



MONTGOMERY COUNTY DEPARTMENT OF PARKS
THE MARYLAND - NATIONAL CAPITAL PARK AND PLANNING COMMISSION

December 15, 2017

Mr. Brian Clevenger
Maryland Department of the Environment, Water Management Administration
Sediment, Stormwater and Dam Safety Program FL 4, STE 440
1800 Washington Boulevard
Baltimore, MD 21230-1708

Dear Mr. Clevenger,

Enclosed is the Fiscal Year 2017 (FY17) Annual NPDES report for M-NCPPC Montgomery County Department of Parks Phase II NPDES Permit for discharges from State and Federal Small Municipal Separate Storm Sewer Systems (MS4). We were very appreciative of the feedback provided by MDE on our FY16 NPDES annual report and we have addressed your comments in this report.

As we await our new permit, we continue to make programmatic and budgetary preparations to meet the new requirements. We look forward to continued collaboration with you to further integrate responsible and innovative stormwater management into our mission “to protect and interpret our valuable natural and cultural resources; balance demand for recreation with the need for conservation; offer various enjoyable recreational activities that encourage healthy lifestyles; and provide clean, safe, and accessible places.”

Sincerely,

Michael F. Riley
Director of Parks

CC: John Nissel, Deputy Director, Operations
Mitra Pedoeem, Deputy Director, Administration
John E. Hench, Chief, Park Planning and Stewardship Division
Michael Ma, Chief, Park Development Division
David Vismara, Chief, Horticulture, Forestry and Environmental Education Division
Jim Poore, Chief, Facilities Management Division

Doug Ludwig, Chief, Northern Parks Division
Bill Tyler, Chief, Southern Parks Division
Kristi Williams, Chief, Public Affairs and Community Partnerships Division
George Coleman, Acting Chief, Park Police Division
Shuchi Vera, Chief, Management Services Division
Christy Turnbull, Chief, Enterprise Division

BLANK PAGE

**Maryland Department of the Environment (MDE)
Water Management Administration (WMA)
FY 2017 ANNUAL REPORT
National Pollutant Discharge Elimination System (NPDES)
General Permit for Discharges from Small Municipal Separate Storm Sewer Systems**

This annual reporting form is intended for those agencies covered under General Discharge Permit No. 05-SF-5501. Submitting this report constitutes notice that the entity identified below is making progress to comply with all terms and conditions of the general permit. Annual reports shall be submitted to:

Maryland Department of the Environment, Water Management Administration
Sediment, Stormwater and Dam Safety Program, FL 4, STE 440
1800 Washington Boulevard, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.state.md.us

**Maryland-National Capital Park and Planning Commission,
Department of Parks, Montgomery County**

Reporting Period

This report covers Fiscal Year 2017 (FY17), which ran from 7/1/2016 to 6/30/2017.

1. Contact Information

Agency Name: M-NCPPC, Department of Parks, Montgomery County
Contact Person: Jai Cole, Natural Resources Manager
Mailing Address: M-NCPPC Department of Parks, 9500 Brunett Avenue, Silver Spring, MD 20901
Phone Number: 301-650-4366
Email address: Jai.Cole@montgomeryparks.org

Signator: Michael F. Riley, Director of Parks
Mailing Address: M-NCPPC Department of Parks, 9500 Brunett Avenue, Silver Spring, MD 20901
Phone Number: 301-495-2500
Email address: Mike.Riley@montgomeryparks.org



Michael F. Riley, Director of Parks, December 15, 2017

2. Progress with Implementing Minimum Control Measures

Part V. C. of the General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (No. 05-SF-5501) specifies the annual reporting information that needs to be submitted to MDE by agencies. This information includes the status of compliance with permit conditions, an assessment of appropriateness of the identified best management practices, and the progress toward achieving the identified measurable goals for each of the minimum control measures. In addition, any changes in these measurable goals shall, along with activities planned for the next annual reporting period, be highlighted.

Table of Contents

Table of Contents	4
List of Report Acronyms and Abbreviations	5
About M-NCPPC and Montgomery Parks	6
Montgomery Parks NPDES Program: A Year in Review, FY17	7
Personnel Education and Outreach	7
Public Involvement and Participation	7
Illicit Discharge Detection and Elimination (IDDE)	8
Construction Site Runoff Control	8
Post Construction Stormwater Management – SWM Facility Maintenance	9
Post Construction Stormwater Management	10
Pollution Prevention and Good Housekeeping	11
Best Management Practice Matrix FY17	13
Financial Statement	22
Appendices	25
Appendix A: Public Involvement and Participation	26
Appendix B: Post Construction Stormwater Management	27
Appendix C: Pollution Prevention and Good Housekeeping	35
Appendix D: Other Accomplishments	37

List of Report Acronyms and Abbreviations

The following is a list of acronyms and abbreviations used in this report:

BMP	Best Management Practice
EAM	Enterprise Asset Management
ESD	Environmental Site Design
FM	Facilities Management Division
FY	Fiscal Year
GIS	Geographic Information Systems
HFEE	Horticulture, Forestry, and Environmental Education Division
ICC	Intercounty Connector
MCDEP	Montgomery County Department of Environmental Protection
MCDOT	Montgomery County Department of Transportation
MCDPS	Montgomery County Department of Permitting Services
MCSO	Montgomery County Soil Conservation District
MDE	Maryland Department of the Environment
MDDNR	Maryland Department of Natural Resources
M-NCPPC	Maryland National Capital Park and Planning Commission
MONTGOMERY PARKS	Maryland National Capital Park and Planning Commission, Department of Parks, Montgomery County
NP	Northern Parks Division
NPDES	National Pollutant Discharge Elimination System
PACP	Public Affairs and Community Partnerships Division
PDD	Park Development Division
PP	Park Police
PPSD	Park Planning and Stewardship Division
SHA	State Highway Administration
SOP	Standard Operating Procedure
SP	Southern Parks Division
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
WSSC	Washington Suburban Sanitary Commission
WQPF	Water Quality Protection Fund

About M-NCPPC and Montgomery Parks

The Maryland-National Capital Park and Planning Commission (M-NCPPC) is a bi-county agency chartered by the State of Maryland in 1927 to acquire, develop, maintain, and administer a regional system of parks within Montgomery and Prince George's Counties, and to provide land use planning for the physical development of Prince George's and Montgomery Counties. Within the two counties, M-NCPPC administers a park system of more than 52,000 acres. It is composed of stream valley parks, large regional parks, neighborhood parks and park-school recreation areas.

Under the direction of Michael F. Riley, Director of Parks, M-NCPPC Montgomery Parks remains dedicated to sharing the best park experience possible, balancing conservation and recreation. We recognize the importance of providing residents safe and accessible places to gather, enjoy the outdoors, and participate in healthy, recreational activities.

Montgomery Parks' award-winning park system includes 419 parks across 36,641 acres. The natural resources we steward include 500+ ponds and lakes, 457 miles of streams, and the surrounding forests.

Park features include:

- 305 tennis courts
- 296 athletic fields
- 284 playgrounds
- 214 basketball courts
- 238 miles of paved and natural surface trails
- 114 picnic areas
- 117 historic structures
- 102 campsites
- 28 park activity buildings
- nature centers
- miniature trains
- indoor tennis facilities
- boat rental facilities
- indoor and open-air ice rinks
- event centers
- public gardens, and more.

Montgomery Parks NPDES Program: A Year in Review, FY17

In FY17 Montgomery Parks continued to make progress in each of the six Minimum Control Measures of the NPDES permit program: Personnel Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post Construction Stormwater Management, and Pollution Prevention and Good Housekeeping. The following is a review of the FY17 accomplishments and highlights from each of these minimum control measures.

Personnel Education and Outreach

Education is of great importance and value across Montgomery Parks. With regard to the NPDES permit program, a number of staff trainings are offered annually to provide education on environmental and water-quality related topics and to encourage implementation of best management practices. In an organization as professionally diverse as Montgomery Parks, our education program helps establish a baseline of knowledge, conveys management goals to park staff, and provides background on a variety of environmental topics.

Montgomery Parks holds annual Pollution Prevention Trainings for operations staff which cover a wide range of topics on reducing water pollution in our parks. These trainings, which cover both MS4 and industrial NPDES issues, reinforce the need to be proactive to prevent pollution before it becomes an issue. This year 310 employees received this comprehensive training.

Specifically, in response to the passage of comprehensive Montgomery County Bill 52-14 *Pesticides – Notice Requirements – Prohibitions*, which is now part of Chapter 33B of Montgomery County Code, Montgomery Parks staff continue to provide on-going support and training to implement changes in use, notification and tracking of pesticide data through Montgomery Parks Enterprise Asset Management (EAM) system.

Collaborative training with the Maryland Department of Agriculture continued in FY17 in both pesticide and fertilizer use education classes. Sixty-eight staff received training leading to the registered pesticide applicator credential; 15 staff attended our supplemental training on fertilizer application regulations to prepare them for the MDA certification exam.

