CITY OF CHARLOTTESVILLE

Department of Public Works
Environmental Sustainability Division

305 4th Street NW • Charlottesville, Virginia 22903
Telephone 434-970-3631
Fax 434-970-3659

October 1, 2020

Department of Environmental Quality
Megan O'Gorek
DEQ Valley Regional Office
4411 Early Road
Harrisonburg, VA 22801

Re: Submittal of the Permit Year 2 Annual Report for General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems, Permit # VAR040051

Ms. O'Gorek,

In accordance with Permit VAR040051 effective November 1, 2018, the City of Charlottesville has compiled an Annual Report addressing the status of our Stormwater Management Program for the permit year covering July 1, 2019 through June 30, 2020.

If you have any questions or comments, please contact me at 434-970-3631 or Dan Frisbee, Water Resources Specialist, at 434-970-3997.

Respectfully,

City of Charlottesville

Kristel Riddervold
Environmental Sustainability and Facilities Development Manager

CITY OF CHARLOTTESVILLE
"A World Class City"

Office of The City Manager

P.O. Box 911 • Charlottesville, Virginia 22902
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www.charlottesville.org

October 1, 2020

Megan O'Gorek
Department of Environmental Quality
DEQ Valley Regional Office
4411 Early Road
Harrisonburg, VA 22801

Re: Certification of MS4 Annual Report for Permit # VAR040051

Ms. O'Gorek,

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.

Sincerely,

John C. Blair, II _____ 10-1-20

Mr. John Blair
Acting City Manager
City of Charlottesville, Virginia

VAR040051 City of Charlottesville
Permit Number MS4 Name

City of Charlottesville

Permit Year 2 Annual Report

General Permit for Stormwater Discharges

From Small Municipal Separate Storm Sewer Systems (MS4)

VAR040051

Submitted to:

Department of Environmental Quality
DEQ Valley Regional Office
4411 Early Road
P.O. Box 3000
Harrisonburg, VA 22801

October 1, 2020

Introduction

In compliance with the City of Charlottesville's coverage under the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, VAR040051, this Permit Year 2 (July 1, 2019 – June 30, 2020) Annual Report summarizes the status of permit compliance and stormwater management program elements pertaining to the six required Minimum Control Measures (MCMs).

As required by Part I.D.2.e, the City evaluated the MS4 Program implementation, including a review of each MCM, to determine the MS4 Program's effectiveness. This included an assessment of the selection of best management practices (BMP) that constitute the MS4 Program Plan. The City has determined that the identified BMPs represent an appropriate selection and implementation of an iterative stormwater management program as defined by the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems. The City did not receive any written comments regarding the MS4 Program Plan or any modifications.

The City's MS4 Program Plan was revised as follows: to accurately reflect the transition of some stormwater related programs and services from the Neighborhood Development Services Department and Department of Utilities to the Department of Public Works; to incorporate the City's revised Public Education and Outreach Plan; and to incorporate new forms utilized in the stormwater management facility inspection program.

The City entered into a contract with the Thomas Jefferson Soil and Water Conservation District to perform dry weather screening of City MS4 outfalls during the permit year.

The City is utilizing its local Virginia Stormwater Management Program (VSMP) to satisfy pertinent requirements of MCM 4, Construction Site Stormwater Runoff Control, and MCM 5, Post-construction Stormwater Management for New Development and Development on Prior Developed Lands.

As required by Part II.A.13.c, Attachment C of the Annual Report is an updated Chesapeake Bay TMDL Summary Ledger, which details the City's progress toward meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids. In accordance with Part II.A.13.d, the City currently envisions that the following BMP will be implemented during the next reporting period: street sweeping and urban bioretention.

As described in the City's approved *Combined Benthic and Bacteria TMDL Action Plan for the Rivanna River*, the City intends to demonstrate its progress on implementation of the Action Plan by tracking and reporting on BMPs in its MS4 Annual Reports. As such, this Annual Report details the implementation status of the BMPs identified in the Action Plan and provides the summary of actions conducted to implement the Action Plan as required by Part II.B.9.

Report Format

The information summarizing program status is presented in a matrix format with a separate section for each of the six MCMs.

Under each MCM is a series of BMPs and associated measurable goals. A column is provided for each of the five years of the permit term. For the purposes of this Year 2 Annual Report, results are posted in the column labeled "FY20".

Results are presented in one of three colors indicating the status of that program element:

- Green – activity/action proposed has been successfully completed in the proposed timeframe.
- Yellow – activity/action has been partially completed in the proposed timeframe.
- Red – activity/action has not been completed in the proposed timeframe.

Cells in the various annual columns that are shaded grey indicate program elements that are not applicable in those permit years.

In every case, a further explanation of the BMP status is provided in the rows directly below the subject program element. The previous year's BMP status is included in grey to provide context to DEQ in your review.

City of Charlottesville, Virginia

PERMIT NUMBER VAR040051

MS4 PERMIT YEAR 2 (JULY 1, 2019 - JUNE 30, 2020) ANNUAL REPORT

MCM #1: PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

Best Management Practice	Measurable Goal	FY19	FY20	FY21	FY22	FY23
1.1 - Regional Stormwater Partnership	*Participate in a Minimum of Six Meetings, Summarize Activities, Maintain Website, One Major Event/Activity Per Permit Cycle*					

FY20 - The City continued its involvement in the Rivanna Stormwater Education Partnership (RSEP) this permit year. The RSEP met its meeting frequency commitment, meeting six times during the permit year. The RSEP continued to conduct public education campaigns to educate the general public and the local business community on steps they can take to reduce their impacts on stormwater quality. A range of outreach strategies was utilized this year, including an expanded social media and online presence, a newspaper advertisement, a speaking engagement, and brochures. A RSEP partner staffed an informational table with educational materials at two public events during the permit year, delivered a presentation about stormwater and residential best management practices (BMP) to help improve water quality, and distributed brochures for the Virginia Conservation Assistance Program (a program that is supported by the City and RSEP) to residents. The redesigned RSEP website, www.rivanna-stormwater.org, launched during the permit year. The partnership also completed the design for and launched the GIS-based Story Map website, *The Rivanna River Watershed* (www.tinyurl.com/RivannaStoryMap), which provides interactive information on the Rivanna River and its watershed, local stream health, community water quality monitoring programs, projects and programs local MS4 permit holders are undertaking, and things residents can do at home and work to improve stream health and water quality. Finally, the RSEP conceived of, planned, and launched the Love Your Watershed campaign (www.rivanna-stormwater.org/love-your-watershed). Love Your Watershed launched as a social media and online campaign designed to motivate residents of the greater Charlottesville area to reduce their impact on waterways and ultimately improve local water quality. The campaign will continue for the foreseeable future. The RSEP partners coordinated on the implementation of the regional Public Education and Outreach Plan for the current five year MS4 permit cycle.

FY19 - The City continued its involvement in the Rivanna Stormwater Education Partnership (RSEP) this permit year. The RSEP met its meeting frequency commitment, meeting six times during the permit year. The RSEP continued to conduct public education campaigns to educate the general public and the local business community on steps they can take to reduce their impacts on stormwater quality. A wide range of outreach strategies were utilized this year, including newspaper advertisements, utility bill inserts, posters on local public transportation buses, refrigerator magnets, and brochures. The RSEP website underwent a major update, and is scheduled to be launched in the FY20 permit year. An RSEP representative delivered a presentation to 40 members of the Charlottesville Area Tree Stewards (CATS) and the general public; the presentation addressed the impacts of stormwater, high priority water quality issues (sediment, bacteria and nutrients pollution), as well as how tree buffers can be a tool to help manage these issues. Finally, the partnership continued to design the GIS-based Story Map website, which will provide interactive information on the Rivanna River and its watershed, local stream health, community water quality monitoring programs, projects and programs the MS4 permit holders are undertaking, and things residents can do at home and work to improve stream health and water quality. The Story Map is scheduled to be launched in the FY20 permit year. The RSEP partners coordinated on the implementation of the regional Public Education and Outreach Plan for the current five year MS4 permit cycle.

1.2 - City Environmental Webpages	*Maintain Website, Provide Stormwater Education Information*					

FY20 - The City launched a new website during the permit year, www.charlottesville.gov. The new website contains several pages of environmental, green infrastructure, and stormwater content including information on stormwater, local waterways and watersheds, the City's stormwater management program (including the MS4 Program Plan, current MS4 Permit and coverage letter, and most recent Annual Report), the City's Water Resources Protection Program (WRPP) and Stormwater Utility (SWU), green stormwater infrastructure, and the Adopt-A-Stream program. Online reporting of illegal dumping, illicit discharges, or other environmental problems is also available through the City website, as well as through the MyCville app, which enables real-time reporting and tracking of water pollution concerns. The website also provides a mechanism for the public to provide input on the City's MS4 Program Plan. The webpages are www.charlottesville.gov/greencity, www.charlottesville.gov/wrpp, and www.charlottesville.gov/greeninfrastructure.
The City completed updates to the data presented in CityGreen, an interactive, online mapping tool that shows "green" projects and resources around Charlottesville that contribute to making Charlottesville "A Green City". CityGreen can be found at www.charlottesville.gov/citygreenmap. In collaboration with the Green Infrastructure Center (GIC), the City also produced *City GreenPrint 1.0, Charlottesville's Green Infrastructure Guide* . This document supports the conservation and restoration of Charlottesville's green infrastructure. It provides an introduction to what green infrastructure is and presents Charlottesville's green infrastructure baseline. The document and its numerous maps are included on the City GreenPrint 1.0 webpage, www.charlottesville.gov/1356/City-GreenPrint-10.

