

INTRODUCTION

This annual report was developed by the City of Waynesboro Stormwater Program that is a Division of the Public Works Department. The report covers the reporting cycle July 1, 2017 through June 30, 2018 – Year 5 for Permit VAR04133, which became effective July 1, 2013, and includes the status of compliance with the permit conditions, the appropriateness of the best management practices to meet the measurable goals of the program plan, and the reporting requirements of the general permit. Descriptions of the applicable Best Management Practices (BMPs) for each Minimum Control Measure (MCM) are included with a description of the BMP, Year 5 activities and the projected Permit Cycle 2, Year 1 activities. A summary table is provided for each of the six MCMs that include the BMP tracking measures and associated reported numbers. A grey cell in these tables indicates the program element is not applicable to that permit year. There were no changes to the Program Plan; however an updated Program Plan for the second permit cycle was developed for DEQ approval.

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MS4 PROGRAM

Minimum Control Measure 1 – Public Education and Outreach

BMP – 1.1 School Presentations

Summary: Permit Year 5 continued to hold a high success rate for school presentations. Stormwater Program Staff has a developed program that was delivered to Waynesboro’s fourth graders and held the first successful “field day” for sixth grade earth science students. The City will continue presentations at local schools targeting grades 4th, 6th and select high school groups progressing into Permit Cycle 2.

Year 5 Activities: The program developed for the fourth graders addresses the Standards of Learning for the Earth Science curriculum. The key topics of the presentations are sources of water pollution including illicit discharge, basic soil properties, local school watersheds, and aquatic species of the South River. The City has morphed the program into an outdoor event that offers more hands-on activities. The interaction with the educational pieces at each station enhances the student’s focus and retainage of the material. Each student received a bracelet with the slogan ‘Only Rain down the Drain’ to accentuate the presented material.

The Stormwater Department delivered its first annual sixth grade science ‘field day’ at Kate Collins Middle School this past year. City Staff along with the Department of Forestry, Department of Game and Inland Fisheries and the Soil and Water Conservation District held stations at the event. Stations included ‘South River Watershed Jeopardy’, South River macro-invertebrates, good foresting practices, qualities of soil, Waynesboro Landfill past and future, and South River art. The material presented built upon the fundamentals learned throughout the earth science semester. The day was well received by the students and teachers and is planned as an annual event.

The Stormwater Program led a fall “watershed walk” with the Waynesboro High School Ecology Class from the school to Ridgeview Park. During the walk, students visually and verbally were introduced to different types of stormwater infrastructure, how it is interconnected and manages stormwater runoff. At the park, the function and components of the onsite bio-filters were presented with a brief description of the completed stream restoration project.

Permit Cycle 2, Year 1: The City will continue school presentations into the second permit cycle. Staff is working to revise the “watershed walk” with the high school to a Watershed Service Day to educate on the functions of Best Management Practices (BMPs) and perform trash pickup in Ridgeview Park. The established fourth grade and sixth grade education format will remain as structured.

BMP – 1.2 Stormwater Webpage

Summary: A dedicated stormwater page is available on the City’s website to provide detailed MS4 information to the public including the MS4 Annual Reports to date, <https://www.waynesboro.va.us/291/Stormwater-Administration>.

Year 5 Activities: Additional information on the Stormwater Administration page includes links to the Stormwater Capital Improvements Program, water quality organizations, ideas for reducing stormwater runoff at a residential scale, along with the Virginia Stormwater Management Regulations. The City Stormwater Page had 370 Page Views and 309 Unique Views during Permit Year 5.

Permit Cycle 2, Year 1: The City will update the website with a continual focus on basic stormwater and watershed concepts, stormwater projects /retrofits happening within the City, and on-going programmatic and water-quality related initiatives.

BMP – 1.3 Educational Brochures

Summary: The City distributed easy to read educational brochures, to increase the public’s basic knowledge of stormwater concepts.

Year 5 Activities: City Staff distributed the pamphlets to the public at events such as, Fall Foliage Festival, Riverfest and Public Works Day. The stormwater brochure is available on the City’s Website and at the Public Works and Utilities Billing office.

Permit Cycle 2, Year 1: The City will continue to distribute materials to focus on ‘**Watershed Concepts**’ and ‘**Illicit Discharge**’ as well as developing and distributing information on ‘**Pet Waste**’ as a source of pollution. **Appendix 1** of the report outlines the approaches for these topics.

Public Outreach and Education Summary

The City reached approximately 1,300 individuals during Permit Year 5. School presentations constituted 32% of the total, the Riverfest, Fall Foliage and Public Works Day events allowed City Staff to present basic stormwater material to children of all ages. School aged children make up 60% of our target audience and 40% general public.

Watershed awareness, illicit discharge and pollution prevention, and South River water quality will be the high priority focus in the second permit cycle.

Minimum Control Measure 1 – Public Education and Outreach Summary

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
1.1 School Presentation	# of presentations	2	3	6	5	5
	# of students	50	75	139	125	369
1.2 Stormwater Webpage	# of page views		354	587	434	370
	# of unique views		257	458	352	309
1.3 Educational Brochures	# of brochures distributed		100	125	145	150

Minimum Control Measure 2 – Public Involvement/Participation

BMP – 2.1 Tree Planting Program

Summary: The City currently has a Tree Planting Program, which entails new trees being planted, dead or diseased trees replaced, and structural pruning performed on young, existing trees. The City also organizes and participates in an annual Arbor Day event that is open to the public.

Year 5 Activities: The annual Arbor Day program at Ridgeview Park hosted 54 second grade students. The students learned general tree characteristics and how they are beneficial, and how certain species thrive in our local environment. The participants were able to assist with shoveling dirt and planting a Horse Chestnut along with learning how to plant the seedlings received by each.

