Site and Infrastructure Development
Sterrett Center
230 Sterrett Drive
Blacksburg, Virginia 24061

Virginia Tech MS4 Annual Report

Virginia Tech NPDES Phase II: Small MS4

VPDES Permit No. VAR 040049

Reporting Period: July 1st 2019 – June 30th 2020

CERTIFICATION STATEMENT AND SIGNATORY REQUIREMENTS

FOR MS4 PERMIT APPLICATIONS AND REPORTS

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

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

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

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

A person is a duly authorized representative only if:

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

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

3. The written authorization is submitted to the department.

CERTIFICATION

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

Dr. Christopher H. Kiwus  Date 9-2-2020

Vice President for Campus Planning, Infrastructure and Facilities

Permit Number: VAR040049 MS4 Name: Virginia Tech

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Program Plan

No revisions were made to the MS4 Program Plan during the reporting year.

MCM 1

High-priority stormwater issues addressed by the permittee included

1. Sediment
2. Animal Waste
3. Trash

Strategies used to communicate each high-priority stormwater issue included:

1. Sediment
    a. Speaking engagements: (11/14/2019) Chuck Dietz educated 29 Virginia Tech faculty and staff members during a Capital Construction Coordination meeting. The presentation explained new Erosion and Sediment Control Measures that can be used by the faculty and staff members to help mitigate flooding on construction sites.
    b. Speaking engagements: (3/5/2020) Chuck Dietz taught 15 Virginia Tech students in Erich Hester's Hydraulic Structures class. His presentation covered a description of the duties and responsibilities of our department and included a field trip to an on-campus stormwater facility to discuss maintenance and how the facility operates to protect water quality and remove pollutants like sediment.
    c. Alternative Materials: Educational magnets that highlighted the importance of water quality and harmful pollutants like sediment, animal waste and trash were distributed to all incoming freshmen and on-campus residents at move-in.
2. Animal Waste
    a. Traditional Written Materials: Throughout the fall semester of 2020 approximately 1,200 table cards were displayed in Dining Halls throughout campus to educate the students and faculty about different stormwater pollution concerns and what they can do to help be part of the solution. This year's table card highlighted importance of picking up dog waste.
    b. Signage: Permanent signage is placed on 32 different pet waste stations scattered around campus. These signs discuss pet wastes ability to transmit disease and pollute stormwater, and encourage the Virginia Tech campus to pick up after their pets.
    c. Alternative Materials: Educational magnets that highlighted the importance of water quality and harmful pollutants like sediment, animal waste and trash were distributed to all incoming freshmen and on-campus residents at move-in.

3. Trash
   a. Traditional Written Materials: (August, 2019) an educational handout about the details and importance of ReNew the New to promote trash removal from the local waterways was distributed to on-campus residents and around campus classrooms.
   b. Alternative Materials: Educational magnets that highlighted the importance of water quality and harmful pollutants like sediment, animal waste and trash were distributed to all incoming freshmen and on-campus residents at move-in.
   c. Alternative Materials: A storm drain painting pertaining to keeping trash and other pollutants out of storm drains was completed in August of 2019. The storm inlet chosen to be painted was in a heavy traffic area outside of the Virginia Tech bookstore that is utilized by students, visitors and many of Virginia Tech's faculty and staff members. The storm drain painting was also incorporated into one of our educational table cards that is distributed to the dining halls on campus.

MCM 2

Public Input on the MS4 program including stormwater complaints and a brief explanation of how the permittee responded can be seen in the table below.

Summary of Comments and Complaints			
Date Received	**Who**	**Date Responded**	**How VTSID Responded**
8/16/19	Tess Thompson emailed all of VTSID staff	8/16/19	Notified VTSID staff of concrete that had been dumped on the ground at a project in the Agriculture Quad. The construction crew was addressed and educated and the concrete was cleaned up and disposed of properly.
9/11/19	Lisa Lipsey emailed Katelyn Kast	9/11/19	Notification of pet waste stations being empty at Hahn Horticulture garden, VTSID employee Sara Freix filled the pet waste stations with bags that same day and Lisa was notified of this.
10/2/19	Alexander Niemiera emailed Chuck Dietz	10/2/19	The email was in regards to a question related to the differences between detention and retention basins on campus ad VTSID employee Chuck Dietz responded to the email on the same day.
10/24/19	Jeremy Smith emailed VTSID staff	10/25/19	The email was related to concern of upcoming rain and possible issues with inlet protection at a Perry Street Project. The response email indicated that VTSID conducted an inspection on 10/23 and would ensure that inlet protection was in good working order before the upcoming rain.
1/15/20	Phone call from VT Staff member	1/16/20 & 1/17/20	The phone call was to report erosion around a drop inlet near War Memorial Chapel. VTSID staff made a site visit on 1/16 and notified the grounds grew of the problem, which was addressed on 1/17.