Public Involvement and Participation

Montgomery Parks strives to develop a strong sense of community through positive interactions engaging with the public and volunteers who take interest in parks. Support continues from volunteers assisting with stream and park cleanups, storm drain labeling, stormwater management facility plantings, and other water quality-related activities, as well as other special projects throughout the parks that have a positive impact on water quality.



Above: Popular fliers used for Signature Service Day Cleanups including Earth Month (left) and MLK Jr. Day (right).

Montgomery Parks staff also engage with the public at special events and participate, in coordination with local partners, for the planning and implementation of annual water quality related events like the H2O Summit and the Montgomery County GreenFest.

Approximately 65 tons of trash was removed from parks and nearly 5,000 volunteers were engaged in cleanup activities in FY17. Just over 28% of the trash removed during FY17 was recyclable (e.g. bottles, cans, and tires). This represents an 8% increase in our annual diversion rate (i.e. the amount of waste that is diverted from landfill for recycling) for the Volunteer Stream & Park Cleanup Program and is our highest rate to date. The recycling component of this program has been growing since the addition of a full-time public outreach and involvement coordinator in FY14 and has gone from an intermittent offering to a standard component of all park & stream clean-ups.

Signature service event cleanups remained popular in FY17 as 480 volunteers participated in MLK Jr. National Day of Service, Earth Month, Day to Serve, National Public Lands Day, and Montgomery County Community Service Week cleanup events in Montgomery Parks. These signature service events attract volunteers from a wider segment of the population than regular cleanups, leading to broader public engagement and new participants in water quality-related activities. The Student Service Learning Day Off – Day On program offering cleanup opportunities on scheduled days off during the Montgomery County Public School Year continued to grow in FY17 with 95 volunteers participating in nine cleanups.

Illicit Discharge Detection and Elimination (IDDE)

Knowledge of existing storm drain infrastructure is critical to understanding the potential travel corridors for pollutants to streams. Montgomery Parks has continued to work on mapping the storm drain system across the 36,891-acre park system on a watershed-by-watershed basis. As a primarily stream valley park system with over 457 miles of streams to steward, the amount of storm drain infrastructure is significant. This information is collected and published in a GIS-compatible format. Current data on the storm drain system and stormwater management facilities on parkland have been organized into a geodatabase, placed on a disc, and are included in this report-package to MDE for FY17.

Montgomery Parks' annual Illicit Discharge Detection and Elimination screening goal is 25 outfalls. This year Parks screened 14 outfalls in Northwest Branch Stream Valley Park, 12 outfalls through the annual maintenance yard inspections, and coordinated with Montgomery County DEP to screen 17 additional outfalls for a total of 43. In FY17, six additional illicit discharges were investigated on parkland based on calls from the public or notifications by Park staff.

Construction Site Runoff Control

Montgomery Parks values the importance of ensuring the proper installation and maintenance of erosion and sediment control practices on all job sites.

This process begins during project design, when Park staff review all project plans completed by outside consultants to ensure the sites are designed for adequate stormwater runoff controls. Project designs for sites >5,000 sq. ft. of disturbance are further reviewed by MCDPS reviewers before issuance of a county Erosion and Sediment Control permit.

All active Montgomery Parks construction projects (on average, 25 per year) are tracked using a Microsoft Access database that is reviewed by senior management on a monthly basis for progress updates and permit status during design and construction. Between design and construction, each project undergoes a rigorous QA/QC review process that includes confirmation that all applicable permits are applied for and obtained, including Montgomery County Department of Permitting Services (DPS).

Each Montgomery Parks construction project has a staff construction Inspector assigned to the site to monitor progress and ensure the contractor has properly installed and maintained erosion and sediment controls. Projects requiring a MCDPS Erosion and Sediment Control permit also have a County Inspector regularly visiting the site to inspect erosion and sediment controls.

Montgomery Parks staff strive to not only be fully in compliance with, but to exceed Montgomery County Sediment and Erosion Control standards. We design, install, and properly maintain erosion and sediment control measures on park construction sites that meet or exceed MCDPS standards.

Post Construction Stormwater Management – SWM Facility Maintenance

There are two types of SWM facilities on parkland – facilities for which Montgomery Parks shares maintenance responsibilities with MCDEP, and those for which Montgomery Parks is solely responsible for maintenance. The total number of facilities on parkland is over 765. For the 565+ facilities that have shared maintenance responsibilities between MCDEP and Montgomery Parks, MCDEP is responsible for structural maintenance and Montgomery Parks is responsible for non-structural maintenance (mowing, trash removal, etc.). A Right of Entry Agreement and Permit for Construction on Park Property went into effect in 2007 that outlines some of the terms of this agreement (attached). These facilities are inspected on a triennial basis by MCDEP and any non-structural maintenance tasks are passed on to Montgomery Parks maintenance staff via MCDEP's EAM database as work orders. Facilities that are maintained solely by Montgomery Parks are inspected and maintained by Montgomery Parks staff and contractors.



Above: Plants play a large role in the function of a bioretention facility, absorbing rain water and filtering out large particles and contaminants. Plants installed in a bioretention facility recently constructed at the Wheaton Stables site include Grass-leaved Goldenrod, Beaked Panicgrass, Swamp Aster, Brown-eyed Susan, Juncus, and Woolgrass.

In addition to triennial inspections conducted by MC DEP for facilities with shared maintenance responsibilities, M-NCPPC performs multiple inspections on these BMPs on Parkland annually, and completes any identified non-structural maintenance needs. Please see **Appendix B.1** for M-NCPPC's Stormwater Management Routine Inspection Frequency Standards. This schedule is based on MDE and MC DEP maintenance guidelines. Please see **Appendix B.2** for an example of procedures used to perform structural inspections for those facilities under sole responsibility of M-NCPPC. Currently these inspections and any subsequent maintenance are tracked in our EAM system.

For the facilities that are structurally maintained by MCDEP and non-structurally maintained by M-NCPPC, M-NCPPC has access to MCDEP's database, which includes structural inspection and maintenance records, and links each of those facilities to Parks' own EAM database for tracking of non-structural activities. M-NCPPC does not

report to MDE on any facilities for which MCDEP assumes structural maintenance. MCDEP reports on the inspection and structural maintenance of those BMPs in their Urban BMB Database as part of their Annual Report, and thus we do not report on those to avoid duplication in the state database.

M-NCPPC is solely responsible for both structural and non-structural maintenance of approximately 100 BMPs. These are not recorded, tracked, maintained, or reported by MCDEP. M-NCPPC annually tracks and reports on the inspection and maintenance of these facilities to MDE. In the new Permit cycle, M-NCPPC will populate the MDE Urban BMP Database and establish a triennial inspection protocol for these facilities.

Bioretention facilities continue to be the most maintenance-heavy stormwater management facilities installed on Parkland. There are currently 82 bioretention facilities on Montgomery County Parkland. Multiple new bioretention facilities are added each year as existing parks are retrofit to include SWM, new parks are constructed, new land is acquired, and other agencies build projects on existing Parkland. Bioretention facilities require year-round maintenance including weeding, pruning, mulching, and leaf removal. Weeding bioretention facilities is the most time-intensive, yet the most important maintenance task to keep facilities functioning properly. This labor-intensive maintenance is a large cost to Parks. However, a savings on plant material costs is realized by Parks' use of plants grown at in-house Pope Farm Nursery.

Wildlife management associated with SWM facilities continued FY17 with the oiling of approximately 778 Canada Goose eggs, the removal of five beavers and the removal of seven groundhogs. Beavers and groundhogs are only removed from stormwater management facilities if it is determined that their activities are impacting the structural components of the facility. Canada Goose egg oiling treatments provide relief from property damage, adverse water quality effects, and impacts to agriculture. It also decreases the risk of public safety issues.



Above: Beaver activity impacted the function of this stormwater management facility. These types of issues are discovered and corrected throughout the year.

Post Construction Stormwater Management – SWM Retrofit Projects on Parkland

Park Development projects are required and encouraged to maximize the treatment of stormwater within the scope of their plans. In addition to the BMPs built in conjunction with these projects, Parks has 2 level of effort CIPs that fund the restoration of impervious surfaces.

In FY17, restoration retrofits constructed by Parks on Parkland included 8 bioswales, 2 bioretentions, and an infiltration trench. Additionally, 1.47 acres of pavement was converted to pervious surfaces. Rain barrels were installed at 5 gutters, 4 enhanced outfalls were constructed, and 3 pond risers and/or inlets were repaired/replaced with water quality structures. A full list of retrofit projects on Parkland can be found in **Appendix B.3.**

In a new initiative in FY17, areas in 17 different locations along our stream valleys were graded to create microtopography in areas that received some level of impervious runoff. These locations were often inappropriate for traditional stormwater facilities but allow for settling and treatment of runoff prior to entering our streams. Sites were altered to provide varying depths (3-18") of water, planted with native wetland vegetation, and strewn with large woody debris for habitat. The ecological benefits of these areas, mostly previously mowed turf grass, in just one growing season have been notable, and we look forward to monitoring how they evolve in coming years.



Above: Volunteers planted a new microtopography project in the floodplain of Sligo Creek.