Permit Cycle 2, Year 1: The City Stormwater Program will continue support of the Arbor Day event and raise general awareness to the public on the benefits of trees.

BMP – 2.2 DEQ/DCR Adopt-A-Stream Program

Summary: The Stormwater Webpage provides a link to educate viewers on the Adopt-A-Stream program and maintains preparedness to offer assistance to local groups and schools in their stream cleanup events.

Year 5 Activities: The Public Works Leadership class participants in partnership with Waynesboro Redevelopment Housing Authority (WRHA) conducted a stream cleanup in spring 2018 collecting 11 bags of trash and several pieces of furniture. Additionally, the Parks and Recreation Department assisted with the local Trout Unlimited (TU) chapter during a stream cleanup resulting in 25 bags of collected trash.

Permit Cycle 2, Year 1: Stormwater Staff is partnering with WRHA and TU to expand community outreach for the local stream cleanup initiative. Several businesses and community groups will be approached to assist with a fall stream cleanup scheduled for November. The goal is to educate on the significance of waterway health and practices to improve the longevity of water quality.

BMP – 2.3 Stormwater Partnerships

Summary: The City Stormwater Program will meet with local and regional groups to improve staff knowledge, foster awareness of stormwater issues, to empower and encourage citizen involvement.

Year 5 Activities: City staff actively participated with a group of local MS4 and VSMP localities hosted by the Central Shenandoah PDC. Staff attended two of the quarterly roundtable sessions that focused on MS4 and VSMP related issues for the communities.

Staff also attended two Pure Water Forum events, two VAMSA meetings, 'Bay Day on the Hill' sponsored by the Chesapeake Bay Foundation, Envirothon sponsored by the Headwaters Soil

and Conservation District and tuned-in to two MS4 General Permit Technical Advisory Committee calls.

Two members of Stormwater Staff and two members of the Parks and Recreation Horticultural staff trained and gained certification as Chesapeake Bay Landscaping Professionals. The curriculum entails the standards of sustainable landscaping, emphasizing stormwater retrofit best management practices (BMPs) and conservation landscaping with native plants to benefit the environment. Additionally, methods were introduced to inspect and ensure the BMPs are functioning properly to assist in achieving runoff, sediment and nutrient reduction goals.

Permit Cycle 2, Year 1: City staff will continue to meet with other CSPDC localities and look for additional opportunities such as the annual Pure Water Forum Annual Meeting and gatherings of civic groups.

BMP – 2.4 Stormwater Hot-Line and YourGov Portal

Summary: The portal provides easy citizen access to ask stormwater related questions or report concerns, such as illicit discharge. The hot-line and portal are checked daily and frequently addressed within 24 hours.

Year 5 Activities: The City established a dedicated stormwater hot-line early in the 2nd year of the permit and also activated a YourGov link on the City website as a means for citizens to contact City staff with stormwater concerns. The hot-line and YourGov link are visibly posted on the City's website. During Year 5, there were 225 calls to the hot-line and 63 requests on the website.

Permit Cycle 2, Year 1: The City will continue to maintain these means of communication and promptly respond to messages and address citizen concerns.

BMP – 2.5 Participation in Community Events

Summary: The City Stormwater Program presented educational materials and activities at three community events during the 5th year of the permit. The distribution of pet waste bags and a pet waste fact sheet was incorporated into this year's educational outreach effort.

Year 5 Activities: The Stormwater Department participated at the Fall Foliage Art Festival in October 2017. The Soil and Water Conservation District partnered with the City to display information on best management practices for homeowners. The booth exhibited a replica of a house equipped with the conservation practices along with MS4 and Stormwater Program information. In addition, a rain barrel was raffled and composters were distributed free of charge. An estimated 225 people visited the booth during the two day event and 65 brochures were distributed.

For the 2018 Public Works Day, the Stormwater Division hosted a stormwater version of 'Jeopardy'. The categories consisted of watershed concepts, pollutants of concern to the South

River and components of the MS4 Program. An estimate of 40 individuals visited the stormwater display.

At Riverfest 2018, Program staff presented basic MS4 information and targeted education on pet waste. A Stormwater scavenger hunt was created for the event that defined riparian buffers, pet waste threats, stormwater infrastructure and South River life. Approximately 80 kids navigated the scavenger hunt and approximately 85 program informational brochures were obtained by the public. The Riverfest organization estimated 3,000 children and adults attended the 2018 event.

Stormwater Staff hosted a rain barrel making workshop this past spring to promote “good homeowner” practices. There were 9 participants that received the materials free of charge. The workshop was a success and may be continued annually.

Permit Cycle 2, Year 1: The City Stormwater Program will continue to participate in events such as these in Permit Cycle 2 and provide interactive activities as an effective method for families to learn the connection between the urban landscape and its effect on the South River with an emphasis on pet waste.

Minimum Control Measure 2 – Public Involvement/Participation Summary

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
2.1 Tree Planting Program	# of trees planted	85	17	47	57	30
	# of trees pruned	56	29	7	18	19
	Arbor day participants	70	70	104	15	70
	# of seedlings	70	70	185	0	0
2.2 DEQ/DCR Adopt-A-Stream	Total linear feet cleaned	1,000		0	0	12,000
2.3 Stormwater Partnerships	# of meetings		4	7	13	10
2.4 Stormwater Hot-line	# of calls		50	620	250	225
YourGov Portal	# of website requests		32	75	71	63
2.5 Participation in Community Events	# of participants		650	700	600	650

Minimum Control Measure 3 – Illicit Discharge Detection and Elimination

BMP – 3.1 Hazardous Waste Collection Day

Summary: The City regularly participates in the regional household hazardous waste collection day held at the Augusta County Government Center. The following types of waste are accepted: gasoline, kerosene, oil-based paints & stains, rechargeable batteries, pesticides, solvents,

diesel fuel, #2 fuel oil, polyurethane, automobile batteries, herbicides, small electronics, antifreeze, 2 cycle fuel mix, CFL and fluorescent bulbs, motor oil, mercury devices and computers.