2/4/20	VTSID was notified via word of mouth	2/5/20	The notification was in regards to a leaking flange at the installation of a new chilled water line that might be getting to the storm system. During a site visit on 2/5 VTSID determined that the water had no way of getting to the stormwater system and wasn't of concern.

The permittee's MS4 program plan and stormwater website can be accessed at https://www.facilities.vt.edu/permits-inspections/stormwater-management.html and https://www.facebook.com/hokiestormwater/. The permittee's facebook page has 278 likes and had a reach of approximately 4,216 individuals, including 567 engagements.

Public Involvement activities implemented include:

1. Restoration:
    - (8/24/2019 & 8/31/2019) ReNew the New took place at several locations on the New River and 12,700 pounds of trash and 152 tires were removed during the event.
        - Metric: 207 Virginia Tech Students, Faculty & Staff Volunteered
    - (9/10/2019) A group removed 5 bags of trash, 6 tires and several pieces of large debris from the New River and the surrounding banks.
        - Metric: 5 Virginia Tech Students volunteered
    - (9/20/2019) Virginia Tech Students participated in a stream clean-up around the Duck Pond for 1.5 hours to remove 12 bags of trash.
        - Metric: 17 Virginia Tech Students volunteered
    - (9/29/2019) Virginia Tech Students participated in a stream clean-up on Stroubles Creek to remove several bags of trash.
        - Metric: 7 Virginia Tech students volunteered
    - (10/26/2019) Virginia Tech students from the Student Government Association cleaned up an area that drains to Stroubles Creek known as Stadium Woods. The group removed approximately 6 bags of trash from the area to ensure this trash wasn't carried into nearby waterways.
        - Metric: 34 Virginia Tech students volunteered
    - (2/29/2020) During the Big Plant Event VTSID partnered with The Environmental Coalition and the local Save Stroubles group to plant around 12,000 live stake trees on tributaries of Stroubles Creek. Volunteers came out to work for three hours to plant the stakes and learn about riparian buffers and stream restoration.
        - Metric: Over 900 Virginia Tech Students volunteered

Evaluation of Restoration as public involvement activities: Last reporting year 195 volunteers participated in restoration efforts through tree plantings to plant roughly 4,000 trees. During this reporting year an increase of approximately 700 volunteers participated and 8,000 more trees were

planted. The increase in trees in riparian areas is viewed as a benefit for water quality, and the increase in volunteers results in more individuals being educated about stormwater awareness.

2. Educational Events:
    - (9/10/2019)(9/20/2019)(10/1/2019) Katelyn Kast performed a hands-on bioretention demonstration. Students were educated on stormwater runoff and the use of stormwater facilities to help control stormwater pollution. Each student was given the opportunity to design, make and test their own stormwater facility in the form of a miniature "biofilter."
        - Metric: 218 fourth graders participated in these field trips
    - (Fall semester 2019 & Spring Semester 2020) Katelyn Kast mentored 5 Office of Sustainability Student interns in the Water Resources group. These students learned about Virginia Tech's MS4 permit and program while helping design water conservation educational tools and materials.
        - Metric: 5 Virginia Tech Students participated in this program.
    - (8/2/2019-8/3/2019) Site and Infrastructure Development helped with an educational booth that residents, faculty and staff and students were able to attend about stormwater and the importance of pet waste pick-up at Steppin' Out.
        - Metric: 69 pet waste bag containers were distributed, along with 120 pet waste refill bags, 380 stormwater stickers, 194 magnets and 108 educational flyers.
    - (10/18/2019) Katelyn Kast taught elementary school students about the importance of stormwater management and how pollutants can be carried with runoff to waterways. An EnviroScape was used to demonstrate how different activities contribute to water pollution and to visualize the process of water transport of pollutants, such as fertilizers, sediment, chemicals and fecal matter. Potential solutions and Best Management Practices were also discussed to show how pollutant transport can be reduced and mitigated.
        - Metric: Approximately 300 6th graders from Montgomery County Public Schools were educated along with 14 teachers and chaperones through this Stormwater Day events. The event utilized 14 Virginia Tech students as volunteers who also were educated.

