VSMP General Permit For Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (VAR040070)

Annual Report
FY2014

(Prepared: October 2014)

City of Manassas Park

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City of Manassas Park
Municipal Separate Storm Sewer System (MS4)
General Permit Annual Report
(VAR040070)

I. Introduction

This report summarizes stormwater program activities during the period July 1, 2013 through July 1, 2014. On March 25, 2013 a request was submitted to Virginia Department of Conservation and Recreation that the Virginia Soil and Water Conservation Board grant a 12 month extension to June 13, 2014 to complete development and adoption of the City of Manassas Park's Virginia Stormwater Management Program (VSMP). On July 1, 2013 the City received confirmation that the Department (DEQ) reviewed the Registration Statement and determined that the Municipal StormWater System (MS4) is covered under the General Permit for Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. The effective date of coverage under the General Permit is July 1, 2013 and the permit will expire on June 30, 2018. This Annual Report will use the revised Permit Registration Statement as the basis for review of the Stormwater Program.

During this reporting period two development projects were permitted which included additional MS4 outfalls.

The projects are:
Belmont Reserve (82 residential Town homes)
Dominion Crossing (124 residential Town homes)

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

Name, Title

Director
of
Public Works

Oct 1, 2014

Date

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II. Permit Status
A. BMP 0.1

Control Measure: 0: Administration of Stormwater Program

Description: Administration of Stormwater Program.

BMP: **0.1 - Overall administration of the Stormwater Program, including coordination between departments, evaluation of the program, preparation of the annual report and updates to the program.**

Description/Strategy: The Stormwater Program for the City of Manassas Park includes the Registration Statement under the General Permit for Discharges for Small Municipal Separate Storm Sewer Systems (MS4) issued July 1, 2013 and all documents, policies, ordinances and procedures specified in the Registration Statement and any documents, policies or procedures necessary to implement the programs listed in the Registration Statement.

The City of Manassas Park will update and implement the MS4 Program including Best Management Practice (BMP) actions to achieve the goals described in the Program. In addition, the City of Manassas Park will evaluate the MS4 Program for weaknesses or limitations with regard to the Waste Load Allocation (WLA) associated with sediment in Bull Run. Implementation of a Stormwater Ordinance was approved and implemented on October 5, 2010 and a revised ordinance was submitted for review.

Status: The Stormwater Program is administered by the Department of Public Works, in coordination with other departments as appropriate. This Annual Report was prepared to satisfy the requirements of the General Permit. A copy of the existing storm water program ordinance and the proposed ordinance submitted and under review is attached as Appendix 1.

Activities planned for next permit period: A program evaluation and implementation of the storm water program referenced in the submitted ordinance will take place after acceptance and approval in 2014. The program evaluation will result in an updated MS4 Program Plan, including BMP's addressing the Bull Run WLA for sediment.

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B. BMP 0.2

Control Measure: 0: Administration of Stormwater Program

Description: Administration of Stormwater Program.

BMP: **0.2 - Implementation of Funding Source**

Description/Strategy: The Stormwater Program for the City of Manassas Park will continue to implement a dedicated funding source for the program, based on a utility fee billed semi-annually.

Status: A dedicated funding source, based on a utility fee, previously developed and presented to the Governing Body of the City of Manassas Park continues to be implemented and fee value will be reevaluated in FY2013. The present fee structure is based on the impervious area on a parcel, with residential parcels assessed based on the average impervious area present on residential parcels (the Equivalent Residential Unit (ERU)). Commercial properties are assessed in multiples of the ERU.

Impervious areas were delineated on each parcel within the City, both residential and commercial. This data is stored in GIS databases.

The data is linked to Treasurer's Office data so that the Stormwater Utility Fee is added as a line item on the real estate tax bill.

In October, 2010, the Governing Body voted to enact the Stormwater Utility Fee for FY2011. Funding collected from the Stormwater Utility Fee funds all activities incorporated in the stormwater programs and is supplemented by the General Fund if necessary. Stormwater Utility Fees will be reassessed annually during the budgeting cycle.

Activities Planned for Next Permit Period: During the budget cycle for FY2014, the Stormwater Program Utility Fee will be evaluated based on program goals, objectives, and annual reassessment of infrastructure conditions.