FY19 – The City has continued to maintain several pages of environmental and stormwater content on the official City of Charlottesville website. The pages include information on stormwater, local waterways and watersheds, the City's stormwater management program (including the MS4 Program Plan, current MS4 Permit and coverage letter, and most recent Annual Report), the City's Water Resources Protection Program (WRPP) and Stormwater Utility (SWU), rain gardens and low impact development, water quality and water conservation, Adopt-A-Stream program, the relationship between impervious cover and stream health, green infrastructure, and stream restoration. The website also provides tips and information that citizens can use to decrease their contribution to stormwater pollution through proper disposal of household hazardous waste, trash management, lawn and garden activities, and pet waste management. Online reporting of illegal dumping, illicit discharges, or other environmental problems is also available through the City website, as well as through the MyCville app, which enables real-time reporting and tracking of water pollution concerns. The website also provides a mechanism for the public to provide input on the City's MS4 Program Plan. The webpages are www.charlottesville.org/stormwater and www.charlottesville.org/wrpp.
The City completed updates to the data presented in CityGreen, an interactive, online mapping tool that shows "green" projects and resources around Charlottesville that contribute to making Charlottesville "A Green City". CityGreen can be found at www.charlottesville.org/CityGreenMap.

1.3 - Youth Stormwater Education	*Document and Describe Number of Activities Targeting Youths*					

FY20 - The City was active in engaging youth in stormwater education activities during the permit year. The City's Department of Parks and Recreation (DPR) continued to engage youths in active outdoor environmental education in parks and natural areas through their Summer Camp programs. These camps provided opportunities to explore and learn about natural environments through field trips to a local natural playscape park and kayaking at local reservoirs and served 335 children and 54 adults this permit year. The City again partnered with Charlottesville City Schools (CCS) and the Thomas Jefferson Soil and Water Conservation District (TJSWCD) to provide a Meaningful Watershed Educational Experience (MWEE) to 375 City fourth grade students, encouraging and engaging students' participation in hands-on environmental learning about the Rivanna River Watershed and our place in the Chesapeake Bay Watershed. Each student participated in a rotation of field investigations that include three core stations: 1) A nature study hike highlighting a variety of habitats; 2) a stream study and a biological water quality assessment of Moormans River benthic macroinvertebrates; and 3) a watershed station including watershed maps, soil box experiments, and an Enviroscape demonstration that allows students (and adults) to gain a better understanding of how our day-to-day activities impact the environment.

FY19 - The City was active in engaging youth in stormwater education activities during the permit year. The City's Department of Parks and Recreation (DPR) continued to engage youths in active outdoor environmental education in parks and natural areas through their Winter Break, Spring Break, and Summer Camps. These camps provided opportunities to explore and learn about natural environments and served 630 children this permit year. The City again partnered with Charlottesville City Schools (CCS) and the Thomas Jefferson Soil and Water Conservation District (TJSWCD) to provide a Meaningful Watershed Educational Experience (MWEE) to 354 City fourth grade students, encouraging and engaging students' participation in hands-on environmental learning about the Rivanna River Watershed and our place in the Chesapeake Bay Watershed. Each student and over 60 parent/teacher chaperones participated in a rotation of field investigations that include three core stations: 1) A nature study hike highlighting a variety of habitats; 2) a stream study and a biological water quality assessment of Moormans River benthic macroinvertebrates; and 3) a watershed station including watershed maps, soil box experiments, and an Enviroscape demonstration that allows students (and adults) to gain a better understanding of how our day-to-day activities impact the environment.

1.4 - Illicit Discharge and Pollution Prevention Education	*Document and Describe Number and Type of Education Efforts*					

FY20 - Illicit discharge educational information was targeted to various audiences again this permit year, including the general public, local businesses, and City employees. As described above in BMP 1.1, the RSEP continued to provide educational messages through various media to the general public that stress the connection of the stormwater drainage system to local waterways, as well as best management practices that citizens can employ to prevent stormwater pollution. The PSA that was created by the City's Communications Office and Department of Public Works (DPW) that is described below in last year's annual report continued to air on the City's public access TV10 station during the permit year. The video is also featured online at the City's video hosting site, Vimeo.com/Cvilletv10. PSA slides developed by the RSEP on pet waste management, car washing, and lawn care were also aired on the City's TV10.

FY19 - Illicit discharge educational information was targeted to various audiences again this permit year, including the general public, local businesses, and City employees. As described above in BMP 1.1, the RSEP continued to provide educational messages through various media to the general public that stress the connection of the stormwater drainage system to local waterways, as well as best management practices that citizens can employ to prevent stormwater pollution. The PSA that was created by the City's Communications Office and Department of Public Works (DPW) continued to air on the City's public access TV10 station during the permit year. The sixty second video features a man and his son embarking on a fishing trip just after a storm. The son asks his father a series of questions as they journey to the river, following the path of the stormwater from the sky, to the parking lot, into the stormwater drainage system, through small streams, and finally into the Rivanna River. The video is also featured online at the City's video hosting site, Vimeo.com/Cvilletv10. PSA slides developed by the RSEP on pet waste management, car washing, and lawn care were also aired on the City's TV10.

1.5 - Public Education and Outreach Plan	*Identify high priority issues; select strategies for public education and outreach; identify public audiences; delivery of high-priority messages.*					

FY20 - The updated Public Education and Outreach Plan that was developed in coordination with the RSEP continued to be implemented this permit year. The Plan was revised to acknowledge challenges presented by the COVID-19 pandemic. Education and outreach activities were conducted using the following strategies to communicate and address the high-priority issues of runoff volume reductions, potential runoff pollutants, and TMDL impairments (bacteria, sediment, nitrogen, phosphorus): media materials (newspaper advertisement in the CVille Weekly, PSAs on public access TV, RSEP website including Love Your Watershed content, Rivanna River Watershed Story Map, and social media posts), traditional written materials (RSEP and VCAP brochures), and a speaking engagement (presentation at Chesapeake Bay Foundation event).

FY19 - The Public Education and Outreach Plan (Plan) that was developed in coordination with the RSEP in the previous MS4 permit term was updated to meet the requirements of the current permit and implemented this permit year. The three high-priority water quality issues identified are runoff volume reductions, potential runoff pollutants, and TMDL impairments (bacteria, sediment, nitrogen, phosphorus). Education and outreach activities were conducted using the following strategies to communicate and address the high-priority issues: written materials (posters on public transportation buses and utility bill inserts), media materials (newspaper advertisements in the CVille Weekly, PSAs slides on public access TV, and social media posts), speaking engagements (presentation to and discussion with CATS), and alternative materials (magnets).

MCM #2: PUBLIC INVOLVEMENT / PARTICIPATION

Best Management Practice	Measurable Goal	FY19	FY20	FY21	FY22	FY23
2.1 - Volunteer Stream Clean Up	*Support At Least Two Events, Document Number of Events and Volunteers*					

FY20 - The City supported three stream clean-up events over the course of the permit year. The City partnered with the Rivanna Conservation Alliance (RCA), The Nature Conservancy (TNC), and the general public on the clean-ups. The events involved over 15 volunteers and collected 24 bags of trash and debris, numerous tires, as well as other items such as pieces of pipe, a 55 gallon drum, and car parts.

FY19 - The City supported thirteen stream clean-up events over the course of the permit year. The City partnered with the Rivanna Conservation Alliance (RCA), The Nature Conservancy (TNC), the University of Virginia (UVA), Albemarle County, Albemarle County Water Rescue Team, Rivanna Trails Foundation, Charlottesville Sprint Pavilion, Charlottesville Area Mountain Bike Club, Charlottesville Area Trail Runners, Camp Henry, and the general public on the clean-ups. The events involved over 160 volunteers and collected 3 dump truck loads, 1 pickup truck load, and 108 bags of trash and debris, 40 tires, as well as other items such as a television, a mattress, several large pieces of metal and plastic, several pieces of pipe, a broken piece of a kayak, a trash can, inner tubes, kid's bicycles, and sporting equipment. One of the events weighed the actual amount of trash and debris collected, which totaled 1,840 pounds. The City is counting these stream clean-ups as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the amount of trash and debris removed; based upon the large amount removed, the City has determined that the activity is beneficial to improving water quality.

2.2 - Adopt-A-Stream Program	*Document Number of Events, Volunteers, Volunteer Hours, Debris Collected*					

FY20 - The Adopt-a-Stream Program continues to be administered by the Environmental Sustainability Division of the DPW. During the permit year, 2 clean-ups were conducted, which involved 21 volunteers and 40.5 volunteer hours, collecting 10 bags of trash. A new participant was also added to the program.

FY19 - The Adopt-a-Stream Program continues to be administered by the Environmental Sustainability Division of the DPW. During the permit year, 3 clean-ups were conducted, which involved 9 volunteers and eighteen volunteer hours, collecting 5 bags of trash.