Pollution Prevention and Good Housekeeping

Montgomery Parks has taken on a number of initiatives under this minimum control measure that cover a wide range of activities aimed at reducing and eliminating stormwater pollution on Parkland. Some of these activities include reforestation; wildlife management; fertilizer use limitations; restricted use of pesticides near streams, creeks and rivers; and eliminating pesticide use on playgrounds. Additionally, the 12 maintenance yards operated by Montgomery Parks are maintained and inspected per their associated NPDES Industrial permits (General Discharge Permit No. 12-SW, the NPDES General Permit for Discharges from Stormwater Associated with Industrial Activities).

Twenty-two acres of parkland were reforested in FY17 through Fee-in-Lieu, Montgomery Parks, PEPCO, and WSSC projects. This was accomplished over 11 projects.

All 12 maintenance yards maintain stormwater pollution prevention plans (SWPPPs) under Park's NPDES industrial permit. These SWPPPs are updated periodically by NPDES staff with consultation with the maintenance yard staff to reflect the current conditions and contacts at the yards. Each maintenance yard is inspected annually by an NPDES staff member alongside a Park Manager for the area where the yard is located. Reports are generated which include required corrective actions. As needed, follow-up surprise inspections are conducted within approximately a month of the initial inspection alongside the Region Division Chief to further ensure that corrective actions are completed. Information on the location of each maintenance yard, inspection dates, overall results, required corrective action(s), and planned improvements have been included in **Appendix C**. In 2016, MDE inspected the maintenance yards. While minor issues existed, the MDE inspector was complimentary of our program.

Beginning in July 2016, 284 playgrounds in parks became pesticide-free. Over 60% of these were previously managed with herbicides. Two crews were created to perform playground surfacing maintenance, which includes removal of weeds using hand and machine-operated tools. In addition, the innovative use of a sod-cutter helps

loosen weeds from the wood fiber/playground mulch, so they can be removed and taken to our Pope Farm compost facility.

Parks is committed to performing additional best management and stewardship practices to enhance our program and further our mission. These additional accomplishments can be found in **Appendix D**.



Above: Parks is using mechanical removal methods (sod cutter at bottom left) in place of pesticides where possible.

Conclusion and Contributors

Montgomery Parks' Phase II MS4 National Pollutant Discharge Elimination System (NPDES) permit requires Montgomery Parks to develop and implement best management practices under minimum control measures as reported herein. The practices implemented under these minimum control measures serve to reduce or eliminate sources of stormwater pollution on parkland in Montgomery County. The permit requirements are complementary to our mission to protect and interpret our valuable natural and cultural resources; balance demand for recreation with the need for conservation; offer various enjoyable recreational activities that encourage healthy lifestyles; and provide clean, safe, and accessible places.

This report was compiled by the following Montgomery Parks staff: Nancy Blum, Water Quality Manager; Jai Cole, Natural Resources Manager; Henry Coppola, Volunteer Services and Community Partnerships Coordinator; Jody Fetzer, Plant Health Horticulturist; Audra Lew, Senior Natural Resources Specialist; Geoffrey Mason, Principal Natural Resources Specialist; Erin McArdle, P.E., Environmental Engineer; Noelia Roman, Natural Resources Specialist; Cornelia Sarvey, Water Quality Manager; and Robert Servis, Natural Resources Specialist/Vegetation Ecologist.

Best Management Practice Matrix FY17

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
PERSONNEL EDUCATION AND OUTREACH	Train operations staff in Pollution Prevention every year as required under NPDES Industrial Sites permit.	Hold four annual Pollution Prevention trainings (1 each) for Operations Divisions including NP, SP, HFEE, and FM.	Ongoing, FY11-17.	The annual Pollution Prevention Training continued to be conducted in smaller groups in FY17 to increase interaction and encourage more group discussion. For FY17, this training was provided for staff in each division identified in the measurable goal with a total of 310 staff trained.	PPSD
PERSONNEL EDUCATION AND OUTREACH	Develop training materials and educational program for Best Environmental Practices such as ecological land management and stormwater reduction practices. Will explore developing a web-based certification program for Best Environmental Practices.	Develop training materials on Best Environmental Practices that will accommodate multiple learning styles.	FY11-FY17, Develop training materials.	Use guides to for computer-based Pesticide and Alternative Practice tracking in Montgomery Parks Enterprise Asset Management (EAM) system were created and distributed.	SP, NP, PPSD, HFEE and PDD
PERSONNEL EDUCATION AND OUTREACH	Train staff in Best Environmental Practices such as ecological land management and stormwater pollution and pesticide reduction practices.	Provide training for staff in Best Environmental Practices.	Ongoing, FY12-17.	<p>Staff trained in FY16 to track use of pesticides and alternative practices for pest management with Montgomery Parks Enterprise Asset Management (EAM) have received on-going one-on-one technical coaching.</p> <p>Sixty-six staff were trained on 'Integrated Pest Management and Pesticide Safety' leading to Maryland Department of Agriculture registered pesticide applicator status for participants.</p> <p>Twenty-five staff were provided fertilizer Use training to become registered with the Maryland Department of Agriculture.</p>	PPSD, NP, SP and PD
PUBLIC INVOLVEMENT AND PARTICIPATION	Meet with Stormwater Partners to discuss NPDES permit progress.	Meet with Stormwater Partners as needed.	Ongoing, FY11-17.	The Stormwater Partners did not request a formal meeting with Montgomery Parks in FY17.	PPSD, PDD, PACP

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
PUBLIC INVOLVEMENT AND PARTICIPATION	Assist MCDEP/WSSC with planning of the Montgomery County GreenFest (formerly the H2O Summit), an annual public event focused on educating county residents about local watersheds. The event encourages involvement in environmental stewardship and other local initiatives related to stream health and water quality.	Provide input and support both in planning prior to the public event as well as on the day of the event.	Ongoing, FY12-17.	<p>In FY17 Montgomery Parks worked with MCDEP, WSSC, and local municipalities to continue holding an H2O Summit for the public. This event, specific to water quality-related education and initiatives, engaged approximately 60 residents. The event format included formal presentations, workshops, and opportunities for community members to engage with each other as well as water quality staff from various local organizations.</p> <p>Montgomery Parks staff continued to serve on the planning committee for the annual Montgomery County GreenFest. The event format included formal presentations, workshops, and educational booths in a festival atmosphere. The planning committee consisted of staff from county agencies, local municipalities, Montgomery College, and local Green Groups. Montgomery Parks hosted a Park information booth, a booth for volunteering in the Parks, children’s tree climbing activities, crafts, as well as a tree-giveaway.</p>	PPSD, PACP, FM
PUBLIC INVOLVEMENT AND PARTICIPATION	Stream Trash Cleanups	Each year Volunteer Services has a goal of completing over 200 stream/park cleanups, the majority of which occur during four major trash cleanup events (Martin Luther King Jr. Day, Earth Day, National Public Lands Day – Day to Serve, and Montgomery County Public Service Day).	Ongoing, FY11-17.	<p>Conducted 253 stream/park cleanups; Approximately 92,713 pounds of trash and 37,036 pounds of recyclables were removed from park watersheds (with a 28.5% recycling rate) and more than 4,800 volunteers were engaged.</p> <p>See details in <i>Appendix A</i>.</p>	PACP
PUBLIC INVOLVEMENT AND PARTICIPATION	Put Pollution Prevention information including pet waste management on the Montgomery Parks public webpage.	Assemble and post Stormwater Pollution Prevention information on the Montgomery Parks website.	<p>Initial website created in FY11.</p> <p>Maintenance of Website Ongoing, FY11-17.</p>	Parks has migrated to a new website. The stormwater information will be migrated to the new site as soon as possible.	PPSD, PACP

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
PUBLIC INVOLVEMENT AND PARTICIPATION	Storm Drain Labeling Program for Park Storm Drains.	Establish volunteer labeling program. Dependent on volunteer labor, label at least 100 storm drains each year.	Ongoing FY11-17.	In FY16 the program was been redesigned to focus on working with youth groups and prioritized labeling storm drains at heavily used Recreational and Regional Parks; In FY17 69 storm drains were labeled at Stream Valley and Recreational Parks. One storm drain mural was painted in FY17 other plans were canceled due to weather	PACP
PUBLIC INVOLVEMENT AND PARTICIPATION	Volunteer Engagement and Citizen Education Opportunities - Special Projects	Engage the public in water-quality related volunteer opportunities and educational experiences.	Ongoing, FY14-17.	Volunteers assisted in tree protection and native species planting efforts at riparian stream buffer and reforestation planting sites throughout the park system. In total, 139 volunteers spent 413 hours on these projects.	PACP, PPSD, NP, SP
ILLCIT DISCHARGE DETECTION AND ELIMINATION	Map parkland storm drain system over a five-year period.	Create a GIS layer file that represents the storm drain system on parkland.	Ongoing, FY11-17.	Completed watersheds include Sligo Creek, Paint Branch, Little Paint Branch, Northwest Branch and Little Falls.	PDD
ILLCIT DISCHARGE DETECTION AND ELIMINATION	Create internal SOP for responding to spills or illicit discharges on parkland.	Establish SOP.	Ongoing, FY12-FY17.	In FY12, developed draft SOP for spills and illicit discharges on parkland including procedures for coordination with County, State and Federal officials for incident response. Testing of the draft SOP began in FY13 and continued through FY15 to ensure the protocol is coherent and consistent in practice. In FY16, additional edits were made to the spill response draft.	PPSD
ILLCIT DISCHARGE DETECTION AND ELIMINATION	Develop a stormwater outfall monitoring program to detect illicit discharges in the park storm drain system that is consistent with the MCDEP program.	Create program and monitor outfalls.	FY11-17	Montgomery Parks screened 14 outfalls in Northwest Branch Stream Valley Park, 12 outfalls through the annual maintenance yard inspections, and coordinated with DEP to screen 17 additional outfalls for a total of 43 outfalls. In FY17, six additional illicit discharges were investigated on parkland based on calls from the public or notifications by Park staff.	PPSD