Year 5 Activities: The City supplied informational materials prior to the Collection Day on the website and public facilities. City staff assisted with collecting Household Hazardous Waste at the event; City vehicles dropped off approximately 71 loads of hazardous material during the day.

Permit Cycle 2, Year 1: The City will continue to post the hazardous waste collection day on the website and send an informational flyer prior to the event and provide support staff for the event.

BMP – 3.2 IDDE Detection Program

Summary: The established Illicit Discharge Detection Program continues to detect, identify and address unauthorized discharges.

Year 5 Activities: Educational brochures were distributed at public outreach events. The brochures include information on illicit discharge recognition, the means of reporting and the web address for the adopted Illicit Discharge Ordinance.

City staff continued using a mobile IDDE Application to log outfall inspections and track necessary maintenance or follow-up monitoring activities. During this year, 50 MS4 outfalls were screened using the developed application that tracks and prioritizes screenings based on a sub-watershed map and Illicit Discharge Potential (IDP) ranking of different outfalls within the City. The spreadsheet of MS4 Outfall inspections is found in Appendix 2.

Site specific folders for each reported illicit discharge are located on the MS4 Program Server. There were two identified locations of suspected illicit discharge this year, which received the educational brochure and correspondence on possible corrective measures. Upon follow-up inspections, no evidence of illicit discharge was evident.

Permit Cycle 2, Year 1: Screening and data input of 50 outfalls will continue this year in the Illicit Discharge Application. Refinement of the standard operating procedure will be continuous through the permit cycle. Educational efforts will continue with the goal of eliminating non-stormwater discharges.

BMP – 3.3 Mapping of Stormwater Network

Summary: The City is continuing to maintain an accurate storm sewer system map and information table for City-owned stormwater facilities using GIS and GPS technologies. Information collected and to be maintained includes:

- MS4 outfalls
- Name and location of receiving waters, and if it is impaired
- HUC (6th order)
- Information table containing unique outfall identifier

- Estimated MS4 acreage served
- Applicable TMDL
- Structural stormwater BMPs type and location
- Storm sewer type and size

Year 5 Activities: In Permit Year 3, the City produced and submitted a system and outfall map. Updates/edits to the storm sewer system are continual as field conditions differ from the mapped system. No infrastructure was installed this permit year to be drawn into the GIS system. The data table reflects the same amount of structures as Permit Year 4.

Permit Cycle 2, Year 1: Staff will continue maintaining and updating the map as part of its outfall screening and systematic infrastructure condition assessments.

BMP – 3.4 SPCC Training

Summary: The City Public Works employees have monthly safety meetings that cover a wide range of topics including spill response. In addition, all personnel employed by the City Fire Department receive spill response training.

Year 5 Activities: Public Works Department employees were provided standardize process operating procedures for handling and working with substances in a safe manner and included information on spill-handling procedures.

Permit Cycle 2, Year 1: The City will continue with its goal to educate employees on standard operating procedures to minimize accidental pollutant release that could potentially contaminate stormwater runoff or waterways.

Minimum Control Measure 3 – Illicit Discharge Detection and Elimination

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
3.1 Hazardous Waste Collection Day	# of loads	56	32	21	35	71
3.2 IDDE Detection Program	# of ID detected			1	5	2
	# of enforcement actions			0	0	0
3.3 Mapping of Stormwater Network	# of Inlets		495		510	510
	# of Manholes		186		189	189
	# of outfalls		41		44	44
	MS4 outfall designations		26	150	151	151
3.4 SPCC Training	# of personnel trained	95	95	76	137	103

Minimum Control Measure 4 – Construction Site Runoff Control

The City of Waynesboro operates two parallel programs to manage Construction Site Runoff Control, by serving as an Erosion and Sediment Control (ESC) and Virginia Stormwater Management Program (VSMP) Authority. The City has a dedicated Administrator, Inspector, and Plan Reviewer for these programs, assisted by additional administrative and field personnel as needed.

BMP – 4.1 Erosion and Sediment Control Program

Summary: The City has continued to administer an Erosion and Sediment Control Program to significantly reduce adverse impacts from large construction sites or single family home construction. Erosion and Sediment Control Staff includes a Certified Program Administrator, Plan Reviewer and Inspector.

Year 5 Activities: A total of 60.85 acres of land were disturbed, with an increase in commercial sites and the development of two subdivision sections. A total of 50 permits were open during the permit year generating 628 inspections. City of Waynesboro ESC Staff also issued 15 Notice to Comply documents, 9 Stop Work Orders, 2 fines and 0 Letters of Enforcement.

Permit Cycle 2, Year 1: Continue to operate a compliant program in accordance with Virginia State regulation and successfully minimize sediment-laden runoff from construction sites from reaching local water bodies. The City Erosion and Sediment Control Ordinance will be updated in accordance to Virginia State Legislation. Additionally, ESC Staff will also continue to maintain proper certifications and tracking parameters.

BMP – 4.2 Require VSMP Permits

Summary: The City became a VSMP Authority on July 1, 2014 and is responsible for administration of the local VSMP Program in accordance with Commonwealth of Virginia regulations. Program staff focused on educating the construction industry, especially homebuilders in Common Plans of Development, on the updated regulations with an emphasis on compliance with Pollution Prevention Plans.