2.3 - Tree Planting Program	*Hold At Least Two Events, Document Number of Events, Volunteers, and Trees Planted*					

FY20 - The City's DPR supported two public tree planting events during the permit year. These events partnered with the Charlottesville Area Tree Stewards (CATS), the City Tree Commission, and J.W Townsend, a local business. Over 20 members of the public were involved and 32 trees were planted. The City is counting these tree planting events as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the number of trees planted; based upon the number of trees planted, 32, the City has determined that the activity is beneficial to improving water quality.

FY19 - The City's DPR supported three public tree planting events during the permit year. These events, which took place in the City's McIntire Park, partnered with CATS. 78 members of the public were involved and 60 trees were planted. The City is counting these tree planting events as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the number of trees planted; based upon the number of trees planted, the City has determined that the activity is beneficial to improving water quality.

2.4 - Watershed and Water Quality Activities	*Document Number and Description of Activities*					

FY20 - The City was active in organizing, participating in, promoting, and sponsoring watershed and water quality activities in the community this permit year. The City continued the Pollocks Branch Walkable Watershed process. During the permit year planning and design work continued for the bridge which will be used to provide a pedestrian crossing of Pollocks Branch; planning and design work continued for a natural plant community-based landscape installation that will treat stormwater from a residential street; a stream clean-up of Pollocks Branch was performed; and collaboration continued with the University of Virginia (UVA) and South First Street neighborhood youth on the reuse of an ash tree that will be felled as part of the bridge construction. The City's Water Resources Specialist was awarded the Golden Trowel Outstanding Partner Award by Cultivate Charlottesville for his work partnering with and supporting the Urban Agriculture Collective of Charlottesville and their urban farms. This award recognized work to support the community garden in the South First Street neighborhood described below in last year's annual report.

The City's DPR continued its Adaptive Recreation Program, which serves individuals with physical and/or mental disabilities whose recreational needs cannot be met by regular programs. The program included hiking, paddling, tubing, stand-up paddle boarding, swimming, exploring, adventuring, and learning in, on, and along the Rivanna River and Trail, Chris Greene Lake, Beaver Creek Reservoir, Walnut Creek Park, Ivy Creek Natural Area, Mint Springs Park, and Shenandoah Caverns. The program served 225 individuals during the permit year. The City is counting this program as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the number of participants; based upon the number of participants, 225, the City has determined that the activity is beneficial to improving water quality. DPR also held a nature camp for older adults that included education on invasive and native plant species, astronomy, and geology. The camp served five individuals.

The City's Water Resources Specialist gave a tour of the Meadow Creek restoration project to a UVA Landscape Architecture class as well as a tour of City green stormwater infrastructure to a professor and students from Longwood University; and the City's Environmental Sustainability Manager provided a tour of the City Hall vegetated roof to a group of UVA Engineering students.

The City continued to provide financial and technical support to RCA and its community-based water quality monitoring program StreamWatch. The City is counting this support as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the number of sites monitored by StreamWatch; based upon the number of sites monitored, 68, the City has determined that the activity is beneficial to improving water quality.

The City sponsored and supported FLOW: The Rivanna River Arts Festival, a celebration of art, music, song and dance inspired by the Rivanna River. It is estimated that more than 400 people attended the event along the Rivanna River. The City is counting this event as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the number of participants; based upon the number of participants, over 400, the City has determined that the activity is beneficial to improving water quality. City staff also participated in the planning of the 2020 Rivanna RiverFest, which was set to include the Fix-a-Leak Family 5K, Rivanna River Race, community tabling, and a celebration at the Rivanna River Company. Unfortunately the event was cancelled due to the COVID-19 pandemic. The City continued its rain barrel rebate program, which provides $30 back to homeowners who purchase and install a rain barrel; rebates for 26 rain barrels were issued, for a total of $780 during the permit year.

City staff continue to serve on and support several public boards and bodies. The City's Water Resources Specialist sits on RCA's Science Advisory Committee. The standing Water Resources Protection Program (WRPP) Advisory Committee, appointed by the Charlottesville City Council to provide oversight of the WRPP, met one time during the permit year with DPW and Department of Utilities (DU) staff support. A presentation on the status of the City's MS4 Program was delivered to the WRPP Advisory Committee by the City's Water Resources Specialist. The City's Urban Forester continued to provide staff support to the City Tree Commission. DPR staff also provide support to the Parks and Recreation Advisory Board, CATS, and the McIntire Botanical Garden.

FY19 - The City was active in organizing, participating in, promoting, and sponsoring watershed and water quality activities in the community this permit year. The City continued the Pollocks Branch Walkable Watershed process. During the permit year the green infrastructure Capstone Project, the rainwater harvesting system that provides irrigation water for the Urban Agriculture Collective of Charlottesville's (UACC) new community garden at Charlottesville Redevelopment and Housing Authority's (CRHA) South First Street property, was put into service; planning and design work continued for the bridge which will be used to provide a pedestrian crossing of Pollocks Branch; collaboration began with UVA and South First Street neighborhood youth on the reuse of an ash tree that will be felled as part of the bridge construction; planning and design work continued for a natural plant community-based landscape installation that will treat stormwater from a residential street; stream clean-ups of Pollocks Branch were performed; and engagement with CRHA, UACC, and South First Street neighborhood residents continued.

The City's DPR continued its Adaptive Recreation Program, which serves individuals with physical and/or mental disabilities whose recreational needs cannot be met by regular programs. The program included hiking, paddling, tubing, stand-up paddle boarding, swimming, whitewater rafting, exploring, adventuring, and learning in, on, and along the Rivanna River and Trail, Chris Greene Lake, Beaver Creek Reservoir, Walnut Creek Park, Ivy Creek Natural Area, and Harpers Ferry, West Virginia. The program served 284 individuals during the permit year.

The City's Water Resources Specialist gave a tour of the Meadow Creek restoration project to a UVA Landscape Architecture class; and the City's Environmental Sustainability Manager, Urban Forester, and Water Resources Specialist partnered to provide a tour of the City Hall vegetated roof and historic Downtown Mall's urban trees, as well as a presentation of the CityGreen Map tool to the Virginia Natural Resources Leadership Institute. The City is counting these educational events as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the number of participants; based upon the number of participants, which was over 50, the City has determined that the activity is beneficial to improving water quality.

The City continued to provide financial support to RCA and its community-based water quality monitoring program StreamWatch. The City is counting this support as one of the four activities required by the MS4 General Permit that are meant to provide an opportunity for public involvement to improve water quality. The metric to determine if the activity is beneficial to water quality is the number of sites monitored by StreamWatch; based upon the number of sites monitored, 64, the City has determined that the activity is beneficial to improving water quality. The City's Water Resources Specialist sits on RCA's Science Advisory Committee. The standing Water Resources Protection Program (WRPP) Advisory Committee, appointed by the Charlottesville City Council to provide oversight of the WRPP, met four times during the permit year with Department of Utilities (DU) staff support. The City's Urban Forester continued to provide staff support to the City Tree Commission.

The City's Environmental Sustainability Division staff set up an informational table outside City Hall on Earth Day and interacted with and educated numerous citizens; the City partnered with UVA to co-host and participate in their *Earth Week Expo: Building Bridges* event, which featured partnerships and collaborations between UVA and the surrounding community. City staff participated in the planning and execution, and the City was a major sponsor of the 2019 Rivanna RiverFest, which included the Fix-a-Leak Family 5K, Rivanna River Race, community tabling, and a celebration at the Rivanna River Company. The City continued its rain barrel rebate program, which provides $30 back to homeowners who purchase and install a rain barrel; rebates for 35 rain barrels were issued, for a total of $1,050 during the permit year.

2.5 - Public Involvement	*MS4 Program Plan and Annual Reports Posted to City Website, Provide for Public Comment on Proposed MS4 Program Plan*					

FY20 - The City has maintained its MS4 Program Plan in accordance with the MS4 General Permit. The City keeps a copy of the most current version of the MS4 Program Plan posted to its website. The City also keeps copies of the Annual Reports required by the MS4 General Permit posted to its website; a copy of the most current Annual Report is posted within 30 days of submittal of the report to DEQ. The MS4 Program Plan and Annual Reports can be found at the following webpage: www.charlottesville.gov/380/Stormwater-Management-Program. The public can provide input on the MS4 program via this webpage; no public input was received during the permit year.

FY19 - The City has maintained and updated its MS4 Program Plan in accordance with the MS4 General Permit. The City keeps a copy of the most current version of the MS4 Program Plan posted to its website. The City also keeps copies of the Annual Reports required by the MS4 General Permit posted to its website; a copy of the most current Annual Report is posted within 30 days of submittal of the report to DEQ. The MS4 Program Plan and Annual Reports can be found at the following webpage: www.charlottesville.org/stormwater. The public can provide input on the MS4 program via this webpage; no public input was received during the permit year.

