
- Gil –
 - Provide tables, trash cans, plastic gloves, paper towels

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

February 13, 2019



- Chris –
 - Order seeds: native wildflower seeds for 11,000 sf coverage. Several local sources were discussed, as well as options for mail order. Neal recommends 10-15 species.
 - Order compost: approx. 50lbs
 - Provide water cart
- Heather –
 - Plan to speak for 5-10 minutes on Appomattox River and significance of water quality/tree preservation to tie significance of our activity and Patton Park Master Plan to MS4 and Tree Campus USA designation
- Aislinn –
 - Solicit volunteers to help
 - Speak to classrooms (Chappell 2/11 & 2/13; Cantanzaro 2/26)
 - Give stormwater presentation at event? 5 mins
 - Send out meeting invites and save the dates for the Committee
- **Next meeting**
 - Face to face meeting – March 27 @ 2pm
 - Fall Event – move Magnolia (9/11 commemorative tree)? Filterra maintenance and/or ROTC SWM Basin?



Attendance:

Heather Barrar, Neal Beasley, Bubba Bowles, Kim Conley (telephone), Aislinn Creel, Chris Grammar, Gill Hanzlik, Jane Harris, Jonathan Taylor, Matthew Webb, Sarah Melissa Witiak

Meeting Minutes:

• ***Spring Event Planning***

- Date – April 23, 9 am-12pm, with lunch after (rain date April 25)
- Meeting Location: Appomattox River Overlook
- Draft Agenda
 - 9:00 AM - Sign-in/Registration and refreshments/snacks
 - 9:15 AM - Welcome, Introductions and Schedule of Activities
 - 9:20 AM – Simms Hall and the History of VSU – Dr. Weatherington, Dean of the Library
 - 9:25 AM – Simms Hall, Historic Properties and Mitigation Strategies – Adrienne Birge-Wilson, Reviewer, DHR
 - 9:30 AM – Simms Hall Project Implementation – Bubba Bowles
 - 9:35 AM - Friends of the Lower Appomattox (FOLAR) Presentation
 - 9:45 AM – Tree Planting and Seed Bomb Activity – Joel Koci and Dr. Sarah Melissa Witiak
 - 11:30 AM - Recertification Presentation – Dr. Jewell Bronaugh, Commissioner of Agriculture and Consumer Services will present the recertification to Dr. Abdullah – Need a program for this; We should include Dr. McKinnie, Dean of Agriculture
 - Noon - Lunch on the lawn at Lockett Hall

*Trolley rides to and from Foster Hall from 9:00 AM to noon

• ***Update on Action Items***

- Neal –
 - Man bombing station
- Jane –
 - Provide snacks
 - Solicit volunteers to help
 - Publicize event –
 - Follow up with Joel on planting method for activity

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

March 27, 2019



- Bubba –
 - Create event map, with locations for tables for lunch at Lockett Hall and seed prep tables at Simms Hall
 - Load video on MondoPad

- Gil –
 - Provide tables – 3 for seed bomb construction, 2 for registration/snack, 2 for seed bomb; trash cans, plastic gloves, paper towels
 - Tents (3) and chairs (36-40)
 - Provide ceremony set up (podium/small tent)
 - Extension cord for Mondo
 - Line up two trucks for trolley

- Chris –
 - Order seeds: native wildflower seeds for 11,000 sf coverage. Several local sources were discussed, as well as options for mail order. Neal recommends 10-15 species.
 - Order compost: approx. 50lbs
 - Provide nozzle for garden hose
 - Prep hillside/seed bomb area
 - Mark/flag area for seed bombing
 - Prep tree holes

- Heather –
 - Plan to speak for 5-10 minutes on Appomattox River and significance of water quality/tree preservation to tie significance of our activity and Patton Park Master Plan to MS4 and Tree Campus USA designation

- **Next meeting**
April 16, 2pm – conference call



Attendance:

Gil Hanzlik, Jane Harris, Robert Hawkes, Joel Koci, Jonathan Taylor, Sarah Melissa Witiak, Aislinn Creel

Meeting Minutes:

• ***Spring Event Planning***

- Date – April 23, 9 am-12pm, with lunch after (rain date April 25)
 - Meeting Location: Appomattox River Overlook
 - Draft Agenda
 - 9:00 AM - Sign-in/Registration and refreshments/snacks
 - 9:15 AM - Welcome, Introductions and Schedule of Activities
 - 9:20 AM – Simms Hall and the History of VSU – Dr. Weatherington, Dean of the Library
 - 9:25 AM – Simms Hall, Historic Properties and Mitigation Strategies – Adrienne Birge-Wilson, Reviewer, DHR
 - 9:30 AM – Simms Hall Project Implementation – Bubba Bowles
 - 9:35 AM - Friends of the Lower Appomattox (FOLAR) Presentation
 - 9:45 AM – Tree Planting and Seed Bomb Activity – Joel Koci and Dr. Sarah Melissa Witiak
 - 11:30 AM - Recertification Presentation –Senator Rosalyn Dance and/or Anne Little, President of Trees Virginia: Virginia’s Urban Forest Council, will present the recertification to Dr. Abdullah, President of VSU and Dr. McKinnie, Dean of Agriculture
 - Noon - Lunch on the lawn at Lockett Hall
- *Trolley rides to and from Foster Hall from 9:00 AM to noon

• ***Update on Action Items***

- General-
 - Tree is here and at the site, hole is prepped and ready
 - Seed bombing area has been prepped/sprayed
 - Three, smaller trees have been planted due to access issues
 - Trucks and trolley reserved; Robert to verify truck turn around
 - Seeds have been ordered
 - Speakers and Special Guests secured, except for the Re-certification presenter; working on a replacement
 - We will try to set up as much as possible on Monday (weather looks nice as of today)

VSU Tree Campus USA & Stormwater Committee Meeting Minutes

April 17, 2019



- Jane –
 - Provide snacks
 - Solicit volunteers to help – Joel says the Master Nationalists were planning to volunteer and he will follow up with them
 - Publicize event
 - Create event map, with locations for tables for lunch at Lockett Hall and seed prep tables at Simms Hall
 - Load video on MondoPad

- Gil –
 - Provide tables – 3 for seed bomb construction, 2 for registration/snack, 2 for seed bomb staging; trash cans, plastic gloves, paper towels
 - Tents (3) and chairs (36-40)
 - Provide ceremony set up (podium/small tent), and a few chairs
 - Extension cord for Mondo; Mondo Pad to come from President's Dining Hall at Gateway
 - Line up two trucks for trolley
 - Attach banner to trestle
 - Open walkway (remove panel)
 - Ask Police Department to block off all three (3) spaces for the guest speakers

- Chris –
 - Order compost: approx. 50lbs
 - Provide nozzle for garden hose

- Sarah Melissa –
 - Provide clay; call Gill when it gets to campus and he will arrange pick up and transport to the site

- Joel –
 - Provide banner Thursday to Facilities
 - Drop tools off for planting the morning of the event (temporary parking needed)

- Timmons Group –
 - Arrive at 8 am!

Matthew Webb

From: Jane S. Harris <jsharris@vsu.edu>
Sent: Wednesday, October 24, 2018 1:37 PM
To: Aislinn Creel; Joel Koci; Jonathan M. Young; William J. Pipp; Gilbert Hanzlik; Sarah M. Witiak; Michael W Hickam; Christopher J. Catanzaro; Matthew Webb; Jessica Harris; richard.reuse@dof.virginia.gov; BarrarH@chesterfield.gov; angela.baker@live.com; Jonathan A. Taylor; Robert C. Grammer; Charles P. Nealis; Pipp, William; Billy Taylor; Victoria D. Sanders; Johnson, Katrina M. - OSEC; George W. Bowles; Ethel C Francis; Hsaw0281@students.vsu.edu; xander.garcon@gmail.com; Conley, Kim; greensoulutionz@gmail.com; Amelia Wehunt; William Pipp; Leonard Githinji; Marcus Comer; Michelle Olgers; sean@exactstorm.com; molly@exactstorm.com; cohend@chesterfield.gov; rogle@historiccorps.org; ciavarellatm@gmail.com; Neal Beasley; Steve Hostetler; Jerry L. Bettis, Sr.; Juan Martir; Glenn F. Chappell
Subject: RE: VSU Tree Campus USA Fall Service Event Planning Conference Call
Attachments: 2018 VSU Fall Service Event Map.pdf; Fall Service Event Agenda 10.25.docx; Fall 2018 Environmental Service Event 10.25.pdf

-----Original Appointment-----

From: Aislinn Creel [<mailto:Aislinn.Creel@timmons.com>]
Sent: Wednesday, October 10, 2018 4:09 PM
To: Aislinn Creel; Jane S. Harris; Joel Koci; Jonathan M. Young; William J. Pipp; Gilbert Hanzlik; Sarah M. Witiak; Michael W Hickam; Christopher J. Catanzaro; Matthew Webb; Jessica Harris; richard.reuse@dof.virginia.gov; BarrarH@chesterfield.gov; angela.baker@live.com; Jonathan A. Taylor; Robert C. Grammer; Charles P. Nealis; Pipp, William; Billy Taylor; Victoria D. Sanders; Johnson, Katrina M. - OSEC; George W. Bowles; Ethel C Francis; Hsaw0281@students.vsu.edu; xander.garcon@gmail.com; Conley, Kim; greensoulutionz@gmail.com; Amelia Wehunt; William Pipp; Leonard Githinji; Marcus Comer; Michelle Olgers; sean@exactstorm.com; molly@exactstorm.com; cohend@chesterfield.gov; rogle@historiccorps.org; ciavarellatm@gmail.com; Neal Beasley; Steve Hostetler; Jerry L. Bettis, Sr.; Juan Martir; Glenn F. Chappell
Subject: VSU Tree Campus USA Fall Service Event Planning Conference Call
When: Wednesday, October 24, 2018 2:00 PM-2:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Conference Call

This should be a quick call to finalize details for the Fall Service Event, rescheduled for October 25, 2018. Attached are the minutes from our last call to use as reference.

Join by phone
Toll number: +1 (804) 412-8995
Conference ID: 24782266

Your Vision Achieved Through Ours.

[OC(1033)]

<< File: 2018-10-10 Tree Campus USA Meeting.pdf >>

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Fall 2018 Service Event Seeking Volunteers



Learn about Water Quality, Historic Ettrick and Plant a Bulb Garden

Thursday, October 25, 2018

9:00 AM til noon

- Dedicate the Trojan Pond and Learn about Water Quality
- Learn the history of Ettrick and the exciting plans for Summerseat
- Create a bulb garden
- Volunteers gather at the Multipurpose Center
- Trolley Rides to and from Foster Hall
- Classes welcome
- Snacks and lunch provided



2018 VSU Fall Service Event Map – October 25, 2018



8:45am – 9:15am - Trolley pickup and drop off in front of Foster Hall

9:00am – Registration at Multipurpose Center Plaza

10:00am – BMP/Stormwater Presentation

10:30am – 12 noon – Plantings at Summerseat

Noon – Lunch at Multipurpose Center

October 25, 2018

Fall Service Event Agenda

8:45-9:15 AM : Trolley runs a loop from Foster to MPC to pick up students and bring them to event

9:00 – 9:30 AM : Registration and snacks. – Debbie Albert

9:30 AM: Welcome from the Tree Campus USA committee
Speaker: Jane Harris

9:45 AM: BMP/Stormwater/MS4 presentation
Timmons - Demonstration on retention pond design and function
Speakers: Amelia Wehunt and Aislinn Creel
EXACT - Water Quality Features – Inlet Trash Racks
Speaker: Sean
Dedication of the Trojan Pond

10:15-10:30 AM – Trolley rides to Summerseat

Speakers:
Dr. Omar Faison - Summerseat
Joel Koci – Tree Planting Demonstration
Sarah Melissa Witiak – Heirloom Bulbs

10:45 AM – 11:00 AM – Tree Planting Demonstration
11:00 AM – 12 noon – Summerseat - Planting of bulbs beds
10:30 AM – 1:00 PM - Trolley runs a loop from MPC to Foster return students

12 noon – Meet for Lunch in MPC (EXACT sponsors)

Matthew Webb

From: Jane S. Harris <jsharris@vsu.edu>
Sent: Wednesday, November 28, 2018 9:09 PM
To: Amelia Wehunt; Aislinn Creel; Neal Beasley; Matthew Webb; Joel Koci; Milton O Faison; molly@exactstorm.com; sean@exactstorm.com; Sarah M. Witiak; Juan Martir; Robert C. Grammer; Jonathan A. Taylor; George W. Bowles; Robert W Hawkes; Robert L. Fitts; Debra C. Albert; Landry, Victor; Gilbert Hanzlik
Cc: Kevin W. Davenport
Subject: Fall Service Event on October 25, 2018

Follow Up Flag: Follow up
Flag Status: Flagged

Everyone,

This is a long overdue thank you for making our fall service day such a fun and rewarding one. The web link below is an article located on the Facilities and Capital Outlay webpage that describes the event and includes some great pictures. Thanks to all of you that volunteered your time and talents for this important outreach and education activity for our growing student interest group. Victor, Sean and Molly, I'd like to extend a special thank you for sponsoring our lunch. It was a sweet reward after a cold morning of uncharacteristic physical activity (at least on my part!).

Thanks again!

Jane

<http://www.vsu.edu/about/administrative-offices/finance/capital-outlay-and-facilities/fall-environment-day/index.php>

Jane Harris

Virginia State University
AVP for Capital Outlay and Facilities
Physical Plant Building
2916 Myster Macklin Street
Virginia State University, VA 23806
(W) (804) 524-6239
(C) (804) 218-3225
(F) (804) 524-5383
jsharris@vsu.edu

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At VSU, we are proudly committed to:

- *Providing a transformative experience for our students*
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- *Partnering together as a University to tell our story*
- *Fiscal Health*

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Fall Environmental Day

vsu.edu/about/administrative-offices/finance/capital-outlay-and-facilities/fall-environment-day/index.php



The Capital Outlay and Facilities Department and Tree Campus, USA committee want to offer sincere thanks to the donors, volunteers and workers that participated in our fall environmental service day on Thursday, October 25, 2018.

It was a full day of activities that included our service activity, trolley rides and learning about a wide variety of topics including good water quality practices, proper tree care, the past and future of historic Summerseat and heirloom plants. Approximately 80 students, faculty, staff and guests joined us for a beautiful fall morning to enjoy the newest addition to our beautiful, green campus.

Our morning began with a discussion around water quality programs at VSU by Timmons Group's Aislinn Creel. She described the components of storm water management at VSU and their importance in keeping waterways such as the Appomattox River clean. Aislinn and Timmons Group associate Matthew Webb gave everyone a peek inside a storm sewer manhole and described the clean water cycle of our very own Trojan Stormwater Management Pond at the Multipurpose Center. Sean Simonpietri, Owner of EXACT Stormwater Management described the products used to construct stormwater structures and their role in removing pollutants from stormwater before it reaches our natural waterways. EXACT Associate Molly Wineger lent a hand with planning and logistics.

A short trolley ride later, we found ourselves at Summerseat, a circa 1860 building located on approximately 2 acres on the northwest side of campus. We were met by Dr. Omar Faison who described the historic building and the exciting plans for the property. Dr. Faison, interim director for The Center for Agricultural Research, Engagement & Outreach (CAREO), is working with a corporate partner, Sabra Dipping Company, and preservation groups to develop the Summerseat site into an Urban Agriculture Demonstration and Education center.

In 2015, the Arbor Day Foundation named Virginia State University a "Tree Campus USA University" for its dedication to campus forestry management and environmental stewardship, becoming the first HBCU and joining only ODU and Virginia Tech in this honor. In acknowledgement of this honor, the College of Agriculture's Joel Koci led a discussion about proper tree installation and care. Mr. Koci demonstrated by planting two elm trees, a variety that was believed to have been originally located near the Summerseat building.

Biology Professor, Dr. Sarah Melissa Witiak, kicked off our service activity with a discussion around heirloom plants and their importance to historic landscapes. She described the components of bulbs, how they are constructed, and described how they should be planted in order to both thrive and create a beautiful show in the spring. Our volunteers then planted bulbs in the eight areas prepared for our event. Together we planted over 2,000 spring blooming bulbs at Summerseat that are sure to offer beautiful curb appeal right at this prominent gateway location.

Finally, guests and volunteers were invited to a delicious lunch at the Multipurpose Center which was generously donated by Sean Simonpietri and EXACT Stormwater Management.

A SPECIAL THANKS TO THE FOLLOWING INDIVIDUALS THAT HELPED MAKE OUR EVENT SPECIAL:

Sean Simonpietri and Molly Wineger for your generous donation of time, talents and lunch!

Amelia Wehunt, Aislinn Creel, Neal Beasley, Elyana Javaheri and Matthew Webb of the Timmons Group for their donation of expertise, guidance, professional services and general supervision of all!

Dr. Omar Faison for teaching us about Summerseat and opening up your outside home for all to enjoy!

Joel Koci for sharing your steadfast love of trees!

Dr. Sarah Melissa Witiak for your great passion for both plants and history and constant willingness to share your time and talents to make campus better!

Victor Landry for our lunch venue!

Debbie Albert for manning our registration desk and keeping us on point!

Robert Fitts for driving the trolley!

GCA Educational Services grounds team for digging over 1600 holes for bulbs without questions or complaint!

Robert Hawkes and the Event Set-Up Team for tents, tables and heavy lifting!

Matthew Webb

From: Matthew Webb
Sent: Tuesday, February 12, 2019 4:26 PM
To: 'gchappell@vsu.edu'
Subject: RE: labs

Dr. Chappell,

I am looking forward to presenting during your class tomorrow. Thank you for the opportunity! I am planning to be there by 2pm. I can usually be reached by email or my cell if anything comes up in the meantime.