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
CONSTRUCTION SITE RUNOFF CONTROL	Develop comprehensive erosion and sediment control plans to reduce erosion from construction sites.	All projects over 5,000 sq. ft. receive required erosion and sediment control permits from MCDPS and some under, depending on the level of disturbance. In addition to inspections of construction sites by MCDPS, Montgomery Parks construction inspectors make regular visits to construction sites on parkland to inspect erosion and sediment control devices, limits of disturbance fencing, and tree protection measures.	Ongoing, FY11-17.	Projects were designed to meet or exceed strict MCDPS erosion and sediment control standards. Montgomery Parks construction inspectors make regular visits to construction sites (approximately 25 each year) to ensure proper installation and function of all erosion and sediment control devices.	PDD
POST CONSTRUCTION STORMWATER MANAGEMENT	Ensure all SWM facilities on parkland are monitored and properly maintained to provide maximum stormwater treatment efficiency.	Montgomery Parks will work to address non-structural maintenance issues to MCDEP Standards.	FY11-17.	<p>Montgomery Parks routinely inspects and maintains SWM facilities while working very closely with MC-DEP to cooperatively ensure the facilities are functioning at the highest level.</p> <p>Montgomery Parks has completed the integration of SWM facilities into the Enterprise Asset Management system (EAM). New facilities are being added as they are constructed. All the SWM facilities listed in the new system have routine inspections and non-structural maintenance tasks scheduled. Structural deficiencies identified during routine inspections are reported to DEP. Information on inspections and maintenance tasks performed during each visit is being recorded in the EAM system.</p> <p>MC-DEP generated work orders are infrequent and are being addressed in a timely manner as they are issued.</p>	NP, SP, PPSD
POST CONSTRUCTION STORMWATER MANAGEMENT	Beaver and groundhog control in SWM Facilities	Minimize the damage caused by beaver and groundhogs in SWM facilities.	Ongoing, FY11-17.	In FY17, 7 groundhogs were trapped/removed from SWM facilities in 4 park units. Montgomery Parks trapped/removed 5 beavers from SWM facilities within 3 park units.	PPSD

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
POST CONSTRUCTION STORMWATER MANAGEMENT	SWM Contract Management	Maintain 82 of our SWM pond to MCDEP standards and ensure compliance. Reduce reliance on contract in the future by utilizing specialized SWM staff.	FY11-17.	The maintenance contract was renewed in FY17. Under this contract, 82 SWM ponds were maintained by a contractor. All other ponds were maintained by Park staff. The contractor was responsible for embankment mowing twice per year and regular trash and debris removal. Parks staff still inspected these facilities to ensure maintenance standards were met and to address any other maintenance tasks.	NP, SP
POST CONSTRUCTION STORMWATER MANAGEMENT	Bioretention Facilities	Continue to increase the use of internally propagated plant materials in SWM facilities.	Begin program FY13, Ongoing through FY17.	In FY17, all plant material for rehabilitation of existing bioretention was propagated by Pope Farm (Montgomery Parks Plant Nursery).	NP, SP, HFEE
POST CONSTRUCTION STORMWATER MANAGEMENT	Provide stormwater management for untreated impervious surfaces on parkland.	Untreated parkland areas will be cataloged using GIS and prioritized for retrofitting.	FY11-17, Identify and prioritize sites for retrofits.	GIS continues to be used to identify and track untreated impervious areas on parkland. That information, coupled with stream health data collected through biological monitoring will be used to develop priority areas for SWM retrofit, new facilities, and/or impervious surface reduction. Parks continues to work with MCDEP to ensure a coordinated effort. Appendix D.3 lists stormwater retrofit projects constructed in FY17 on parkland, both by Montgomery Parks and by other agencies in coordination with Montgomery Parks staff.	PDD, PPSD
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	All 12 maintenance yards currently under general NPDES permit for Industrial Sites. The Stormwater Pollution Prevention Plans identify operational and Capital Improvement Plan projects for each site.	Each of the 12 maintenance yards has a Stormwater Pollution Prevention Plan. Annual inspections and updates are conducted.	Ongoing, FY11-17.	Annual inspections and updates were conducted in FY17. Structural improvements identified in the Stormwater Pollution Prevention Plans as currently lacking have been identified. A vehicle wash unit, stormwater retrofit, and additional covered storage at Martin Luther King Jr. Maintenance Yard are currently under construction. A vehicle wash unit, removal of septic system/connection to sewer, and stormwater retrofit at Little Bennett Maintenance Yard are under design.	PPSD, PDD

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	All 5 equestrian centers apply for Nutrient Management Plans to reduce nutrient runoff to waterways. Each agricultural lease maintains a Soil Conservation Plan.	Ensure maintenance of Nutrient Management Plans for equestrian centers and Soil Conservation Plans for agricultural leases.	Ongoing, FY11-17.	Nutrient Management Plans are up to date for Meadowbrook, Wheaton, and Woodlawn. Potomac Horse Center and Callithea are in progress. Conservation Plans are in effect at all the equestrian centers except for Potomac Horse Center which is in process. Lessees work with the MCSCD to develop Soil Conservation Plans.	PPSD, FM
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Equestrian Centers Sediment Control Projects to reduce sediment and nutrient runoff to streams.	Equestrian Centers- Complete Maryland Agricultural Water Quality Cost-Share Program water quality improvement projects at equestrian centers.	Ongoing, FY11-17.	Projects were completed at four of the five equestrian centers in FY11. The final project at Rickman Farm Horse Park has been suspended. No additional projects are planned.	FM
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Pesticide Safety and Integrated Pest Management	Staff adheres to Federal, State, and County regulations and M-NCPPC "Pesticide Safety and Integrated Pest Management" procedures.	Ongoing, FY11-17.	Montgomery Parks follows an Integrated Pest Management (IPM) Policy (Administrative Procedure 02-01 Pesticide Safety and Integrated Pest Management) throughout the park system. Improvements were made to ensure consistency and compliance for pesticide application and pre-notification via our website and special signage at sites of pesticide applications.	HFEE, NP, SP
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Pesticide Safety and Integrated Pest Management*	Implement strategies to reduce pesticide applications on parkland.	Ongoing, FY14-17.	Wood fiber under many benches and trash cans was replaced with stone dust to deter weeds and reduce the need for pesticide application.	HFEE
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Pesticide Safety and Integrated Pest Management*	Implement a uniform pesticide inventory spreadsheet format.	Ongoing, FY14-FY17.	Pesticide inventories across maintenance yards were updated with a consistent spreadsheet format to facilitate sorting, searching and sharing products across the county.	HFEE
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Ensure proper disposal of hazardous wastes*	Bring unusable pesticides to the EcoWise hazardous waste disposal program at the Montgomery County Transfer Station at Shady Grove.	Ongoing, FY14-FY17.	Fertilizer and pesticide products that are in good condition but no longer wanted for use in a maintenance area are relocated where needed to other maintenance areas at Parks.	HFEE

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Reforestation Program	Reduce hazardous waste through transfer of usable fertilizer and pesticide products. Plant 5-10 acres of trees per year.	Ongoing, FY11-17.	Approximately 912 trees and shrubs were planted on 22 acres of parkland in FY17 at 11 planting sites. In total, this represents 22 acres of reforested parkland accomplished in FY17. Of that total: <ul style="list-style-type: none"> ▪ PEPCO planted 136 trees as mitigation for parkland disturbance. ▪ WSSC planted 10 for repairs to their access roads through parklands. ▪ 533 trees and shrubs were planted to replace ash trees cut down because of Emerald Ash Borer infestations. ▪ 233 trees were planted by park region staff to enhance the forest edges in their parks. 	PPSD, HFEE, NP, SP, ICC, MCDEP, Planning Department.
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Develop pet waste guidance to reduce pet waste runoff to waterways. Educate Public about the environmental impacts of pet waste	Provide Park Police with informational materials about pet waste to distribute to their community groups.	Begin distribution to community groups in FY12.	Bilingual (English/Spanish) pet waste brochures were made available to the public at each of the Montgomery Parks nature centers/visitor centers.	PPSD, PACP, PP
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Develop Pet Waste Management Program to reduce pet waste runoff to waterways	Install 20 pet waste bag dispensers in parks over permit cycle.	Ongoing, FY11-16 Two dispensers per year where community organizations will take responsibility for stocking and maintenance. Dispensers will be obtained through Public-Private Partnership.	As of FY16, pet waste bag dispensers were installed and maintained at Black Hill Regional Park (1), Ridge Road Recreational Park (3), Olney Manor Recreational Park (4), Wheaton Regional Park (3), Cabin John Regional Park (8), and North Four Corners Local Park (1). Ten (10) new pet waste bag dispensers were installed in FY16 at South Germantown Recreational Park.	NR, SR