MCM #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Measurable Goal	FY19	FY20	FY21	FY22	FY23
3.1 - Illicit Discharge Detection and Elimination Program	*Develop Procedures, Keep Records of IDDE Program, Including Number of Outfalls Screened and Illicit Discharges Addressed*					

FY20 - The City continued to implement its illicit discharge detection and elimination (IDDE) program this permit year. The City responded to several reports of water pollution from internal City staff and the public; see Attachment A for a list of illicit discharges to the City's MS4. Additionally, dry weather screening of 53 of the City's MS4 outfalls was conducted using a tailored version of the Center for Watershed Protection's Outfall Reconnaissance Inventory. The dry weather screening did not detect any illicit discharges and as a result no follow up actions were necessitated. The City contracted with the TJSWCD to conduct the dry weather screening this permit year.

FY19 - The City continued to develop and implement its illicit discharge detection and elimination (IDDE) program this permit year. IDDE written procedures were updated to meet the requirements of the new MS4 General Permit. The City responded to several reports of water pollution from internal City staff and the public; see Attachment A for a list of illicit discharges to the City's MS4. Additionally, dry weather screening of 55 of the City's MS4 outfalls was conducted using a tailored version of the Center for Watershed Protection's Outfall Reconnaissance Inventory. The dry weather screening did not detect any illicit discharges and as a result no follow up actions were necessitated. The City contracted with the TJSWCD to conduct the dry weather screening this permit year.

3.2 - Maintenance of GIS Data, MS4 Map, and Information Table	*Document Efforts Related to Maintenance of GIS Data, Up-to-date MS4 Map and Information Table*					

FY20 - The City continued to maintain GIS data layers of its stormwater infrastructure system, areas where streams flow through the stormwater infrastructure system, waters receiving discharges from the City’s MS4, the outfalls of the City’s MS4 and their drainage areas, the MS4 regulated service area, and stormwater management facilities (SMF) owned or operated by the City. The City MS4 Map and associated Information Table were updated to reflect changes to the MS4 occurring on or before June 30 of the reporting year.

FY19 - The City continued to maintain GIS data layers of its stormwater infrastructure system, areas where streams flow through the stormwater infrastructure system, waters receiving discharges from the City’s MS4, the outfalls of the City’s MS4 and their drainage areas, the MS4 regulated service area, and stormwater management facilities (SMF) owned or operated by the City. The City MS4 Map and associated Information Table were updated to meet the requirements of the new MS4 General Permit and to reflect any changes to the MS4 occurring on or before June 30 of the reporting year.
During the permit year, the City’s stormwater system GIS data underwent a major overhaul. A new layer was generated which better captures both newly-installed pipes, structures, and SMFs while updating and modernizing existing data. In this new layer, nomenclature has been revised to provide unique identifiers for all pipe outfalls, symbols have been added to differentiate structure types, and flow direction arrows have been added. Abandoned pipes and structures are now clearly identified as such and open channel flow is illustrated as part of the system, whether the flow is in a stream channel or man-made swale. The objective of updates is to provide more data and more accurate data for asset management and to ultimately develop a stormwater model for the City and its drainage areas. In all, over 2,500 structures and approximately 2,000 pipes have been added or revised during this permit year. Additionally, a detailed catalog of both publicly and privately-owned SMFs has been generated. This layer interacts with the stormwater system GIS layer and shows where SMFs interact with the system.

3.3 - Notification of Physically Interconnected MS4s	*Document Existence of Physical Interconnections and Written Notification*					
FY20 - No known physical interconnections to any downstream MS4s were established or discovered after the effective date of the MS4 General Permit.						
FY19 - No known physical interconnections to any downstream MS4s were established or discovered after the effective date of the MS4 General Permit.						
3.4 - Online Reporting of Environmental Concerns and Illicit Discharges	*Track Problems Reported and City Responses*					
FY20 - The City continues to maintain online reporting features on the new City website and has worked with the RSEP to administer the regional Water Pollution Hotline. These features allow public reporting of potential illicit discharges. The City conducts investigations of the reports to ensure that the discharges are addressed and proper corrective actions are taken by the responsible party.						
FY19 - The City has continued to maintain online reporting features on the City website and has worked with the RSEP to administer the regional Water Pollution Hotline. These features allow public reporting of potential illicit discharges. The City conducts investigations of the reports to ensure that the discharges are addressed and proper corrective actions are taken by the responsible party.						

MCM #4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Best Management Practice	Measurable Goal	FY19	FY20	FY21	FY22	FY23
4.1 - Erosion and Sediment Control Program	*Track Number of Inspections Conducted and Type and Number of Enforcement Actions, Status of E&S Control Program*					

FY20 - During the permit year, administration of the Erosion and Sediment (E&S) Control program transitioned from the City's Neighborhood Development Services (NDS) Department to the DPW's Engineering Division. The program continues to be administered in accordance with, and is currently considered "consistent" with, state standards. A total of 1,150 E&S and Virginia Stormwater Management Program (VSMP) inspections were conducted during the permit year. Enforcement actions stemming from these inspections included the issuance of 583 Corrective Action Reports, 7 Notices to Comply, and 6 Stop Work Orders. The process of updating the City's Standards and Design Manual, including the section on E&S, was completed during the permit year.

FY19 - The City's Neighborhood Development Services (NDS) Department has continued to administer the Erosion and Sediment (E&S) Control program in accordance with state standards. The City's E&S program is currently considered "consistent" with state standards. A total of 1,082 E&S and Virginia Stormwater Management Program (VSMP) inspections were conducted. Enforcement actions stemming from these inspections included the issuance of 256 Corrective Action Reports, 2 Notices to Comply, and 2 Stop Work Orders. The process of updating the City's Standards and Design Manual, including the section on E&S, was continued during the permit year.

4.2 - General Permit for Discharges From Construction Activities	*Keep Evidence of Permit Issuance in Project File*					

FY20 - During the permit year, five projects located in the city were issued initial coverage under the General VPDES Permit for Discharges of Stormwater from Construction (CGP); one project had transferred coverage due to the project changing ownership and operational control; and 28 projects were reissued coverage due to the beginning of the five year CGP cycle that began on July 1, 2019 and expires June 30, 2024.

FY19 - During the permit year, the City received 11 transmittal letters from DEQ issuing coverage under the General Permit for Discharges from Construction Activities. Nine projects were issued initial coverage under the permit and two projects were transferred coverage due to the project changing ownership and operational control.

MCM #5: POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND DEVELOPMENT ON PRIOR DEVELOPED LANDS

Best Management Practice	Measurable Goal	FY19	FY20	FY21	FY22	FY23
5.1 - Stormwater Management Materials	*Keep Materials Available on City Website, Document Significant Changes, Updates, or New Materials*					

FY20 - The City has continued to make various stormwater management materials publicly available including Charlottesville City Code Chapter 10, Water Protection, and the City Standards and Design Manual, Chapter 5, Stormwater Management. The process of updating the Standards and Design Manual section on Stormwater Management and adding a section on Green Stormwater Infrastructure was completed during the permit year. As the City administered the local VSMP during the permit year, several forms related to the Stormwater Management Facility (SMF) and Best Management Practice (BMP) Inspection and Maintenance Program were created or updated.

FY19 - The City has continued to make various stormwater management materials publicly available including Charlottesville City Code Chapter 10, Water Protection, and the City Standards and Design Manual, Chapter 3, Stormwater Management. The process of updating the Standards and Design Manual section on Stormwater Management and adding a section on Green Stormwater Infrastructure was continued during the permit year. A process to update the City's Stream Buffer Mitigation Manual also continued. As the City administered the local VSMP during the permit year, NDS incorporated several updated forms related to the General VPDES Permit for Discharges of Stormwater from Construction Activities and SWPPP Template for Single Family Residences.

5.2 - Development Plan Review	*Document Number of Site Plans Reviewed*					

FY20 - NDS continues to administer the site plan review process for the City. During the permit year, 15 site plans with a stormwater management component were reviewed by DPW's Engineering Division. This is the number of plans that were initially submitted for review during the permit year. Many of these plans will eventually be approved, but some may end up being denied, on hold for a period of time, or potentially approved but never implemented.

FY19 - NDS continues to administer the site plan review process for the City. During the permit year, NDS reviewed 22 site plans with a stormwater management component. This is the number of plans that were initially submitted for review during the permit year. Many of these plans will eventually be approved, but some may end up being denied, on hold for a period of time, or potentially approved but never implemented.

5.3 - Structural Stormwater Management Facility and Best Management Practice Inventory and Reporting	*Maintain Updated Database, Annual Certification Statements*					

FY20 - DPW's Engineering and Environmental Sustainability Divisions maintain a database of public and private structural stormwater management facilities (SMF) in the city; all best management practices (BMP) that the City implements to meet Chesapeake Bay TMDL pollutant of concern load reduction requirements are also tracked. The City electronically reported SMFs that were installed as part of a project that did not have coverage under the CGP to the DEQ BMP Warehouse. The City did not complete construction of any projects requiring coverage under the CGP.

FY19 - NDS continues to maintain a database of public and private structural stormwater management facilities (SMF) in the city. DPW also includes all best management practices (BMP) that the City implements to meet Chesapeake Bay TMDL pollutant of concern load reduction requirements. The City electronically reported SMFs that were installed as part of a project that did not have coverage under the CGP to the DEQ BMP Warehouse. The City did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction (CGP).