Thanks,
Matt

From: Aislinn Creel <Aislinn.Creel@timmons.com>
Sent: Tuesday, February 05, 2019 12:26 PM
To: Glenn F. Chappell <gchappell@vsu.edu>
Cc: Matthew Webb <Matthew.Webb@timmons.com>
Subject: RE: labs

Matt Webb (copied) will present in my absence on Wednesday. Thanks so much for your flexibility!

See you Monday!
Aislinn

From: Glenn F. Chappell <gchappell@vsu.edu>
Sent: Wednesday, January 30, 2019 12:52 PM
To: Aislinn Creel <Aislinn.Creel@timmons.com>
Subject: RE: labs

Cool with me. Either way. Glenn

Glenn F. Chappell, II, Ph. D.
Associate Professor
Plant and Soil Science
804-524-5848 (Office)
804-691-5003 (Cell)
gchappell@vsu.edu

From: Aislinn Creel [<mailto:Aislinn.Creel@timmons.com>]
Sent: Wednesday, January 30, 2019 12:37 PM
To: Glenn F. Chappell <gchappell@vsu.edu>
Subject: RE: labs

Glenn,

My sincere apologies, I have had a conflict arise for the 2/13 class. Would you mind if I send a substitute in my place to give the presentation? I will still give the 2/11 presentation.

Thanks,

Aislinn

Aislinn Creel, PE, LEED AP

Sr. Project Manager

TIMMONS GROUP | www.timmons.com

1001 Boulders Parkway, Suite 300 | Richmond, VA 23225

Office: 804.200.6432 | Fax: 804.560.1438

Mobile: 804.647.7388 | aislinn.creel@timmons.com

Your Vision Achieved Through Ours

To send me files greater than 20MB [click here](#).

Matthew Webb

From: Matthew Webb
Sent: Wednesday, May 08, 2019 3:18 PM
To: 'Glenn F. Chappell'
Cc: 'Aislinn Creel (Aislinn.Creel@timmons.com)'
Subject: RE: Stormwater Outfall Inspection Demo RESCHEDULED to Wednesday 4/17
Attachments: Adissa - 6.pdf; Ty Wilson - 24.pdf; 3.pdf

Dr. Chappell,

Thank you for allowing me to meet with you students a few weeks ago to demonstrate how VSU inspects MS4 stormwater outfalls for illicit discharges. During the activity, two students volunteered to try filling out the forms on their phones and submitting the reports online. This is a new feature that we are currently testing out and I am happy to say that it worked! I have attached the reports that the students generated. Of course we are still working out a few bugs. For example, the forms show that our location was in Australia! I attached one of the forms that I will be submitting to VSU as an example of the "final" product.

Thanks again,
Matt

From: Matthew Webb
Sent: Wednesday, April 17, 2019 9:15 AM
To: Glenn F. Chappell <gchappell@vsu.edu>; Jane S. Harris <jsharris@vsu.edu>; switiak@vsu.edu
Cc: 'Aislinn Creel (Aislinn.Creel@timmons.com)' <Aislinn.Creel@timmons.com>
Subject: RE: Stormwater Outfall Inspection Demo RESCHEDULED to Wednesday 4/17

Looking forward to all who can make it today at 11! Our meeting location is attached as a reminder. Please forward this email to anyone who may be interested in attending.

As a sneak preview, please check out this link: <https://arcg.is/0Oy9rz>. If it doesn't make sense, that's great! We will go over it at 11.

Thanks,
Matt

Arbor Day 2019

vsu.edu/about/administrative-offices/finance/capital-outlay-and-facilities/arbor-day/index.php





Virginia State University Celebrates Five Years as Tree Campus USA at Newly Constructed Appomattox River Overlook

VSU hosted their Spring 2019 environmental service event on April 23, 2019 to celebrate Arbor Day and our recertification as a Tree Campus USA for the fifth year in a row. VSU faculty, alumni students and volunteers gathered at the newly completed Appomattox River Overlook, the site of the former historic Simms Hall, to learn about water quality, the history of Simms Hall, and the future for the Appomattox Riverfront. The overlook, which provides a spectacular view of the Appomattox River, is now an open hardscape and grassy overlook that is used as a gathering and reflection space for students and staff. The site includes historic signage that celebrates the history of the site as a former trades building used for mechanical arts and agriculture.

Tree Campus USA, a program founded by the Arbor Day Foundation, recognizes college and university campuses that establish and sustain healthy community forests through service projects, Arbor Day observance, and a campus tree care plan. Since 2014, Virginia State University has hosted an Arbor Day volunteer event focused on sustainable planting techniques, tree protection and preservation. This year's event highlight was the launch of seed bombs made from clay, compost and native Virginia wildflower seeds. Seed bombs were thrown on various bare areas on site to attract wildlife and add color and interest to the space.

Trolleys were available to pickup and drop off volunteers and a video describing the early years of VSU and the development of Ettrick village was available for viewing. Dr. Weatherington, Dean of the Library, spoke to the group about the former Simms Hall building and the development of VSU from its beginning in 1882 to present. Adrienne Birge-Wilson of the Virginia Department of Historic Resources described the demolition project and the mitigation strategies employed by VSU in remembering the history of the University and its place in the Ettrick Community. Bubba Bowles then described the Overlook development project and the secrets of the Simms Hall building revealed during construction. Friends of the Lower Appomattox (FOLAR) spokesperson Heather Barrar described the importance of maintaining clean water quality in making waterways a place for healthy communities, natural beauty and recreation. Heather gave a sneak peek into the plans for the Appomattox Riverfront and Petersburg's Patton Park. The College of Agriculture's Joel Koci demonstrated the proper way to plant trees and offered some hands-on experience at the historic train trestle. Dr. Sarah Melissa Witiak then led the students and volunteers in the construction and launching of seed bombs with native Virginia wildflower seeds on the hillside.

The last event of the day was the Tree Campus USA 5-year recertification presentation to Dr. Abdullah. Joined by Osubi Craig Special Assistant to the President, and several senior leadership members, Dr. Abdullah accepted the recertification plaque from State Forester Kathleen Ogilvy. He followed with remarks of thanks and appreciation for the natural beauty of the river and VSU campus.

The Capital Outlay and Facilities Department and Tree Campus, USA committee want to offer sincere thanks to the donors, volunteers, alumni and workers that participated in our spring environmental service day with **SPECIAL THANKS TO THE FOLLOWING INDIVIDUALS THAT HELPED MAKE OUR EVENT SPECIAL:**

Kathleen Ogilvy for making our recertification ceremony memorable!

Dean Weatherington for making her knowledge of history and love of all things VSU come alive!

Adrienne Birge-Wilson for being a partner with VSU in finding creative ways to move into the future without forgetting our past and throwing a mean seed-bomb curve ball in the bargain!

Heather Barrar for her energy and vision in promoting the great outdoors and advocating the Appomattox!

Bubba Bowles for always delivering clarity when chaos works hard to prevail!

Robert Fitts for operating the trolley!

GCA Educational Services grounds team (Shout out to Chris Grammer!) for doing the heavy lifting and always

lending a hand!

Technology Services' Jerome Massey for keeping our videos rolling!

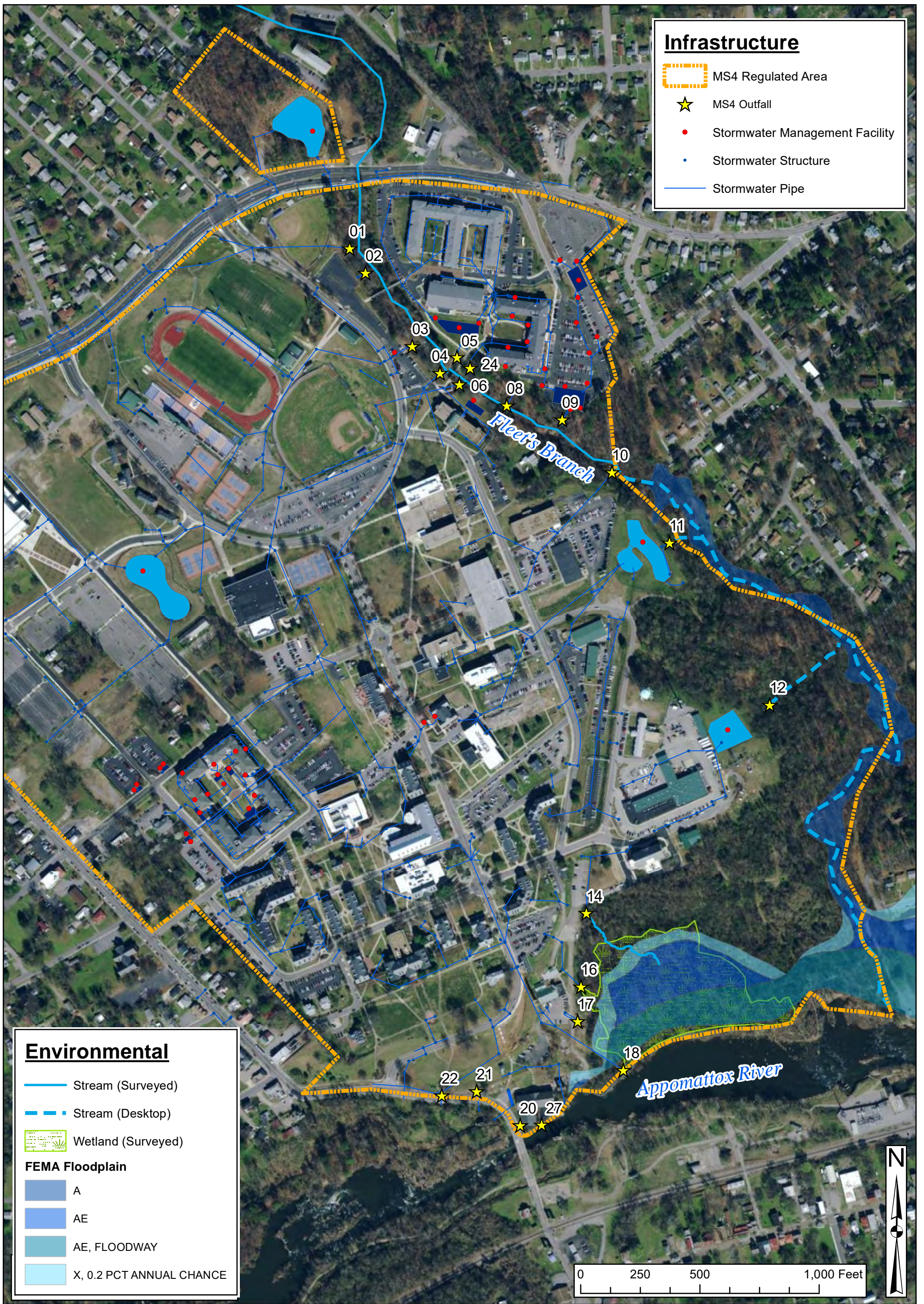
Aislinn Creel, Neal Beasley and Matt Webb of the Timmons Group for their donation of expertise, guidance, professional services and for keeping us all on track!

Brian Dickerson of Dickerson Construction for providing lunch!

Debbie Albert for staffing our registration desk!

Robert Hawkes for moving (and shaking when needed)!

Appendix MCM 3



Infrastructure

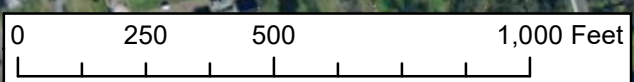
- MS4 Regulated Area
- MS4 Outfall
- Stormwater Management Facility
- Stormwater Structure
- Stormwater Pipe

Environmental

- Stream (Surveyed)
- Stream (Desktop)
- Wetland (Surveyed)

FEMA Floodplain

- A
- AE
- AE, FLOODWAY
- X, 0.2 PCT ANNUAL CHANCE



**MS4 Outfall Map
May 2019**



MS4 Outfalls

ID	Approximate Latitude	Approximate Longitude	Loaction Description	Estimated Acreage Served ¹	Name of Receiving Water	Receiving Water 6th Order HUC	Impaired? ²	Predominant Land Use ³	Chesapeake Bay TMDL?	Local TMDL?
01	37.242907	-77.419705	East Side of Fleets Branch Near Gateway	10.1	Fleets Branch	JA40	No	NA	Yes	No
02	37.242623	-77.419479	East Side of Fleets Branch Near Gateway	0.7	Fleets Branch	JA40	No	NA	Yes	No
03	37.241771	-77.418821	East Side of Fleets Branch Near Gateway	56.9	Fleets Branch	JA40	No	NA	Yes	No
04	37.241458	-77.418425	East Side of Fleets Branch Behinf Wilder Bldg.	51.9	Fleets Branch	JA40	No	NA	Yes	No
05	37.241708	-77.418126	Gateway Retention Basin III	7.1	Fleets Branch	JA40	No	NA	Yes	No
06	37.241325	-77.418149	East Side of Fleets Branch Behinf Wilder Bldg.	4.3	Fleets Branch	JA40	No	NA	Yes	No
08	37.241077	-77.417469	East Side of Fleets Branch Behind Wilder Bldg.	0.1	Fleets Branch	JA40	No	NA	Yes	No
09	37.240907	-77.416672	Gateway II Parking Lot	5.5	Fleets Branch	JA40	No	NA	Yes	No
10	37.240295	-77.415961	East of Fleets Branch Behind Alumni Foundation	7.0	Fleets Branch	JA40	No	NA	Yes	No
11	37.239475	-77.415147	ROTC BMP	22.2	Fleets Branch	JA40	No	NA	Yes	No
12	37.237369	-77.414102	Physical Plant BMP	5.6	Fleets Branch	JA40	No	NA	Yes	No
14	37.235221	-77.416406	East of Heating Plant	1.7	Appomattox River	JA40	Yes	Academic	Yes	E. coli
16	37.234375	-77.416496	East of Heating Plant	2.3	Appomattox River	JA40	Yes	Academic	Yes	E. coli
17	37.233979	-77.416547	East of Heating Plant	0.8	Appomattox River	JA40	Yes	Academic	Yes	E. coli
18	37.233408	-77.415901	Southernmoast Side of Campus Near Simms Hall	8.8	Appomattox River	JA40	Yes	Academic	Yes	E. coli
20	37.232856	-77.417759	Southernmoast Side of Campus Near Simms Hall	0.3	Appomattox River	JA40	Yes	Academic	Yes	E. coli
21	37.233184	-77.418018	Southernmoast Side of Campus Near Simms Hall	0.7	Appomattox River	JA40	Yes	Academic	Yes	E. coli
22	37.233142	-77.418520	Southernmoast Side of Campus Near Simms Hall	0.7	Appomattox River	JA40	Yes	Academic	Yes	E. coli
24	37.241605	-77.417983	Southwest of Gateway II Building	1.8	Fleets Branch	JA40	No	NA	Yes	No
25	37.243915	-77.420115	East River Road Extended Detention Basin	5.4	Fleets Branch	JA40	No	NA	Yes	No
27	37.232786	-77.417176	Appomattox River Overlook	0.7	Appomattox River	JA40	Yes	Academic	Yes	E. coli

Notes

- 1 - Only inclues area within VSU's MS4 regulated area.
- 2 - Based on the Virginia 2016 205(b)/303(d) Water Quality Assessment Integated Report
- 3 - Land use only added for outfalls discharging to impaired waters

VSU

Illicit Discharge Detection Summary

Inspections Conducted on April 17, 2019

Outfall ID	Potential Illicit Discharge Detected?
1	No
2	No
3	No
4	No
5	No
6	No
8	No
9	No
10	No
11	No
12	No
14	No
16	No
17	No
18	No
20	No
21	No
22	No
24	No
27	No



Stormwater Outfall Inspection

Outfall ID: 1	Date: 4/17/2019	Time: 10:06am	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Moderate
			Approx. depth of flow (in):	0.5

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	Yes	Green	1

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



 Signature

4/17/2019

 Date



Stormwater Outfall Inspection

Outfall ID: 1	Date: 4/17/2019	Time: 10:06	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA/FSA, USGS, AeroGRID, IGN, Swayze Info, Google, Swire, NOAA, GEBCO, Esri, Swire, NOAA, GEBCO, Esri. Powered by Esri

-77.41970, 37.24294

PHOTOGRAPHS



If an illicit discharge is suspected, immediately contact Capital Outlay & Facilities and complete the *Illicit Discharge Investigation Form*.
(Version 2019)



Stormwater Outfall Inspection

Outfall ID: 2	Date: 4/17/2019	Time: 10:14am	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	Yes	Other: Trash	1
Pipe Benthic Growth	No	NA	NA

Notes:
 Landscaping waste covering pipe.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

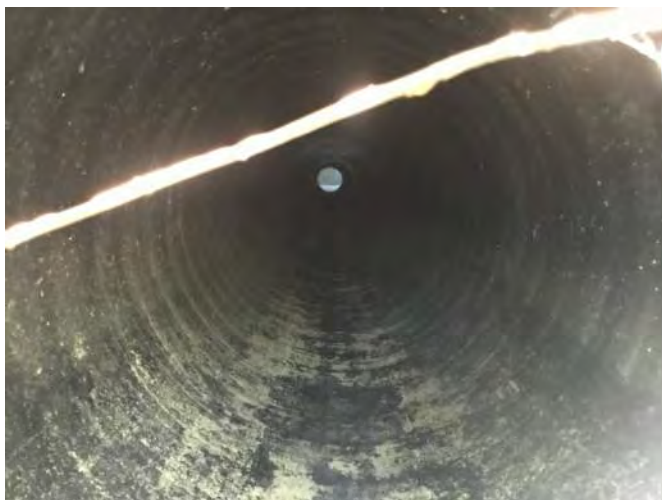
Outfall ID: 2	Date: 4/17/2019	Time: 10:14am	Inspector: MSW
---------------	-----------------	---------------	----------------

VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41946, 37.24257

PHOTOGRAPHS



If an illicit discharge is suspected, immediately contact Capital Outlay & Facilities and complete the *Illicit Discharge Investigation Form*.
(Version 2019)



Stormwater Outfall Inspection

Outfall ID: 3	Date: 4/17/2019	Time: 10:21am	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Moderate
			Approx. depth of flow (in):	0.75

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
 Flow is backwater influenced.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 3	Date: 4/17/2019	Time: 10:21am	Inspector: MSW
---------------	-----------------	---------------	----------------

VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri

-77.41883, 37.24181

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 4	Date: 4/17/2019	Time: 10:27am	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
Weather history can be found at: https://www.wunderground.com/weather/us/va/virginia-state-university		

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Trickle
			Approx. depth of flow (in):	0.05

POTENTIAL POLLUTANT INDICATORS

Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	Yes	Green	1

Notes:
 Landscape waste discarded on outfall.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."

Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 4	Date: 4/17/2019	Time: 10:27am	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41845, 37.24153

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 4	Date: 4/17/2019	Time: 10:32am	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
 Tough to access due to overgrowth.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 4	Date: 4/17/2019	Time: 10:32am	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri

-77.41818, 37.24170

PHOTOGRAPHS



If an illicit discharge is suspected, immediately contact Capital Outlay & Facilities and complete the *Illicit Discharge Investigation Form*.
(Version 2019)



Stormwater Outfall Inspection

Outfall ID: 6	Date: 4/17/2019	Time: 10:43am	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Trickle
			Approx. depth of flow (in):	0.25

POTENTIAL POLLUTANT INDICATORS

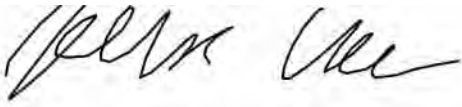
Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

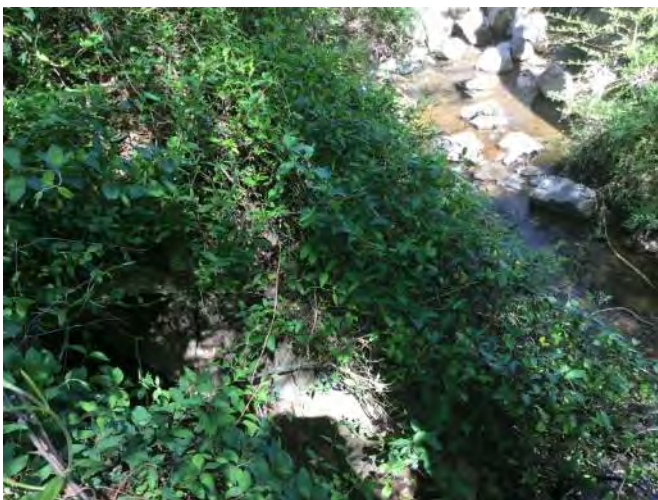
Outfall ID: 6	Date: 4/17/2019	Time: 10:43am	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41813, 37.24131

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 8	Date: 4/17/2019	Time: 12:35pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
Weather history can be found at: https://www.wunderground.com/weather/us/va/virginia-state-university		

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Trickle
			Approx. depth of flow (in):	0.05

POTENTIAL POLLUTANT INDICATORS

Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."

Signature

4/17/2019

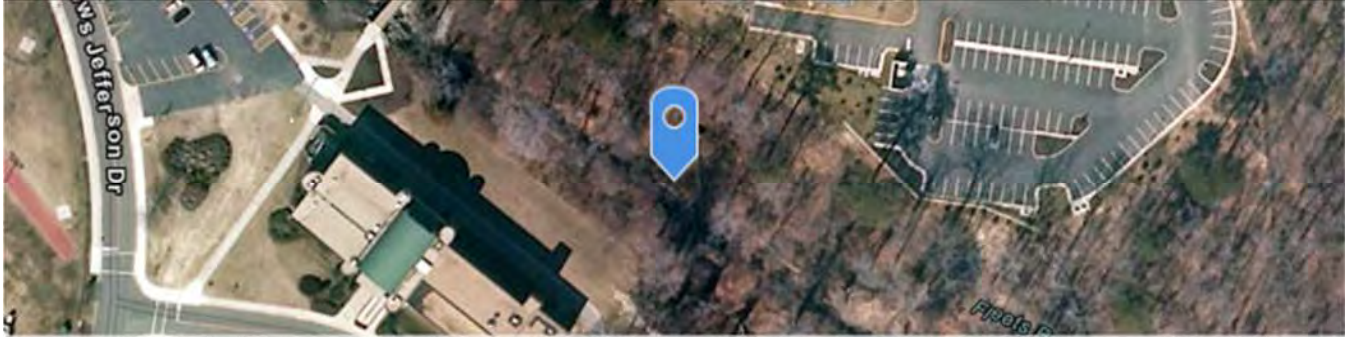
Date



Stormwater Outfall Inspection

Outfall ID: 8	Date: 4/17/2019	Time: 12:35pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41749, 37.24106

PHOTOGRAPHS



If an illicit discharge is suspected, immediately contact Capital Outlay & Facilities and complete the *Illicit Discharge Investigation Form*.
(Version 2019)



Stormwater Outfall Inspection

Outfall ID: 9	Date: 4/17/2019	Time: 12:40pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	Yes	Other: Musty	2
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	Yes	Other: Black	2

Notes:
 Lots of trash.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

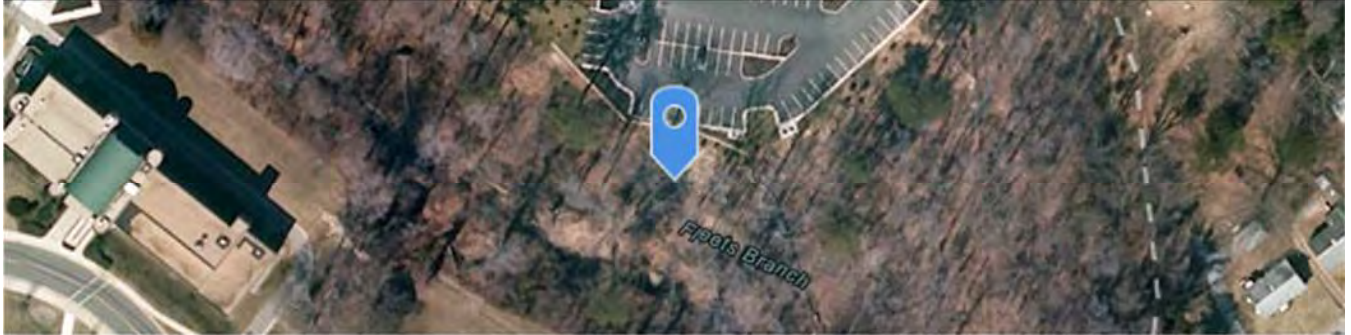
Date



Stormwater Outfall Inspection

Outfall ID: 9	Date: 4/17/2019	Time: 12:40pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41671, 37.24089

PHOTOGRAPHS



If an illicit discharge is suspected, immediately contact Capital Outlay & Facilities and complete the *Illicit Discharge Investigation Form*.
(Version 2019)



Stormwater Outfall Inspection

Outfall ID: 10	Date: 4/17/2019	Time: 1:00pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 10	Date: 4/17/2019	Time: 1:00pm	Inspector: MSW
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VICINITY MAP



PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 11	Date: 4/17/2019	Time: 1:08pm	Inspector: MSW
----------------	-----------------	--------------	----------------

LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
-----------------	-----------------	------------------

Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Moderate
			Approx. depth of flow (in):	0.8

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	Yes	Other: Swampy	2
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
 Flow is influenced by backwater and riprap.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 11	Date: 4/17/2019	Time: 1:08pm	Inspector: MSW
----------------	-----------------	--------------	----------------

VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41510, 37.23950

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 12	Date: 4/17/2019	Time: 3:08pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
-----------------	-----------------	------------------

Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS

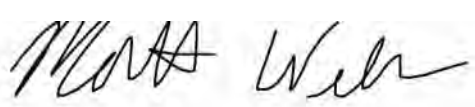
Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
 Vegetative debris on pipe.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



 Signature

4/17/2019

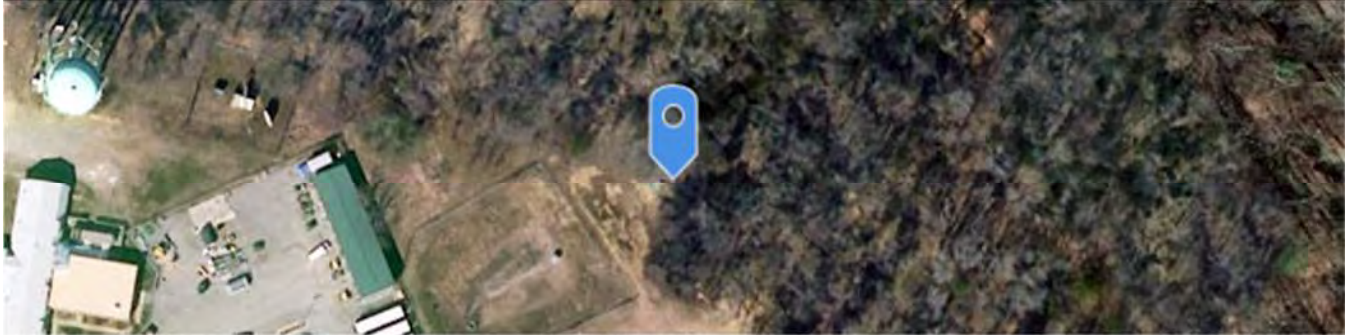
 Date



Stormwater Outfall Inspection

Outfall ID: 12	Date: 4/17/2019	Time: 3:08pm	Inspector: MSW
----------------	-----------------	--------------	----------------

VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41387, 37.23747

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 14	Date: 4/17/2019	Time: 2:19pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
Weather history can be found at: https://www.wunderground.com/weather/us/va/virginia-state-university		

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS

Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."

Signature

4/17/2019

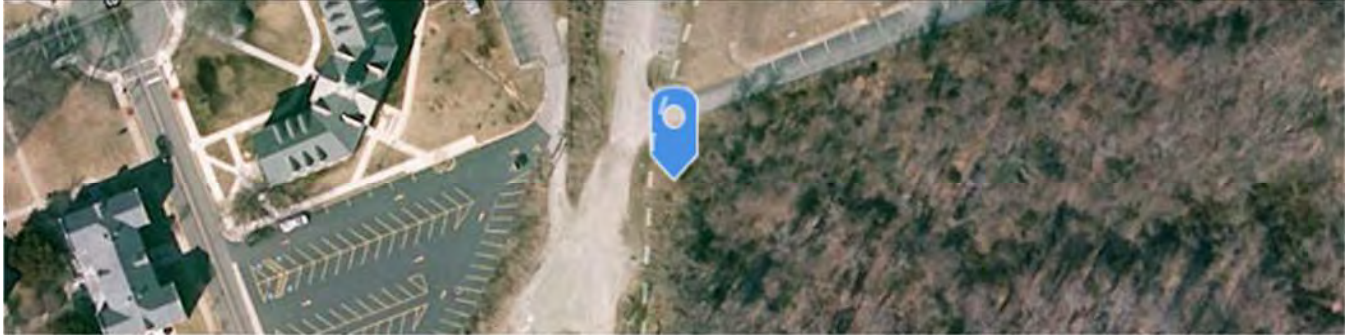
Date



Stormwater Outfall Inspection

Outfall ID: 14	Date: 4/17/2019	Time: 2:19pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41642, 37.23521

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 16	Date: 4/17/2019	Time: 2:27pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
-----------------	-----------------	------------------

Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Moderate
			Approx. depth of flow (in):	1

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
 Flow is slightly backwatered by sediment in pipe.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 16	Date: 4/17/2019	Time: 2:27pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41647, 37.23440

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 17	Date: 4/17/2019	Time: 2:49pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 17	Date: 4/17/2019	Time: 2:49pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41645, 37.23409

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 18	Date: 4/17/2019	Time: 2:06pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
Weather history can be found at: https://www.wunderground.com/weather/us/va/virginia-state-university		

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Moderate
			Approx. depth of flow (in):	0.2

POTENTIAL POLLUTANT INDICATORS

Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	Yes	Other, Sewage: Skunky	1
Turbidity	No	See Severity Index	NA
Floatables	Yes	Other: Scum	1
Deposits/Stains	No	NA	NA
Poor Pool Quality	Yes	Odors, Floatables	2
Pipe Benthic Growth	No	NA	NA

Notes:
 A potential sewage odor was detected during the inspection. A follow-up inspection was conducted and the next upstream manhole was investigated. No sewage odor was detected at the next upstream manhole and it was determined that the original outfall odor was due to environmental conditions at the time of inspection.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."

Matthew Webb

Signature

4/23/2019

Date



Stormwater Outfall Inspection

Outfall ID: 18	Date: 4/17/2019	Time: 2:06pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41589, 37.23344

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 20	Date: 4/17/2019	Time: 2:37pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
Weather history can be found at: https://www.wunderground.com/weather/us/va/virginia-state-university		

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS

Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."

Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 20	Date: 4/17/2019	Time: 2:37pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41739, 37.23275

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 21	Date: 4/17/2019	Time: 2:56pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	Time: 4:00am
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Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
 Pipe looks almost completely blocked.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 21	Date: 4/17/2019	Time: 2:56pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41808, 37.23317

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 22	Date: 4/17/2019	Time: 2:51pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	Time: 4:00am
-----------------	-----------------	--------------

Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Moderate
			Approx. depth of flow (in):	0.2

POTENTIAL POLLUTANT INDICATORS


Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

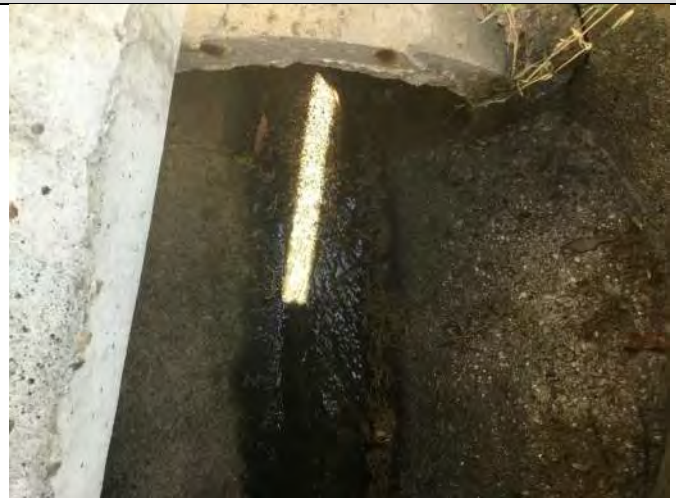
Outfall ID: 22	Date: 4/17/2019	Time: 2:51pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41861, 37.23319

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: 24	Date: 4/17/2019	Time: 10:37am	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
-----------------	-----------------	------------------

Weather history can be found at: <https://www.wunderground.com/weather/us/va/virginia-state-university>

FLOW

Present?	No	If yes:	Approx. discharge rate:	NA
			Approx. depth of flow (in):	NA

POTENTIAL POLLUTANT INDICATORS

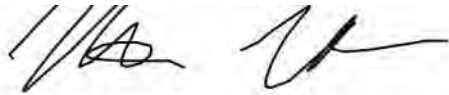
Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	No	NA	NA

Notes:
None.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."



Signature

4/17/2019

Date



Stormwater Outfall Inspection

Outfall ID: 24	Date: 4/17/2019	Time: 10:37am	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41798, 37.24163

PHOTOGRAPHS





Stormwater Outfall Inspection

Outfall ID: New	Date: 4/17/2019	Time: 2:35pm	Inspector: MSW
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LAST RAINFALL

Depth (in): 0.5	Date: 4/15/2019	End Time: 4:00am
Weather history can be found at: https://www.wunderground.com/weather/us/va/virginia-state-university		

FLOW

Present?	Yes	If yes:	Approx. discharge rate:	Trickle
			Approx. depth of flow (in):	0.1

POTENTIAL POLLUTANT INDICATORS

Indicator	Present?	Description	Relative Severity Index (1-3)
Odor	No	NA	NA
Turbidity	No	See Severity Index	NA
Floatables	No	NA	NA
Deposits/Stains	No	NA	NA
Poor Pool Quality	No	NA	NA
Pipe Benthic Growth	Yes	Green	1

Notes:
 Newly constructed outfall. Need to add to inventory.

CERTIFICATION:

If no suspected illicit discharge is identified, certify the following:

"I certify that the outfall inspection is complete and that no illicit discharge is evident at this time."