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
POLLUTION PREVENTION AND GOOD HOUSEKEEPING	Salt Management Practices	Use environmentally friendly salt on sidewalks and walkways to reduce salt impact on streams.	Ongoing, FY11-16.	Applied environmentally friendly salt on sidewalks and walkways to reduce salt impact on streams. This practice began in FY10.	NP, SP, FM
POLLUTION PREVENTION AND GOOD HOUSEKEEPING & POST CONSTRUCTION STORMWATER MANAGEMENT	Canada Geese population control	Oil Canada Goose eggs in seven parks under federal permit to control population and reduce goose manure in waterways.	Ongoing, FY11-17.	90 nests containing approximately 778 eggs treated in 9 park units.	PPSD
POLLUTION PREVENTION AND GOOD HOUSEKEEPING & POST CONSTRUCTION STORMWATER MANAGEMENT	Deer population control	Hold managed hunts and sharpshooting in 15 to 20 parks to reduce deer populations, manure runoff to waterways and to increase forest vegetation and improve stream buffers.	Ongoing, FY11-17.	Montgomery Parks deer management program harvested 1,333 deer from 41 park units.	PPSD
POLLUTION PREVENTION AND GOOD HOUSEKEEPING & POST CONSTRUCTION STORMWATER MANAGEMENT	Non-native invasive (NNI) plant management and forest protection for stream buffer forests	Hire one career employee (1.0 WY) to work on preserving stream buffer forests through NNI management and forest protection. Will target vines threatening mature trees along streams to reduce stream bank erosion.	FY16-FY18.	This new position was hired in FY16.	PPSD
OTHER: BIOLOGICAL MONITORING IN STREAMS	Biological monitoring will be conducted in support of the Countywide Stream Protection Strategy, County and Park Master Plans, Natural Resource Management Plans and Operation and Use Plans.	All watersheds that include Biodiversity Areas, Best Natural Areas and the Rock Creek, Cabin John and Sligo Creek watersheds will be monitored this permit cycle.	Ongoing, FY11-16.	In FY17, Montgomery Parks conducted biological monitoring at 57 sites in 19 watersheds: Bennett Creek, Little Bennett, Cabin John, Little Falls, Hawlings, Northwest Branch, Little Seneca, Great Seneca, and Sligo Creek, Paint Branch and Upper Rock Creek.	PPSD

MINIMUM CONTROL MEASURE	BMP SELECTED	MEASURABLE GOAL	IMPLEMENTATION AND COMPLETION DATE	FY17 PROGRESS	RESPONSIBILITY
OTHER: STREAM RESTORATION PROJECTS	Stream Restoration	Plan, design, and construct stream restoration projects on parkland by Montgomery Parks and other agencies.	Ongoing, FY11-17.	Over 4800 linear feet of stream was restored in FY17 (approximately 0.9 miles). Appendix F lists stream restoration projects constructed in FY17 on parkland by both Montgomery Parks and other agencies in coordination with Montgomery Parks staff.	PDD
OTHER: WETLANDS AND VERNAL POOLS	Wetlands and vernal pools	Identify potential sites, review proposed plans, and maintain and monitor wetlands and/or vernal pools constructed on parkland by Montgomery Parks and other agencies.	Ongoing, FY11-67	Montgomery Parks created wetland features using microtopography and native plantings in 17 different locations along our stream valleys. More information about the sites is shown in the table in Appendix D.3 .	PDD/PPSD

Financial Statement

Some funding for the NPDES Program comes from the Montgomery County Water Quality Protection Fund (WQPF) which is raised by a fee on impervious acreage in the county. Parks received \$2,817,413 from the WQPF in FY17. The rest of the Permit required activities are funded through the Parks Fund. Additional information on the Water Quality Protection Fund can be found at the following link: <http://www.montgomerycountymd.gov/dep/water/wqpc.html>

Many of the projects constructed to comply with the NPDES Permit come from the Capital Improvement Project "Pollution Prevention and Repairs to Ponds and Lakes Fund" which was funded at \$650,000 in FY17 and "Stream Protection," funded at \$600,000 in FY17. Funding sources for these CIP projects include General Funds, G.O. Bonds, and State Aid.

Pollution Prevention and Repairs to Ponds & Lakes (P078701)

Category	M-NCPPC	Date Last Modified	5/13/16
Sub Category	Development	Required Adequate Public Facility	No
Administering Agency	M-NCPPC (AAGE13)	Relocation Impact	None
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000S)

	Total	Thru FY15	Est FY16	Total 6 Years	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Beyond 6 Yrs
Planning, Design and Supervision	1,610	0	710	900	150	150	150	150	150	150	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	5,974	0	2,974	3,000	500	500	500	500	500	500	0
Construction	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Total	7,584	0	3,684	3,900	650	650	650	650	650	650	0

FUNDING SCHEDULE (\$000S)

	Total	Thru FY15	Est FY16	Total 6 Years	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Beyond 6 Yrs
Current Revenue: General	2,966	0	1,166	1,800	300	300	300	300	300	300	0
G.O. Bonds	2,655	0	605	2,050	300	350	350	350	350	350	0
State Aid	50	0	0	50	50	0	0	0	0	0	0
State ICC Funding (M-NCPPC Only)	1,913	0	1,913	0	0	0	0	0	0	0	0
Total	7,584	0	3,684	3,900	650	650	650	650	650	650	0

APPROPRIATION AND EXPENDITURE DATA (000S)

Appropriation Request	FY 17	650	Date First Appropriation	FY 07
Appropriation Request Est.	FY 18	650	First Cost Estimate	
Supplemental Appropriation Request		0	Current Scope	FY 16 6,984
Transfer		0	Last FY's Cost Estimate	6,563
Cumulative Appropriation		3,684		
Expenditure / Encumbrances		562		
Unencumbered Balance		3,122		

Description

This PDF funds continuing efforts to update and maintain our existing facilities to meet today's standards and enhance environmental conditions throughout the park system. M-NCPPC operates 12 maintenance yards (MY) throughout Montgomery County that are regulated as industrial sites under NPDES because bulk materials storage and equipment maintenance have the potential to pollute surface waters.

Each MY is subject to NPDES regulations, and must have a Stormwater Pollution Prevention Plans (SWPPPs) in place. SWPPPs are generally a combination of operational efforts and capital projects, such as covered structures for bulk materials and equipment, vehicle wash areas, or stormwater management facilities. In addition, M-NCPPC has identified between 60 and 70 existing farm ponds, lakes, constructed wetlands, irrigation ponds, recreational ponds, nature ponds, and historic dams on park property that do not qualify for funding through Montgomery County's Water Quality Protection program. Based on the results of field inspections, projects are prioritized for design, permitting, and construction. M-NCPPC has entered into a countywide NPDES Phase II Permit with MDE to establish pollution prevention measures to mitigate stormwater runoff that originates on parkland. This new permitting requirement will involve additional efforts to identify untreated areas and develop appropriate Best Management Practices (BMPs) to control stormwater runoff and enhance water quality.

Cost Change

Received supplemental appropriation for additional \$600k from SHA for ICC Mitigation. The level-of-effort will increase to address rising construction costs. Overall cost increase due to implementation of alternative project delivery model aimed at shortening project development process and allowing staff to be more responsive to changes in user needs and funding availability. This new method uses various level-of-effort pdfs to fund smaller or phased projects in lieu of creating a standalone PDF for a complete park renovation that may take years to complete.

Justification

The NPDES General Discharge Permit for Stormwater Associated with Industrial Facilities, Permit No. 02 SW issued by the Maryland Department of the Environment (MDE), requires implementation of the SWPPPs at each maintenance yard. The MDE Dam Safety Program requires regular aesthetic maintenance, tri-annual inspection, and periodic rehabilitation of all pond facilities to maintain their function and structural integrity. In 2010, the EPA enacted the NPDES Municipal Separate Storm Sewer System (MS4) Permit.

Fiscal Note

Prior year partial capitalization of expenditures through FY15 totaled \$5,426,000. In FY16 received an additional \$600k from SHA for ICC Mitigation. State Bond Bill grant of \$50,000 was received in 2015 for West Fairland Local Park. New partial closeout includes FY14 and FY15. In FY14 transferred in FY14, \$40,000 GO bonds to Ballfield Improvements, #008720. In FY13, transferred-in \$200,000 GO Bonds from Lake Needwood Modifications #098708.

Disclosures

Expenditures will continue indefinitely.

M-NCPPC (A13) asserts that this project conforms to the requirements of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

Coordination

Montgomery County Department of Permitting Services (MCDPS), Montgomery County Department of Environmental Protection (MCDEP), Maryland Department of the Environment, Washington Suburban Sanitary Commission (WSSC).