5.4 - Structural Stormwater Management Facility Inspection and Maintenance Program	*Track Number of Inspections and Number and Type of Enforcement Actions, Description of Significant Maintenance, Repair, or Retrofit Activity*					

FY20 - The City's SMF inspection and maintenance program remains active. The program typically follows the calendar year with the first round of inspections starting in late winter or early spring. For the second half of calendar year 2019, post inspection letters were sent to property owners, HOA representatives, and property managers. Re-inspections were completed for "failed" facilities and follow-up letters were sent to the responsible party. For the 2020 calendar year, the initial notice to property owners was mailed on June 15, 2020. The first round of inspections has occurred; follow up and final inspections will be taking place in FY21. Eight privately-owned SMFs were inspected with three facilities failing initial inspections and one requiring further inspections before determining the status. Notification letters will be sent in the near future with a 60-day requirement to remedy the deficiencies noted. 12 City-owned SMFs were inspected with six facilities failing initial inspections. Notices for City-owned facilities are planned to be sent in the near future.

Maintenance was performed on the City's vegetated filter strip located at Charlottesville High School. Maintenance included removal of sediment and accumulated debris from gravel diaphragms, level spreaders, and the overflow spillway; cleaning and replacing of stone within gravel diaphragms, level spreaders, and overflow spillway; removal of fiber rolls previously placed in the facility; and repair of eroded areas with topsoil, seed, and straw.

FY19 - The City's SMF inspection program remains active and facilities are being inspected on the schedule required by the MS4 General Permit. The City's SMF inspection program typically follows the calendar year with the first round of inspections starting in late winter or early spring. For the second half of calendar year 2018, post inspection letters were sent to property owners, HOA representatives, and property managers. Re-inspections were completed for "failed" facilities and follow-up letters were sent to the responsible party. For the 2019 calendar year, the initial notice to property owners was mailed on April 8, 2019 and the first round of inspections occurred from April to early June 2019. 11 privately-owned SMFs were inspected with eight facilities failing initial inspections. Notification letters were sent for all privately owned facilities not in compliance and a 60 day timeframe was given for correction. Follow up inspections are underway. 26 City-owned SMFs were inspected with 13 facilities failing initial inspections. Notices for City-owned facilities are planned to be sent in the near future. There were no significant maintenance, repair, or retrofit activities performed on SMFs owned or operated by the City during the permit year.

5.5 - Urban Forest Management	*Track Urban Forest Management Efforts, Number of Trees Planted*					

FY20 - Implementation of urban forest management efforts continued during the permit year. Tree planting and invasive plant management in City parks and public areas continued to be focus areas of urban forest management efforts. DPR planted (via contractors and DPR staff) 149 trees this permit year, which are typically two-inch caliper ball and burlap trees. Species are chosen as most appropriate for the location to be planted and to complement other species in the area. DPR partnered with CATS and the City Tree Commission to plant trees on private property around the Belmont neighborhood of Charlottesville, which has been identified as an area of the city with lower tree canopy coverage. With a grant from the Ballyshannon Fund, they acquired 23 trees for the project. Five teams of CATS members and Tree Steward trainees, joined by seven members of the Tree Commission, planted the trees at various locations around the neighborhood and advised homeowners on how to maintain them.

DPR worked with CATS to support invasive plant management efforts, including: removal of a heavy infestation of vines and blackberry stumps to make way for the planting of native ferns in a riparian buffer in Greenleaf Park; removal of invasive vines from trees at Meadow Creek Gardens; removal of autumn olive from newly acquired park property at the Ragged Mountain Natural Area; removal of invasive vines from the riparian buffer of Schenks Branch in the Schenks Greenway Park; clearing of invasive species and debris from an overgrown hillside near the playground and garden at Jackson-Via Elementary School; and removal of bamboo along the Rivanna River trail. CATS also continued to tend "The Grove" in McIntire Park, an area where new native trees have been planted, existing native trees are cared for, and invasive species are removed.

The City maintained its Tree City USA status, having now held that status for 14 years. Historically the City hosts an Arbor Day celebration on Arbor Day, but unfortunately this year were unable to do so responsibly due to the COVID-19 pandemic. Tree City USA waived this requirement for this year as a result of the unprecedented circumstances.

FY19 - Implementation of urban forest management efforts continued during the permit year. Tree planting and invasive plant management in City parks and public areas continued to be focus areas of urban forest management efforts. DPR planted (via contractors and DPR staff) 134 trees this permit year, which are typically two-inch caliper ball and burlap trees. Species are chosen as most appropriate for the location to be planted and to complement other species in the area. DPR supported the following invasive plant management efforts: 24 volunteers worked over two days in Greenleaf Park to remove invasive plants; five volunteers worked to remove invasive plant species and plant a fern garden in a riparian buffer in McIntire Park; 22 volunteers with the McIntire Botanical Garden worked to remove invasive plants along a riparian stream buffer in McIntire Park; eight volunteers with the Albemarle Garden Club worked to remove invasive plants from the Washington Park Bog Garden; work with CATS to remove vines from trees at Meadow Creek Gardens; removal of autumn olive from a newly acquired park property; and removal of bamboo along the Rivanna River trail.

The City continued to work closely with the Tree Commission on several issues. The Tree Commission, which is staffed by DPR and NDS employees, continued to meet monthly. In cooperation with CATS, the Tree Commission planted 19 trees on private property in the low tree canopy neighborhood of Belmont by leveraging grant funding and volunteers. The City held its annual Arbor Day Observance in Market Street Park, celebrating in front of the basswood tree that was adopted as a Heritage Tree last permit year. There were approximately 10 members of the public, one City council member, and local news in attendance. The City maintained its Tree City USA status, having now held that status for 13 years. The City's Urban Forester spoke about the City's urban forestry program at the Alliance for the Chesapeake Bay's (ACB) *Financing Urban Tree Canopy Programs* conference. ACB created a guidebook in regards to this subject and used the City's Urban Forestry Program as a case study.

Finally, DPR built off of a survey of trees in the city, which had recorded the coordinates and several attributes of individual trees located in parks, schools, and rights-of-way. The result of the survey efforts is a comprehensive inventory of the individual trees (excluding forested areas) that are planted on public property and fall under the care of DPR. DPR then developed an interactive urban tree inventory dashboard, which allows the user to explore DPR's tree inventory at the location and attribute level. Hovering over any of the bars or map points in the dashboard will provide additional information, while clicking on any of the bars will filter the entire dashboard by that particular attribute. For an even deeper exploration of the inventory, the user can click multiple bars to filter the dashboard by multiple attributes. The tree inventory dashboard can be found here: www.charlottesville.org/departments-and-services/departments-h-z/parks-recreation/parks-trails/landscape-management/urban-forestry.

5.6 - Investigate Green Stormwater Infrastructure Retrofit Opportunities	*Implementation of Retrofits*					

FY20 - During the permit year, the City continued to investigate and pursue green stormwater infrastructure retrofit opportunities. As described below in last year's annual report, the City was awarded Stormwater Local Assistance Fund (SLAF) grants, which will be matched by the City's Stormwater Capital Improvement Program fund to conduct three stream restoration projects in the coming years. In this permit year, the City moved toward procurement of a contractor for design and permitting services through the development and release of a request for proposals. Proposal submittals were delayed by the COVID-19 pandemic until after the end of the permit year. Selection of a contractor and the start of design and permitting work is anticipated in the FY21 permit year, and construction is anticipated in future permit years.

The City continued efforts to implement additional water quality improvement projects identified in the City's Water Resources Master Plan. Continued discussions have taken place with private property owners to negotiate the acquisition of easements to permit the installation of water quality best management practices on private property. No construction on these projects took place however.

The City partnered with RCA to identify a location for, plan, and design a set of large stormwater planter boxes to treat stormwater from the roof of the City's Public Works and Utilities Administration Building in downtown Charlottesville. The two planter boxes will treat runoff from 3,470 square feet of rooftop and be planted with an aesthetically pleasing selection of native plants. Design work was completed and a planting plan was developed during the permit year. Installation and planting of the planter boxes will occur in FY21.

FY19 - During the permit year, the City continued to investigate and pursue green stormwater infrastructure retrofit opportunities. The City continued its collaboration with Albemarle County and completed a 560-linear foot stream restoration on an unnamed tributary to the Rivanna River. This project took place over land which straddles property lying in both the City of Charlottesville and Albemarle County. The restoration improves water quality and in-stream habitat while correcting channel degradation caused by urbanization. As part of improvements made in the City's Tonsler Park, two bioretention facilities were installed. DPR staff planted the facilities with native wetland plants and seeds. In conjunction with a new track installed at Charlottesville High School, an infiltration trench was installed.

The City applied for and was awarded funding from the Virginia Stormwater Local Assistance Fund (SLAF). The SLAF funds will be matched by the City's Stormwater Capital Improvement Program fund and will support three stream restoration projects in the coming years. The first of these projects will continue the restoration of the unnamed tributary of the Rivanna River through Pen Park upon which the City and Albemarle County partnered. This project will restore another 280 linear feet downstream of the aforementioned project with Albemarle County. The second SLAF-funded project will implement a stream restoration through the City's Meadow Creek Gardens Park. This project has been envisioned by the City's Water Resources Master Plan and will restore approximately 1,580 linear feet of Meadow Creek. The third SLAF-funded project will restore an approximately 1,030 linear foot section of stream channel in the City's McIntire Park. The area to be restored flows through what is slated to become the McIntire Botanical Garden and has previously been identified as a need in the City's McIntire Park Master Plan.