 Signature

4/17/2019

 Date



Stormwater Outfall Inspection

Outfall ID: New	Date: 4/17/2019	Time: 2:35pm	Inspector: MSW
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VICINITY MAP



Sources: Esri, DigitalGlobe, Earthstar Geographics, CNES/Airbus DS, GeoEye, USDA FSA, USGS, Ae... Powered by Esri
-77.41723, 37.23276

PHOTOGRAPHS



Appendix MCM 4

07/01/19-06/30/20 Planned and Ongoing Land Disturbing Activities

Project Name	Project Location	Project Description	Estimated Disturbed Area Acreage	Approximate Start Date	Approximate Completion Date	On-site Project Manager Name	On-site Project Manager Contact Information	Responsible Land Disturber Permit Number	Operator Name	VAR10 Registration Number
Drainage Improvements/ Stormwater Master Plan	VSU Campus	Install drainage improvements and water quality improvements proposed in the Stormwater Master Plan and related to the implementation of the Campus Master Plan 20/20 Vision	276.7	7/1/2014	6/30/2019, with renewal anticipated	As noted by project below	As noted below by project	As noted by project below	Virginia State University	VAR10-9268
Trunk Storm Extension Phase 3 & 4	VSU Campus, Virginia Credit Union, and Chesterfield County	Install Trunk Storm Extension, Phase 3 & 4 per plan	3.64	7/1/2019	3/1/2020	Jonathan Taylor	(804) 504-7500	RLD25314 Brian Dickerson	Virginia State University	VAR10-9268

Appendix MCM 5



BMP ID# 1	Date/Time 12/19/2018 9:50:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Roof Size: 4'x6'			
BMP ID #: 4		Date/Time: 12/19/2018 10:14:00 AM			
Component	Yes / No	Comments:			
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	No				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	Yes				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	-	21			
Allowed Range (in.):	16" – 18"	23" – 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	2		Damage to plant(s)?	No	
Width at Widest Point (ft.):	9		Plant(s) replaced?	No	



BMP ID# 4	Date/Time 12/19/2018 10:14:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**

Date

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Roof Size: 4'x6'			
BMP ID #: 5		Date/Time: 12/19/2018 10:08:00 AM			
Component	Yes / No	Comments:			
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	No				
Waste					
Silt/Clay	No				
Cups/Bags/Trash	No				
Leaves	No				
Other	No				
Erosion Control					
Netting in Need of Replacement?	Yes				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	-	17.5			
Allowed Range (in.):	16" – 18"	23" – 25"			
<p>Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.</p>					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	7.5		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	2		Damage to plant(s)?	No	
Width at Widest Point (ft.):	8		Plant(s) replaced?	No	



BMP ID# 5	Date/Time 12/19/2018 10:08:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Roof Size: 4'x6'	
BMP ID #: 6		Date/Time: 12/19/2018 10:21:00 AM	
Component	Yes / No	Comments:	
Initial Observations			
Standing Water?	No		
Damage to Box Structure?	No		
Damage to Grate?	No		
Is Bypass Clear?	Yes		
Waste			
Silt/Clay	No		
Cups/Bags/Trash	No		
Leaves	Yes		
Other	No		
Erosion Control			
Netting in Need of Replacement?	No		
Stones in Need of Replacement?	No		
Mulch			
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments
Measured (in.):	-	16	
Allowed Range (in.):	16" – 18"	23" – 25"	
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.			
Amount of Mulch to be Added or Replaced:			
Type of Mulch to be Added or Replaced:			
Date Mulch Added or Replaced:			
Plantings			
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.			
Plant Information	#1	#2	#1 #2
Height Above Grate (ft.):	8		Health of plant(s) Alive
Stem Diameter/Caliper (in.):	2		Damage to plant(s)? No
Width at Widest Point (ft.):	7		Plant(s) replaced? No



BMP ID# 6	Date/Time 12/19/2018 10:21:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**

Date

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Curb Size: 6'x8'			
BMP ID #: 7		Date/Time: 12/19/2018 11:14:00 AM			
Component	Yes / No	Comments:			
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	Yes				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	13	-			
Allowed Range (in.):	16" – 18"	23" – 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	6		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	4		Damage to plant(s)?	No	
Width at Widest Point (ft.):	8		Plant(s) replaced?	No	



BMP ID# 7	Date/Time 12/19/2018 11:14:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



Filterra BMPS Inspection & Maintenance Checklist

Inspector Name: JLM			Type of BMP: Curb Size: 6'x8'		
BMP ID #: 8			Date/Time: 12/19/2018 11:06:00 AM		
Component	Yes / No		Comments:		
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	Yes				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No		Tree is growing into grate		
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	14	-			
Allowed Range (in.):	16" – 18"	23" – 25"			
<p>Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved.</p> <p>If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media.</p> <p>Do not overfill unit with mulch;</p> <p style="padding-left: 40px;">for inlet units, mulch should not exceed bottom of inlet throat, and</p> <p style="padding-left: 40px;">for roof units, mulch should not impede bypass piping or splash blocks.</p>					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	9		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	1.75		Damage to plant(s)?	No	
Width at Widest Point (ft.):	10		Plant(s) replaced?	No	



BMP ID# 8	Date/Time 12/19/2018 11:06:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector Date

If maintenance is required, provide a time frame for maintenance completion: Prior to next inspection

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector Date

12/21/2018

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Curb Size: 6'x8'			
BMP ID #: 9		Date/Time: 12/19/2018 10:58:00 AM			
Component	Yes / No	Comments:			
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	No				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	13.5	-			
Allowed Range (in.):	16" – 18"	23" – 25"			
<p>Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.</p>					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	11		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	4		Damage to plant(s)?	No	
Width at Widest Point (ft.):	10		Plant(s) replaced?	No	



BMP ID# 9	Date/Time 12/19/2018 10:58:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector

Date

If maintenance is required, provide a time frame for maintenance completion: Prior to next inspection

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

Signature of Inspector

12/21/2018

Date

Next inspection date: Spring 2019



Filtrerra BMPS
Inspection & Maintenance Checklist

Inspector Name: JLM			Type of BMP: Curb Size: 7'x13'		
BMP ID #: 10			Date/Time: 12/19/2018 10:52:00 AM		
Component	Yes / No		Comments:		
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	Yes				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	10	-			
Allowed Range (in.):	16" – 18"	23" – 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	12	0	Health of plant(s)	Alive	Dead
Stem Diameter/Caliper (in.):	3	0	Damage to plant(s)?	No	Yes
Width at Widest Point (ft.):	8	0	Plant(s) replaced?	No	No



BMP ID# 10	Date/Time 12/19/2018 10:52:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM			Type of BMP: Curb Size: 4'x12'		
BMP ID #: 11			Date/Time: 12/19/2018 10:46:00 AM		
Component	Yes / No		Comments:		
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	Yes				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	Yes				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra		Roof Filterra	Comments	
Measured (in.):	13		-		
Allowed Range (in.):	16" – 18"		23" – 25"		
<p>Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.</p>					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8	9	Health of plant(s)	Alive	Alive
Stem Diameter/Caliper (in.):	1.5	2	Damage to plant(s)?	No	No
Width at Widest Point (ft.):	6	7	Plant(s) replaced?	No	No



BMP ID# 11	Date/Time 12/19/2018 10:46:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Curb Size: 4'x8'			
BMP ID #: 12		Date/Time: 12/19/2018 10:36:00 AM			
Component	Yes / No			Comments:	
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	No				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	Yes				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	15	-			
Allowed Range (in.):	16" – 18"	23" – 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	7.5		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	2.5		Damage to plant(s)?	No	
Width at Widest Point (ft.):	5		Plant(s) replaced?	No	



BMP ID# 12	Date/Time 12/19/2018 10:36:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



Filtrerra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM			Type of BMP: Curb Size: 4'x6'		
BMP ID #: 13			Date/Time: 12/19/2018 10:29:00 AM		
Component	Yes / No		Comments:		
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	Yes				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filtrerra	Roof Filtrerra	Comments		
Measured (in.):	10	-			
Allowed Range (in.):	16" – 18"	23" – 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	10.5		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	3.25		Damage to plant(s)?	No	
Width at Widest Point (ft.):	9		Plant(s) replaced?	No	



BMP ID# 13	Date/Time 12/19/2018 10:29:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



BMP ID# 19	Date/Time 12/19/2018 12:03:00 PM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**

Date

Next inspection date: Spring 2019



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Roof Size: 4'x6'			
BMP ID #: 20		Date/Time: 12/19/2018 12:11:00 PM			
Component	Yes / No			Comments:	
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	No				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra		Roof Filterra	Comments	
Measured (in.):	-		20		
Allowed Range (in.):	16" – 18"		23" – 25"		
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	10		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	2		Damage to plant(s)?	No	
Width at Widest Point (ft.):	4		Plant(s) replaced?	No	



Filterra BMPS

Inspection & Maintenance Checklist

Inspector Name: JLM		Type of BMP: Roof Size: 6'x6'			
BMP ID #: 21		Date/Time: 12/19/2018 12:28:00 PM			
Component	Yes / No	Comments:			
Initial Observations					
Standing Water?	No				
Damage to Box Structure?	No				
Damage to Grate?	No				
Is Bypass Clear?	Yes				
Waste					
Silt/Clay	No				
Cups/Bags/Trash	Yes				
Leaves	Yes				
Other	No				
Erosion Control					
Netting in Need of Replacement?	No				
Stones in Need of Replacement?	No				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	-	23.5			
Allowed Range (in.):	16" – 18"	23" – 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:					
Type of Mulch to be Added or Replaced:					
Date Mulch Added or Replaced:					
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8		Health of plant(s)	Alive	
Stem Diameter/Caliper (in.):	1.75		Damage to plant(s)?	No	
Width at Widest Point (ft.):	5		Plant(s) replaced?	No	



BMP ID# 21	Date/Time 12/19/2018 12:28:00 PM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector **Date**

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector **12/21/2018**
Date

Next inspection date: Spring 2019



BMP ID# 43	Date/Time 12/19/2018 11:37:00 AM
Notes:	

Certification:

If no maintenance is required, certify the following:


"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector _____
Date

If maintenance is required, provide a time frame for maintenance completion: **Prior to next inspection**

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."



Signature of Inspector _____
Date **12/21/2018**

Next inspection date: Spring 2019



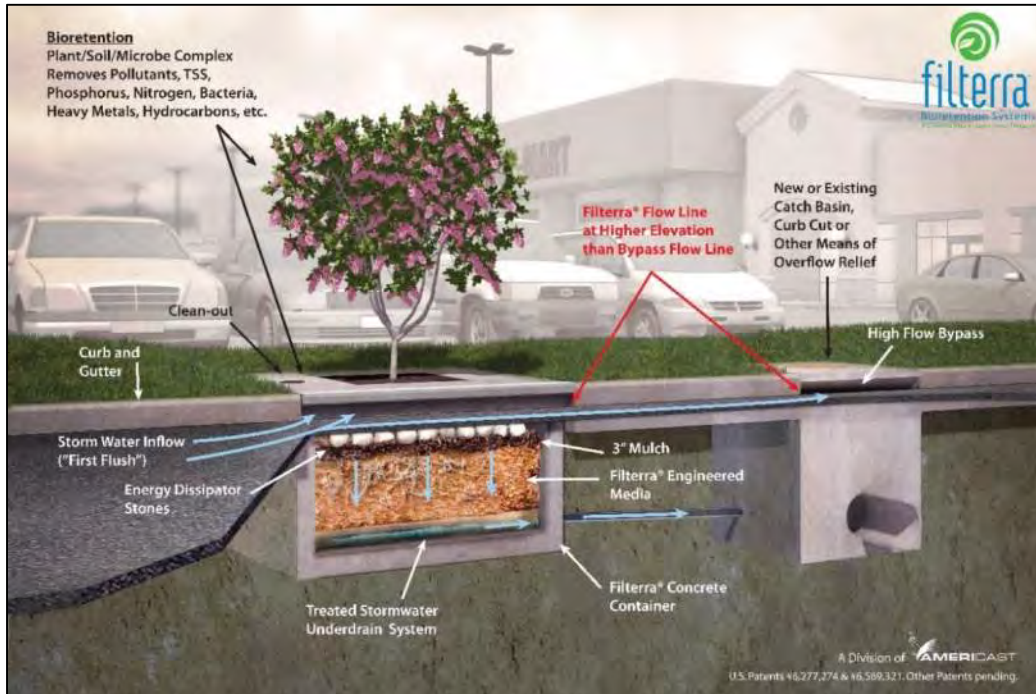
BMP 1-6, 16-21: Roof Inlet Filterra (Typ.)



Roof Inlet Filterra Cross Section (Typ.)



BMP 7-13, 41-44: Curb Inlet Filterra (Typ.)



Roof Inlet Filterra Cross Section (Typ.)



Silt/Clay within Filterra (Typ.)



Cups/Bags/Trash within Filterra (Typ.)



Leaves within Filterra (Typ.)



Netting in Need of Replacement (Typ.)



Stone Replacement within Roof Inlet Filterra (Typ.)




Stone Replacement within Curb Inlet Filterra (Typ.)

Basin - General

Please fill in the appropriate answer and attach any comments for each of the sections that are necessary. Please put the pictures on your drives and label them so that they can be attached later.

BMP Inspection




▼ BMP ID & Type

SWMID *


General BMP Type
Basin

Specific BMP Type
Extended Detention - IIC

BMP Function

Inspector Name *
 

Inspection Type *
 Annual Inspection
 Semiannual Inspection
 Weather-related Inspection
 Reinspection



Inspection Date *

Date 1/22/19

Next inspection date

Date 1/22/20

BMP Inspection

▼ **Accessibility**

The BMP is accessible.

Yes No N/A

Access road eroded or in need of repair

Yes No N/A

Brush or vines on fence

Yes No N/A

Fence damaged and repairs needed

Yes No N/A

Gate locked

Yes No N/A

Accessibility Rating *

A - No problem B - Minor C - Moderate D - Major E - Failure

Accessibility Notes

[Empty text box for notes]



▼ Inlet, Inlet Channel and Forebay

Erosion of inlet channel

Yes

No

N/A

Inlet end section or headwall has separated from inlet pipe

Yes

No

N/A

Inlet partially blocked

Yes

No

N/A

Inlet is blocked with silt, sediment, or trash

Yes

No

N/A

Silt and sediment has filled in significant portions of sediment forebay

Yes

No

N/A

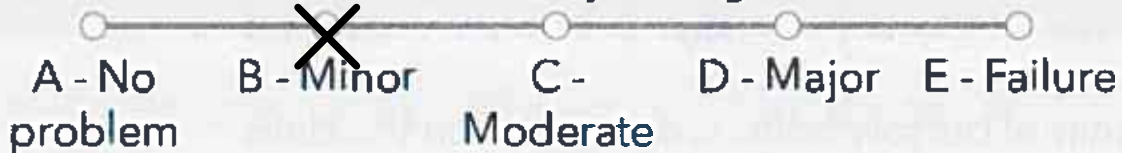
Forebay embankment or riprap eroded or damaged

Yes

No

N/A

Inlet, Inlet Channel and Forebay Rating *



Inlet Notes



▼ Dam Embankment

Dam was found to be largely overgrown with briars/ weeds

- Yes No N/A

Trees or brush growing on embankment

- Yes No N/A

Settlement was noted on the dam

- Yes No N/A

Inadequate cover on dam slopes

- Yes No N/A

Erosion was noted on the dam

- Yes No N/A

Piping was noted on the dam

- Yes No N/A

Slope slippage was noted on the dam

- Yes No N/A

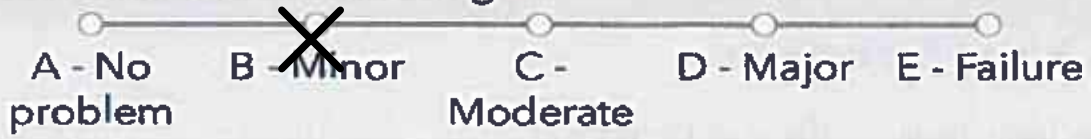
Animal burrow holes were noted on the dam

- Yes No N/A

Downstream seepage noted

- Yes No N/A

Dam Embankment Rating *



Dam Embankment Notes

[Empty text box for Dam Embankment Notes]

✕ BMP Inspection ☰

▼ Emergency Spillway

Eroding or backcutting

Yes

No

~~X~~ N/A

Obstructed

Yes

No

~~X~~ N/A

Non-operational

Yes

No

~~X~~ N/A

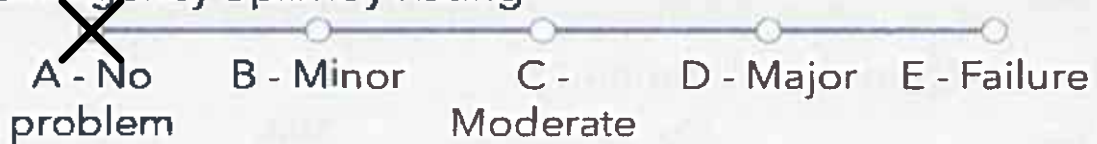
Trees or brush present

Yes

No

~~X~~ N/A

Emergency Spillway Rating *



Emergency Spillway Notes

[Empty text box for Emergency Spillway Notes]



BMP Inspection



▼ Outlet Structure

The low-flow orifice is blocked

Yes

No

N/A

The low-flow trash rack is missing or damaged

Yes

No

N/A

The upper stage orifice is blocked

Yes

No

N/A

The upper stage orifice trash rack is missing or damaged

Yes

No

N/A

The riser top overflow spillway is blocked

Yes

No

N/A

The riser top overflow trash rack is damaged or missing

Yes

No

N/A

The riser is filled with excess material

Yes

No

N/A

The structure is damaged or deteriorated

Yes

No

N/A

The structure is undermined

Yes

No

N/A

The riser structure has separated from the PSP

Yes

No

N/A

Valves or locks are non-operational

Yes

No

N/A





BMP Inspection



Outlet Structure/Riser Rating *

A - No problem B - Minor C - Moderate D - Major E - Failure

Outlet Structure/Riser Notes

▼ Illicit discharge (IDDE)

Evidence of illicit discharge (IDDE)?

Yes No N/A

Include email for reporting to IDDEReports@vdot.virginia.gov When adding additional fields to cover multiple bmp types, add underscore for general bmp types

IDDE Notes



BMP Inspection



▼ Principal Spillway Pipe (PSP)

The PSP is blocked

Yes

No

N/A

One or more joints are leaking

Yes

No

N/A

One or more sections of pipe are cracked, damaged or settled

Yes

No

N/A

End sections or headwall has separated from PSP

Yes

No

N/A

Principal Spillway Pipe Rating *

A - No problem

B - Minor

C - Moderate

D - Major

E - Failure

Principal Spillway Pipe Notes

▼ Outfall Channel

The outfall channel is blocked

Yes

No

N/A

The outfall channel is eroding

Yes

No

N/A

Outfall protection is deteriorating

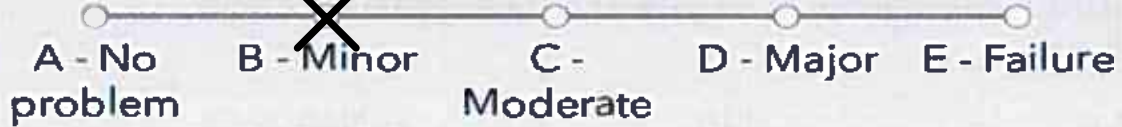
Yes

No

N/A



Outfall Channel Rating *



Outfall Channel Notes

Erosion adjacent to riprap on west side at outfall

▼ Impoundment Area

There is large debris or excessive trash in the basin

Yes No N/A

Inadequate aquatic plantings

Yes No N/A

Abnormal ponding of water in basin

Yes No N/A

Inadequate vegetative cover or erosion occurring on side slopes or basin floor

Yes No N/A

The low-flow ditch system is blocked on side slopes or basin floor

Yes No N/A

There is damage to the low-flow ditch system

Yes No N/A

Sediment has impacted approx. 50% of dry pond's total volume

Yes No N/A



Aquatic overgrowth or other impacts to storage volume

Yes No N/A

Impoundment Area Rating *



Impoundment Area Notes

Currently no sediment buildup in front of riser. However, the level of the low flow orifice is significantly below the grade of the basin floor. A forbay may need to be installed to prevent the low flow orifice from becoming blocked, causing negative impacts.