Evaluation of Educational Events as public involvement activities: An increase in water quality can be expected due to the knowledge related to stormwater awareness being delivered to over 900 individuals during this reporting year through educational booths.

3. Pollution Prevention:
    - 38 pet waste stations are scattered around campus for the public's use.

- Metric: During the reporting year roughly 18,100 bags were used to pick up pet waste.

Evaluation of Pollution Prevention as public involvement activities: An increase in water quality can be expected due to the 2,500 more pet waste bags used on campus from the previous reporting year.

VTSID collaborated with the following MS4 programs for public involvement opportunities during the reporting year.

1. Town of Blacksburg
2. Town of Christiansburg
3. Montgomery County

Due to the COVID19 pandemic several spring activities planned for this reporting year were canceled due to teleworking, school closures and CDC requirements. Some of those events that were planned included:

1. 3/14/2020 & 3/15/2020: Home Builders Show to educate residents
2. 4/6/2020 & 4/7/2020: 6th grade Stormwater Days to educate students
3. 4/20/2020: Dr. Krometis' class lecture and BMP tour to educate Virginia Tech students
4. 4/16/2020 & 4/23/2020: 4th grade field trip to educate students
5. 5/27/2020: 7th grade field trip to educate students

MCM 3

The total number of outfalls screened during the reporting period as part of the dry weather screening program was 31. The remaining 39 outfalls were planned to be screened in spring of 2020 but due to the COVID19 pandemic requiring teleworking and preventing department members from working within close proximity of each other the inspections were canceled. Inspection reports can be provided upon request.

A list of illicit discharges to the MS4 can be seen in the below table.

Summary of Illicit Discharges					
Observed Date	Date Closed	Illicit Discharge Description	Location	Who Discovered	Resolved/Follow-Up Activities
11/5/2019	11/18/2019	Sediment	Drop Inlet behind Sterrett Complex	VTSID Employee, Katelyn Kast	VTSID noticed large amounts of sediment at a drop inlet below a wash pump and Anthony Watson was

					notified and the grounds department cleaned up the sediment.
1/15/2020	1/17/2020	Pressure washing into storm system	Grounds Facility	VTSID Employee, Katelyn Kast	A vehicle was being washed off with a pressure washer behind the grounds building at Sterrett and soapy water was entering the storm system, the group was asked to stop and educated on proper place to do that type of washing.
3/25/2020	3/25/2020	Soapy water	Branch of Stroubles Creek entering the Duck Pond	VTSID Employee, Chuck Dietz	Soapy water was located in a branch of Stroubles Creek entering the Duck Pond and VTSID tracked the suds to Town of Blacksburg Property and they were contacted to locate and stop the source.
6/29/2020	6/29/2020	Oil Spill	Intersection of Prices Fork and Stanger Street	VT Employee, Windell Jones	Cat Litter was used to soak up oil on the pavement and disposed of properly, no oil is thought to have entered the storm system.

MCM 4

The Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) are integral components of Virginia Tech's design, construction, and maintenance of the University's facilities and campuses. The Virginia Tech Annual Standards and Specifications for ESC and SWM are administered by Virginia Tech Site & Infrastructure Development and apply to all design, construction, and maintenance activities on property owned by Virginia Tech, either by its internal workforce or contracted to external entities. The Virginia Tech Annual Standards and Specifications for ESC and SWM are submitted to the Virginia Department of Environmental Quality (DEQ) for review and approval on an annual basis. Virginia Tech shall ensure that project-specific plans are developed and implemented in accordance with the Virginia Tech Annual Standards and Specifications for ESC and SWM.