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C. BMP 1.1

Control Measure: 1: Public Education and Outreach on Stormwater Impacts

Description: Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

BMP: **1.1 - Stormwater education during after school programs run by the Parks and Recreation Department**

Description/Strategy: Use of "Keep America Clean" coloring book series for younger children. Environmentally associated issues are discussed with the children. Stormwater issues are included. Special emphasis on sediment discharge will be carried throughout the program (Bull Run WLA).

Status: The Parks and Recreation Department continues to use the "Keep America Clean" coloring book series in its programs for children. In addition, environmentally associated issues are used through the curriculum for after school care.

Since the curriculum has a general environmentally based focus, it is difficult to quantify the number of "stormwater" related sessions that were conducted. However, each child in the program was exposed to the need for clean water and some of the consequences of pollution.

As part of the Stormwater Program evaluation, more meaningful measureable goals will be developed.

Activities Planned for Next Permit Period: Continue use of environmentally focused curriculum for after school programs.

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BMP 1.2

Control Measure: 1: Public Education and Outreach on Stormwater Impacts

Description: Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater disc harges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

BMP: **1.2 - Distribute Stormwater related literature at Park and Recreation Department events (such as National Night Out and Fall Festival), at Building and Code Enforcement Office and at Public Works Department and during Town Hall meetings/workshops presenting the stormwater program and ordiance.**

Description/Strategy: Brochures such as "After the Storm" are used, as well as "Keep America Clean" coloring books. These brochures are available at the Fall Festival, at the Public Works Department and when obtaining permits at the Building Permits Office.

Activities Planned for Next Permit Period: Continue distribution of brochures at public events, workshops, and at the Public Works Department.

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E. BMP 1.3

Control Measure: 1: Public Education and Outreach on Stormwater Impacts

Description: Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

BMP: **1.3 - Participate in regional Clean Water Partners Program through the Northern Virginia Regional Commission.**

Description/Strategy: Clean Water Partners produces print and radio/TV spots to educate Northern Virginians about stormwater pollution. Participation in the program will present the same message to the entire region.

Status: Staff at the Northern Virginia Regional Commission (NVRC) has proposed a Regional Stormwater Strategy Program which would include public education, illicit discharge assistance, and cooperative monitoring on a regional scale. The Regional Stormwater Strategy Program will encompass the Clean Water Partners Program.

Activities Planned for Next Permit Period: The City of Manassas Park is participating in the development of the program through the MS4 Forum of NVRC.

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F. BMP 2.1

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: **2.1 - Storm Drain Marking Program**

Description/Strategy: Storm drain markers are installed on all curb inlets in the City of Manassas Park by At-Risk-Teens (through the Department of Parks and Recreation Program) and by the Boy Scouts. Missing markers will be replaced.

Status: At this time, stormwater drain markers are present throughout the city. During routine inspections and cleaning, any drains that are lacking markers are identified for marking.

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G. BMP 2.2

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: **2.2 - Comply with state and local public notice requirements**

Description/Strategy: Public hearings and Town Hall meetings were conducted for all proposed developments which included discussions regarding compliance to all Stormwater Program Regulations and Ordinances, in accordance with local and state public notice requirements.

Status: Multiple Public hearings related existing and future developments compliance to Stormwater Program Regulations and Ordinances were conducted during the permit year.

Activities Planned for Next Permit Period: Stormwater Town Hall/workshops will be held regarding Stormwater Ordinance implementation measures and/or Utility Fee reassessment.

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H. BMP 2.3

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: **2.3 - Availability of MS4 Program documents**

Description/Strategy: The Stormwater Management Program documents will be made available through various means:

i. Press releases
ii. Announcements in public meeting
iii. Availability on the City of Manassas Park web site
iv. Copies available upon request

These documents include the Registration Statement, Stormwater Program Ordinance and the Annual Reports.

Status: Documents relating to the Stormwater Program and ordinance are available from the Department of Public Works and Treasurer's office. In addition, the Registration Statement and ordinance is available on the city's website. This Annual Report will be posted on the city's website.

Activities Planned for Next Permit Period: Stormwater Program documents will continue to be made available to the public through the means listed above.

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I. BMP 2.4

Control Measure: 2: Public Involvement/Participation

Description: At a minimum, comply with applicable state, tribal and local public notice requirements when implementing the stormwater management program.