Year 5 Activities: There were 32 active VSMP Permits within the City; 7 of the sites were more than an acre and 25 were less than an acre in a common plan of development. The inspector performed several ‘spot’ inspections during routine ESC inspections to educate Operators and catch minor infractions in addition to full, periodic inspections per State regulations.

Permit Cycle 2, Year 1: The City will continue to implement local VSMP Program administration and require applicable VSMP requirements to be instituted throughout the permit cycle. The ordinance will be amended according to VSMP requirement modifications.

Minimum Control Measure 4 – Construction Site Runoff Control

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
4.1 Erosion and Sediment Control Program	# of new sf land disturbance activities	76	25	41	24	8
	# of new non-sf land disturbance activities	13	9	7	6	16
	# of acres	65.66	68.29	43.3	23.9	60.85
	# of inspections	1,501	1,254	954	770	628
	# of enforcement actions	43	21	15	20	24
4.2 Require VSMP Permits	# of permits	7	9	10	6	7
	# of single family permits (CPOD)		27	31	45	25
	# of full inspections		2	5	3	8
	# of 'spot' inspections		130	122	492	125
	# of CPOD inspections		54	485	492	8
	# of enforcement actions		0	15	0	0
	# of exemptions	0	0	15	0	0

Minimum Control Measure 5 – Post-Construction Runoff Control

BMP – 5.1 Structural BMP Maintenance

Summary: The City performs ongoing maintenance of all City-owned structural BMPs according to the program plan along with inspection and enforcement of privately owned structural stormwater BMPs.

Year 5 Activities: Public Works staff continues to perform routine maintenance of City owned BMPs, bi-annually or as needed. Staff maintenance tasks consist of mowing and removal of excess vegetation as well as litter that has the potential to impede retention and detention facilities. Bio-filter maintenance consists of weeding of invasive species, adding mulch and removal of trash and accumulated sediment. In addition, the City has engaged a certified ecologist to manage invasive species and provide vegetation management plans for constructed wetlands and bio-filters.

Between July 1, 2017 and June 30, 2018 one new maintenance agreement was signed and recorded for an existing detention private BMP.

Permit Cycle 2, Year 1: The City will continue routine maintenance of storm facilities on a bi-annual basis or, as needed as well as continue contracted maintenance of invasive species in select BMP's. Maintenance agreements for any new privately owned structural BMP will remain a requirement of the program plan. Owners of private structural BMPs without agreements are encouraged to acquire a Stormwater Maintenance Agreement with the incentive of becoming eligible for stormwater utility fee credits.

BMP – 5.2 Structural BMP Inspection

Summary: Inspections of structural BMPs within the City have increased with the development of the BMP inspection program plan. Existing maintenance agreements require property owners of private BMPs to inspect, maintain, and submit an annual report to the City. The program appoints the City to inspect all privately owned BMPs once every 5 years and City owned BMPs annually.

Year 5 Activities: Stormwater staff mailed reminder letters and an inspection checklist to BMP owners with a recorded maintenance agreement. In response, 8 out of 18 of the owners returned the completed inspection form. Staff inspected 20 publicly owned facilities and 28 privately owned facilities in Permit Year 5, utilizing the City Operative Management Software, Cartegraph. A BMP inspection form was created in the Cartegraph system for ease of field inspections using an iPad.

Permit 2, Year 1: The City will continue to inspect and maintain public facilities and track inspections from privately owned BMPs within the City on an annual basis. The opportunity will remain for existing BMP owners to record a Stormwater Maintenance Agreement, holding owners accountable for condition assessment and necessary maintenance to insure the facility is functioning as designed.

BMP – 5.3 Structural BMP Database

Summary: The Structural BMP Database is an effective tool in implementing BMP 5.1 and BMP 5.2. The BMP Database includes the type of BMP, ownership, location, date brought online, HUC code, receiving waters, if the receiving waterway is impaired, if a maintenance agreement exists, number of acres treated, and the most recent inspection.

Year 5 Activities: The public and private BMP inventory is modified as new BMP's come on-line or taken offline. The City successfully updated the database with the assistance of the DEQ Historical Reporting Grant during Permit Year 3. Stormwater Staff is responsible for the input of new facilities brought online into the database; there were not any newly constructed facilities this permit year. The reported number of facilities is less this year as a result of historical research and review of the database.

Permit Cycle 2, Year 1: The City will continually update its BMP Database and collaborate with the Department to input data as the online database is fully developed.

Minimum Control Measure 5 – Post-Construction Site Runoff Control

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
5.1 Structural BMP Maintenance	# of new agreements	3		1	3	1
5.2 Structural BMP Inspections	# of private inspection reports		1	1	16	8
	# of public inspection reports		14	16	11	25
	# of enforcement actions			0	0	0
5.3 Structural BMP Database	BMP database development			170	173	164

Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping

BMP – 6.1 Street Sweeping

Summary: Street sweeping remains an important component of the City’s Pollution Prevention efforts as it can lead to significant reductions in the amount of sediment and related pollutants reaching surface waters.

Year5 Activities: Pollutant removal rates increased by 25% this permit year using the tracking metric outlined in the Street Sweeping Plan, Appendix 3. The sweeper route remained as Arterial and Collector roads were swept bi-monthly and Local roads by ward, monthly. In addition, alleys designed to carry stormwater flows were swept on an as-needed basis. Public Works Operations, the Parks and Recreation parking lot and the Recycling Center facilities were swept as-needed or at a minimum of once per month.