Stream Protection: SVP (P818571)

Category	M-NCPPC	Date Last Modified	12/29/16
Sub Category	Development	Required Adequate Public Facility	No
Administering Agency	M-NCPPC (AAGE13)	Relocation Impact	None
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE (\$000S)

	Total	Thru FY16	Rem FY16	Total 6 Years	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Beyond 6 Yrs
Planning, Design and Supervision	1,011	93	102	816	132	132	138	138	138	138	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	3,438	312	342	2,784	468	468	462	462	462	462	0
Construction	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Total	4,449	405	444	3,600	600	600	600	600	600	600	0

FUNDING SCHEDULE (\$000S)

	Total	Thru FY16	Rem FY16	Total 6 Years	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Beyond 6 Yrs
G.O. Bonds	4,449	405	444	3,600	600	600	600	600	600	600	0
Total	4,449	405	444	3,600	600	600	600	600	600	600	0

APPROPRIATION AND EXPENDITURE DATA (000S)

Appropriation Request	FY 18	600	Date First Appropriation	FY 81
Supplemental Appropriation Request		0	First Cost Estimate	
Transfer		0	Current Scope	FY 16 4,449
Cumulative Appropriation		1,449	Last FY's Cost Estimate	4,449
Expenditure / Encumbrances		405		
Unencumbered Balance		1,044		

Description

As a result of development in urban and suburban watersheds, stream channels are subject to increased storm water flows that result in severely eroded stream banks. This project makes corrective improvements to damaged stream channels, floodplains, and tributaries in stream valley parks and constructs new stormwater management (SWM) facilities and associated riparian enhancements to improve watershed conditions. Stream erosion problems include stream sedimentation, destruction of aquatic habitat, undercutting of stream banks, blockage of migration routes, loss of

floodplain access, tree loss, damage to infrastructure (i.e. bike paths, bridges, utilities, and other improvements). Rock and wood revetments (i.e. cross vanes, J-hooks, riffle grade controls) are used in association with reforestation, floodplain enhancements, and other stream protection techniques (brush bundles, wing deflectors, root wads, etc.) to prevent continued erosion and improve aquatic habitat. Stream protection projects must be examined from a watershed perspective to identify/control the source of problems. If possible new SWM facilities will be built to control water flows prior to entering the stream channel to help the watershed return to a more stable equilibrium. Projects require engineering and permitting by Maryland Department of the Environment, the

U.S. Army Corps of Engineers, and Montgomery County's Department of Permitting Services. This project also includes reforestation in stream valley parks.

Justification

The project meets Montgomery County's water quality goals, Chapter 19, Article IV of the Montgomery County Code: to protect, maintain, and restore high quality chemical, physical, and biological conditions in the waters of the State in the County. This project is also supported by the Countywide Stream Protection Strategy developed by Montgomery County's Department of Environmental Protection (DEP). Many county streams flow through lands managed/owned by M-NCPPC. M-NCPPC performs a stewardship role in protection of these streams and protecting improvements, which are threatened by stream erosion. Comprehensive Watershed Inventories conducted by Montgomery County Department of Environmental Protection with assistance from M-NCPPC.

Fiscal Note

Prior year partial capitalization of expenditures through FY15 totaled \$12,449,000. FY13 transfer in of \$129K GO Bonds from Lake Needwood Modifications #098708.

Disclosures

Expenditures will continue indefinitely.

Coordination

Montgomery County Department of Environmental Protection, National Capital Planning Commission for Capper-Cramton Funded Parks, State and County Department of Transportation, State Dept. of Natural Resources, Montgomery County Department of Environmental Protection, PDF 733759, Utility rights-of-way coordinated with WSSC and other utility companies where applicable., U.S. Army Corps of Engineers, Metropolitan Washington Council of Governments.

Appendices

Appendix A: Public Involvement and Participation

A.1: FY17 Park and Stream Cleanup Summary

Appendix B: Post Construction Stormwater Management

B.1: Stormwater Management Inspection Frequency Standards

B.2: Stormwater Management Facility Routine Inspection Checklists

B.3: FY17 Post Construction Stormwater Management Projects

Appendix C: Pollution Prevention and Good Housekeeping

C.1: FY17 Maintenance Yard Inspection Summary

Appendix D: Other Accomplishments

D.1: FY17 Stream Restoration Projects

Appendix A: Public Involvement and Participation

A.1: FY17 Park and Stream Cleanup Summary

	NUMBER OF PROJECTS	BAGS OF TRASH	POUNDS OF LOOSE TRASH	TIRES	BAGS OF RECYCLABLES	TOTAL POUNDS OF TRASH AND RECYCLING REMOVED
STREAM & PARK CLEANUPS	253 Volunteer Cleanups	2,860	21,213	188	1,316	129,749

**Trash weights estimated per the following: 25lbs per bag, 22lbs per tire, and 25lbs per bag of recyclable*

Appendix B: Post Construction Stormwater Management

Appendix B.1: Stormwater Management Inspection Frequency Standards

STORMWATER MANAGEMENT						
All storm water management assets shall be inspected, maintained, and free of trash and debris in order to comply with U.S. Environmental Protection Agency (NPDES) regulations and Montgomery County Department of Environmental Protection (DEP) guidelines.						
STATEMENT OF STANDARD/ Maintenance Activity	Park Type	Optimal Frequency Standard	FY16 Actual	FY17 Actual	FY18 Estimated	FY19 Proposed
All Stormwater Facilities Keep all stormwater management assets free of trash and debris.	All Park Categories	Monthly	Monthly	Monthly	Monthly	Monthly
All Stormwater Facilities Check for erosion, sediment accumulation, clogging, seeps, animal burrows.	All Park Categories	Seasonally and after storm events	Seasonally and after storm events	Seasonally and after storm events	Seasonally and after storm events	Seasonally and after storm events
Bioretention Site/Rain Garden Inspections and Maintenance Remove weeds and other undesirable vegetation. Remove debris and trash	All Park Categories	Monthly	Monthly	Monthly	Monthly	Monthly
Sand Filter Inspections and Maintenance Inspect for standing water, clogging of surface aggregate. Remove grass, algae, leaves, and sediment.	All Park Categories	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Infiltration Practices-Gravel or Sod Surface Inspect for clogging of surface aggregate. Remove weeds, and other undesirable vegetation. Mow sod surface to no lower than 4 inches. Remove trash	All Park Categories	Monthly	Monthly	Monthly	Monthly	Monthly
Wet and Dry Ponds Mow grass and remove woody vegetation in the pond areas downstream slope of dams, top of dams, upstream slope of dams (dry ponds only), twenty-five feet around the control structures (dry ponds only), inlet channels, around headwalls, pipes within pond areas, and outlet channels.	All Park Categories	2 X per year minim.	2 X per year			

Appendix B.2: Stormwater Management Facility Routine Inspection Checklists



WATER MANAGEMENT FACILITY INSPECTION FORM - **BIORETENTION**

Asset #:		Date:	
Description:		Weather:	
Park Name:		Date/Amount Last Rain:	
Type of SWM Facility:		Name:	

1. Facility Condition/Infall/Outfall/Observation Wells

Do observation wells hold water continuously?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Are well caps in place?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is there standing water?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is trash rack/overflow functioning?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Excessive sediment/debris deposits?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is gravel diaphragm free of debris	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

2. Stabilization

Signs of erosion?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is sufficient mulch present and not degraded?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Did the mulch move? Did gravel move?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Are side slopes and conveyance into facility stable?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is planting material sufficient?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

3. Plant Material

Is plant material according to plan and healthy?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is plant maintenance needed?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Weedy or non-native invasive material present?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

4. Miscellaneous

Animal burrows?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Trash or debris inside or around facility?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is safety or informational signage in place?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?			