The total number of inspections conducted on active construction sites within the reporting year are listed in the below table.

ESC Construction Inspections		
Project Name	**Total Inspections**	**Final Inspection Date**
VTES Lane Substation	10	11/6/2019
Tom's Creek Landfill	48	Active

Smoot	20	Active
MRL	22	Active
CID	37	Active
Athletic Soil Stockpile	22	Active
Airport Runway (3 phases)	40	Active
APR	17	4/1/2020
BETR	15	Active
Holden Hall	17	Active
Chiller (Phase 2)	18	Active
Contractor Laydown	16	Active
Perry Street Improvements	23	Active
Non-Permanent Gym Facility	13	Active
SAPC	16	Active
Venture Out Building	11	Active
Total Inspections	**345**	

Enforcement actions:
No enforcement actions were taken during the reporting year.

MCM 5

207 total inspections were conducted during the reporting year for stormwater management facilities owned and operated by Virginia Tech. Detailed inspection reports can be provided upon request. Attached in Appendix A is the spreadsheet of all stormwater management facilities.

Significant maintenance, repair and retrofit activities performed on stormwater management facilities owned or operated by Virginia Tech include:

1. The Grove Extended Detention Pond was originally constructed in the late 90's and there has been a lot of changes to the surrounding watershed since then. During those construction periods and post construction with additional impervious area, the pond was getting overloaded with sediment and trash as well as higher flow velocities during

rain events. The original pond had a low flow channel to direct the water to the outlet during periods of small rain events. This low flow channel had been completely filled in with sediment and was not functioning anymore. The pond was also designed with an inflow channel that collected runoff from a parking lot area as well as several storm sewer networks and directed the runoff into the pond. This channel had eroded to the point that there were large drops in the channel and many areas that had been washed out. Another main issue with the pond was that the low flow outlet was mostly plugged with sediment and debris and so water would collect in the pond for much longer than it was designed to hold water. Because of all of these issues and other minor concerns, the pond was completely rehabbed while still maintaining the original design's capacity, ponding time, and outfall rates. The rehab project included replacing the existing low flow outlet structure with one that will not be as easily clogged from sediment and debris and will be easier to clean out, regrade and re-line the low flow channel so that it functions per the original design and can handle the additional runoff velocity and volume better, regrade and line the inflow channel to protect it from the higher runoff velocity and volume and allow it to function properly, remove some trees that had taken root in the pond area, and fix the clay liner in a few places where it was no longer working properly. The rehab project has made the pond function like was originally designed as well as being more easily maintainable. This pond went from a muddy mess with sediment and debris all over it to a much better looking area that adds to the overall aesthetic of campus.

2. The four different Visitor Center Bioretention facilities at the Virginia Tech Visitor Center were converted from mulch cover to sod cover during the month of April 2020. The change in these facilities was implemented to ensure easier maintenance with mowing and weed removal for the Virginia Tech Grounds Department. This change was also needed to help prevent rill erosion that was occurring in several of the facilities created by run off from the nearby parking lot.

MCM 6

Updated dates of all approved Nutrient Management Plans can be found in the table below:

Nutrient Management Plans

Department	Area (Acres)	Issue Date	Expiration Date	Category	Contact Name	Contact Information
CALS Livestock Plan for Campus and Montgomery County Lands	1545.5	1/1/2020	4/1/2021	Agriculture	Dr. Allen Grant	540-231-41529 kentland@vt.edu
Virginia Tech Athletic Department	31.3	2/1/2019	2/1/2022	Turf & Landscape	Casey Underwood Emerson Pulliam	540-231-6067 caunderw@vt.edu 540-231-2840 emerson@vt.edu