Month	Landfill Tonnage	Lbs Sweeper Debris	N Dry Weight*	P Dry Weight**	TSS Dry Weight**
July	0.00	0.00	0	0	0
August	0.00	0.00	0	0	0
September	6.18	12,360.00	30.9	12.36	3,708
October	126.06	252,120.00	630.3	252.12	75,636
November	96.49	192,980.00	482.45	192.98	57,894
December	65.92	131,840.00	329.6	131.84	39,552
January	0.00	0.00	0	0	0
February	46.87	93,740.00	234.35	93.74	28,122
March	0.00	0.00	0	0	0
April	73.02	146,040.00	365.1	146.04	43,812
May	24.18	48,360.00	120.9	48.36	14,508
June	74.05	148,100.00	370.25	148.1	44,430
Totals		1,025,540.00	2,563.85	1025.54	307,662
*TN Dry Weight Conversion = .0025 per Lb Sweeper Debris					
**TP Dry Weight Conversion = .001 per Lb Sweeper Debris					
***TSS Dry Weight Conversion = .3 per Lb Sweeper Debris					

Permit Cycle 2, Year 1: Street sweeping operations will continue in accordance with the Street Sweeping Plan and analyze the weight of debris using the mass loading approach as defined by the expert panel for the Chesapeake Bay Program.

BMP – 6.2 Pollution Prevention Training

Summary: The City Public Works Department provides pollution prevention training to its employees. Monthly safety committee meetings incorporate environmental protection into the agenda as part of Public Works' Environment & Safety Program.

The Stormwater Maintenance Crew within the Streets Division is trained as a 'First Response Team'. The team is prepared to respond to emergency situations where non-stormwater substances have a high potential to reach or have reached surface waters. The crew, along with other essential personnel attends annual training in order to maintain readiness and effectiveness.

Year 5 Activities: Public Works employees were provided with information on safe handling and spill prevention procedures and discussions of hazard assessment. Training was conducted in a "tool box" method in addition to formal training.

Permit Cycle 2, Year 1: The City has retained The Center for Watershed Protection (CWP) to review current pollution prevention training procedures and provide recommendations to build a competent program. The CWP will assist in the development of daily operational procedures to minimize pollutant discharge from Public Works Operations Yard. Education for City employees will continue with the enhanced standardized operating procedures to minimize accidental pollutant release with the potential to contaminate stormwater runoff.

BMP – 6.3 Yard Debris Collection Program

Summary: The City has an on-going yard debris and fall leaf collection program that reduces the amount of yard waste that reaches storm sewers and surface waters.

Year 5 Activities: Public Works employees collected 241 one-ton loads of leaves and 149 17.5-cu.yd. loads of additional yard debris, such as brush. The tracking metric was converted from volume (cubic yards) to weight in tons to allow further accuracy in reporting. The City Website hosted information on proper yard waste disposal and promotes recycling of debris and leaf litter. Additionally, Informational brochures on leaf collection and composting were made available at public events.

Permit Cycle 2, Year 1: Continue collecting yard debris and leaves, tracking the weight and number of loads kept from storm inlets and waterways. Education on proper disposal techniques will continue on the website and public events. An effort will be made to promote residential yard debris composting as a good housekeeping BMP.

BMP – 6.4 Vehicle Wash Program

Summary: A vehicle washing program, minimizes the amount of pollutants from vehicle wash runoff entering the stormwater system and plays an important role in pollutant reduction.

Year 5 Activities: The Public Works Facility SWPPP was developed and identifies a designated washing bay. Trucks are prohibited to dump contents into the wash bay drain, connected to the sewer system. Fleet is able to use the wash bay at will, therefore an estimate was derived. The City Operations fleet consists of 22 pieces of equipment, estimated to be washed three times a year arriving at 66 washes for Permit Year 5. The Fire Department washed their vehicles a total of 11 times in a designated parking lot adjacent to their facility.

Permit Cycle 2, Year 1: Monitor washing facilities during routine SWPPP inspections.

BMP – 6.5 Storm Sewer Inspections and Maintenance

Summary: A storm sewer inspection and maintenance program will aid in successful routine maintenance and non-routine (repair) maintenance of stormwater facilities.

Year 5 Activities: During Permit Year 5, the City employed contracting services to clean and CCTV approximately 9,475 linear feet of storm sewer pipe identified during routine mapping and inspection activities. Additionally 190 storm structures were inspected as part of a citizen request, outfall screenings and concerns discovered in the field.

Permit Cycle 2, Year 1: The City will continue to perform storm sewer structure inspections at reported and historic hotspots. Maintenance will be performed by in-house crews with available manpower and equipment along with annual contracted services for locations to be CCTV'd and cleaned.

BMP – 6.6 Develop Stormwater Pollution Prevention Plan (SWPPP) for Required City Facilities

Summary:

The City identified the Public Works Operations Yard, the Landfill and Recycler location, Parks and Recreation storage buildings and the park pool as high priority facilities requiring a SWPPP. Full implementation of the SWPPP documents and inspections started with the 5th year of the permit cycle.

Year 5 Activities: Public Works and Parks and Recreation Staff successfully performed routine SWPPP inspections through the year and quarterly inspections were performed by the MS4 Coordinator. The pool chemical storage area and the Operation's salt storage building were only inspected during the associated season, however monitoring locations downslope continued to be routinely inspected. The reports are housed in a central location at Public Works Operations and the Parks and Recreation building.

Several corrective measures were employed at the Operations Yard and the Recycler to minimize the potential for non-stormwater discharges. Flex-storm inserts were installed at both facilities, these proprietary inserts are made to absorb contaminants and collect small litter. The

inserts are inspected during routine SWPPP inspections and cleaned on an as-needed basis. Wattles, consisting of a filter fabric sock filled with wood chips and staked at regular intervals, were installed at the perimeters of the yard to capture sediment laden runoff.