Weather-related Inspection

Weather-related Inspection Required

Yes No N/A

Weather-related completed by

Weather-related date

Date ▼

Description of weather event

BMP Notes

▼ **Overall Rating**

Overall BMP Rating

B



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: 1		Date/Time: 6-13-19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23'			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8.2'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	1.7'		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	9.3'		Plant(s) replaced?	Y / N	Y / N



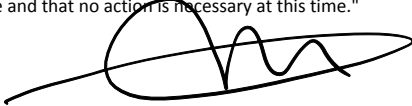
BMP ID #: 1	Date/Time: 6/13/19 8 am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/13/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: 2		Date/Time: 6-13-19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6-12-19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	7.7'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	1.5"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	6.2'		Plant(s) replaced?	Y / N	Y / N



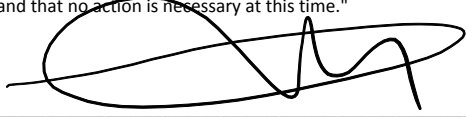
BMP ID #: 2	Date/Time: 6/13/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date **6/13/19**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 6x4		
BMP ID #: 3		Date/Time: 6/13/19 8 am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	no				
Type of Mulch to be Added or Replaced:	no				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8.2'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	3"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	6.8'		Plant(s) replaced?	Y / N	Y / N




BMP ID #: 3	Date/Time: 6/13/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

6/13/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: 4		Date/Time: 6/13/19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	N6				
Type of Mulch to be Added or Replaced:	N0				
Date Mulch Added or Replaced:	6/12/18				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	7.2'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	3"		Damage to plant(s)?	Y N	Y / N
Width at Widest Point (ft.):	9.3'		Plant(s) replaced?	Y / N	Y / N



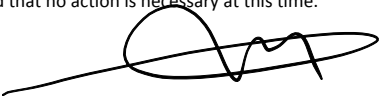
BMP ID #: 3 Date/Time: 6/13/19 8am

Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."

 6/13/19
Signature of Inspector Date

If maintenance is required, provide a time frame for maintenance completion: _____

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

Signature of Inspector Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 6x4		
BMP ID #: 5		Date/Time: 6/13/19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	7.7'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	4"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	8.2'		Plant(s) replaced?	Y / N	Y / N




BMP ID #: 5	Date/Time: 6/13/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/13/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: 6		Date/Time: 6/13/19 8 am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8.3'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	2.5"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	5.7'		Plant(s) replaced?	Y / N	Y / N



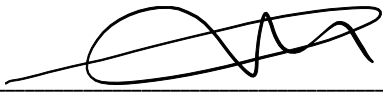
BMP ID #: 6	Date/Time: 6/13/19
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/13/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 6x8		
BMP ID #: 7		Date/Time: 6/13/19 8AM			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N NA				
Stones in Need of Replacement?	Y N NA				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	14"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8.3'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	4"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	5.2'		Plant(s) replaced?	Y / N	Y / N




BMP ID #: 7	Date/Time: 6/13/19
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

6/13/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____




BMP ID #: 5	Date/Time: 6/13/19 8 am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti		Type: Inlet / Roof	Size: 6 x 8		
BMP ID #:		Date/Time: 6/13/19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Damage to Box Structure?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Damage to Grate?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Is Bypass Clear?	<input checked="" type="radio"/> Y <input type="radio"/> N				
Waste					
Silt/Clay?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Cups/Bags/Trash?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Leaves?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Other?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Erosion Control					
Netting in Need of Replacement?	Y <input type="radio"/> N <input type="radio"/> NA <input checked="" type="radio"/>				
Stones in Need of Replacement?	Y <input type="radio"/> N <input checked="" type="radio"/> NA				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	16"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	11.3'		Health of plant(s)	<input checked="" type="radio"/> Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	5"		Damage to plant(s)?	Y / <input checked="" type="radio"/> N	Y / N
Width at Widest Point (ft.):	9.7'		Plant(s) replaced?	Y / <input checked="" type="radio"/> N	Y / N



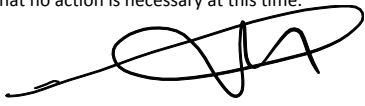
BMP ID #: 9	Date/Time: 6/13/19 Sam
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: <input checked="" type="radio"/> Inlet / <input type="radio"/> Roof	Size: 7' x 13'		
BMP ID #: 10		Date/Time: 6/13/19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y <input checked="" type="radio"/> N				
Damage to Box Structure?	Y <input checked="" type="radio"/> N				
Damage to Grate?	Y <input checked="" type="radio"/> N				
Is Bypass Clear?	<input checked="" type="radio"/> Y N				
Waste					
Silt/Clay?	Y <input checked="" type="radio"/> N				
Cups/Bags/Trash?	Y <input checked="" type="radio"/> N				
Leaves?	Y <input checked="" type="radio"/> N				
Other?	Y <input checked="" type="radio"/> N				
Erosion Control					
Netting in Need of Replacement?	Y N <input checked="" type="radio"/> NA				
Stones in Need of Replacement?	Y <input checked="" type="radio"/> N NA				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	16"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	12.2'	12.3'	Health of plant(s)	<input checked="" type="radio"/> Alive <input type="radio"/> Dead	<input checked="" type="radio"/> Alive <input type="radio"/> Dead
Stem Diameter/Caliper (in.):	4.5"	4.5"	Damage to plant(s)?	Y / <input checked="" type="radio"/> N	Y / <input checked="" type="radio"/> N
Width at Widest Point (ft.):	8.2'	8.4'	Plant(s) replaced?	Y / <input checked="" type="radio"/> N	Y / <input checked="" type="radio"/> N




BMP ID #: 10	Date/Time: 6/13/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filtrerra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti		Type: Inlet / Roof		Size: 4x12	
BMP ID #: 11		Date/Time: 6/13/19 8am			
Component	(Circle Y/N)		Comments		
Initial Observations					
Standing Water?	Y	N			
Damage to Box Structure?	Y	N			
Damage to Grate?	Y	N			
Is Bypass Clear?	Y	N			
Waste					
Silt/Clay?	Y	N			
Cups/Bags/Trash?	Y	N			
Leaves?	Y	N			
Other?	Y	N			
Erosion Control					
Netting in Need of Replacement?	Y	N	NA		
Stones in Need of Replacement?	Y	N	NA		
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	16"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8.2'	8.2'	Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	3.5"	3.75"	Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	6.3'	7.2'	Plant(s) replaced?	Y / N	Y / N




BMP ID #: 11	Date/Time: 6/13/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/13/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti		Type: Inlet / Roof		Size: 4x8	
BMP ID #: 12		Date/Time: 6/13/19 8 am			
Component	(Circle Y/N)		Comments		
Initial Observations					
Standing Water?	Y	N			
Damage to Box Structure?	Y	N			
Damage to Grate?	Y	N			
Is Bypass Clear?	Y	N			
Waste					
Silt/Clay?	Y	N			
Cups/Bags/Trash?	Y	N			
Leaves?	Y	N			
Other?	Y	N			
Erosion Control					
Netting in Need of Replacement?	Y	N	NA		
Stones in Need of Replacement?	Y	N	NA		
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	16"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	7.7'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	4"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	5.2'		Plant(s) replaced?	Y / N	Y / N




BMP ID #: 12	Date/Time: 6/13/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: B		Date/Time: 6/13/19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Damage to Box Structure?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Damage to Grate?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Is Bypass Clear?	<input checked="" type="radio"/> Y <input type="radio"/> N				
Waste					
Silt/Clay?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Cups/Bags/Trash?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Leaves?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Other?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Erosion Control					
Netting in Need of Replacement?	Y <input type="radio"/> N <input type="radio"/> NA <input checked="" type="radio"/>				
Stones in Need of Replacement?	Y <input type="radio"/> N <input checked="" type="radio"/> NA				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	16"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/12/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	10.2'		Health of plant(s)	<input checked="" type="radio"/> Alive / <input type="radio"/> Dead	Alive / Dead
Stem Diameter/Caliper (in.):	5.5"		Damage to plant(s)?	Y / <input checked="" type="radio"/> N	Y / N
Width at Widest Point (ft.):	9.3'		Plant(s) replaced?	Y / <input checked="" type="radio"/> N	Y / N




BMP ID #: 13	Date/Time: 6/13/19 8 am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

6/13/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**

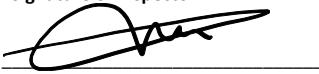
Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWEN 1269			Type of BMP: Underground Storage Vault
BMP ID #: 15			Date/Time: 6/14/19 8am
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	Y	N	less than 2"
B. Trash/debris present?	Y	N	minimal
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 15		Date/Time: 6/14/19 8am	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (if applicable)?	n/a	n/a	
F. Undercutting at the outlet?	n/a	N	
G. Outlet channel scour?	n/a	N	

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: 
 Date: 6/14/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____
 Date: _____

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: 16		Date/Time: 6/14/19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/13/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	9.2'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	3"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	5.9'		Plant(s) replaced?	Y / N	Y / N



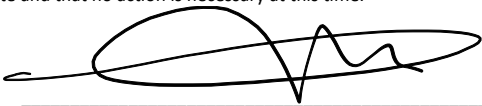
BMP ID #: 16	Date/Time: 6/14/19 8 am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



Signature of Inspector

6/14/19

Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

Signature of Inspector

Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: 17		Date/Time: 6/14/19 8am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y <input checked="" type="radio"/> N				
Damage to Box Structure?	Y <input checked="" type="radio"/> N				
Damage to Grate?	Y <input checked="" type="radio"/> N				
Is Bypass Clear?	<input checked="" type="radio"/> Y N				
Waste					
Silt/Clay?	Y <input checked="" type="radio"/> N				
Cups/Bags/Trash?	Y <input checked="" type="radio"/> N				
Leaves?	Y <input checked="" type="radio"/> N				
Other?	Y <input checked="" type="radio"/> N				
Erosion Control					
Netting in Need of Replacement?	Y N <input checked="" type="radio"/> NA				
Stones in Need of Replacement?	Y <input checked="" type="radio"/> N NA				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overfill unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/13/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	10.4'		Health of plant(s)	<input checked="" type="radio"/> Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	4"		Damage to plant(s)?	<input checked="" type="radio"/> Y N	Y / N
Width at Widest Point (ft.):	6.9'		Plant(s) replaced?	<input checked="" type="radio"/> Y N	Y / N




BMP ID #: 17	Date/Time: 6/14/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



Signature of Inspector

6/14/19

Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

Signature of Inspector

Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof		Size: 4x6	
BMP ID #: 18		Date/Time: 6/14/19 8am			
Component	(Circle Y/N)		Comments		
Initial Observations					
Standing Water?	Y	N			
Damage to Box Structure?	Y	N			
Damage to Grate?	Y	N			
Is Bypass Clear?	Y	N			
Waste					
Silt/Clay?	Y	N			
Cups/Bags/Trash?	Y	N			
Leaves?	Y	N			
Other?	Y	N			
Erosion Control					
Netting in Need of Replacement?	Y	N	NA		
Stones in Need of Replacement?	Y	N	NA		
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/13/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	16.3'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	5"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	6.8'		Plant(s) replaced?	Y / N	Y / N



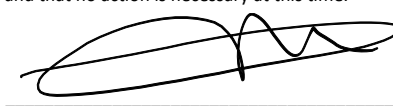
BMP ID #: 18	Date/Time: 6/14/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/14/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 4x6		
BMP ID #: 19		Date/Time: 6/14/19			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y N				
Damage to Box Structure?	Y N				
Damage to Grate?	Y N				
Is Bypass Clear?	Y N				
Waste					
Silt/Clay?	Y N				
Cups/Bags/Trash?	Y N				
Leaves?	Y N				
Other?	Y N				
Erosion Control					
Netting in Need of Replacement?	Y N	NA			
Stones in Need of Replacement?	Y N	NA			
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/13/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	15.7'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	4.5"		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	6.3"		Plant(s) replaced?	Y / N	Y / N



BMP ID #: 19	Date/Time: 6/14/19 8am
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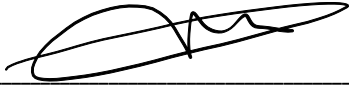
Notes:

Tree is overgrowing, continue to monitor

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/14/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____




BMP ID #: 20	Date/Time: 6/14/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

6/14/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof		Size: 6x6	
BMP ID #: 21		Date/Time: 6/14/19 8am			
Component	(Circle Y/N)		Comments		
Initial Observations					
Standing Water?	Y	N			
Damage to Box Structure?	Y	N			
Damage to Grate?	Y	N			
Is Bypass Clear?	Y	N			
Waste					
Silt/Clay?	Y	N			
Cups/Bags/Trash?	Y	N			
Leaves?	Y	N			
Other?	Y	N			
Erosion Control					
Netting in Need of Replacement?	Y	N	NA		
Stones in Need of Replacement?	Y	N	NA		
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):		23"			
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/14/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	8.3'		Health of plant(s)	Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	4'		Damage to plant(s)?	Y / N	Y / N
Width at Widest Point (ft.):	5.2'		Plant(s) replaced?	Y / N	Y / N




BMP ID #: 21	Date/Time: 6/14/19 8am
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

6/14/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



StormFilter BMP

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: Contech Stormfilter 1		
BMP ID #: 22				Date/Time: 6-12-19 8:00 am		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
I. Below Ground Vault						
Sediment accumulation top of cartridge		✓	Sediment depth exceeds 0.25 inches		✓	
Sediment accumulation in vault		✓	Sediment depth exceeds 4 inches in the first chamber		✓	
Submerged cartridges		✓	More than 4" of static water in the cartridge bay 24 hours after last rainfall event		✓	
Trash/debris accumulation		✓	Trash and debris accumulated on compost filter bed		✓	
Sediment in drain pipes or cleanouts		✓	Drain pipes and/or clean outs are full of sediment and/or debris		✓	
Damaged pipes		✓	Any part of any pipe crushed or damaged due to corrosion and/or settlement		✓	
Access cover damaged/not working		✓	Cover cannot be opened; one person cannot open the cover using normal lifting pressure; corrosion/deformation of cover		✓	
Vault structure includes cracks in wall or bottom; damage to the frame and/or top slab		✓	Cracks wider than ½ inch or evidence of soil particles entering the structure through cracks; determination that the vault is not structurally sound		✓	
			Cracks wider than ½ inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks			
Baffles		n/a	Baffles corroding, cracking, warping, and/or showing signs of failure		n/a	
Access ladder damaged		✓	Ladder is corroded or deteriorated, not functioning properly, not securely secured to the structure wall and/or missing rungs; cracks; misalignment		✓	

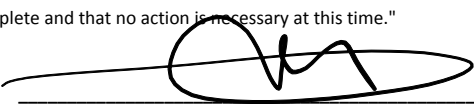


BMP ID #: 22				Date/Time: 6/12/19 8:00am		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
II. Below Ground Cartridge Type						
Filter Media		✓	Drawdown of water through the media takes longer than one hour and/or overflow occurs frequently		✓	
Short Circuiting		✓	Flows do not properly enter filter cartridges		✓	

Notes:

continue monitoring the state of cartridges for future replacement purposes.