Additionally, the City continues efforts to implement water quality improvement projects identified in the City's Water Resources Master Plan. Continued discussions have taken place with private property owners to negotiate the acquisition of easements to permit the installation of water quality best management practices on private property. No construction on these projects, however, took place during the permit year.

MINIMUM CONTROL MEASURE #6: POLLUTION PREVENTION / GOOD HOUSEKEEPING FOR FACILITIES OWNED OR OPERATED BY THE PERMITTEE WITHIN THE MS4 SERVICE AREA

Best Management Practice	Measurable Goal	FY19	FY20	FY21	FY22	FY23
6.1 - Street Sweeping Program	*Sweep at Least 2,000 Non-Residential Curb Miles Annually*					

FY20 - The City's street sweeping program continued this permit year, with 6,339 total curb miles swept.

FY19 - The City's street sweeping program continued this permit year, with 4,569 total curb miles swept.

6.2 - Stormwater Infrastructure Flushing and Cleaning	*Clean 10% of City Owned Structures and Flush 10% of City Owned Pipes Annually*					

FY20 - The City continued its stormwater infrastructure cleaning and flushing program. This permit year, 815 (18.5%) City stormwater structures were cleaned, and 21,885 (7.5%) linear feet of City stormwater pipe was flushed. In an effort to prevent gross solids from entering and overwhelming the stormwater system, the City again collected leaves from residential properties in the fall and winter months of the permit year. 1,555 tons of leaves were collected for composting, preventing the associated nutrient loading to local waterways.

FY19 - The City continued its stormwater infrastructure cleaning and flushing program. This permit year, 625 (14.2%) City stormwater structures were cleaned, and 27,689 (9.5%) linear feet of City stormwater pipe was flushed. The City plans to compensate for the small shortfall in flushing in the next permit year. In an effort to prevent gross solids from entering and overwhelming the stormwater system, the City again collected leaves from residential properties in the fall and winter months of the permit year. Over 193 tons of leaves were collected for composting, preventing the associated nutrient loading to local waterways.

6.3 - Training for Appropriate Personnel	*Document Description of Training Offered and Number of Attendees*					

FY20 - The City continued to implement the training schedule and program for appropriate City staff this permit year; see Attachment B of the Annual Report for a summary report of the required training, a list of training events, training dates, number of employees attending, and objective of the trainings. Hazmat Technician continuing education was pursued by 27 Charlottesville Fire Department (CFD) staff and Hazmat Operations continuing education was pursued by 48 CFD staff. Five City staff members from DPW-Fleet Management and two from CFD received the City's Water Resources Protection Program training, which covers general awareness of local streams and watersheds; an overview of stormwater and typical stormwater pollutants; the City's MS4; illicit discharge detection and elimination recognition and reporting; green stormwater infrastructure; regulations specific to the sites where staff work (including information on site specific stormwater pollution prevention (SWPPP) and spill prevention, control and countermeasures (SPCC) plans); stormwater pollution prevention BMPs; spill prevention and response; and underground storage tank operator training.
City staff members from DPW-Engineering maintain the following DEQ certifications: Erosion and Sediment Control Plan Reviewer, Inspector, and Program Administrator; Stormwater Management Program Administrator, Inspector, Plan Reviewer, and Combined Administrator; and Dual Erosion and Sediment Control and Stormwater Management Inspector. DPW-Engineering staff members also completed the following DEQ trainings during the permit year: Where the Water Goes and Soil Amendments for Inspectors.
The City's Stormwater Technician completed the following DEQ trainings during the permit year: Online Stormwater BMP courses for Bioretention, Soil Compost Amendments, Constructed Wetlands, Dry Swales, Extended Detention Ponds, Sheet Flow to Vegetated Filter Strip or Conserved Open Space, Grass Channels, Permeable Pavement, Rooftop Disconnection, and Wet Ponds; and the Stormwater Pollution Prevention Refresher. She also attended the Stormwater and Litter Workshop hosted by Longwood University, which addressed urban trash pollution and strategies to intercept trash before it becomes part of stormwater runoff. The City's Water Resources Specialist completed the following training during the permit year: Chesapeake Bay Landscape Professional Level 2 training; an Invasive Plant Management Workshop; and the EPA Region III/DEQ MS4 Forum.
Staff from DPW and DU attended Virginia Municipal Stormwater Association Quarterly Meetings and the Rivanna River Basin Commission's Annual Conference.

FY19 - The City continued to implement the training schedule and program for appropriate City staff this permit year; see Attachment B of the Annual Report for a summary report of the required training, a list of training events, training dates, number of employees attending, and objective of the trainings. Certified Pesticide Applicator re-certification training was pursued by four DPR staff during the permit year. Hazmat Technician continuing education was pursued by 27 Charlottesville Fire Department (CFD) staff and Hazmat Operations continuing education was pursued by 55 CFD staff. 36 Utilities staff participated in a Department-wide Standard Operating Procedure Training covering stormwater management best practices during utility operations. Information about the City's stormwater management program was presented to a large group of City employees that attended the Employee Bazaar, an event to make staff aware of various City programs and functions. City staff members from NDS maintain the following DEQ certifications: Erosion and Sediment Control Plan Reviewer, Inspector, and Program Administrator; Stormwater Management Program Administrator, Inspector, Plan Reviewer, and Combined Administrator; and Dual Erosion and Sediment Control and Stormwater Management Inspector. NDS staff members also completed the following DEQ trainings during the permit year: Applied Soil Concepts for ESC and SWM Professionals, Photography for Inspectors, Regulatory SWPPP Inspections for Localities, Soil Amendments for Inspectors, and Inspecting Non-Standard Practices. The City's VSMP Administrator attended DEQ's VSMP Outreach Meeting in Lexington. A NDS Civil Engineer also completed the following trainings offered by the American Society of Civil Engineers (ASCE) during the permit year: Estimating Flood Flows Using Regression Methods and Flood Design for a Changing Climate, as well as a class on Pipe Installation, Post Installation Inspection, Drainage Structure Design and Stakeout, Failing Culvert Solutions, and Trenchless Pipe Technology.
The City's Stormwater Technician completed the following DEQ trainings during the permit year: Bioretention for VSMP Inspectors, Dry Swale for VSMP Inspectors, Pollution Prevention for VSMP Inspectors, Rooftop Disconnection for VSMP Inspectors, Constructed Wetland for VSMP Inspectors, Wet Ponds for VSMP Inspectors, Grass Channel for VSMP Inspectors, Permeable Pavement for VSMP Inspectors, Wet Ponds for VSMP Inspectors, Sheet flow to Filter Strips for VSMP Inspectors, Soil Compost Amendments for VSMP Inspectors, Erosion and Sediment Control Inspector Training, Basic Plan Reading Skills Training, Photography for Inspectors, Soil Amendments for Inspectors, Regulatory Stormwater Pollution Prevention Plan Inspections for Localities, and Plants for Bioretention (Webinar). The City's Water Resources Specialist completed the following training during the permit year: Chesapeake Bay Landscape Professional Level 1 training; Piedmont Prairie Plant Communities: Landscaping for Biodiversity training with Center for Urban Habitats; Stevens Living Laboratory for Green Infrastructure: Insights on Green Roof Water Quality and Bioretention Modeling lecture; and Basic Soil Science and Biofiltration Soil Media. Staff from DPW and DU attended Virginia Municipal Stormwater Association Quarterly Meetings.

6.4 - Written Procedures for Operations and Maintenance Activities	*Maintain and Implement Written Procedures*					

FY20 - Written procedures for operations and maintenance continued to be implemented during the permit year.

FY19 - Written procedures for operations and maintenance continued to be implemented during the permit year.

6.5 Stormwater Pollution Prevention Plans for Municipal Facilities	*Completed Inspection Reports and Annual Comprehensive Site Compliance Evaluation*					

FY20 - The stormwater pollution prevention plans (SWPPP) developed for the City's municipal high priority facilities with a high potential of discharging pollutants continued to be implemented during the permit year. Annual Comprehensive Site Compliance Evaluations for the SWPPPs were completed.

FY19 - The stormwater pollution prevention plans (SWPPP) developed for the City's municipal high priority facilities with a high potential of discharging pollutants continued to be implemented during the permit year. The Annual Comprehensive Site Compliance Evaluations for the SWPPPs will be completed within 12 months of the effective date of the current MS4 General Permit.

6.6 Turf and Landscape Nutrient Management Plans	*Maintain Turf and Landscape Nutrient Management Plans*					

FY20 - The nutrient management plans (NMP) for all lands owned or operated by the City where nutrients are applied to a contiguous area greater than one acre, which were developed for DPR by a certified turf and landscape nutrient management planner, remained in effect for all 77.36 acres required to be covered by the plan.

FY19 - The nutrient management plans (NMP) for all lands owned or operated by the City where nutrients are applied to a contiguous area greater than one acre, which were developed for DPR by a certified turf and landscape nutrient management planner, remained in effect for all 77.36 acres required to be covered by the plan. The NMP that covers athletic fields is valid until 2021. The NMP that covers Meadowcreek Golf Course remains valid until 2020.