Permit Cycle 2, Year 1: The City will continue to implement routine SWPPP inspections. The CWP will review the existing SWPPPs and provide recommendations for document/inspection refinement.

BMP – 6.7 Develop Nutrient Management Plan (NMP) for Required City Sites

Summary: The City identified 12 sites over one (1) acre that required a NMP and implemented the plans during the 5th year of the permit cycle. The 12 sites that retain a NMP consist of parks, ball fields, schools and a cemetery totaling 106.6 acres, Appendix 4.

Year 5 Activities: The NMPs were developed by a company certified to write the plans, and the content of the plans was reviewed by the NMP developer, stormwater program staff, Parks and Recreation and City Schools Staff. The plans define the checks on the application of nutrients and soil amendments to ensure optimal management. Parks and Recreation Staff hold a license for nutrient application and City Schools contract out application to a certified turf management company. There have been no modifications to any of the locations at this time.

Permit Cycle 2, Year 1: The Nutrient Management Plan implementation will continue through Permit Cycle 2 with a required renewal in 2021.

Minimum Control Measure 6 – Pollution Prevention/Good Housekeeping

BMP	Tracking Measure	Reported Number				
		Year 1	Year 2	Year 3	Year 4	Year 5
6.1 Street Sweeping	# of Miles	3653	1474	3410		
	Tons of debris				404	512.77
6.2 Pollution Prevention Training	# of personnel trained	95		61	83	48
6.3 Yard Debris Collection Program	Cubic yards	57	57	31		
	Tons of yard debris/leaves				313	390
	# of loads of yard debris	290	290	288	304	149
6.4 Dedicated Vehicle Wash Facility	# of Operations vehicles washed				85	66
	# of P&R vehicles washed				0	0
	# of Fire vehicles washed				11	11
6.5 Storm Sewer Inspection and Maintenance	# of structures inspected		80	81	377	190
	Linear feet of line inspected		5000	5500	4750	9475
6.6 Develop SWPPP for Required City Facilities	Development of plans				3	3
6.7 Develop NMP for City Sites	Development of plans				12	12

Evaluation and Assessment

The City of Waynesboro is required to comply with the Annual Reporting requirements for MS-4 Communities contained in section II E.3 of the General Permit and to submit annual reports to the Department of Environmental Quality (DEQ) for the period of July 1 to June 30. A summary of those requirements is below.

- II E.3.a.3: No changes were made to departmental responsibilities.
- II E.3.a.4: The City continues to develop the storm sewer map in accordance with the DEQ approved Program Plan. No MS4 Outfall were installed during Permit Year 5; the number of City-owned MS4 outfalls remains at 151.
- II E.3.b: This report analyzes the effectiveness of BMP's identified by the City for MCM's 1 through 6 to address permit requirements. These practices are considered to be appropriate for meeting program goals for Permit Cycle 1. Progressing into the 2nd permit cycle, the program plan was modified to reflect changes in metrics for program goals.

As part of MCM 2, BMP 2.2 DEQ/DCR Adopt-A-Stream Program never gained much momentum in Waynesboro. Stormwater Staff will shift toward stream clean-up partnerships with local businesses, organizations and schools. These collaborations proved to be successful in years past.

Stormwater Staff's goal for Permit Cycle 2 is to refine MCM 6. Standard Operating Procedures will be developed for good housekeeping both with in-house crews and contractors alike. The pollution prevention training program will be evaluated to improve upon delivery by incorporating the program background, touching on the adverse effects of pollutant discharge and methods to incorporate into daily field operations.

- II E.3.c: Fifty (50) identified MS4 outfalls were monitored and data recorded utilizing the mobile application developed in Permit Year 3. The outfall inspection reports were exported in a spreadsheet format included in this report, Appendix 2.
- II E.3.d: Public Works staff will continue to inspect and maintain all publicly owned BMPs. Stormwater staff will continue inspections of private BMP inventory.
- II E.3.e: Permit Year 5 best management practices and measurable goals remained the same as the previous year.
- II E.3.f: The City does not rely on another government entity for permit compliance.
- II E.3.g: The City operates a DEQ approved ESC Program and the City's Virginia Stormwater Management Program received final approval from DEQ.

Chesapeake Bay TMDL

The City submitted a TMDL Action Plan with the registration statement for the second permit cycle (July 1, 2018 - June 30, 2023) that is provisionally approved by The Department. The City with the assistance of a consultant defined the MS4 Service Area, Waste Load Allocation, high priority sites, and a Preliminary Probable Cost for Implementation for the final Action Plan.

The TMDL Action Plan includes information on projects completed during this permit cycle including regulated acres treated and pollutant removal efficiencies for BMP's that were installed since 2009.

Appendix 1 – Minimum Control Standard #1 – Public Outreach and Education

Watershed Concepts

City Staff will continue watershed concept education at city public schools. The fourth grade series will focus on the definition of a watershed, how it is affected by surrounding conditions, and making the students aware of actions that impact a watershed. Presentations will begin by a brief introduction to a watershed prior to students being teamed up for presentations at several education stations. They will consist of a schoolyard watershed segment, a soil sampling and characteristic station, street sweeper presentation and rotational stations that include a hands-on planting station with a discussion of benefits of plants to a watershed and the 'Raindrop Game'. The game educates children of water facts, how stormwater runoff can pick up pollutants and the effects to receiving water bodies and living species.

The middle and high school presentations will entail the same general concepts using a different approach. The middle school 'field day' will discuss watershed characteristics, incorporating point source versus nonpoint source pollution, permeable and impermeable surfaces, and how one directly affects another. The high school watershed service day will take on a similar discussion along with City infrastructure and how it all works together.