Golf Course	18.5	2/1/2019	2/1/2022	Turf & Landscape	Jason Ratcliff	540-231-5619 jratclif@vt.edu
Virginia Tech Campus Grounds	174	2/1/2019	2/1/2022	Turf & Landscape	Steve Perfater	540-231-6973 sperfate@vt.edu
Hahn Horticulture Garden	3	8/1/2018	8/1/2021	Turf & Landscape	Dr. Holly Scoggins Dr. Shawn Askew	540-231-5783 hollysco@vt.edu 540-231-5807 saskew@vt.edu
Virginia Tech Recreational Sports	27	2/1/2019	2/1/2022	Turf & Landscape	Chad Kropff	540-231-1467 chadk66@vt.edu
Virginia Tech Dairy and Animal and Poultry Sciences	1429	1/1/2020	4/1/2021	Agriculture	Dr. Allen Grant	540-231-41529 kentland@vt.edu
Turfgrass Research Center	20	3/1/2019	3/2/2022	Turf & Landscape	Dr. Michael Evans Jon Dickerson	540-231-9775 mrevans1@vt.edu 540-231-6113 dickersj@vt.edu
Northern Piedmont AREC	268	9/1/2018	9/2/2021	Turf & Landscape	Steve Gulick	540-672-2660 sgulick@vt.edu
Urban Horticulture Center	15	4/1/2019	4/2/2022	Turf & Landscape	Dr. Michael Evans John James	540-231-9775 mrevans1@vt.edu 540-231-2683 jojames@vt.edu
Kentland Managed Lands	85.6	4/15/2019	4/14/2022	Turf & Landscape	Dwight Paulette	540-731-1289 kentland@vt.edu
Glade Road Research Center	6.3	4/1/2019	4/2/2022	Turf & Landscape	Dr. Michael Evans Kevin Hessler	540-231-9775 mrevans1@vt.edu 540-320-1276 khensler@vt.edu
Alson H. Smith, Jr AREC – Winchester	52.4	2/10/2019	2/11/2022	Turf & Landscape	Dr. Tony Wolf	540-869-2560 vitis@vt.edu
Eastern Shore AREC	117	3/16/2019	3/15/2022	Turf & Landscape	Steven Rideout	757-414-0724 srideout@vt.edu
Eastern Virginia AREC	152	9/9/2018	9/10/2021	Turf & Landscape	Robert Pitman	804-333-3485 rpitman@vt.edu
Hampton Roads AREC	40.25	7/1/2018	7/2/2021	Turf & Landscape	Dr. Pete Shultz	757-363-3900 schultzp@vt.edu
Middleburg AREC	268.6	7/1/2018	7/2/2021	Turf & Landscape	Ryan Brooks	540-687-3521 MAREC@vt.edu
Reynolds Homestead AREC	2.73	12/1/2018	12/1/2021	Turf & Landscape	Dr. Kyle Peer	276-694-4135 krpeer@vt.edu
Shenandoah Valley AREC	616.1	2/1/2019	2/2/2022	Agriculture	Lee Wright	540-377-2255 lrite@vt.edu
Southern Piedmont AREC	340	3/1/2019	3/2/2022	Agriculture	Dr. Carl Wilkinson	434-292-5331 wilki@vt.edu
Southwest AREC	106.4	1/15/2019	1/14/2022	Agriculture	Lee Wright	276-944-2203 lrite@vt.edu
Tidewater AREC	245	12/1/2018	12/31/2020	Agriculture	David Langston	757-657-6450 dblangston@vt.edu

The training events conducted within the reporting year can be found in the below table:

Stormwater Training			
Training Event Title	**Objective**	**Date of Event**	**Number of Individuals Trained**
Power House SWPPP Training	Train employees about the SWPPP and describe the employee's responsibility to prevent stormwater pollution.	6/3/20 6/2/20 6/7/20 6/8/20 6/13/20 6/17/20	33
Quarry SWPPP Training	Train employees about the SWPPP and describe the employee's responsibility to prevent stormwater pollution.	1/22/20	6
Stormwater Training for Housekeeping Services Staff	Educate Housekeeping Staff about stormwater runoff, as well as how to reduce and prevent stormwater pollution.	Canceled Due to COVID	N/A
Grounds SWPPP Training	Train employees about the SWPPP and describe the employee's responsibility to prevent stormwater pollution.	8/21/20	35
Stormwater Training for Dining Hall Employees	Educate the dining hall staff about stormwater runoff, as well as how to reduce and prevent stormwater pollution.	All year long	1,554

TMDL

Status report on the implementation:

- Updates were completed on the TMDL by May, 1 2020 and available on the department's website.
- Updated training was delivered to those operating Street Sweepers and cleaning out storm sewer inlets on 8/21/2019 and will occur again in the next reporting year.
- A transition to Lane Mile Approach for tracking was implemented.
- During the next reporting year improved tracking documentation and improved training materials will be created.