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date **6/12/19**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



StormFilter BMP

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: contech StormFilter 2		
BMP ID #: 23				Date/Time: 6/12/19 8:00 am		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
I. Below Ground Vault						
Sediment accumulation top of cartridge		✓	Sediment depth exceeds 0.25 inches		✓	
Sediment accumulation in vault		✓	Sediment depth exceeds 4 inches in the first chamber		✓	
Submerged cartridges		✓	More than 4" of static water in the cartridge bay 24 hours after last rainfall event		✓	
Trash/debris accumulation		✓	Trash and debris accumulated on compost filter bed		✓	
Sediment in drain pipes or cleanouts		✓	Drain pipes and/or clean outs are full of sediment and/or debris		✓	
Damaged pipes		✓	Any part of any pipe crushed or damaged due to corrosion and/or settlement		✓	
Access cover damaged/not working		✓	Cover cannot be opened; one person cannot open the cover using normal lifting pressure; corrosion/deformation of cover		✓	
Vault structure includes cracks in wall or bottom; damage to the frame and/or top slab		✓	Cracks wider than ½ inch or evidence of soil particles entering the structure through cracks; determination that the vault is not structurally sound		✓	
			Cracks wider than ½ inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks			
Baffles		n/a	Baffles corroding, cracking, warping, and/or showing signs of failure		n/a	
Access ladder damaged		✓	Ladder is corroded or deteriorated, not functioning properly, not securely secured to the structure wall and/or missing rungs; cracks; misalignment		✓	

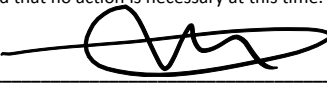


BMP ID #:				Date/Time:		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
II. Below Ground Cartridge Type						
Filter Media		✓	Drawdown of water through the media takes longer than one hour and/or overflow occurs frequently		✓	
Short Circuiting		✓	Flows do not properly enter filter cartridges		✓	

Notes:

Continue to monitor cartridges for future maintenance purposes

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date **6/12/19**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**


Inspection & Maintenance Checklist

Inspector Name: Malin Nshuti SWIN 1269		Type of BMP: Underground Detention	
BMP ID #: 24		Date/Time: 6/18/19	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	N	N	
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	n/a	N	



BMP ID #:			Date/Time:
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (If applicable)?	N/A	N	
F. Undercutting at the outlet?	N/A	N	
G. Outlet channel scour?	N/A	N	

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: 
 Date: 6/18/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____
 Date: _____

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN R69		Type of BMP: Underground CMP	
BMP ID #:		Date/Time: 6/13/19 8am	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	Y	N	2" , Keep monitoring
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 25			Date/Time: 6/13/19
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (If applicable)?	n/a	n/a	
F. Undercutting at the outlet?	n/a	n/a	
G. Outlet channel scour?	n/a	n/a	

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: [Signature] Date: 6/13/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____ Date: _____

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**


Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti		Type of BMP: underground CMP detention	
BMP ID #: 26		Date/Time: 6/13/19 8AM	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	N	N	
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	N	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 26			Date/Time: 6/13/19
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (If applicable)?	n/a	N	
F. Undercutting at the outlet?	n/a	N	
G. Outlet channel scour?	n/a	N	

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: 
 Date: 6/13/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____
 Date: _____

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**

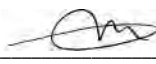
Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type of BMP: UG Detention w/ Sand Filters	
BMP ID #: 27		Date/Time: 6/19/19	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	N	N	
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 27			Date/Time: 6/19/19
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N		
E. Adequate riprap (if applicable)?	n/a		
F. Undercutting at the outlet?	n/a		
G. Outlet channel scour?	n/a		

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector:  Date: **6/19/19**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____ Date: _____

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**

Inspection & Maintenance Checklist

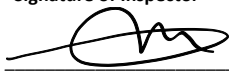
Inspector Name: Alain Nshuti SWIN 1269		Type of BMP: Underground Irrigation storage	
BMP ID #: 28		Date/Time:	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	Y	Y	12" sand and sediment spilling over weir wall
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 28		Date/Time: 6/13/19 8am	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (if applicable)?	n/a	n/a	
F. Undercutting at the outlet?	N	N	
G. Outlet channel scour?	N	N	

Notes:
 system lacks #57 stone

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector _____ Date _____

If maintenance is required, provide a time frame for maintenance completion: Before next inspection
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector  _____ Date 6/13/19

Next inspection date: _____



Detention, Retention, & Impoundment BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN1269		Type of BMP: Extended Detention Basin		
BMP ID #: 29		Date/Time: 6-11-19 9:30		
Component	Yes	No	N/A	Comments
I. Embankment				
A. Top				
1. Visual settlement		✓		
2. Misalignment		✓		
3. Cracking		✓		
B. Upstream Slope				
1. Erosion		✓		
2. Adequate groundcover	✓			
3. Trees, shrubs, or other vegetation	✓			
4. Cracks, settlements, or bulges		✓		
5. Rodent holes		✓		
C. Downstream Slope				
1. Erosion		✓		
2. Adequate groundcover	✓			
3. Trees, shrubs, or other vegetation	✓			
4. Cracks, settlements, or bulges	✓			
5. Rodent holes		✓		
E. Drainage/seepage control				
1. Internal drains flowing	✓			
2. Seepage at toe		✓		
II. Emergency Spillway				
1. Eroding or backcutting			✓	
2. Obstruction			✓	
3. Leaking			✓	
4. Operational			✓	




BMP ID #: 29			Date/Time: 6/12/19 8:00 am	
Component	Yes	No	N/A	Comments
III. Principal Spillway Barrel				
1. Seepage into pipe			✓	
2. Debris present			✓	
3. Displaced or offset joints			✓	
IV. Outlet Protection/Stilling Basin				
1. Obstruction		✓		
2. Adequate riprap			✓	
3. Undercutting at the outlet		✓		
4. Outlet channel scour		✓		
V. Internal Basin Area				
A. Low Flow Channel*				
1. Erosion		✓		
2. Adequate vegetation	✓			
3. Obstruction		✓		
B. Basin Bottom & Side Slopes				
1. Erosion		✓		
2. Adequate stabilization	✓			
3. Sediment accumulation		✓		
4. Floating debris		✓		
5. High water marks		✓		
6. Shoreline protection			✓	
C. Inflow Channels/Pipes				
1. Erosion		✓		
2. Adequate stabilization	✓			
3. Undercutting		✓		
4. Obstruction		✓		
D. Sediment Forebay				
1. Sediment accumulation			✓	
2. Stable overflow into basin			✓	
E. Upland Landscaping				
F. Aquatic Landscaping				
*Only applies to Extended Detention Facilities				



BMP ID #: 29			Date/Time: 6/12/19	
Component	Yes	No	N/A	Comments

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: 
 Date: 6/12/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____
 Date: _____

Next inspection date: _____



Detention, Retention, & Impoundment BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti, SWIN 1269		Type of BMP: Retention Basin Type III		
BMP ID #: 30		Date/Time: 6-11 / 9:00 am		
Component	Yes	No	N/A	Comments
I. Embankment				
A. Top				
1. Visual settlement		✓		
2. Misalignment		✓		
3. Cracking		✓		
B. Upstream Slope				
1. Erosion		✓		
2. Adequate groundcover	✓			
3. Trees, shrubs, or other vegetation	✓			
4. Cracks, settlements, or bulges		✓		
5. Rodent holes		✓		
C. Downstream Slope				
1. Erosion		✓		
2. Adequate groundcover	✓			
3. Trees, shrubs, or other vegetation	✓			
4. Cracks, settlements, or bulges		✓		
5. Rodent holes		✓		
E. Drainage/seepage control				
1. Internal drains flowing		✓		
2. Seepage at toe		✓		
II. Emergency Spillway				
1. Eroding or backcutting		✓		
2. Obstruction		✓		
3. Leaking		✓		
4. Operational	✓			



BMP ID #: 30			Date/Time: 6-11-19 9:00 am	
Component	Yes	No	N/A	Comments
III. Principal Spillway Barrel				
1. Seepage into pipe		✓		
2. Debris present	✓			
3. Displaced or offset joints		✓		
IV. Outlet Protection/Stilling Basin				
1. Obstruction	✓			clear obstruction and rework/ add riprap
2. Adequate riprap		✓		
3. Undercutting at the outlet		✓		
4. Outlet channel scour		✓		
V. Internal Basin Area				
A. Low Flow Channel*				
1. Erosion		✓		clearing needed
2. Adequate vegetation	✓			
3. Obstruction	✓			
B. Basin Bottom & Side Slopes				
1. Erosion		✓		significant amount of cattails in water need to be removed
2. Adequate stabilization	✓			
3. Sediment accumulation	✓			water needs to be treated
4. Floating debris	✓			
5. High water marks		✓		
6. Shoreline protection			✓	
C. Inflow Channels/Pipes				
1. Erosion	✓			erosion signs/evidence observed at the inlet
2. Adequate stabilization		✓		
3. Undercutting	✓			good amount of sediment at inlet obstructing the water
4. Obstruction	✓			
D. Sediment Forebay				
1. Sediment accumulation				Some clearing needed
2. Stable overflow into basin	✓			
E. Upland Landscaping	✓			overgrown
F. Aquatic Landscaping			✓	

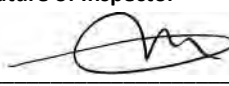
*Only applies to Extended Detention Facilities



BMP ID #: 30			Date/Time: 6/11/19	
Component	Yes	No	N/A	Comments

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector _____ Date _____

If maintenance is required, provide a time frame for maintenance completion: Before next inspection
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector  Date 6/11/19

Next inspection date: _____



Intermittent Sand Filter

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti			Type of BMP: Delaware Sand Filter	
BMP ID #: 31			Date/Time: 6/18/19	
Component	Yes	No	N/A	Comments
I. Debris Cleanout				
A. Contributing areas clean of debris	✓			
B. Filtration Facility clean of debris	✓			
C. Inlets and outlets clear of debris	✓			
II. Vegetation in Contributing Drainage Area				
A. Stabilized	✓			
B. Active evidence of erosion		✓		
C. Area mowed and clippings removed	✓			
III. Oil & Grease				
A. Evidence of filter surface clogging		✓		
B. Activities in drainage area to minimize oil & grease entry			✓	
IV. Water retention where required				
A. Water holding chambers at normal pool		✓		
B. Evidence of leakage		✓		
V. Sediment Deposition				
A. Filtration chambers clean of sediment		✓		
B. Water chambers not more than ½ full of sediment	✓			
VI. Structural Components				
A. Evidence of structural deterioration		✓		
B. Grates are in good condition			✓	
C. Evidence of spalling or cracking of structural parts		✓		



BMP ID #: 31			Date/Time: 6/18/19	
Component	Yes	No	N/A	Comments
VII. Outlets/Overflow Spillway				
A. Obstruction		✓		
B. Adequate riprap (If applicable)			✓	
C. Undercutting at the outlet			✓	
D. Outlet channel scour			✓	
VIII. Overall Function of Facility				
A. Evidence of flow	✓			
B. Noticeable odors		✓		

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 _____ **Signature of Inspector** 6/18/19 **Date**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 _____ **Signature of Inspector** _____ **Date**

Next inspection date: _____



Sorbitive Filter BMP

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: Sorbitive Filter 2C		
BMP ID #: 32				Date/Time: 6/12/19 8:00 am		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
The access manhole or access doors are functioning properly and are structurally sound	✓				✓	
Sediment and oil are present (provide depths)		✓			✓	
Floatable pollutant accumulation is present in the Pre-treatment Bay	n/a				✓	
The Cartridge Bay is visually inspected for sediment depth (provide depth)*(If sediment depth is greater than 6 inches, maintenance is required)	✓				✓	less than one inch
Proper draindown is occurring in the Cartridge Bay *(If at least 40 hours of dry weather have elapsed, since the most recent runoff event and the Bay contains more than 3 inches of water above the sediment layer, the Sorbtive BRICKs required cleaning or replacement)	✓				✓	
The internal components show no signs of damage	✓				✓	



BMP ID #: 32	Date/Time: 6/12/19 8:00 am
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Notes:

routine inspection is recommended to monitor sediment level and structural integrity of the system

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector

6/12/19
Date

If maintenance is required, provide a time frame for maintenance completion: _____

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

Signature of Inspector

Date

Next inspection date: _____



Sorbitive Filter BMP

Inspection & Maintenance Checklist

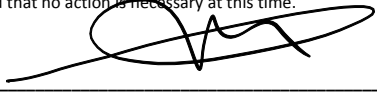
Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: Sorbitive Filter		
BMP ID #: 33				Date/Time: 6/13/19 8am		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
The access manhole or access doors are functioning properly and are structurally sound	✓				✓	
Sediment and oil are present (provide depths)		✓			✓	
Floatable pollutant accumulation is present in the Pre-treatment Bay		✓			✓	
The Cartridge Bay is visually inspected for sediment depth (provide depth)*(If sediment depth is greater than 6 inches, maintenance is required)	✓				✓	
Proper draindown is occurring in the Cartridge Bay *(If at least 40 hours of dry weather have elapsed, since the most recent runoff event and the Bay contains more than 3 inches of water above the sediment layer, the Sorbtive BRICKs required cleaning or replacement)	✓				✓	
The internal components show no signs of damage	✓				✓	



BMP ID #: 33	Date/Time: 6/13/19 8am
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Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date 6/13/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Sorbitive Filter BMP

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: Sorbitive Filter		
BMP ID #: 34				Date/Time: 6/15/19		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
The access manhole or access doors are functioning properly and are structurally sound	✓				✓	
Sediment and oil are present (provide depths)		✓			✓	
Floatable pollutant accumulation is present in the Pre-treatment Bay		✓			✓	
The Cartridge Bay is visually inspected for sediment depth (provide depth)*(If sediment depth is greater than 6 inches, maintenance is required)	✓				✓	
Proper draindown is occurring in the Cartridge Bay *(If at least 40 hours of dry weather have elapsed, since the most recent runoff event and the Bay contains more than 3 inches of water above the sediment layer, the Sorbtive BRICKs required cleaning or replacement)	✓		no standing water		✓	
The internal components show no signs of damage	✓				✓	



BMP ID #: 34	Date/Time: 6/18/19
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Notes:

Routine inspection is recommended to make sure that the maintenance is done once the level of sediment exceeds 6"
 Keep checking the media cartridges

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."


 _____ **6/18/19**
 Signature of Inspector Date

If maintenance is required, provide a time frame for maintenance completion: _____

Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector Date

Next inspection date: _____



StormFilter BMP

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: StormFilter		
BMP ID #: 35				Date/Time: 6/18/19		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
I. Below Ground Vault						
Sediment accumulation top of cartridge		✓	Sediment depth exceeds 0.25 inches		✓	
Sediment accumulation in vault		✓	Sediment depth exceeds 4 inches in the first chamber		✓	
Submerged cartridges		✓	More than 4" of static water in the cartridge bay 24 hours after last rainfall event		✓	
Trash/debris accumulation	✓		Trash and debris accumulated on compost filter bed		✓	minimum amount of debris & trash present
Sediment in drain pipes or cleanouts		✓	Drain pipes and/or clean outs are full of sediment and/or debris		✓	
Damaged pipes		✓	Any part of any pipe crushed or damaged due to corrosion and/or settlement		✓	
Access cover damaged/not working		✓	Cover cannot be opened; one person cannot open the cover using normal lifting pressure; corrosion/deformation of cover		✓	
Vault structure includes cracks in wall or bottom; damage to the frame and/or top slab		✓	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through cracks; determination that the vault is not structurally sound		✓	
			Cracks wider than 1/2 inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks		✓	
Baffles	n/a		Baffles corroding, cracking, warping, and/or showing signs of failure	n/a		
Access ladder damaged		✓	Ladder is corroded or deteriorated, not functioning properly, not securely secured to the structure wall and/or missing rungs; cracks; misalignment		✓	



**Underground Detention Systems
 (Water Quantity)**

Inspection & Maintenance Checklist


Inspector Name: Alain Nshuti SWIN 1269			Type of BMP: Rain Tank - UD
BMP ID #:			Date/Time: 6/15/19
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	Y	N	negligible sediment present
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 36		Date/Time: 6/18/19	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (If applicable)?	n/a		
F. Undercutting at the outlet?	n/a		
G. Outlet channel scour?	n/a		

Notes:
 raising yard drains to prevent mulch from entering the system and clogging it in the long run.

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector _____ Date _____

If maintenance is required, provide a time frame for maintenance completion: **3 months from 6/18/19**
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector  _____ Date **6/18/19**

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**


Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti			Type of BMP: Underground Storage Vault
BMP ID #: 37			Date/Time: 6/13/19 8 am
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	N	N	
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 37		Date/Time: 6/13/19 8 am	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (if applicable)?	n/a		
F. Undercutting at the outlet?	n/a		
G. Outlet channel scour?	n/a		

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: 
 Date: **6/13/19**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____
 Date: _____

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**

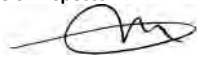
Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type of BMP: RAIN TANK UD	
BMP ID #:		Date/Time:	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	N	N	
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 38		Date/Time: 6/15/19	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N		
E. Adequate riprap (if applicable)?	n/a		
F. Undercutting at the outlet?	n/a		
G. Outlet channel scour?	n/a		

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector:  Date: **6/15/19**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____ Date: _____

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**


Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1261		Type of BMP: Rain Tank - UD	
BMP ID #: 39		Date/Time: 6/18/19	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	N	N	
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 39			Date/Time: 6/18/19
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N		
E. Adequate riprap (If applicable)?	n/a		
F. Undercutting at the outlet?	n/a		
G. Outlet channel scour?	n/a		

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: 
 Date: 6/18/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____
 Date: _____

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**


Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 269		Type of BMP: UG Storage vault	
BMP ID #: 40		Date/Time: 6/19/19	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	N	N	
B. Trash/debris present?	N	N	
C. Separation of joints, cracks, breaks, or deterioration of structure?	N	N	
D. Algal growth present?	N	N	
E. Evidence of seepage, leakage, or rust?	N	N	
F. Evidence of pollutants?	N	N	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	Y	N	
B. Clogging of inflow pipes?	N	N	
C. Clogging of outflow pipes?	N	N	



BMP ID #: 40		Date/Time: 6/19/19	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?	N	N	
E. Adequate riprap (If applicable)?	n/a		
F. Undercutting at the outlet?	n/a		
G. Outlet channel scour?	n/a		

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector: 
 Date: **6/19/19**

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____
 Date: _____

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type: Inlet / Roof	Size: 6x12		
BMP ID #: 41		Date/Time: 6/18/19			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Damage to Box Structure?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Damage to Grate?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Is Bypass Clear?	<input checked="" type="radio"/> Y <input type="radio"/> N				
Waste					
Silt/Clay?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Cups/Bags/Trash?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Leaves?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Other?	Y <input type="radio"/> N <input checked="" type="radio"/>				
Erosion Control					
Netting in Need of Replacement?	Y <input type="radio"/> N <input type="radio"/> NA <input checked="" type="radio"/>				
Stones in Need of Replacement?	Y <input type="radio"/> N <input checked="" type="radio"/> NA				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	16"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/14/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	3.7'	4.7'	Health of plant(s)	<input checked="" type="radio"/> Alive / Dead	<input checked="" type="radio"/> Alive / Dead
Stem Diameter/Caliper (in.):	3.25"	3.25"	Damage to plant(s)?	Y / <input checked="" type="radio"/> N	Y / <input checked="" type="radio"/> N
Width at Widest Point (ft.):	2'	2.7'	Plant(s) replaced?	Y / <input checked="" type="radio"/> N	Y / <input checked="" type="radio"/> N