The City will participate in the Fall Foliage Festival and the Riverfest to introduce beneficial home practices for the watershed and the homeowner. A rain barrel will be onsite for demonstration and raffled off along with composting bins distributed to individuals interested in getting started.

Illicit Discharges

Education of illicit discharges and their elimination will continue this year. Brochures will continue to be available at Riverfest, Fall Foliage Festival and Public Works Day. They are also distributed to residents or businesses that are suspected of emitting an illicit discharge. The informational brochures define an illicit discharge, list examples, and display the link to the City Illicit Discharge Ordinance.

Middle and high school students will also be introduced to the definition of an illicit discharge and the harmful effects to receiving bodies of water. This will go along with the point source pollution discussions with the students during 'field day'.

South River Water Quality

The City will provide educational materials on the benefits of the South River, its current health, and the nutrients of concern, sediment and phosphorous. The main focus will be to build upon efforts to reduce pollution from pet waste in the community, a major source of phosphorous.

The Parks and Recreation Department currently maintains Pet Waste Stations along the South River Greenway and two City Parks. It is estimated the Greenway receives 10,000 visitors per year with 20% taking advantage of the pet waste station. There is not a solid annual estimate of visitors to the additional parks, which house the pet waste stations.

The City will continue to distribute approximately 300 pet waste bag dispensers with a fact sheet on why pet waste is harmful to surface waters at outreach events including Fall Foliage Festival and Riverfest. In addition, Stormwater Staff plans to distribute the dispensers during the annual Petpawloozza event in May held at the Coyner Springs dog park.

Pet waste education is currently included in the school education series. The pollutant is introduced during the fourth grade 'Raindrop Game' with a description of its negative effects on the watershed. The South River Jeopardy game incorporated with the sixth grade education includes pet waste facts. Additionally, the vast amount of goose waste and its effects on the South River is explained to the high school students.

Appendix 2 – MS4 Outfall Inspection Export

Landuse	Outfall Id	Last Inspection Date	Flow Present	Illicit Discharge	High Risk	Maintenance Required
Residential	swOTLT-0054-3771	12/6/2017	No	Unlikely	False	False
Residential	swOTLT-0160-3761	5/9/2018	No	Unlikely	False	False
Vehicle Sale/Repair/Miscellaneous Automotive	swOTLT-0115-3770	5/2/2018	No	Unlikely	False	True
Residential	swOTLT-0181-3760	2/27/2018	No	Unlikely	False	True
Open Space	swOTLT-0106-3770	4/12/2018	Yes	Unlikely	False	False
Residential	swOTLT-0009-3761	4/12/2018	No	Unlikely	False	False
Non-durable Manufacturing	swOTLT-0084-3771	6/21/2018	Yes	Unlikely	False	False
Residential	swOTLT-0117-3770	12/6/2017	No	Unlikely	False	True
Residential	swOTLT-0126-3760	1/10/2018	No	Unlikely	False	False
Residential	swOTLT-0074-3760	12/6/2017	No	Unlikely	False	False
Residential	swOTLT-0020-3760	6/21/2018	No	Unlikely	False	False
Residential	swOTLT-0015-3761	11/28/2017	No	Unlikely	False	True
Shopping Center	swOTLT-0053-3750	6/26/2018	No	Unlikely	False	False
Residential	swOTLT-0026-3760	11/30/2017	No	Unlikely	False	True
Residential	swOTLT-0161-3760	5/9/2018	No	Unlikely	False	False
Residential	swOTLT-0103-3771	4/12/2018	No	Unlikely	False	False
Residential	swOTLT-0023-3770	12/21/2017	No	Unlikely	False	False
Residential	swOTLT-0025-3770	12/21/2017	No	Unlikely	False	False
Residential	swOTLT-0173-3760	1/10/2018	No	Unlikely	False	False
Other	swOTLT-0087-3771	11/29/2017	No	Unlikely	False	False
Gas Station	swOTLT-0132-3760	12/6/2017	No	Unlikely	False	False
Other Industrial	swOTLT-0104-3770	5/2/2018	No	Unlikely	False	False
Residential	swOTLT-0159-3760	5/2/2018	No	Unlikely	False	False
Open Space	swOTLT-0091-3770	1/10/2018	No	Unlikely	False	False
Residential	swOTLT-0175-3760	6/21/2018	No	Unlikely	False	False
Residential	swOTLT-0096-3771	3/5/2018	No	Unlikely	False	False
Open Space	swOTLT-0091-3771	4/12/2018	No	Unlikely	False	False
Residential	swOTLT-0177-3760	2/27/2018	No	Unlikely	False	False
Residential	swOTLT-0141-3760	3/5/2018	No	Unlikely	False	False
Residential	swOTLT-0142-3760	6/21/2018	No	Unlikely	False	False
Residential	swOTLT-0170-3760	6/26/2018	No	Unlikely	False	False
Residential	swOTLT-0131-3760	3/5/2018	No	Unlikely	False	False
Residential	swOTLT-0093-3770	1/10/2018	No	Unlikely	False	False
Residential	swOTLT-0053-3771	6/21/2018	Yes	Unlikely	False	False
Residential	swOTLT-0133-3760	5/2/2018	No	Unlikely	False	False
Residential	swOTLT-0099-3760	12/19/2017	No	Unlikely	False	False
Residential	swOTLT-0176-3760	12/19/2017	No	Unlikely	False	True
Other	swOTLT-0180-3760	5/9/2018	No	Unlikely	False	False
Vehicle Sale/Repair/Miscellaneous Automotive	swOTLT-0114-3770	12/21/2017	No	Unlikely	False	True
Open Space	swOTLT-0098-3770	7/19/2017	No	Unlikely	False	False
Residential	swOTLT-0136-3760	2/27/2018	No	Unlikely	False	False
Other Industrial	swOTLT-0148-3760	1/10/2018	No	Unlikely	False	True
Residential	swOTLT-0125-3770	12/21/2017	No	Unlikely	False	True
Other	swOTLT-0182-3760	7/19/2017	Intermittent	Unlikely	False	False
Residential	swOTLT-0051-3771	11/16/2017	No	Unlikely	False	True
Other Industrial	swOTLT-0085-3771	2/27/2018	No	Suspect	False	False
Residential	swOTLT-0127-3770	6/26/2018	Yes	Unlikely	True	False
Residential	swOTLT-0043-3770	11/30/2017	No	Unlikely	False	True
Residential	swOTLT-0127-3760	5/9/2018	No	Unlikely	False	False
Residential	swOTLT-0061-3761	11/28/2017	No	Unlikely	False	False