Actions conducted to implement local TMDL action plan:

- Street Sweeping: 11,250 pounds were removed through street sweeping during the reporting year. This number was impacted by COVID-19 due to employees not being able

to run the street sweeper during an extended period of teleworking. Street sweeper logs can be provided upon request.

Site and Infrastructure Development
Sterrett Center
230 Sterrett Drive
Blacksburg, Virginia 24061

Appendix A

BMP	BMP Name	BMP Status	BMP Type	Lat	Long	Perv. Drain Area	Imperv. Drain Area	Total Acres	Date Added	HUC	Impaired Water	Operator or Private owned?	Maint Agreement	Date of Last Insp.
01	Lane Stadium - Extended Detention Basin	Existing	Extended Detention	37.2190N	80.4169W	1.06	0.05	1.11	06/2010	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
02	Chicken Hill Underground Detention Basin	Existing	Underground Stormwater Detention	37.2173N	80.4183W	3.35	7.15	10.5	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
04	Vet Med - Retention Pond	Existing	Rentention Pond	37.2164N	80.4259W	312.2	119.5	431.7	06/2005	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
05	Vet Med - Detention Pond	Existing	Detention Pond	37.2158N	80.4309W	457.5	148.3	605.8	06/2005	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
07	Smithfield Lot Bioretention Pretreatment	Existing	Bioretention Pretreatment	37.2229N	80.4295W	0.36	1.03	1.39	06/2010	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
08	Smithfield Lot Bioretention	Existing	Bioretention	37.2230N	80.4296W	0.49	1.04	1.53	07/2007	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
09	Smithfield Lot Extended Detention1	Existing	Extended Detention	37.2233N	80.4295W	0.09	0.16	0.25	07/2007	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
10	Smithfield Lot Extended Detention2	Existing	Extended Detention	37.2238N	80.4292W	0.22	0.27	0.49	07/2007	NE59	Stroubles Creek	Operator-owned	N	5/28/2020

11	Duck Pond Overflow Lot - Extended Detention	Existing	Extended Detention	37.2230N	80.4307W	0.43	1.83	2.26	06/2005	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
13	Oak Lane (SPH) - Extended Detention Basin	Existing	Extended Detention	37.2248N	80.4381W	6.89	4.31	11.2	06/2005	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
14	Alumni Pond	Existing	Enhanced Extended Detention	37.2282N	80.4281W	15.8	28.0	43.78	01/2012	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
15	Grove Lane Extended Detention	Existing	Extended Detention	37.2230N	80.4278W	33.5	28.2	61.7	06/2005	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
16	Life Sciences - Green Roof Extension 1	Existing	Green Roof	37.2211N	80.4245W	0	0.5	0.5	06/2010	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
17	Life Sciences - Green Roof Extension 2	Existing	Green Roof	37.2208N	80.4246W	0	0.2	0.2	06/2010	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
18	Payne Detention Basin	Existing	Underground Detention	37.2253N	80.4212W	3.16	2.13	5.29	06/2005	NE59	Stroubles Creek	Operator-owned	N	10/10/19
19	Henderson Hall Bioretention Filter	Existing	Bioretention	37.2306N	80.4161W	2.32	1.26	3.58	07/2011	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
20	New Hall West 1	Existing	Bioretention	37.2221N	80.4228W	0	0.3	0.3	01/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
21	New Hall West 2	Existing	Bioretention	37.2224N	80.4222W	0	0.4	0.4	01/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
22	Horse Exibit - Livestock Arena	Existing	Extended Detention	37.2203N	80.4405W	4.93	0.87	5.8	06/2005	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
23	VTES - Extended Detention	Existing	Extended Detention	37.2113N	80.4128W	28.32	8.58	36.9	06/2005	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
24	Library Storage - Extended Detention	Existing	Extended Detention	37.2128N	80.4113W	10.97	2.73	13.7	06/2005	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
27	ICTAS II-Bioretention	Existing	Bioretention	37.2218N	80.4261W	0.05	0.28	0.33	07/2011	NE59	Stroubles Creek	Operator-owned	N	6/1/2020