6.7 Green Public Lands Management Strategies	*Identify and Implement Strategies*					

FY20 - The City's DPR and DPW continue to employ green public lands management strategies. These strategies include operating under an integrated pest management (IPM) approach to achieve chemical use reductions on our public lands, acquiring and preserving land, using organic herbicides, augmenting riparian stream buffers, and including pet waste stations and signage in many City parks. The IPM Policy for DPR-maintained City land remained in place during the permit year. The City's DPR received a donation of a 3.9 acre parcel containing streams and riparian buffer adjacent to Meadow Creek, with the intent of protecting these natural resources.

FY19 - The City's DPR and DPW continue to employ green public lands management strategies. These strategies include operating under an integrated pest management (IPM) approach to achieve chemical use reductions on our public lands, acquiring and preserving land, using organic herbicides, augmenting riparian stream buffers, and including pet waste stations and signage in many City parks. The IPM Policy for DPR-maintained City land was in place during the permit year, and the DPR continued to realize small reductions in the use of glyphosate. The City's DPR acquired a 1.7 acre parcel of wetlands adjacent to Moores Creek, with the intent of protecting the resource and preservation of water quality.

Attachment A
Illicit Discharges to the MS4 List

As required by the MS4 General Permit, the following is a list of illicit discharges to the City's MS4 that were observed or reported during the permit year. City staff was notified of the incidents via internal reports from the Utilities, Neighborhood Development Services, and Fire Departments as well as direct reports from citizens to the City. In all cases, site visits were conducted in order to evaluate the situation, confirm the presence of the illicit discharge, investigate the source of the discharge, and establish the responsible party. Subsequent actions, as appropriate, explained the prohibition on such activities, educated the responsible party, and documented corrective actions.

Date Suspected Discharge Observed / Reported	Description of Investigation Including any Follow-Up	Resolution of the Investigation	Date the Investigation was Closed
7/31/19	On the morning of July 31, 2019 the City's Environmental Sustainability Office received a report from a representative of the City's Utilities Department who had been at the site of a construction project. He observed paint-contaminated water running down the road, into a storm drain, and subsequently into an unnamed tributary of Meadow Creek. It appeared to the Utilities Department representative that the paint had been washed into the storm drain. The Utilities Department representative ordered construction workers on site to immediately cease any further discharge. A representative from the City's Environmental Sustainability Division spoke with a representative of the responsible party later that morning. She informed the City representative that the discharge of paint-contaminated water was accidental, and had occurred when a paint bucket with a lid that was not securely fastened was inadvertently knocked over.	The responsible party was informed that the discharge of contaminated water into the City stormwater drainage system is an illicit discharge and was ordered to cease these activities immediately and at all times in the future. They were advised not to rinse water contaminated with paint or other waste waters into a drain that is connected to the City's stormwater drainage system. Rather they were advised to dispose of any water contaminated with paint or other waste waters in a manner that directs the water from these activities into a drain that is connected to the City's sanitary sewer system.	7/31/19
1/2/20	On January 2, 2020 a citizen used the MyCville platform to report observing a neighbor dump kitty	A representative of the City's Environmental Sustainability Office visited the location and spoke	1/3/20

Date Suspected Discharge Observed / Reported	Description of Investigation Including any Follow-Up	Resolution of the Investigation	Date the Investigation was Closed
	litter and fecal matter into a storm drain.	with the resident who had dumped the litter to explain the issue and concern. The resident indicated that he understood and would cease the activity.	
1/25/20	On the morning of January 25, 2020 the City's Fire Department received a report of a fuel spill from a citizen that had seen a truck go by their home and heard a "crash". Shortly after, they saw the fuel spill and notified the Fire Department. The Fire Department responded to the scene and found that the spill had migrated along the road, entered a storm drain, and subsequently a nearby creek.	The Fire Department used absorbent material to soak up fuel remaining in the roadway and placed several booms in the creek. They report that no evidence of dead/dying fish or other animals was observed. A representative of the Environmental Sustainability Office reported the incident to the DEQ PREP Coordinator.	1/25/20
3/4/20	On the afternoon of March 4, 2020 the City's Environmental Sustainability Office received a report from a representative of the City's Neighborhood Development Services (NDS) Department, who had observed site conditions at a construction project. He observed white residue along the curbline that was the result of contaminated water running down the street and into a City storm drain. It appeared to the NDS representative that the flow had originated from the vicinity of a roll-off construction dumpster located in the street, and that the water had been contaminated with paint and/or sheetrock dust. Subsequently, the NDS representative witnessed workers at the site washing down the area with a hose and shovel, with the wash water entering the same storm drain.	A representative of the City's Environmental Sustainability Office contacted the construction site superintendent and relayed to them that these activities were in violation of the City's Water Protection Ordinance. He was instructed to immediately cease discharging contaminated water into the City's stormwater drainage system, and to not allow water contaminated with construction waste to enter a drain connected to the City's stormwater drainage system. He was further instructed to not wash down surfaces contaminated with construction waste into a drain connected to the City's stormwater drainage system; to dispose of any water contaminated with paint, sheetrock dust, or other construction wastes in a manner that directs the water from these activities into a drain connected to the City's sanitary sewer system. The superintendent acknowledged their neglect, met with workers on site, and reinforced proper procedures and protocols to ensure the violation would not be repeated.	3/11/20

Date Suspected Discharge Observed / Reported	Description of Investigation Including any Follow-Up	Resolution of the Investigation	Date the Investigation was Closed
6-23-20	On June 23, 2020, City's Environmental Sustainability Office received a report from a resident that the neighboring property owner was regularly draining chlorinated pool water onto their property, flooding the home's outdoor patio. Reportedly this situation had been going on for several summers. The resident responded to several follow up questions, stating that this water runoff situation occurs frequently during the entire pool season, sometimes daily, and that after crossing the patio and the front yard the runoff flows into a storm drain.	A representative of the City's Environmental Sustainability Office contacted the pool owner and informed them that the discharge of this water was in violation of the City's Water Protection Ordinance. She instructed him to immediately cease discharging contaminated water into the City's stormwater drainage system, and to not allow contaminated (chlorinated) water to enter a drain connected to the City's stormwater drainage system. She also instructed him to contact the Charlottesville Department of Utilities regarding steps for connecting to the municipal sanitary sewer system and related billing issues. The pool owner has since been unresponsive to multiple efforts by the City to move towards a solution. The City is currently exploring enforcement options with the City Attorney's Office.	Ongoing

Attachment B
Training Summary Report

The following report summarizes training that was completed as part of the City's MS4 Training Program during the permit year, and includes a list of training events, the training date, the number of employees attending the training, and the objective of the training.

Training Event	Training Date	# of Employees Attending	Objective of the Training
Water Resources Protection Program Training	1-8-20	7	Provide staff with general awareness training on local streams and watersheds; stormwater and typical stormwater pollutants; the City's MS4; illicit discharge detection and elimination recognition / reporting; green stormwater infrastructure; regulations specific to the sites where staff work (SWPPP and SPCC plans); stormwater pollution prevention BMPs; spill prevention and response; and underground storage tank operator training.
Hazardous Materials Operations	Numerous dates over the course of the permit year	48	Train personnel to operate under the defensive tactical control principle with some mission specific skills training.
Hazardous Materials Technician	Numerous dates over the course of the permit year	27	Train personnel in advanced detection and monitoring, wearing/using chemical protective clothing, addressing/controlling atmospheric and pressurized leaks, plugging and patching, material categorization.
DEQ Stormwater Trainings	Numerous dates over the course of the permit year	4	DEQ continuing education on stormwater management
Chesapeake Bay Landscape Professional Level 2	8-15-19 to 8-17-19	1	Level 2 is an advanced credential for experienced professionals, in design or installation of conservation landscapes. An emphasis is put on the small-scale stormwater retrofits also known as residential stewardship practices.
EPA Region III/DEQ MS4 Forum	10-21-19 to 10-23-19	1	Provide updated guidance information for the Chesapeake Bay TMDL to comply with the new requirements of the MS4 GP; provide training and compliance assistance to MS4 staff and inspectors, including both classroom sessions and a field session; provide an opportunity for MS4s to discuss their programs and insight on their successes and challenges in implementing the MS4 program.