BMP: **2.4 - Clean Up Days**

Description/Strategy: The City of Manassas Park sponsors Clean Up Days and Hazardous Waste Disposal Days for citizens to properly dispose of bulky trash, debris and hazardous waste. Clean Up Days are scheduled in the spring. Residents may place debris or bulky trash at the curb for collection. Once a year, Hazardous Waste Disposal Day was hosted in FY2013, during which residents took hazardous waste to designated sites for disposal.

Status: Clean Up Days continue to be held twice a year. Fall Clean Up Day was a event in the Fall of 2013. The curbside Spring Clean Up Days (May 2013). One Household Hazardous Waste Drop Off event is scheduled for April 2014. A second Household Hazardous Waste Drop Off event is under evaluation.

Activities Planned for Next Permit Period: Clean Up Days and Hazardous Waste Days are planned to continue for the next permit period.

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J. BMP 3.1

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: **3.1 - System Inventory**

Description/Strategy: The City of Manassas Park maintains an inventory of storm sewers, stormwater facilities, sanitary sewers and water lines within the City of Manassas Park. This inventory will be kept up to date and will be modernized through the use of GIS systems and asset management systems, as appropriate.

Status: The stormwater infrastructure has been captured in a GIS database.

Activities Planned for Next Permit Period: During the Fall and Winter, 20% of the infrastructure was field verified. Information on new plans is added to the database within one year.

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K. BMP 3.2

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: **3.2 - Codes Prohibiting Discharge to Storm Sewer**

Description/Strategy: The City Code of Manassas Park contains codes prohibiting discharge of contaminants to the storm sewer system.

Existing Ordinances, etc.:
City Code Chapter 5 Section 5-25 - Prohibiting Dogs from Defecating on the Property of Another
City Code Chapter 13 - Garbage and Trash
City Code Chapter 17 - Offenses Miscellaneous
City Code Chapter 25 - Water, Sewers and Sewage Disposal (Amended to ensure compliance with the Environmental Protection Agency's revised Waste Water Pretreatment Regulations)

Status: City Codes are in place.

Public Works visually inspects storm sewer outfalls and reports findings to Code Enforcement.

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L. BMP 3.3

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: **3.3 - Sanitary Sewer Leaking and Overflows**

Description/Strategy: The City of Manassas Park is proactively addressing the aging sanitary sewer system to minimize pipeline breaks and leaking.

Existing Ordinances, etc.:
City Code Chapter 25 - Water, Sewers and Sewage Disposal (Amended to ensure compliance with the Environmental Protection Agency's revised Waste Water Pretreatment Regulations)

Status: Over 26,000 linear feet of sanitary sewer was relined in 2006 and 2007. In FY2008, 10,180 LF of sanitary sewer was relined.

Measurable Goals: The remaining 15,000 LF id projected to be relined by 2012 has not been completed. Relining program is incorporated in the Water and Sewer Enterprise Fund Capital Improvements Program.

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M. BMP 3.4

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: **3.4 - Illicit Discharge Investigation**

Description/Strategy: Two reported cases of illicit discharge were investigated by the Code Enforcement Branch of the Police Department, Health Department, Building Department, and Public Works. Appropriate action was taken to alert proper authorities. The Fire Department, Police Department, Health Department and DEQ were notified. Appropriate containment and cleanup actions were implemented.

Status: The Code Enforcement is a branch of the Police Department. Public Works staff has the ability to TV storm sewer lines to detect the source of an illicit discharge should one be reported.

Staff at the Northern Virginia Regional Commission (NVRC) has proposed a Regional Stormwater Strategy Program which would include public education, illicit discharge assistance, and cooperative monitoring on a regional scale. The City of Manassas Park is participating in the Regional Stormwater Strategy Program and anticipates utilizing assistance with illicit discharge outreach.

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N. BMP 3.5

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: **3.5 - Waste Oil Collection**

Description/Strategy: The collection of Waste Oil to residents at the City Garage has been discontinued. Residents are directed to local garages within the City that accept Waste Oil during normal working hours.

Status: The City discontinued the collection of Waste Oil from residents.

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O. BMP 3.6

Control Measure: 3: Illicit Discharge Detection and Elimination

Description: Develop, implement and enforce a program to detect and eliminate illicit discharges.