28	HABBI Bioretention	Proposed	Bioretention	37.2201N	80.4274W	0.7	0.69	1.39	7/2015	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
29	SWCP Extended Detention	Existing	extended detention	37.2213N	80.4306W	3.25	1.31	4.56	11/2013	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
30	IDRF Retention Pond	Existing	Retention Basin	37.2169N	80.4295W	6.61	8.17	14.78	05/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
34	Lower Chicken Hill WQU	Existing	Underground WQU	37.2171N	80.4184W	3.35	7.15	10.5	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
35	New Hall West 3	Existing	Bioretention	37.2225N	80.4224W	0	0.3	0.3	01/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
36	New Hall West 4	Existing	Bioretention	37.2220N	80.4227W	0	0.3	0.3	01/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
37	McComas Filterra Unit	Existing	MTD Filterra Unit	37.2197N	80.4230W	0.3	0.4	0.7	07/2011	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
38	Football Locker Room WQU	Existing	Underground WQU	37.2226N	80.4178W	0.70	2.6	3.30	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
39	ICTAS II - Rain Garden	Existing	Bioretention	37.2221N	80.4258W	0	0.15	0.15	07/2011	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
41	MMF Bioretention Filter	Existing	Bioretention	37.2148N	80.4172W	10.25	1.37	11.62	09/2011	NE59	Stroubles Creek	Operator-Owned	N	6/1/2020
42	West End Bioretention Filter	Existing	Bioretention	37.2236N	80.4221W	0.1	0.19	0.29	01/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
43	West End Filterra	Existing	MTD Filterra Unit	37.2239N	80.4221W	0.06	0.59	0.65	01/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
44	Roller Hockey Rink WQU	Existing	MTD Stormceptor Underground WQU	37.2231N	80.4172W	2.60	4.2	6.80	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
45	Visitor's Center - Bioretention Filter 1	Existing	Bioretention	37.2306N	80.4351W	0.9	0.47	1.37	07/2012	NE59	Stroubles Creek	Operator-owned	N	5/28/2020

46	Visitor's Center - Bioretention Filter 2	Existing	Bioretention	37.2310N	80.4345W	0.34	0.14	0.48	07/2012	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
47	Visitor's Center - Bioretention Filter 3	Existing	Bioretention	37.2301N	80.4348W	0.47	0.16	0.63	07/2012	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
48	Visitor's Center - Bioretention Filter 5	Existing	Bioretention	37.2301N	80.4332W	1.53	0	1.53	07/2012	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
49	ASA - Underground Storage Tank 1	Existing	MTD Underground Detention Center	37.2315N	80.4229W	0.11	1.15	1.26	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
50	ASA - Underground WQU 1	Existing	MTD Underground WQU	37.2315N	80.4229W	0.11	1.15	1.26	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
51	ASA - Underground Storage Tank 2	Existing	MTD Underground Detention Center	37.2312N	80.4231W	0.06	0.86	0.92	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
52	ASA - Underground WQU 2	Existing	MTD Underground WQU	37.2312N	80.4232W	0.06	0.86	0.92	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
53	ASA - Biofilter	Existing	MTD WQU - Contech Urbangreen Biofilter	37.2311N	80.4237W	0.1	0.18	0.28	01/2012	NE59	Stroubles Creek	Operator-owned	N	10/10/19
54	SPE Filterra Unit 1	Existing	MTD Filterra Unit	37.2261N	80.4371W	0.11	0.42	0.53	08/2013	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
55	SPE Filterra Unit 2	Existing	MTD Filterra Unit	37.2254N	80.4367W	0.15	0.52	0.67	08/2013	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
56	SPE Underground Detention Piping	Existing	Underground Detention	37.2252N	80.4353W	0.51	0.35	0.86	08/2013	NE59	Stroubles Creek	Operator-owned	N	10/10/19