City of Charlottesville, VA MS4 Permit VAR040051 Annual Report
Attachment C
Cheaspeake Bay TMDL Progress Towards Meeting Required Cumulative POC Reductions

Summary Page Ledger:
Management Practices and Retrofit Programs to Achieve 5% and 35% Reductions Required For Existing Development

		Location (Lat/Long)	Nitrogen	Phosphorus	Total Suspended Solids
1. Total 5% Reductions Required			150.52	34.70	15,398.65
2. Total 35% Reductions Required			1,053.57	242.83	107,790.62
3. Total Cumulative (40%) Reductions Required			1,204.09	277.53	123,189.27
4. Reduction Practices Implemented / To be Implemented					
Site Name	BMP Type				
ABC Preschool	Bioretention	38.0286/-78.4726	-1.75	-0.25	-89.56
Saint Thomas Aquinas Priory	8'x4' Filterra	38.0386/-78.5163	-0.04	-0.01	-5.38
Saint Thomas Aquinas Priory	Bioretention	38.0388/-78.5157	-2.03	-0.31	-110.92
Cabell Ave Apartments	4'x6' Filterra	38.0419/-78.4966	-0.03	-0.01	-4.03
Brody Jewish Student Center	Bioretention	38.0426/-78.5021	-1.34	-0.24	-92.51
Brody Jewish Student Center	Bioretention	38.0428/-78.5019	-0.72	-0.12	-45.38
Kroger Fueling Center	4'x6' Filterra	38.0599/-78.4928	-0.03	-0.01	-4.12
Jaunt Parking Lot	Permeable Pavers	38.0151/-78.4705	-2.61	-0.51	-205.46
1600 Monticello Ave.	Raintank Infiltration	38.0164/-78.4756	-1.20	-0.24	-102.89
601 Park Street	Bioretention	38.0348/-78.4762	-3.55	-0.50	-174.10
1327 Carlton Ave	Bioretention	38.0214/-78.4666	-0.74	-0.22	-100.86
Brookwood	Bioretention	38.0168/-78.4941	-2.36	-0.40	-149.72
Rives Park	Bioretention	38.0173/-78.4707	-1.12	-0.07	-103.50
Timberlake Place	Bioretention + Rain Garden	38.0231/-78.4625	-0.06	-0.01	-5.10
Meade Park Aquatic Center	2 Bioretention Areas	38.0279/-78.4654	-4.28	-0.30	-395.98
Whole Foods	Sand Filter	38.06/-78.4884	-0.10	-0.04	-16.98
CHS Stadium Improvements	Bioretention	38.052/-78.4712	-4.44	-0.44	-451.03
Hydraulic Road Substation	Filterra & Biopave	38.058/-78.4904	0.00	-1.54	0.00
Sunrise Park	Permeable Pavement	38.0208/-78.467	-11.25	-0.52	-1,141.25
Fontaine Fire Station	2 Bioretention Areas	38.0259/-78.5198	0.00	-0.16	0.00
	Cistern	38.0254/-78.5201			
Arlington & Millmont Apartments	Dry Swale	38.0496/-78.5058	0.00	-0.65	0.00
	4'x6' Roof Drain Filterra	38.04978/-78.50564			
	4'x6' Roof Drain Filterra	38.0504/-78.50507			
Wertland Street	2 BaySavers	38.0354/-78.4959 38.0352/-78.495	0.00	-0.56	0.00
Smith Aquatic Center	Biofilter-1	38.0276/-78.4975	-3.21	-0.45	-571.56
	Biofilter-2 + Rain Garden	38.0271/-78.4972			
Boys & Girls Club	Biofilter	38.0273/-78.4983	-2.17	-0.37	-220.06
250 Bypass@McIntire Rd.	Enhanced Ext. Detention	38.04505/-78.47251	0.00	-1.77	0.00
	Bioretention #1	38.04328/-7847466			
	Bioretention #2	38.04119/-78.47637			
	11 - Filterras	38.04254/-78.4746			
CTS OPERATIONS CENTER	SWM#1 Bioretention	38.0126/-78.4878	0.00	-0.39	0.00
	SWM#2 Bioretention	38.0122/-78.488			
	SWM#3 Bioretention	38.0119/-78.4875			
	SWM#4 Underground Storage	38.0114/-78.4872			
	SWM#5 Extended Detention	38.0118/-78.4861			
	SWM#6 Bioretention	38.0123/-78.4875			
	SWM#7 Bioretention	38.0129/-78.4873			
	SWM#8 Bioretention	38.0132/-78.4873			
	SWM#9 Rainwater Harvesting	38.0122/-78.4876			
Jefferson School	Enhanced Ext. Detention	38.0322/-78.4864	-6.77	-2.04	-1,559.86
Martha Jefferson	Bioswale	38.0322/-78.4718	-37.19	-2.18	-3,387.40
Pace Center	Water Quality Swale	38.0214/-78.4652	-6.66	-1.28	-538.75
	Bioretention	38.0213/-78.4649			
Retail at Barracks Road	4'x6' Filterra	38.0497/-78.5026	-0.14	-0.03	-12.51
600 Preston Place	Permeable Pavers	38.0411/-78.4982	-1.23	-0.21	-80.62
	Raintank Drywell	38.041/-78.4983			
Blue Moon Fund	Bioretention	38.0296/-78.484	-1.57	-0.28	-105.86
	Cistern to Vegetated Swale	38.0295/-78.4841			
	Infiltration	38.0296/-78.484			
CHS MLK	Bioretention	38.053/-78.4772	-23.31	-0.74	-1,364.53
Rugby Road	Permeable Pavers	38.05472/-78.49006	-1.60	-0.22	-76.02
Azalea Park	Constructed Wetland	38.0105/-78.5132	-93.78	-12.01	-6,719.67
City Yard Smart Sponge Inserts	Catch Basin Filters	38.0332/-78.4884	0.00	0.00	-1,408.04
CHS Parking Lot	Permeable Pavement + Vegetated Filter Strip	38.0512/-78.4751	-13.28	-0.39	-952.01
909 E. Market	Permeable Asphalt	38.0298/-78.4746	-0.34	-0.08	-31.61
Old Lynchburg Road	Bioretention	38.0171/-78.5147	-5.89	-0.96	-371.83
Forest Hills Park	Bioretention	38.0231/-78.4975	-52.31	-6.41	-2,040.34
Venable Bioretention	Bioretention	38.0381/-78.4959	-2.59	-0.53	-214.86
Plaza on West Main	MTD Vortex	38.0319/-78.4934	-1.14	-0.47	-92.60
Residence Inn	Sand Filter	38.0310/-78.4855	-5.01	-0.23	-786.24
Coca Cola Building	Permeable Pavers	38.0356/-78.4873	-3.97	-0.57	-825.38
Blue Ridge Commons	Bioretention	38.0234/-78.4944	-0.05	-0.02	-9.26
City Hall Green Roof	Green Roof	38.0299/-78.4773	-1.58	-0.31	-135.05

Summary Page Ledger:

Management Practices and Retrofit Programs to Achieve 5% and 35% Reductions Required For Existing Development

		Location (Lat/Long)	Nitrogen	Phosphorus	Total Suspended Solids
1. Total 5% Reductions Required			150.52	34.70	15,398.65
2. Total 35% Reductions Required			1,053.57	242.83	107,790.62
3. Total Cumulative (40%) Reductions Required			1,204.09	277.53	123,189.27
4. Reduction Practices Implemented / To be Implemented					
Site Name	BMP Type				
1012 Druid Ave	Bioretention	38.0167/-78.4772	-1.03	-0.14	-46.50
Pen Park	Bioretention	38.0548/-78.4536	-15.45	-2.24	-900.80
Willoughby	Bioretention	38.0158/-78.4994	-17.96	-3.02	-1,139.32
Woolen Mills Self Storage	Ext. Detention Pond	38.0229/-78.4625	-46.77	-10.74	-4,818.15
One Carlton LLC	Permeable Pavement	38.0220/-78.46827	0.00	-0.23	0.00
English Construction Company	Bioretention	38.04378/-78.51526	0.00	-0.78	0.00
McIntire Plaza	Filtering Devices - StormTech Isolator Row	38.0417/-78.4792	0.00	-1.81	0.00
CHS Track	Infiltration Practice	38.0521/-78.4761	-12.72	-1.93	0.00
Hillsdale Drive	Filtering Devices - Filterra Bioretention System	38.0647/-78.4864	0.00	-4.99	0.00
Rock Creek	Stream Restoration	38.02317/-78.50182	-19.84	-17.99	-11,870.76
Meadowcreek Golf Course	Stream Restoration	38.05582/-78.44941	-12.75	-11.56	-7,629.60
Meadow Creek	Stream Restoration	38.06384/-78.47599	-541.40	-488.54	-320,496.92
River Run	Stream Restoration	38.05571/-78.45241	-295.33	0.00	0.00
Pen Park	Urban Nutrient Management	38.05494/-78.45036	-0.39	-0.01	0.00
Washington Park	Urban Nutrient Management	38.04138/-78.49126	-0.53	-0.02	0.00
Venable School	Urban Nutrient Management	38.03732/-78.49577	-0.59	-0.02	0.00
Azalea Park	Urban Nutrient Management	38.01057/-78.51649	-0.52	-0.02	0.00
Quarry Park	Urban Nutrient Management	38.01471/-78.4771	-0.22	-0.01	0.00
Quarry Park	Urban Nutrient Management	38.015/-78.4777	-0.45	-0.02	0.00
Quarry Park	Urban Nutrient Management	38.01497/-78.47657	-0.32	-0.01	0.00
Burnley Moran School	Urban Nutrient Management	38.03497/-78.46253	-0.36	-0.01	0.00
Charlottesville High School	Urban Nutrient Management	38.05279/-78.47378	-0.30	-0.01	0.00
Street Sweeping	Street Sweeping	City Wide	-970.67	-126.06	-204,848.48
5. Total Reductions Implemented / To be Implemented			-2,239.03	-709.21	-576,453.37
6. Total Reductions In Excess of 40% Reductions Required			(1,034.95)	(431.69)	(453,264.09)