BMP: **3.6 - Citywide Observation of Storm Drainage System to Detect Illicit Discharge**

Description/Strategy: As part of general duties of staff of the City of Manassas Park, any evidence of discharge to the storm sewer system is identified and reported to the Department of Public Works or Code Enforcement. This involves Police Department, Fire and Rescue Department, Parks and Recreation Department, Public Works Department, Planning Department and Building and Code Enforcement Department. Awareness of this job function is planned to be reiterated in the training component of Control Measure 6.

Status: Public Works staff works with staff from other Departments on a one-on-one basis during other job duties to raise awareness of the need to reporting any discharges to the storm sewer system.

Activities Planned for Next Permit Period: A continuation of training programs is planned for FY2014, depending on the outcome of discussions regarding a dedicated funding source.

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P. BMP 4.1

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 10,000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: **4.1 - Erosion and Sediment Control Legal Authority**

Description/Strategy: The City of Manassas Park Erosion and Sediment Control Ordinance (Chapter 8 of City Code) regulates land disturbing activities within the City of Manassas Park. The Erosion and Sediment Control Program is regulated under the Virginia Erosion and Sediment Control Law (ESCL). The City of Manassas Park is not regulated under the Chesapeake Bay Preservation Act, but requires land disturbances equal to or greater than 10,000 square feet to obtain permits. Additionally, the City of Manassas Park has adopted the Virginia Erosion and Sediment Control Handbook as the source for standards and specifications for erosion and sediment control practices.

Status: Conduct of the Erosion and Sediment Control Program is the responsibility of the Department of Building Inspections. During the permit period, 2 Land Disturbance permits were issued.

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Q. BMP 4.2

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 5000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: **4.2 - E&S Staff Training**

Description/Strategy: The City of Manassas Park requires that the Erosion and Sediment Control Program shall contain a Certified Administrator, a Certified Plan Reviewer and a Certified Inspector, who may be the same person.

Status: Currently, one staff member is certified as Combined Administrator.

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R. BMP 4.3

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 5000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: **4.3 - Construction Site VSMP Permits**

Description/Strategy: The City of Manassas Park requires that, in order to obtain a Site Development Permit, the Permittee must certify that the appropriate VSMP Permit has been obtained from the Department of Conservation and Recreation.

Status: All construction projects requiring a Site Development Permit must certify that the appropriate VSMP Permit has been obtained. Department of Public Works offers assistance to developers in completing the permit application and SWPPP. VSMP permits and SWPPP's are requested from major construction projects.

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S. BMP 4.4

Control Measure: 4: Construction Site Stormwater Runoff Control

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to 5000 square feet. Additionally, reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

BMP: **4.4 - Track Land-Disturbing Activities**

Description/Strategy: Track regulated land-disturbing activities and reports the total number of land disturbing activities and the total disturbed acreage. The City of Manassas Park reports this information to the Department of Conservation and Recreation as part of the Erosion and Sediment Control Program. Future Annual Reports for the MS4 General Permit will include the information.

Status: The total number of land disturbing activities and the total disturbed acreage is tracked as part of the Erosion and Sediment Control Program. This information is reported to the regional office of DCR.

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T. BMP 5.1

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: **5.1 - Long Term Operation and Maintenance Responsibility**

Description/Strategy: The City of Manassas Park requires that long term operation and maintenance responsibility be designated for conveyance systems and stormwater management facilities as part of plan approval for new developments and for redevelopment proposals. Where maintenance responsibility rests with the City, storm drainage and stormwater management easements are required to be dedicated to the City of Manassas Park. In addition, operation and maintenance responsibility for existing facilities is being researched to address issues of deferred maintenance.

Status: Operation and maintenance responsibility has been identified for all stormwater facilities in the City of Manassas Park. This was completed in 2008 for all existing facilities. One (1) new facility came on line during the permit period, all of which are privately maintained. These facilities have been added to the database.

All new facilities will be added to the database as they come on line. Maintenance responsibility for new facilities will be clearly identified.

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U. BMP 5.2

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: **5.2 - Stormwater Management Maintenance Agreements**

Description/Strategy: The City of Manassas Park requires that long term operation and maintenance responsibility be designated for conveyance systems and stormwater management facilities as part of plan approval for new developments and for redevelopment proposals. Where maintenance responsibility rests with a private entity, a Stormwater Management Maintenance Agreement must be executed by the private entity, ensuring proper operation and maintenance of the facility. The wording of the agreement is undergoing modification by the City Attorney in light of the more stringent proposed MS4 regulations. After maintenance responsibility has been identified for existing stormwater management facilities, the City will attempt to obtain maintenance agreements from the responsible entities, if they do not already exist.