BMP ID #: 41	Date/Time: 6/18/19
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/18/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____




BMP ID #: 42	Date/Time: 6/18/19
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

 Date

6/18/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____




BMP ID #: 43	Date/Time: 6/19/19
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Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/19/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Filterra BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nkhuti SWIN R69		Type: <input checked="" type="radio"/> Inlet / Roof	Size: 4x8		
BMP ID #: 44		Date/Time: 6/14/19 8 am			
Component	(Circle Y/N)	Comments			
Initial Observations					
Standing Water?	Y <input checked="" type="radio"/> N				
Damage to Box Structure?	Y <input checked="" type="radio"/> N				
Damage to Grate?	Y <input checked="" type="radio"/> N				
Is Bypass Clear?	<input checked="" type="radio"/> Y N				
Waste					
Silt/Clay?	Y <input checked="" type="radio"/> N				
Cups/Bags/Trash?	Y <input checked="" type="radio"/> N				
Leaves?	Y <input checked="" type="radio"/> N				
Other?	Y <input checked="" type="radio"/> N				
Erosion Control					
Netting in Need of Replacement?	Y N <input checked="" type="radio"/> NA				
Stones in Need of Replacement?	Y <input checked="" type="radio"/> N NA				
Mulch					
Depth from Top of Slab to Surface of Mulch	Inlet Filterra	Roof Filterra	Comments		
Measured (in.):	16"				
Allowed range (in.):	16" - 18"	23" - 25"			
Notes: If measured depth exceeds the allowed range, add mulch until the allowed range is achieved. If there is evidence of ponding water, remove and replace all mulch. Remove any accumulated silt that may also be clogging the filter media. Do not overflow unit with mulch; for inlet units, mulch should not exceed bottom of inlet throat, and for roof units, mulch should not impede bypass piping or splash blocks.					
Amount of Mulch to be Added or Replaced:	NO				
Type of Mulch to be Added or Replaced:	NO				
Date Mulch Added or Replaced:	6/13/19				
Plantings					
Note: Column #1 is the plant to the left when facing the throat of the inlet and column #2 is the plant to the right when facing the throat of the inlet.					
Plant Information	#1	#2		#1	#2
Height Above Grate (ft.):	1.7'		Health of plant(s)	<input checked="" type="radio"/> Alive / Dead	Alive / Dead
Stem Diameter/Caliper (in.):	3"		Damage to plant(s)?	Y / <input checked="" type="radio"/> N	Y / N
Width at Widest Point (ft.):	2.2'		Plant(s) replaced?	Y / <input checked="" type="radio"/> N	Y / N




BMP ID #: 44	Date/Time: 6/14/19 8 am
---------------------	--------------------------------

Notes:

Certification:

If no maintenance is required, certify the following:

"I certify that the inspection is complete and that no action is necessary at this time."



 Signature of Inspector

6/14/19

 Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:

"I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector

 Date

Next inspection date: _____



Detention, Retention, & Impoundment BMPs

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti			Type of BMP: Extended Detention Pond	
BMP ID #: 46			Date/Time: 6/19/19	
Component	Yes	No	N/A	Comments
I. Embankment				
A. Top				
1. Visual settlement		✓		
2. Misalignment		✓		
3. Cracking		✓		
B. Upstream Slope				
1. Erosion	✓			
2. Adequate groundcover		✓		
3. Trees, shrubs, or other vegetation		✓		
4. Cracks, settlements, or bulges		✓		
5. Rodent holes		✓		
C. Downstream Slope				
1. Erosion	✓			
2. Adequate groundcover		✓		
3. Trees, shrubs, or other vegetation		✓		
4. Cracks, settlements, or bulges		✓		
5. Rodent holes		✓		
E. Drainage/seepage control				
1. Internal drains flowing	✓			
2. Seepage at toe		✓		
II. Emergency Spillway				
1. Eroding or backcutting			✓	
2. Obstruction			✓	
3. Leaking			✓	
4. Operational			✓	



BMP ID #: 46		Date/Time: 6/19/19		
Component	Yes	No	N/A	Comments
III. Principal Spillway Barrel				
1. Seepage into pipe		✓		
2. Debris present		✓		
3. Displaced or offset joints		✓		
IV. Outlet Protection/Stilling Basin				
1. Obstruction	✓			
2. Adequate riprap			✓	
3. Undercutting at the outlet	✓			
4. Outlet channel scour			✓	
V. Internal Basin Area				
A. Low Flow Channel*				
1. Erosion			✓	
2. Adequate vegetation			✓	
3. Obstruction			✓	
B. Basin Bottom & Side Slopes				
1. Erosion	✓			
2. Adequate stabilization		✓		
3. Sediment accumulation		✓		
4. Floating debris	✓			
5. High water marks		✓		
6. Shoreline protection	✓			
C. Inflow Channels/Pipes				
1. Erosion		✓		
2. Adequate stabilization	✓			
3. Undercutting		✓		
4. Obstruction		✓		
D. Sediment Forebay				
1. Sediment accumulation	✓			
2. Stable overflow into basin	✓			
E. Upland Landscaping				
F. Aquatic Landscaping	✓		✓	
*Only applies to Extended Detention Facilities				



BMP ID #: 46			Date/Time: 6/19/19	
Component	Yes	No	N/A	Comments

Notes:

*Repair eroded areas
 remove trash and debris in basin*

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector _____ Date _____

If maintenance is required, provide a time frame for maintenance completion: *before next inspection*
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector *[Signature]* Date *6/19/19*

Next inspection date: _____



StormFilter BMP

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: Contech StormFilter		
BMP ID #: 47				Date/Time: 6/19/19		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
I. Below Ground Vault						
Sediment accumulation top of cartridge		✓	Sediment depth exceeds 0.25 inches		✓	
Sediment accumulation in vault		✓	Sediment depth exceeds 4 inches in the first chamber		✓	
Submerged cartridges		✓	More than 4" of static water in the cartridge bay 24 hours after last rainfall event		✓	
Trash/debris accumulation		✓	Trash and debris accumulated on compost filter bed		✓	
Sediment in drain pipes or cleanouts		✓	Drain pipes and/or clean outs are full of sediment and/or debris		✓	
Damaged pipes		✓	Any part of any pipe crushed or damaged due to corrosion and/or settlement		✓	
Access cover damaged/not working		✓	Cover cannot be opened; one person cannot open the cover using normal lifting pressure; corrosion/deformation of cover		✓	
Vault structure includes cracks in wall or bottom; damage to the frame and/or top slab		✓	Cracks wider than ½ inch or evidence of soil particles entering the structure through cracks; determination that the vault is not structurally sound		✓	
			Cracks wider than ½ inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks		✓	
Baffles		n/a	Baffles corroding, cracking, warping, and/or showing signs of failure		n/a	
Access ladder damaged		✓	Ladder is corroded or deteriorated, not functioning properly, not securely secured to the structure wall and/or missing rungs; cracks; misalignment		✓	



BMP ID #: 47				Date/Time: 6/19/19		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
II. Below Ground Cartridge Type						
Filter Media	✓		Drawdown of water through the media takes longer than one hour and/or overflow occurs frequently		✓	
Short Circuiting		✓	Flows do not properly enter filter cartridges		✓	

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 _____ **6/19/19**
 Signature of Inspector Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector Date

Next inspection date: _____



StormFilter BMP

Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269				Type of BMP: Contech Stormfilter		
BMP ID #: 48				Date/Time: 6/19/19		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
I. Below Ground Vault						
Sediment accumulation top of cartridge		✓	Sediment depth exceeds 0.25 inches		✓	
Sediment accumulation in vault		✓	Sediment depth exceeds 4 inches in the first chamber		✓	
Submerged cartridges		✓	More than 4" of static water in the cartridge bay 24 hours after last rainfall event		✓	
Trash/debris accumulation		✓	Trash and debris accumulated on compost filter bed		✓	
Sediment in drain pipes or cleanouts		✓	Drain pipes and/or clean outs are full of sediment and/or debris		✓	
Damaged pipes		✓	Any part of any pipe crushed or damaged due to corrosion and/or settlement		✓	
Access cover damaged/not working		✓	Cover cannot be opened; one person cannot open the cover using normal lifting pressure; corrosion/deformation of cover		✓	
Vault structure includes cracks in wall or bottom; damage to the frame and/or top slab		✓	Cracks wider than ½ inch or evidence of soil particles entering the structure through cracks; determination that the vault is not structurally sound		✓	
			Cracks wider than ½ inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks		✓	
Baffles		n/a	Baffles corroding, cracking, warping, and/or showing signs of failure		n/a	
Access ladder damaged		✓	Ladder is corroded or deteriorated, not functioning properly, not securely secured to the structure wall and/or missing rungs; cracks; misalignment		✓	



BMP ID #: 48				Date/Time: 6/19/19		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
II. Below Ground Cartridge Type						
Filter Media	✓		Drawdown of water through the media takes longer than one hour and/or overflow occurs frequently		✓	
Short Circuiting		✓	Flows do not properly enter filter cartridges		✓	

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 _____ **6/19/19**
 Signature of Inspector Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."

 Signature of Inspector Date

Next inspection date: _____



StormFilter BMP

Inspection & Maintenance Checklist

Inspector Name: Hain Nshuti SWIN 1269				Type of BMP: Contech Stormfilter		
BMP ID #: 49				Date/Time: 6/19/19		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
I. Below Ground Vault						
Sediment accumulation top of cartridge		✓	Sediment depth exceeds 0.25 inches		✓	
Sediment accumulation in vault		✓	Sediment depth exceeds 4 inches in the first chamber		✓	
Submerged cartridges		✓	More than 4" of static water in the cartridge bay 24 hours after last rainfall event		✓	
Trash/debris accumulation		✓	Trash and debris accumulated on compost filter bed		✓	
Sediment in drain pipes or cleanouts		✓	Drain pipes and/or clean outs are full of sediment and/or debris		✓	
Damaged pipes		✓	Any part of any pipe crushed or damaged due to corrosion and/or settlement		✓	
Access cover damaged/not working		✓	Cover cannot be opened; one person cannot open the cover using normal lifting pressure; corrosion/deformation of cover		✓	
Vault structure includes cracks in wall or bottom; damage to the frame and/or top slab		✓	Cracks wider than ½ inch or evidence of soil particles entering the structure through cracks; determination that the vault is not structurally sound		✓	
			Cracks wider than ½ inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks			
Baffles		n/a	Baffles corroding, cracking, warping, and/or showing signs of failure		n/a	
Access ladder damaged		✓	Ladder is corroded or deteriorated, not functioning properly, not securely secured to the structure wall and/or missing rungs; cracks; misalignment		✓	



BMP ID #:				Date/Time:		
				Maintenance required?		
Component:	Yes	No	Conditions When Maintenance is Needed	Yes	No	Comments:
II. Below Ground Cartridge Type						
Filter Media	✓		Drawdown of water through the media takes longer than one hour and/or overflow occurs frequently		✓	
Short Circuiting		✓	Flows do no properly enter filter cartridges		✓	

Notes:

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."

Signature of Inspector 6/19/19
Date

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."

Signature of Inspector _____
Date

Next inspection date: _____



**Underground Detention Systems
 (Water Quantity)**


Inspection & Maintenance Checklist

Inspector Name: Alain Nshuti SWIN 1269		Type of BMP: Contech UG Storage Vault	
BMP ID #: 50		Date/Time:	
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
I. Internal Storage Area			
A. Sediment present?	✓		< 2"
B. Trash/debris present?		✓	
C. Separation of joints, cracks, breaks, or deterioration of structure?		✓	
D. Algal growth present?		✓	
E. Evidence of seepage, leakage, or rust?		✓	
F. Evidence of pollutants?		✓	
Inlet & Outlet Piping			
A. Inspection manhole functioning properly?	✓		
B. Clogging of inflow pipes?		✓	
C. Clogging of outflow pipes?		✓	



BMP ID #: 50			Date/Time: 6/19/19
Inspection Finding	Y/N	Maintenance Required Y/N	Comments
D. Obstruction?		✓	
E. Adequate riprap (If applicable)?	n/a		
F. Undercutting at the outlet?		✓	
G. Outlet channel scour?		✓	

Notes:
 keep monitoring level of sediment in system

Certification:
 If no maintenance is required, certify the following:
 "I certify that the inspection is complete and that no action is necessary at this time."
 Signature of Inspector:  Date: 6/19/19

If maintenance is required, provide a time frame for maintenance completion: _____
 Upon maintenance completion, re-inspect and certify the following:
 "I certify that all recommended maintenance is complete and no additional action is necessary at this time."
 Signature of Inspector: _____ Date: _____

Next inspection date: _____

Appendix MCM 6

Matthew Webb

From: David Weddle <dweddle@vsu.edu>
Sent: Tuesday, June 25, 2019 8:07 AM
To: Matthew Webb; Jonathan A. Taylor; Jane S. Harris; Gilbert Hanzlik
Cc: Steve Hostetler; Aislinn Creel
Subject: Re: MS4 Reporting Year Status Update
Attachments: SPCC Spill Training .pptx; Virginia State University Asbestos Awareness Training.ppt; Virginia State University Hazardous Waste Management Training (1).pptx

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning,

The training slides are attached. The training occurs every June.

The list of participants is as follows:

- Ted Bethune
- Larry Crowder
- Kenneth Roberts
- Mark Adams
- Fred Snyder

The objective of the training is to inform employees of the definition and circumstance of a discharge (or in the case of ACM, inform them of a potential ACM exposure) and the steps that should be followed when responding to a discharge.

David Weddle

From: Matthew Webb <Matthew.Webb@timmons.com>
Sent: Monday, June 24, 2019 5:44:54 PM
To: Jonathan A. Taylor; Jane S. Harris; Gilbert Hanzlik; David Weddle
Cc: Steve Hostetler; Aislinn Creel
Subject: MS4 Reporting Year Status Update

[EMAIL FROM EXTERNAL SENDER]

Jonathan/Jane,

I got the voicemail that Steve left for me a few minutes ago.

I believe the only item that we need documentation of for this reporting year (July 31, 2018 – June 30, 2019) are the staff training records. The training should have at least included recognizing and reporting illicit discharges, VSU's *Pollution Prevention and Good Housekeeping SOPs*, and spill response. In the past we have piggybacked off of the Spill Prevention training that David Weddle has provided. When I did the outfall inspections a few weeks ago I met with Dr. Chappel and some of his students for a demo so I plan to include that as staff training as well.

There were a few other MS4 items to discuss, such as finalizing the new Program Plan, results of the outfall/BMP/SWPPP inspections, and adding/replacing information on the MS4 website but they are not as deadline sensitive.

Thank you,

Matthew Webb

Office: 804.433.2993

Cell: 252.292.2939

matthew.webb@timmons.com

To send me files greater than 20MB, [click here](#).

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Spill Prevention Training

VSU Facilities Department

1

Background

Comply with VADEQ Aboveground Storage Tank Regulations

Aggregate aboveground storage capacity above 25,000 gallons

Tanks under 660 gallons are excluded from the total storage amount

Five aboveground storage tanks with an aggregate capacity of 41,000 gallons

2

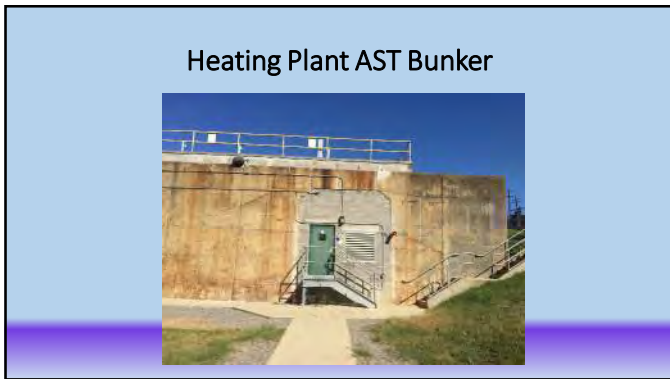
VSU AST Summary

Virginia State University Regulated ASTs			
Table 1			
Tank Type	Maximum Storage Capacity (gallons)	Contents	Location and Identification Number
Double-Walled Horizontal AST	10,000	# 6 Oil (Bunker oil)	Heating Plant AST-1
Double-Walled Horizontal AST	10,000	# 6 Oil (Bunker oil)	Heating Plant AST-2
Double-Walled Horizontal AST	10,000	# 6 Oil (Bunker oil)	Heating Plant AST-3
Double-Walled Horizontal AST	10,000	# 6 Oil (Bunker oil)	Heating Plant AST-4
Double-Walled Horizontal CorVault AST	1,000	# 2 Oil (Diesel Fuel)	Jones Dining Hall

3



4



5

- ## Fuel Transfer and Inventory Control
- ASTs are equipped with high visibility liquid level gauges and audible overfill alarms
 - Filling stations are located in a shed that is locked at all times; spill kits are located in the filling station and in the heating plant
 - Fuel delivery checklist is used when filling tanks
 - Heating plant staff member present at ALL times during fill up

6

Fuel Refill Station



7

Spill Kit



8

Fuel Oil Delivery Checklist

Fuel Oil Delivery Checklist

Product: _____ Delivery Date: _____

Quantity: _____ Storage Tank No(s): _____

Vendor/Transporter Name: _____

Prior to starting the delivery process, verify the following:

1. Material being delivered agrees with the type of fuel needed for the tank and equipment (66 oil for the heating plant and #2 oil (Diesel Fuel) for Emergency Generators). (Units be 41.2% sulfur for 66 oil for the heating plant, must be 41.0011% by weight for 66) (Units for the generators).
2. Check the level gauges on the tank that is being filled to ensure that there is sufficient capacity in the tank to safely accept the quantity of fuel being delivered.
3. Check facilities house for integrity, deterioration or leaks.
4. Check the receiving area for integrity, deterioration or leaks.
5. Check for personnel deployment and location of portable/emergency containment devices (i.e. berms to block spill) upon arrival.