Additional Notes:

Appendix B.2: Stormwater Management Facility Routine Inspection Checklists



STORMWATER MANAGEMENT FACILITY INSPECTION FORM - POND

Asset #:		Date:	
Description:		Weather:	
Park Name:		Date/Amount Last Rain:	
Type of SWM Facility:		Name:	

1. Pond Infall/Outfall

Is there woody growth within 10' barrel?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is outfall channel Functioning?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Erosion problems?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Displacing rip rap?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Excessive sediment deposits?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

2. Embankment/Spillway

Grass recently mowed?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Erosion, cracking, or bulging on dam?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Animal burrows?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Soft spots or boggy areas?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Woody growth or unauthorized plantings?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

3. Riser

Woody growth within 10'?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Low flow orifice clear and functioning?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Trash rack clear?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

4. Miscellaneous

Beaver activity present?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Trash or debris dumping?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

Additional Notes:

Appendix B.2: Stormwater Management Facility Routine Inspection Checklists



STORMWATER MANAGEMENT FACILITY INSPECTION FORM – Bio-Infiltration - Gravel Surface/ Gravel Chimneys

Asset #:		Date:	
Description:		Weather:	
Park Name:		Date/Amount Last Rain:	
Type of SWM Facility:		Name:	

1. Facility Condition/Infall/Outfall/Observation Wells			
Do observation wells hold water continuously?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Are well caps in place?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is there standing water?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is inflow/overflow structure free of debris and functioning	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Excessive sediment/debris deposits on surfaces?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
2. Stabilization			
Signs of erosion within facility?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is Inflow stable?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is outflow stable?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is there sediment built-up in area leading into facility?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is there sediment built-up on surfaces?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
3. Surface Material			
Are vegetated surfaces according to plan and healthy?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Was surface gravel material displaced?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Is weedy material on gravel surfaces?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
4. Miscellaneous			
Animal burrows?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Trash or debris inside or around facility?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:
Other?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Description:

Additional Notes:

Appendix B.2: Stormwater Management Facility Routine Inspection Checklists



STORMWATER MANAGEMENT FACILITY INSPECTION FORM –Infiltration-Sand Filter

Asset #:		Date:	
Description:		Weather:	
Park Name:		Date/Amount Last Rain:	
Type of SWM Facility:		Name:	

1. Facility Condition/Infall/Outfall/Observation Wells	
Do observation wells hold water continuously?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Are well caps in place?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Is there standing water?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Is trash rack/overflow functioning?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Excessive sediment/debris deposits?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Other?	<input type="checkbox"/> No <input type="checkbox"/> Yes
2. Stabilization	
Do side slopes show signs of erosion?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Do side slopes show sufficient vegetative cover	<input type="checkbox"/> No <input type="checkbox"/> Yes
Are there signs of erosion within the facility?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Is there stable conveyance into the facility?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Other?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Other?	<input type="checkbox"/> No <input type="checkbox"/> Yes
3. Surface	
Is there unwanted vegetation on filter media?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Is surface material caking?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Was surface material displaced?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Other?	<input type="checkbox"/> No <input type="checkbox"/> Yes
4. Miscellaneous	
Animal burrows?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Trash or debris inside or around facility?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Is safety or informational signage in place?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Other?	<input type="checkbox"/> No <input type="checkbox"/> Yes

Additional Notes:

Appendix B.3: FY17 Post Construction Stormwater Management Projects

Park Name and Location Description	Lead Agency	Type of Retrofit	Watershed	Construction Completion Date (month/year)	Project Description	Drainage Area (acres)	Treatment Volume (CF)	% Impervious (if applicable)
Pope Farm Enhanced Outfall	Montgomery Parks	Outfall Enhancement	Rock Creek	August 2016	Stabilize eroding storm drain outfall with step pools and native vegetation	11.4 ac	N/A	11%
Ayrlawn NP	Montgomery Parks	Bioswales	Cabin John	September 2016	Install bioswales to treat untreated SWM runoff	Bioswale #1: 1 acre Bioswale #2: 1.2 acres	Bioswale #1: 238 cf Bioswale #2: 245 cf	Bioswale #1: 9% Bioswale #2: 3%
Holy Cross Hospital Site Improvements	Montgomery Parks	Micro-bioretenion	Sligo Creek	September 2016	Miscellaneous site improvements including trail, ADA, SWM	0.21	924	40
Holy Cross Hospital Impervious Removal (Forest Glen Road at Sligo Creek Parkway)	Holy Cross / Montgomery Parks	Impervious Removal	Sligo Creek	September 2016	Removal of extra road pavement (right turn lane)	0.09	N/A	100%
Wheaton Stables Bioswale	Montgomery Parks	Bioswale	Northwest Branch	October 2016	Bioswale NW Corner Barn Stables	3.77	842	6
Little Bennett Dairy Barn Removal	Montgomery Parks	Impervious Removal	Seneca Creek	October 2016	Removal of Dairy Barn and surrounding Impervious Surfaces	0.41 ac	N/A	100%
MLK ADA Pavement Reduction	Montgomery Parks	Impervious Removal	Northwest Branch	December 2016	Removal of extraneous impervious pavement and scarification of underlying surface	0.1 ac	N/A	100%
Pilgrim Hill Inlet Baffle	Montgomery Parks	WQ Inlet	Paint Branch	December 2016	Installation of a baffle in a manhole to direct more storm flow into a stormwater pond	N/A	N/A	N/A
Sligo Creek Flower Avenue Impervious Removal	WSSC \ Montgomery Parks \ Takoma Park	Impervious Removal	Sligo Creek	December 2016	Removal of extra road pavement	0.05	N/A	100%
Bennett Creek Conservation Park Impervious Removal	Montgomery Parks	Impervious Removal	Bennett Creek	January 2017	Removal of House and Shed	0.05 ac	N/A	100%
Parkside Tributary Outfall Enhancement	Montgomery Parks	Outfall Enhancement	Sligo Creek	February 2017	Log drops and step pools to stabilize existing eroded outfall	N/A	N/A	N/A

Appendix B Post Construction Stormwater Management Inspection

Park Name and Location Description	Lead Agency	Type of Retrofit	Watershed	Construction Completion Date (month/year)	Project Description	Drainage Area (acres)	Treatment Volume (CF)	% Impervious (if applicable)
Dartmouth Drive Outfall	MCDOT	Outfall Enhancement	Sligo Creek	February 2017	Stabilization of eroding outfall (and ESD Facilities upstream of Parkland)	N/A	N/A	N/A
Sligo Creek Pervious Sidewalk at Jackson Avenue	City of Takoma Park	Pervious Pavement	Sligo Creek	March 2017	Installation of Pervious sidewalk	0.02	N/A	100%
Little Bennett Regional Park Impervious Removal	Montgomery Parks	Impervious Removal	Little Bennett	March 2017	Removal of Cinderblock Storage Building	0.05 ac	NA	100%
Maydale Conservation Park Impervious Removal	Montgomery Parks	Impervious Removal	Upper Paint Branch	March 2017	Removal of Nature Center and Walkway	0.08 ac	N/A	100%
Microtopography along Sligo Creek Parkway (North of Route 29)	Parks	Microtopography/Wetland creation/vernal pools	Sligo Creek	March 2017	Microtopography grading to collect untreated stormwater and create wetland features (7 sites)	varies	varies	varies
Microtopography along Rock Creek	Parks	Microtopography / Wetland creation/vernal pools	Rock Creek	March 2017	Microtopography grading to collect untreated stormwater and create wetland features (7 sites)	varies	varies	varies
Quince Orchard Valley Neighborhood Park Impervious Removal	Montgomery Parks	Impervious removal, replace bridge, tree planting	Great Seneca	March 2017	Removed old tennis court impervious, 5ft asphalt trail to court, a conc slab next to trail	0.55-acre	N/A	100%
Parklawn North and NW-160 Microtopography	Parks	Microtopography / Wetland creation / vernal pools	Northwest Branch	March 2017	Microtopography grading to collect untreated stormwater and create wetland features (2 sites)	varies	varies	varies
Rain Barrel Installation	Montgomery Parks	Installation of 5 Rain Barrels	Seneca Creek, Rock Creek (3), Cabin John	April 2017	Installation of rain barrels	N/A	33 CF (total for 5)	100%
Broadmore Pond/Cannon Road LP Pond Retrofit (Opti)	Montgomery County DEP	Pond Retrofit	Paint Branch	April 2017	Installation of remote monitoring system in pond that control water levels to maximize treatment	14.4 ac	27,181 cf	35%
Meadowside Nature Center Sunfish Pond Riser Replacement	Montgomery Parks	Riser Replacement	Rock Creek	May 2017	Replacement of leaking riser in a farm pond and addition of cool water drawdown and habitat features in pond	N/A	N/A	N/A
Pine Lake Trail Bioswales	Montgomery Parks	ESD Retrofit	Northwest Branch	June 2017	Installation of 5 bioswales to treat existing untreated	Bioswale #1: 0.84 ac Bioswale	Bioswale #1: 75 Bioswale #2: 325 Bioswale	Bioswale #1: 18%

Appendix B Post Construction Stormwater Management Inspection

Park Name and Location Description	Lead Agency	Type of Retrofit	Watershed	Construction Completion Date (month/year)	Project Description	Drainage Area (acres)	Treatment Volume (CF)	% Impervious (if applicable)
					impervious surfaces	#2: 1.33 ac Bioswale #3: 0.57 ac Bioswale #4: 0.47 ac Bioswale #5: 1.27 ac	#3: 160 Bioswale #4: 1064 Bioswale #5: 1176	Bioswale #2: 38% Bioswale #3: 19% Bioswale #4: 47% Bioswale #5: 39%
Capitol View/Homewood LP: Tennis Enhanced Outfall	Montgomery Parks	Enhanced Outfall/ Microtopography/ Riparian Enhancement	Rock Creek	June 2017	Reestablish a swale, add storm drains, and provided enhanced outfall microtopography area before discharging into woods	0.26	N/A	14%
Wheaton Stables Bioretention	Montgomery Parks	Bioretention	Northwest Branch	June 2017	Bioretention at the parking lot	1.75	3442	55
Ellsworth Urban Park Impervious Removal	Montgomery Parks	Impervious Removal	Northwest Branch	June 2017	Removal of House and walkway	0.07 ac	N/A	100%
Capitol View/Homewood LP: Tennis Infiltration Trench	Montgomery Parks	Infiltration Trench	Rock Creek	June 2017	Reestablish a swale and provide an Infiltration Trench around the Tennis Courts	0.42	77 cf	78%