Status: Stormwater Management Maintenance Agreements have been researched for facilities in the City of Manassas Park. The City accepted four facilities previously maintained by a HOA in 2011 for maintenance. The HOA contracted a private contractor and had facilities inspected, cleared, and made operation as designed. The facilities and land which contained the facilities was transferred to the City. Three of the facilities the City maintains were enhanced by installing Faircloth Floating BMP regulating devices. A forebay constructed of gabion baskets was also added to one facility to enhance debris and sediment removal.

All new facilities are required to execute Stormwater Management Maintenance Agreements before bond release.

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V. BMP 5.3

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: **5.3 - Track all Permanent BMP's**

Description/Strategy: The City of Manassas Park records all permanent BMP's installed in the City. Information recorded includes type, HUC, receiving water body, number of acres treated, whether BMP is inspected or maintained and how often the BMP is maintained. This information should be included in the Annual Report.

Status: All permanent BMP's have been recorded in a database, along with maintenance responsibility. Private facility owners were contacted in FY2012 for maintenance data. The database is attached to this report.

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W. BMP 5.4

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities.

BMP: **5.4 - Maintenance Turnover Program**

Description/Strategy: The City of Manassas Park has initiated a program in which maintenance of stormwater management facilities may be turned over to the city for facilities which serve more than one property. For the most part, these facilities serve residential communities and are maintained by the Homeowners Association. In order to participate in the program, the facility must be in good physical condition and be functioning properly before being turned over. Recordation of the maintenance transfer is recorded with the land records. This program allows HOA's to transfer maintenance responsibilities to the city (thereby reducing the burden on the association which is often ill suited to provide the service). The turnover program is an incentive to HOA's to perform needed maintenance once and then turn over the pond. The city is benefitted through the increased functionality of the facilities and is assured of proper maintenance in the future. A reduction in the amount of private facility inspection and enforcement is also realized.

Status: Negotiations with one homeowners association in relation to four stormwater management ponds has been completed. The HOA dedicated funding and completed repairs to 4 of its ponds. The ponds were transferred in calendar year 2011.

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X. BMP 5.5

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **5.5 - Stormwater Management Facility Maintenance**

Description/Strategy: The Department of Public Works performs routine maintenance on stormwater management facilities on a monthly basis in spring, summer and fall. More extensive maintenance is performed after inspection, typically in spring and fall.

Status: During the period from October 1, 2012 through October 1, 2013, all city maintained ponds were mowed by Public Works. City maintained ponds were inspected for proper functioning.

All except five ponds received thorough removal of shrub and sapling growth that had accumulated over a period of time.

Activities Planned for Next Permit Period: City maintained ponds will be mowed once a month during the growing season. Other facilities (manufactured BMP's) will receive annual maintenance. The balance of City maintained facilities will be cleared of overgrown vegetation.

All facilities (City maintained and private) will receive an operation and maintenance inspection annually. Manufactured BMP's were inspected annually beginning in FY2010. Maintenance schedules will be adjusted based on experience with each facility. Privately maintained facilities were inspected in FY2014. Owners were informed of any deficiencies and were required to repair the facilities

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Y. BMP 5.6

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **5.6 - Stormwater Management Facility Retrofit**

Description/Strategy: The Department of Public Works upgrades stormwater management facilities to BMP standards when major work is performed on an existing facility. Three ponds have been retrofitted.

Status: All except five ponds received aggressive removal of vegetation during the permit period. Ponds have been prioritized for retrofit work. As funding becomes available, ponds will be retrofitted.

Measurable Goals: All ponds will be renovated within 15 years

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Z. BMP 5.7

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **5.7 - Stormwater Outfall Reconnaisance (Bull Run WLA)**

Description/Strategy: The City of Manassas Park has approximately 65 outfalls. Reconnaissance will be performed on 20% of outfalls each year. Reconnaissance will be performed base on "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments."

Schedule: Reconnaissance work for outfalls is on schedule.