9

Tank Inspections

- Tanks are checked daily and official tank inspection reports are conducted weekly

WEEKLY TANK INSPECTION CHECKLIST
 (Check each and fill in the Weekly Inspection Log)

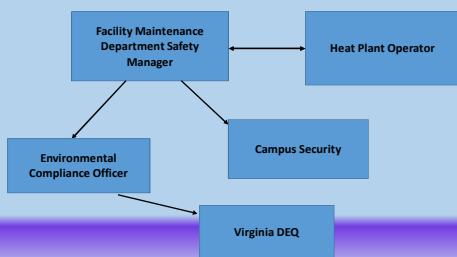
Inspection of the Above Ground Fuel Storage Tanks with the DEQ requires that all AIG's be inspected weekly.

AIG-1	AIG-2	AIG-3	AIG-4
Oil Spill	Oil Spill	Oil Spill	Oil Spill
Oil Spill	Oil Spill	Oil Spill	Oil Spill
Oil Spill	Oil Spill	Oil Spill	Oil Spill
Oil Spill	Oil Spill	Oil Spill	Oil Spill

1. Check AIG's for leaks, oil, and other issues:
 - Are they visible?
 - Is there any visible oil?
 - Are there any visible leaks?
 - Are there any visible oil stains?
2. Check Conditions for the Following:
 - Are they visible?
 - Is there any visible oil?
 - Are there any visible leaks?
 - Are there any visible oil stains?
 - Are there any visible leaks?
 - Are there any visible oil stains?
 - Are there any visible leaks?
 - Are there any visible oil stains?

10

Spill Procedures - Notifications



11

Regulatory Notifications

- Virginia DEQ notified if the spill exceeds 25 gallons
- Notify National Response Center if the spill exceeds 1,000 gallons
- In the case of larger spills, the Environmental Compliance Officer will contact a spill response vendor to assist with mitigation activities (Clean Harbors, Potomac Environmental, etc.)
- Remediation activities will be coordinated by Environmental Compliance Officer in concert with Virginia DEQ for larger spills

12

Good Housekeeping Practices

- Do not dispose of leaves, grass clippings, tree trimming, oil, fuel, sediment or any other pollutant into a storm drain or water body
- Identify storm drain inlets at or near facility to notify employees and contractors not to dispose any materials or wastes
- Wash down and hose down equipment/vehicles in approved areas
- Use oil/water separators to eliminate or minimize oil and grease pollution of stormwater runoff
- Install erosion and sediment controls where necessary

Virginia State University
Facilities Department

Asbestos Safety Awareness

1

Objectives:

- Define what is asbestos
- Describe where asbestos is found
- Explain associated health hazards
- Illustrate how to protect yourself and co-workers against asbestos hazards
- Analyze and discuss case studies

2

What is Asbestos?

- The word "asbestos" comes from the Greek meaning "inextinguishable."
- Asbestos is a serious health hazard commonly found in our environment today.
- Employees who may work in buildings that contain asbestos should know where it is found and how to avoid exposure.



3

Asbestos History

- Many people believed asbestos a "miracle" product of the 20th century.... **That couldn't be further from the truth.**
- **1st Century AD** Pliny the Elder notes that slaves working in asbestos mines die young of lung disease.
- The Greeks recognized that not everything about asbestos was good.
 - Greek and Roman scientists recognized asbestos caused "sickness of the lungs" in the slaves that wove asbestos into cloth or mined the mineral.
 - Egyptian mummy's were wrapped in asbestos containing fabric

4

Asbestos Fibrous Minerals

Serpentine <small>(93% of commercial use)</small>	Amphibole <small>(7% of commercial use)</small>
Chrysotile	Actinolite, Amosite, Anthophyllite, Crocidolite, Richterite, Tremolite


5

Six Types of Asbestos

Asbestos is composed of six different types of natural minerals:

- Chrysotile
- Amosite
- Crocidolite
- Tremolite
- Actinolite
- Anthophyllite

Most common types



6

Asbestos Fiber Facts

- All types of asbestos tend to break into very tiny fibers.
- These individual fibers are so small they must be identified using a microscope.
- Some fibers may be up to 700 times smaller than a human hair.



7

Asbestos Fiber Facts

Because asbestos fibers are so small, once released into the air, they may stay suspended there for hours or even days.



8

Asbestos Facts

- Asbestos fibers are also virtually indestructible.
- Resistant to chemicals and heat, and they are very stable in the environment.
- Do not evaporate into air or dissolve in water, and they are not broken down over time.
- Asbestos is probably the best insulator known to man.

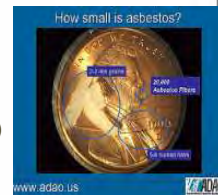


9

Asbestos Facts

Usually asbestos is mixed with other materials to actually form the products. Floor tiles, for example, may contain only a small percentage of asbestos.

Depending on what the product is, the amount of asbestos in asbestos containing materials (ACM) may vary from 1%-100%.



10

Asbestos Exposure

1.3 million workers are exposed in the U.S. – primarily in the construction industry.

Asbestos removal and building renovation & demolition have the greatest exposures.



- Exposure in general industry:
- manufacture of asbestos products
 - automotive brake and clutch repair
 - Housekeeping and custodial work

11

Where is Asbestos Found?

- Adhesives, Cements, Mortar, Sealers
- Millboard
- Brake linings and clutch pads
- *Let's talk about vermiculite!*



12

Vermiculite

- A mine near Libby, Montana sold 70% of all vermiculite in the U.S. from 1919 to 1990.
- There was a sediment of asbestos at that mine, so the vermiculite from Libby was contaminated with asbestos.
- Libby vermiculite was used in the majority of vermiculite insulation in the U.S. as the brand name "Zonolite"

13

Libby Montana

You should assume that:
**VERMICULITE CONTAINS ASBESTOS AND DO NOT
DISTURB IT!**



<http://www.epa.gov/asbestos/pubs/verm.html>

14

Always Assume Vermiculite Contains Asbestos

- Leave vermiculite insulation undisturbed in your attic or in your walls.
- Do not store items in your attic if it contains vermiculite insulation.
- Do not attempt to remove the insulation yourself.
- Hire a **licensed** asbestos contractor remove or encapsulate asbestos

15

More Asbestos Loaded Products???

- Cement Pipes, Cement Boards, Sheets, Plastics
- Clay, Compounds, Paints, Plasters
- Electrical, Mechanical Products
- Home Use Products
 - Cigarette Filters
- Pipe Covering
- Protective clothing

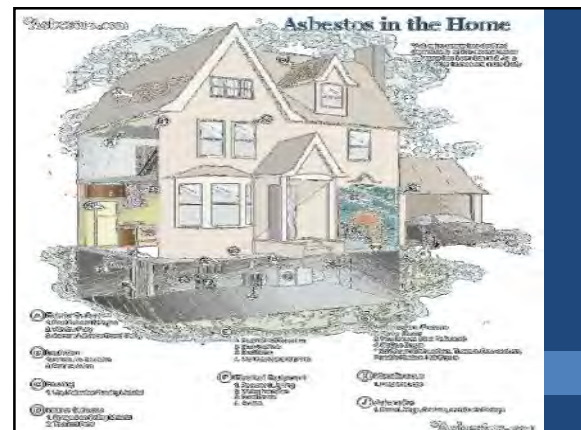


16

Asbestos at Virginia State

- 9"x9" floor tiles; 12"x12 floor tiles CAN be positive!
- Mastic
- Sprayed-on Fireproofing material
- Insulation
- Ceiling plaster
- Wallboard
- Caulking
- Roofing paper; shingles
- Miscellaneous materials that are questionable should ALWAYS be tested!

17



18

Asbestos Occupations

Just to name a few:

- Plumbers
- Demolition
- Construction / remodeling
- Roofers
- Mechanics
- First Responders



<http://www.mesothelioma.com/asbestos-exposure/occupations/>

19

Health Affects of Asbestos Exposure

- Asbestos exposure is the only confirmed cause of **mesothelioma**, a fatal form of cancer that typically manifests in the lungs
- Lung Cancer
- Asbestosis


Could take 20 years for one asbestos fiber to turn into one of these deadly diseases

Always protect yourself if you suspect asbestos

20


Signs and Symptoms of asbestosis can include:

- Shortness of breath is the primary symptom
- A persistent and productive cough (a cough that expels mucus)
- Chest tightness
- Chest pain
- Loss of appetite
- A dry, crackling sound in the lungs while inhaling.




21

Cigarette Smoke and Asbestos




- Cigarette smoke and asbestos together will increase your chances of getting lung cancer.
- If you have been exposed to asbestos you should stop smoking.
- This may be the most important action that you can take to improve your health and decrease your risk of cancer.



22

How to Protect Yourself

- Must have a valid and up to date certificate through an authorized trainer from the State of Florida as an Asbestos Worker, Supervisor, Contractor or Inspector.
- Asbestos is dangerous.....sufficient education is needed to recognize dangers and protect yourself
- You and the company could be fined if caught working on a building that may contain asbestos
- Today's training is an awareness course...DOES NOT meet Florida law



23

How to Avoid Asbestos Exposure

- If you do not know that a building material is asbestos free.....DOT DISTURB IT.

Never

Drill	Break
Hammer	Damage
Cut	Move
Saw	Disturb

24

How to Avoid Asbestos Exposure

- Personnel should understand how to protect themselves
- In the event that asbestos fibers become airborne and may be inhaled
- Wear a mask to prevent inhalation of asbestos fibers
- Safety gear such as gloves or booties that cover your shoes should be worn, to prevent the spread of asbestos fibers to other areas

25

Good Housekeeping Rules

- Custodians should never sand or dry buff asbestos-containing floor tiles
- Broken and fallen ceiling tiles should be left in place until identified
- Broken and damaged asbestos floor tiles must also be removed by asbestos abatement workers
- Be aware of where asbestos may be hiding and takes actions not to disturb

26

Asbestos Emergency Kit

- Gloves
- Protective eyewear
- Disposable clothing
- Booties
- Garbage bags
- Water bottle
- Important Telephone numbers



27

OSHA Asbestos Standards

- General Industry (29 CFR 1910) 1910 Subpart Z, Toxic and hazardous substances 1910.1001, Asbestos:
 - http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9995
- Safety and Health for Construction (29 CFR 1910) 1926.1101 Asbestos:
 - http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10862&p_table=STANDARDS

28

OSHA Resources

- OSHA has many helpful programs, including assistance about safety and health programs, state plans, workplace consultations, voluntary protection programs, strategic partnerships, training and education, and more

29

OSHA'S Asbestos Advisor

- Interactive compliance tool
- Can install on your computer
- The program includes five main functions:
 1. General guidance
 2. Individual project guidance
 3. Glossary
 4. Answers to frequently asked questions about asbestos
 5. Detailed text of regulations

<http://www.osha.gov/dts/osta/oshasoft/asbestos/index.html>

30

- More information about asbestos is available on the OSHA Asbestos Web page, which has links to information about asbestos in the workplace, including what OSHA standards apply, the hazards of asbestos, evaluating asbestos exposure, and controls used to protect workers.
- This page is available at: <http://www.osha.gov/SLTC/asbestos/index.html>.
- **OSHA's national office can be contacted at:**
Occupational Safety and Health Administration
U.S. Department of Labor
Room N-3649
200 Constitution Avenue, NW.
Washington, DC 20210
- **Telephone:**
202-693-1999
1-800-321-6742 (1-800-321-OSHA)
TTY (for deaf or hard of hearing callers):
1-877-889-5627
- **Web site:**
 - <http://www.osha.gov/workers.html> (workers' page)

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OSHA Contact Numbers

To report Unsafe Working Conditions, Safety and Health Violations Contact OSHA @:
1-800-321-OSHA (6742) / TTY1-877-889-5627

To File a Complaint Form:
To file an OSHA-7 report online, see how to file a complaint with OSHA (www.osha.gov)

For more information regarding your rights, see Worker Rights

32

Summary

- We talked about the definition of asbestos and where asbestos is found.
- Describe where asbestos is found
- Explain associated health hazards
- Recap on protection measures for yourself and co-workers against asbestos hazards
- Review the laws associated with asbestos

33

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Virginia State University Hazardous Waste Management

HAZARDOUS WASTE MANAGEMENT TRAINING

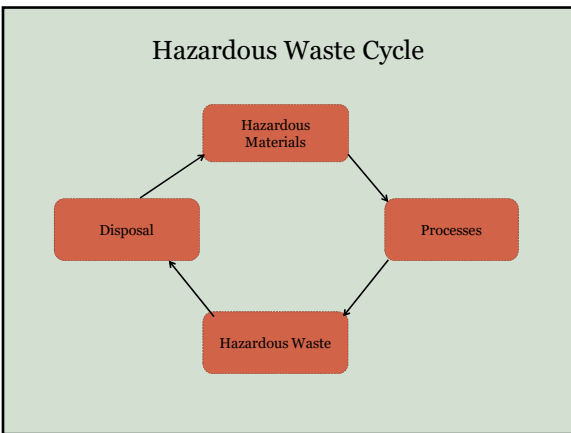


1

What is a Hazardous Waste?

- Hazardous waste are described or listed in EPA regulations Part 261, Subpart D
- A hazardous material becomes hazardous waste once the generator removes it from a process or storage
- A hazardous waste is any solid waste that meets one of the following characteristics:
 - Ignitable – easily combustible/flammable
 - Corrosive – pH 2.0 or less; 12.5 or more
 - Reactive – Unstable or reacts violently with water or other materials
 - Toxic – If extracted, contains heavy metals, pesticides, etc.

2



3

Hazardous Waste Storage

- Orderly work area
- Aisle space
- Proper labeling practices
- Secondary containment
- Container storage
- Appropriate containers
- Clean containers

4

Orderly Work Area

- Orderly work area helps to prevent spills
- All work areas should :
 - Be free of clutter
 - Maximize viable work surfaces
- Reduce the accumulation of papers, books and unused experimental apparatus
- Maintain sufficient aisle space to ensure mobility for emergency personnel and other area occupants

5

Examples of Cluttered Laboratories

Photo Source: N.C. State University Environmental Health Department

6

Proper Labeling Practices

- Waste containers must be labeled with:
 - “Hazardous Waste” labels
 - Date of first accumulation
 - Chemical name of constituents (no abbreviations)
 - Legible writing (label in good condition)
- Unlabeled containers are a violation of VADEQ and EPA requirements

Example of Proper Label →

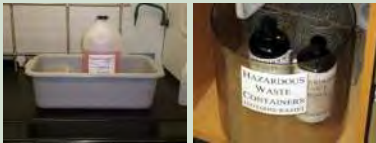


7

Secondary Containment

Examples of Secondary Containment:

Secondary containment can be a tray or pan underneath the waste container



Reduces the risk of contamination from spills

Photo Source: University of Maryland EHS Department

8

Inappropriate Storage Practices:

Container Storage

Hazardous waste storage containers must be CLOSED at all times, except when adding waste

Containers must be appropriate for the content and be in good physical condition (no dents, leaks, etc.)

Inappropriate containers include: beverage or food containers, rusted cans, and cracked containers




Photo Source: University of Maryland EHS Department

9

VSU Hazardous Waste Weekly Inspection Form

- A weekly checklist to ensure proper storage and labeling procedures are followed
- Completed by a designated lab coordinated for each department
- Returned electronic copy to Environmental Compliance Officer

10

VSU Hazardous Waste Weekly Inspection Form



11

Virginia State University Generator Status

- VSU is classified as a Small Quantity Generator (SQG) of waste. To maintain that status, the university cannot:
 - Generate more than 1000kg of hazardous waste per month
 - Generate more than 1kg of P-listed* waste in a month
 - Store waste for longer than 180 days
- For these reasons, an accurate inventory of the waste stored in the accumulation areas is vital.
- Storage beyond the time limit is a violation of VADEQ and EPA regulations; Exceeding monthly disposal amounts can change generator status
- *P-listed waste are the acutely toxic waste streams like cyanide salts and solutions, sodium azide, osmium tetroxide, nicotinic acid, etc...

12

Small Quantity Generator Requirements

- Must properly identify hazardous waste
- Keep records of hazardous wastes
- Inspect waste containers regularly for damage; document these inspections
- Dispose of waste through licensed waste transporters/facilities
- Keep copies of all shipping manifests on site
- Maintain an up to date log of all hazardous waste in accumulation areas

13

DO NOT...

- DO NOT pour chemicals down the drain!
- DO NOT overfill containers!
- DO NOT evaporate chemical wastes in a fume hood!
- For safety reasons and to avoid costly disposal fees, DO NOT mix wastes!



14

Spill Clean Up Procedures

- You may intervene to mitigate and/or clean up only under the following conditions:
 - ✓ The identity of the spilled material is known.
 - ✓ The hazards of the spilled material are known.
 - ✓ The area is sufficiently large and ventilated so as to assure the small spill will not generate a hazardous environment.
 - ✓ You feel comfortable doing so.

15

Spill Clean Up (Continued)

- Small spills, which meet the aforementioned criteria, may be cleaned up with a universal absorbent or other materials suitable for the type and volume of the spill.
- Once utilized, the absorbent material must be packaged in a container suitable for the contents and treated as hazardous waste.

16

Responsibilities

- ALL employees must be thoroughly familiar with proper waste handling and emergency procedures that are relevant to their job responsibilities, both during normal facility operations as well as during emergencies.
- Instructors, research advisors, and supervisors are responsible for ensuring students understand their obligations with regard to handling all types of waste and know appropriate emergency procedures pertaining to any hazardous waste they work with or around.

17

Conclusion

- Virginia State University is committed to providing a compliant campus environment through initiating safe hazardous materials practices.
- It is the shared responsibility of each member of the campus community to enact prudent hazardous waste practices to ensure the safety and health of the university.

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