57	VMIA - Detention Swale	Existing	Detention Swale	37.2175N	80.4266W	0.09	0.25	0.34	11/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
58	VMIA - Filterra Unit	Existing	MTD Filterra Unit	37.2180N	80.4266W	0.01	0.23	0.24	11/2012	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
59	Dairy Barn Extended Detention	Existing	Extended Detention	37.2005N	80.5775W	0	8.49	34.91	7/2016	NE60	Stroubles Creek	Operator-owned	N	5/28/2020
60	CFTA Water Quality Unit 1	Existing	MTD Stormceptor Underground WQU	37.2310N	80.4173W	2.9	4.43	7.33	07/2013	NE59	Stroubles Creek	Operator-owned	N	10/10/19
61	CFTA Water Quality Unit 2	Existing	MTD Stormceptor Underground WQU	37.2316 N	80.4169W	1.94	1.82	3.76	07/2013	NE59	Stroubles Creek	Operator-owned	N	10/10/19
62	CFTA Underground Detention	Existing	MTD Underground Detention	37.2317N	80.4170W	1.94	1.82	3.76	07/2013	NE59	Stroubles Creek	Operator-owned	N	10/10/19
64	Oil/Water Separator at Perry Street Parking Garage	Existing	MTD Underground WQU Hydrodynamic Separator	37.2310N	80.4257W	0	-	-	05/2011	NE59	Stroubles Creek	Operator-owned	N	10/10/19
65	VT Airport Extended Detention Basin	Existing	Extended Detention	37.2055N	80.4114W	5.69	2.44	8.13	06/2005	NE60	Stroubles Creek	Privately-owned	Y	10/10/19
66	Upper Quad Bioretention 1	Existing	Bioretention	37.2304N	80.4190W	0	0.3	0.3	02/2018	NE59	Stroubles Creek	Operator-owned	N	5/28/2020
67	Upper Quad Bioretention 2	Existing	Bioretention	37.2302N	80.4193W	0	0.4	0.4	02/2018	NE60	Stroubles Creek	Operator-owned	N	5/28/2020

68	Upper Quad Underground Detention	Existing	MTD Underground Detention	37.2306N	80.4194W	0	0.9	0.9	02/2018	NE61	Stroubles Creek	Operator-owned	N	10/10/19
71	Drillfield Road Improvements Filterra Unit 1	Existing	MTD Filterra Unit	37.2294N	80.4213W	0.06	0.24	0.3	4/2016	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
72	Drillfield Road Improvements Fileterra Unit 2	Existing	MTD Filterra Unit	37.2279N	80.4198W	0.22	0.19	0.41	4/2016	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
73	IATF Filterra Unit 1	Existing	MTD Filterra Unit	37.2212N	80.4173W	0	0.24	0.24	9/2015	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
74	IATF Filterra Unit 2	Existing	MTD Filterra Unit	37.2212N	80.4172W	0	0.19	0.19	9/2015	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
75	IATF Filterra Unit 3	Existing	MTD Filterra Unit	37.2181N	80.4167W	0	0.19	0.19	9/2015	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
76	IATF Filterra Unit 4	Existing	MTD Filterra Unit	37.2219N	80.4169W	0	0.24	0.24	9/2015	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
77	IATF Filterra Unit 5	Existing	MTD Filterra Unit	37.2221N	80.4171W	0	0.24	0.24	9/2015	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
78	IATF Filterra Unit 6	Existing	MTD Filterra Unit	37.2223N	80.4173W	0	0.24	0.24	9/2015	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
79	IATF Filterra Unit 7	Existing	MTD Filterra Unit	37.2224N	80.4175W	0	0.19	0.19	09/2015	NE59	Stroubles Creek	Operator-owned	N	6/1/2020
80	IATF Underground Detention	Existing	MTD Underground Detention	37.2213N	80.4174W	0	1.29	1.29	09/2015	NE59	Stroubles Creek	Operator-owned	N	10/10/19
82	MARCHING VIRGINIANS Extended Detention	Existing	Extended Detention	37.1257N	80.2459W	12.79	2.72	15.51	07/2016	NE59	Stroubles Creek	Operator-owned	N	6/1/2020

83	MARCHING VIRGINIANS Extended Detention	Existing	Enhanced Extended Detention	37.1253N	80.2451W	32.16	6.23	38.39	07/2016	NE59	Stroubles Creek	Operator-owned	N	6/1/2020