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AA. BMP 5.8

Control Measure: 5: Post-construction Stormwater Management in New Development and Redeveloped Areas

Description: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from post-construction activities. Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **5.8 - Characterization of Stormwater Discharge (Bull Run WLA)**

Description/Strategy: The City of Manassas Park will estimate the volume of stormwater discharged, as well as the quantity of sediment discharged, from the outfalls within the MS4. Precipitation amounts and land use cover will be used to estimate volume. Sediment control efficiencies and land use cover will be used to estimate sediment discharge.

Status: Stormwater from the City of Manassas Park flows into a segment of Bull Run which has been listed as an impaired water. Bull Run is impaired by sediment (benthic) and PCB's. The Occoquan River (into which Bull Run drains) is impaired by E. Coli. A benthic TMDL has been developed for Bull Run, which allocates a non-point source and instream erosion sediment loading of 117.7 tons/yr to the City of Manassas Park. In similar fashion, a bacteria TMDL has been developed for the Occoquan River which allocates an E. coli loading of 3.55E+09 cfu/yr to the City.

Stormwater volume and pollutant loading was estimated for Non-Point Sources in the City using the Long-Term Hydrologic Impact Assessment (L-THIA) model, developed by Purdue University, which can be found at http://cobweb.ecn.purdue.edu/runoff/lthianew/. Based on community-specific climate data, L-THIA estimates changes in recharge, runoff, and nonpoint source pollution resulting from development. Data related to land use within the City was input into the model. The Event Mean Concentration (EMC) for pollutants was obtained from Technical Memorandum: The Runoff Reduction Method, Center for Watershed Protection, 2008, available at www.vwrrc.vt.edu/SWC/documents/pdf/TechnicalMemo.pdf. Specifically,

Appendix G: Derivation of Event Mean Concentrations for Virginia was used. The EMC values used in the model were:

Pollutant	**Event Mean Concentration**
Total Suspended Solids	40 mg/l
Fecal Coliform	Residential: 2000 #/100 ml Non Residential: 970 #/100 ml

Output from the model included the volume of stormwater generated, as well as the loading of suspended solids and fecal coliform (E. coli was not modeled).

In order to characterize the reduction in suspended solids obtained by the stormwater management facilities (BMP's) operating in the City, the model was rerun by altering EMC values for land areas served by a stormwater management facility. The EMC values for these areas were reduced to 40% of the original EMC, reflecting a sediment capturing efficiency of 60% in the stormwater management facilities. The 60% figure was obtained from Technical Note #95 from the Center for Watershed Protection, Comparative Pollutant Removal Capability of Stormwater Treatment Practices, available at www.cwp.org/Resource_Library/Center_Docs/PWP/ELC_PWP64.pdf.

Results of the stormwater characterization for Non-Point Sources follow:

Location	**Suspended Solids (lbs)**		**Volume (acre-ft)**	**Fecal coliform (millions)**
	Original	**With BMP's**		
West	15288	13562	138.6	343288
Rte 28	4887	2845	44.3	104906
Conner Center/VRE	20898	11526	224.0	215243
Blooms West	6502	2962	59.0	146087
Blooms East	7129	2850	64.7	160148
Total	**54,704 lbs (27.4 tons)**	**33,745 lbs (16.9 tons)**	**530.5**	**969,672**

The model indicates that the stormwater management facilities result in a reduction of 10.5 tons of sediment/yr.

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BB. BMP 6.1

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **6.1 - Hazardous Material Containment**

Description/Strategy: The City of Manassas Park requires that employees dispose of used oil in a containment facility. The used oil is transported to a recycling facility by a contractor. Used oil from the Parks and Recreation Department, the Public Works Department and the School Board is recycled through a containment facility.

Similarly, used antifreeze is stored and recycled in a containment facility.

Salt used for winter snow and ice removal is stored within a containment area. Any stormwater leaving the salt storage area is stored in a salt containment facility and pumped out at the end of the season.

Status: The collection of used oil and antifreeze continues. Facility is adequate to handle the volumes of oil and antifreeze collected. Facility is adequate to control spills of oil and antifreeze.

Operation of the salt water containment facility continues.