Appendix C: Pollution Prevention and Good Housekeeping

C.1: FY17 Maintenance Yard Inspection Summary

MAINTENANCE YARD	ADDRESS	DATE OF LAST INSPECTION	OVERALL RESULTS/ NEEDED CORRECTIVE ACTION	DATE OF FOLLOW-UP	PLANNED IMPROVEMENTS
BLACK HILL	21021 Lake Ridge Drive, Boyds, MD 20841	10/25/16	Minor Maintenance/Pollution Prevention Issues	1/4/17	
BROOKSIDE GARDENS	12301 Fernmont Lane, Wheaton, MD 20902	10/28/16	Minor Maintenance/Pollution Prevention Issues, need to more consistently do monthly inspections	2/7/17	
CABIN JOHN	7700 Tuckerman Lane, Rockville, MD 20852	11/2/16	Minor Maintenance/Pollution Prevention Issues	12/15/16	
LITTLE BENNETT	23701 Frederick Rd, Clarksburg, MD 20871	10/25/16	Minor Maintenance/Pollution Prevention Issues, partial quarterly visual monitoring done	1/4/17	Vehicle Wash in design
MARTIN LUTHER KING	1100 Jackson Rd, White Oak, MD 20904	11/2/16	Minor Maintenance/Pollution Prevention Issues, need to have monthly and quarterly inspections available	12/16/2015	Vehicle Wash under construction
MEADOWBROOK	8000 Meadowbrook Ln, Chevy Chase, MD 20815	11/2/16	Moderate Maintenance/Pollution Prevention Issues, need to do monthly inspection and quarterly monitoring	12/15/16	
OLNEY MANOR	16601 Georgia Ave, Olney, MD 20832	10/25/16	Minor Maintenance/Pollution Prevention Issues, need be more consistent in doing monthly inspection and quarterly monitoring.	1/4/17	
POPE FARM	7400 Airpark Rd, Gaithersburg, MD 20879	11/08/16	Site in good condition but need to do monthly inspections and quarterly monitoring	2/8/17	
ROCK CREEK	6340 Needwood Rd, Derwood, MD 20855	Not inspected since it was out of service while under construction in 2016	Was under construction, not being used as maintenance yard	N/a	Full maintenance yard redesign/rebuild under way. Will include vehicle wash unit and covered storage.

Appendix C: Pollution Prevention and Good Housekeeping

MAINTENANCE YARD	ADDRESS	DATE OF LAST INSPECTION	OVERALL RESULTS/ NEEDED CORRECTIVE ACTION	DATE OF FOLLOW-UP	PLANNED IMPROVEMENTS
SHADY GROVE	16641 Crabbs Branch Way, Rockville, MD 20855	10/25/16	Minor Maintenance/Pollution Prevention Issues	1/4/17	Moved to new maintenance facility at Webb Tract around 3/2017.
SOUTH GERMANTOWN	18041 Central Park Circle, Boyds, MD 20841	10/25/16	Minor Maintenance/Pollution Prevention Issues, need to conduct quarterly monitoring	1/4/17	
WHEATON	12012 Kemp Mill Rd, Wheaton, MD 20902	11/2/16	Minor Maintenance/Pollution Prevention Issues	12/15/16	

Appendix D: Other Accomplishments

D: FY17 Stream Restoration Projects

LOCATION	LEAD AGENCY	PROJECT LENGTH (LINEAR FEET)	WATERSHED	COMPLETION DATE	GOALS	DESCRIPTION
Flower Avenue (Sligo Creek SVU 1A)	WSSC	350	Sligo Creek	September 2016	Permanently stabilize stream in order to protect sewer assets and prevent discharge into streams	Installation of grade control structures to provide adequate cover over sewer asset and to transition into existing channel at a stable slope to provide fish passage
Holy Cross Hospital Tributary Culvert Replacement and Stream Restoration	Holy Cross Hospital	50	Sligo Creek	September 2016	stabilize tributary and culvert crossing	Replacement of culvert with environmentally sensitive crossing (including natural bottom) and provided grade control and habitat pools
Wildcat Culverts	DOT	1: 45 LF; 2: 140 LF; 3: 140 LF; 4: 110 LF	Seneca Creek	September 2016	Stabilize area and provide fish passage	4 Culvert Replacements with associated Stream stabilization work by DOT
Capri Place and Eggert Drive (Rock Run SVP)	WSSC	50	Rock Run	October 2016	Permanently stabilize stream in order to protect sewer assets and prevent discharge into streams	Installation of grade control structures to provide adequate cover over sewer asset and to transition into existing channel at a stable slope to provide fish passage
Norwood Local Park Outfall Enhancement	Montgomery Parks	25	Little Falls	October 2016	Enhance outfall to improve water quality and infiltration	construction of vegetated step pools below existing culvert under Little Falls trail
Willett Branch Little Falls Outfall Repair North of Arlington Road	Montgomery Parks	25	Little Falls	October 2016	Fix outfall and stabilize confluence	remove pipe section falling into stream, reconstruct headwall, construct riffle and pool
Hyattsmill Rd (culvert/weir)	MNCPPC	250	Little Bennett	October 2016	Provide new Bridge crossing. Stabilize stream channel with cross vanes and riffle grade controls. Stabilize banks, provide fess passage and habitat.	remove 4 cell culvert and replace with pedestrian bridge, construct cross vanes to get fish passage past the weir

Appendix D: Other Accomplishments

LOCATION	LEAD AGENCY	PROJECT LENGTH (LINEAR FEET)	WATERSHED	COMPLETION DATE	GOALS	DESCRIPTION
MacArthur (Wilson) (Cabin John SVU 1)	WSSC	1850	Cabin John	October 2016	Permanently stabilize stream in order to protect sewer assets and prevent discharge into streams	Installation of grade control structures to provide adequate cover over sewer asset and to transition into existing channel at a stable slope to provide fish passage
Needwood Estates SWM pond habitat enhancements	Montgomery Parks/DEP	N/A	Rock Creek	November 2016	enhance habitat and fish ecology	created fish pools with woody material for cover
Roswell Tributary Stabilization	Montgomery Parks	90	Sligo Creek	January 2017	stabilize tributary and culvert crossing	installation of riffles and pools, along with replacement of headwalls and creation of microtopography
Havard Street Outfall	DOT	130 LF	Rock Creek	January 2017	Outfall Stabilization	Removal of failing gabion system and installation of series of step pools at outfall
Shannandale (Calverton-Galway Local Park)	WSSC	300	Paint Branch	February 2017	Permanently stabilize stream in order to protect sewer assets and prevent discharge into streams	Installation of grade control structures to provide adequate cover over sewer asset and to transition into existing channel at a stable slope to provide fish passage
Cabin John Volunteer Fire Department (Cabin John SVU 3)	WSSC	100	Cabin John	February 2017	Permanently stabilize stream in order to protect sewer assets and prevent discharge into streams	Installation of grade control structures to provide adequate cover over sewer asset and to transition into existing channel at a stable slope to provide fish passage
Elmhurst Parkway	DOT	300	Rock Creek	February 2017	Protect sewer infrastructure, stabilize existing banks and provide fish passage	Culvert replaced with environmentally friendly crossing as well as stream stabilization and infrastructure protection
Oakview/Hiden (Northwest Branch SVU 3)	WSSC	50	Northwest Branch	March 2017	Permanently stabilize stream in order to protect sewer assets and prevent discharge into streams	Installation of grade control structures to provide adequate cover over sewer asset and to transition into existing channel at a stable slope to provide fish passage

Appendix D: Other Accomplishments

LOCATION	LEAD AGENCY	PROJECT LENGTH (LINEAR FEET)	WATERSHED	COMPLETION DATE	GOALS	DESCRIPTION
Cabn John Task 7	Montgomery Parks	150	Cabin John	March 2017	Removal of old WSSC culvert and provide pool and riffle habitat, provide grade control, include microtopography	removed culvert and installed grade control structures and bank grading and microtopography for ecological function
McAlpine Road (Northwest Branch SVU 3)	WSSC	200	Northwest Branch	April 2017	Permanently stabilize stream in order to protect sewer assets and prevent discharge into streams	Installation of grade control structures to provide adequate cover over sewer asset and to transition into existing channel at a stable slope to provide fish passage
Kingstead Culverts	DOT	1: 125 LF; 2: 120 LF;	Little Bennett Creek	May 2017	Stabilize area and provide fish passage	2 Culvert Replacements with associated Stream stabilization work by DOT
Northwest Branch Washout near Scott Drive	Washington Gas	100 LF	Northwest Branch	May 2017	Provide cover over exposed gas line	installation of constructed riffle (on top of concrete matting) and rock sill to cover exposed pipe, along with toe rock and soil lift
Inwood Tributary Stabilization	Montgomery Parks	140	Sligo Creek	June 2017	stabilize tributary and culvert crossing	installation of riffles, step pools, formation of benches along stream; installation of concrete headwalls to support trail; repaving trail