Appendix 3 – Street Sweeping Plan

The City of Waynesboro recognizes that street sweeping is an important way to keep pollution from reaching waterways as well as meet other municipal goals for aesthetics and safety. The City of Waynesboro MS-4 Service Area consists of 5,544 regulated acres located within the South River Watershed in Augusta County, Virginia. The City also owns and maintains its own street system. The City street system is a significant source of non-point source pollutants to receiving streams due to the direct connection of streets to storm sewers. A formalized street sweeping program will be a key component to meet TMDL Special Conditions for the City's MS-4 Program.

1. Means and Methods

- Sweeping- Beginning in Fiscal Year 2017, which is Permit Year 4 in the City's MS4 Program Plan, the City purchased a regenerative air sweeper and resumed full-time street sweeping operations. The City will sweep Arterial and Collector roads bi-monthly and Local roads by ward monthly. Alleys that are recognized to have been designed to carry stormwater flows will be swept on an as-needed basis. The City Public Works Operations and Recycling Center facilities will also be swept as-needed or at a minimum of once per month. The total acres swept will be approximately 170 miles per month.
- Debris Storage and Disposal- Street sweeping debris is currently dumped at the Public Works Operations facility in a contained area and transported to the landfill as needed.

2. Projected Costs

- The street sweeping program is an integral part of the City's Pollution Prevention and TMDL requirements. Consequently, these costs will need to be accounted for in annual operating budgets moving forward. The program has street maintenance and safety, aesthetic and community-wide benefits beyond just stormwater pollution reduction, so the initial capital outlay, annual staffing and operations costs will be split equally between the Stormwater and Streets funds.

PWO SWM Sweeper Budget Thru FY 2021

items	2015	2016	2017	2018	2019	2020	2021
Part Time Sweeper Wages	\$28,704	\$29,852					
Full Time Sweeper Wages (4% Increase)			\$29,000	\$29,000	\$30,160	\$31,366	\$32,621
Full Time Sweeper Fringe (37%)			\$10,730	\$10,730	\$11,159	\$11,606	\$12,070
Miscellaneous Overhead (uniforms, training, etc.)			\$675	\$702	\$730	\$759	\$790
Sweeper Cost			\$230,000				
Sweeper Fuel (4% Increase)		\$500	\$505	\$525	\$530	\$536	\$541
Sweeper Maintenance (4% Increase)		\$15,000	\$15,600	\$16,224	\$16,873	\$17,548	\$18,250
Sweeper Depreciation (10% annual)			23000	23000	23000	23000	23000
<i>Sweeper Subtotal</i>		\$45,352	\$309,510	\$80,181	\$82,453	\$84,815	\$87,271
<i>Average Annual Cost</i>			\$83,680				
<i>Wiley Wilson Estimate*</i>			\$66,000				
50% Share	N/A	\$22,676	\$154,755	\$40,091	\$41,226	\$42,407	\$43,636

* Wiley Wilson estimate based on labor hours for sweeping 40% of year

3. Estimated Pollutant Reductions

- Since FY '17, the City reported the actual weight of debris rather than lane miles swept. Previously, the City has reported lane miles swept as a basic MS-4 Program milestone without accounting for pollutant removal.
- The City is prepared to follow the 'Recommendations of the Expert Panel to Define Removal Rates for Street and Storm Drain Cleaning Practices'. The estimated pollutant removals for street sweeping will be determined based on road classification and frequency of sweeping if permit holders are directed to report pollutant removal in that fashion.

Appendix 4 – Nutrient Management Plan Sites

Park Sites

1. Constitution Park – 9 acres of managed turf
2. Coyner Springs Park – 3 acres managed turf
3. Waynesboro Cemetery – 13 acres managed turf
4. Ridgeview Park – 19.5 acres managed turf
5. North Park Turf – 7 acres managed turf
6. Basic Park – 5 acres managed turf

School Sites

1. Berkeley Glenn Elementary School – 6.25 acres managed turf
2. Kate Collins Middle School – 15.1 acres managed turf
3. Wayne Hills Preschool – 4.65 acres managed turf
4. Wenonah Elementary School – 4 acres managed turf
5. Westwood Hills Elementary School – 5 acres managed turf
6. William Perry Elementary School – 8.75 acres managed turf
7. Waynesboro High School – 6.35 acres managed turf

Responsible Parties

The departments of responsibility for implementation of MS4 program elements are included in BMP descriptions above. Contact information for each responsible party is located below:

Executive Officer

Title: City Manager
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Program Management

Engineering Division

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Department of Parks & Recreation

Title: Director
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Department of Public Works

Title: Director
Name: Brian McReynolds, P.E.
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