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CC. BMP 6.2

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **6.2 - Fertilization & Irrigation Practices**

Description/Strategy: Grounds maintenance for properties owned by the City of Manassas Park is split between the Department of Parks and Recreation (DPR) and the Department of Public Works. DPR maintains park properties, which consist primarily of Signal Hill Park and Costello Park. Costello Park is the site of the DPR headquarters building. The soil on the athletic fields and grounds is tested twice a year for nutrient levels. If any fertilizer is required, it is applied by slit seeding. No herbicides or pesticides are applied. Irrigation is performed by automatic sprinklers on timers set to water between 12 midnight and 6 am. The irrigation system is equipped with a sensor to detect rainwater so that the irrigation system does not operate during periods of rainfall.

The Department of Public Works maintains the grounds at City Hall, the Public Works facility and various small pump stations and well sites. Grounds maintenance consists of mowing of grass and aeration of the soil.

Status: The Department of Parks and Recreation continues to test athletic field soils before applying fertilizer so that the fields are not over fertilized. Irrigation continues to be performed only at night. Rainwater sensors detect periods of rainfall and shut off the irrigation system.

Irrigation is not available at other city facilities. Fertilization is kept to a minimum. Landscaping beds are mulched to conserve water.

The City of Manassas Park plans to continue with the same fertilization/irrigation processes.

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DD. BMP 6.3

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **6.3 - Street Sweeping Program**

Description/Strategy: The Street Sweeping Program is operated out of the Department of Public Works. All streets and municipal parking lots are swept by the street sweeper daily weather permitting.

Status: Streets are swept on a continuing basis. Passes are made through the City on a rotation. Special cleaning is conducted in areas where dirt/debris collects.

The street sweeper records the number of times the hopper is emptied and averages once a day with an 8 CY hopper half full. Estimating 500 lb/CY for dirt and debris in the collected material and 150 working days a year results in removal of 150 tons of dirt/debris from City streets per year.

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EE. BMP 6.4

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **6.4 - Pet Waste Management**

Description/Strategy: The Department of Parks and Recreation posts Signal Hill Park to remind dog walkers to clean up after their pets. Bags are provided free to dog walkers at the park.

Status: Pet waste bags and receptacles are available at the park. Parks are equipped with pet waste bags and receptacles. A fenced Dog Park was added at the Community Center in Costello Park to provide area for walking and exercising of dogs.

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FF. BMP 6.5

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **6.5 - Employee Training**

Description/Strategy: The Department of Public Works has developed an employee training program which gives employees of the City information regarding water quality, stormwater management, illicit discharge detection and reporting, good housekeeping practices and general expectations regarding the operation and maintenance of the storm sewer system. This program will be implemented in various departments within the city. Feedback on the effectiveness of the program will be used to revised and improve the information and format.

Status: Senior Staff from Public Works registered for a Hazardous Material Handling, Spill Prevention and Cleanup Training Session. The training took place in August, 2013. The training emphasized the importance of spill prevention and material cleanup before it enters the storm sewer system or a stream. Additional training sessions were attended by staff during this reporting period.

Schedule: Additional employees are scheduled to attend similar training.

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GG. BMP 6.6

Control Measure: 6: Pollution Prevention/Good Housekeeping for municipal operations.

Description: Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

BMP: **6.6 - Municipal Property Evaluation (Bull Run WLA)**

Description/Strategy: The Department of Public Works shall evaluate all properties owned by the city and characterize the runoff from each property. If sediment is found to be discharged from the property, the city shall develop and implement a plan to minimize the discharge of sediment.

Existing Ordinances, etc.: None

Schedule: The Community Facility has been completed and currently provides enhanced sediment control. Other city properties were evaluated beginning in July, 2010. All facilities will be evaluated by December 2012. Facilities to be evaluated include:

City Hall
Fire Station
Police Station
Public Works Yard
Various parks.

Measurable Goals: All facilities inspected by December 2012.
Plans prepared to minimize sediment release prepared by December 2013.

Status: Work is completed on the new Community Center. Other city properties were evaluated in July, 2010.

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III. Responsible Persons (FY2012)

Principal Executive Officer:
Title: Interim City Manager
Dean Crowhurst

Duly Authorized Representatives:

Title: Assistant City Manager
Vacant

Title: Department of Public Works, Director
James A. Johnson, Jr.

Title: Department of Public Works, Deputy Director
Calvin O'Dell

Title: Department of Parks and Recreation, Director
Catherine Morretta

Title: Code Enforcement Branch, Police Department
Captain Karen Barton