



City of Salem, Virginia

Municipal Separate Storm Sewer System Program Plan

For
General Permit No. VAR040010

From November 1, 2018 until October 31, 2023, in accordance the VAR04 General Permit the City of Salem is authorized to discharge stormwater and authorized non-stormwater discharges described in 9VAC25-890-20 D from the small municipal separate storm sewer system into surface waters within the boundaries of the Commonwealth of Virginia consistent with 9VAC25-890-30.

Revised: May 5, 2021

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ACRONYMS

BMP	Best Management Practice
DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality.
ESC	Erosion and Sediment Control
HUC	Hydrologic Unit Code
MEP	Maximum Extent Practicable
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
NMP	Nutrient Management Plan
POC	Pollutants of Concern
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
VPDES	VAR04 General Virginia Pollutant Discharge Elimination System Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems
VCACS	Virginia Department of Agriculture and Consumer Services
VESCP	Virginia Erosion and Sediment Control Program
VSMA	Virginia Stormwater Management Act
VSMP	Virginia Stormwater Management Program
WLA	Waste Load Allocation

DEFINITIONS

"Best management practice" means schedules of activities, prohibitions of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land-disturbing activities.

"Chesapeake Bay Preservation Act land-disturbing activity" means a land-disturbing activity including clearing, grading, or excavation that results in a land disturbance equal to or greater than 2,500 square feet and less than one acre in all areas of jurisdictions designated as subject to the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830) adopted pursuant to the Chesapeake Bay Preservation Act.

"Chesapeake Bay Watershed" means all land areas draining to the following Virginia river basins: Potomac River Basin, James River Basin, Rappahannock River Basin, Chesapeake Bay and its small coastal basins, and York River Basin.

"Construction activity" means any clearing, grading or excavation associated with large construction activity or associated with small construction activity.

"Date brought online" means the date when the permittee determines that a new stormwater management facility is properly functioning.

"Discharge," when used without qualification, means the discharge of a pollutant.

"Drainage area" means a land area, water area, or both from which runoff flows to a common point.

"High-priority facilities" means facilities owned or operated by the permittee that actively engage in one or more of the following activities: (i) composting, (ii) equipment storage and maintenance, (iii) materials storage, (iv) pesticide storage, (v) storage for public works, (vi) recycling, (vii) salt storage, (viii) solid waste handling and transfer, and (ix) vehicle storage and maintenance.

"Hydrologic Unit Code" means a watershed unit established in the most recent version of Virginia's 6th Order National Watershed Boundary Dataset.

"Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges resulting from firefighting activities (Discharges or flows from firefighting activities need only be addressed where they are identified as significant sources of pollutants to surface waters.), water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water, discharges from noncommercial fundraising car washes if the washing uses only biodegradable, phosphate-free, water-based cleaners, or other activities generating discharges identified by the department as not requiring VPDES authorization, unless identified by the MS4 operator as significant contributors of pollutants.

"Impervious cover" means a surface composed of material that significantly impedes or prevents natural infiltration of water into soil.

"Land disturbance" or "land-disturbing activity" means a manmade change to the land surface that potentially changes its runoff characteristics including clearing, grading, excavation, transportation or filling of land, except that the term shall not include the following potential activities:

- Land-disturbing activities that disturb less than 5,000 square feet and are not part of a larger common plan of development or sale that is one acre or greater of disturbance (provided that there is no existing or anticipated flooding or erosion problems downstream of the discharge point);
- Single-family residences separately built and disturbing less than one acre and not part of a larger common plan of development or sale, including additions or modifications to existing single-family detached residential structures (provided that there are no existing or anticipated flooding or erosion problems downstream of the discharge point);
- Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of the project. The paving of an existing road with a compacted or impervious surface and reestablishment of existing associated ditches and shoulders shall be deemed routine maintenance;
- Land-disturbing activities in response to a public emergency where the related work requires immediate authorization to avoid imminent endangerment to human health or the environment. In such situations, DEQ shall be advised of the disturbance within seven days of commencing the land-disturbing activity, and compliance with the administrative requirements within 30 days of commencing the land-disturbing activity;
- Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1 of the Act;
- Clearing of lands specifically for agricultural purposes and the management, tilling, planting, or harvesting of agricultural, horticultural, or forest crops, livestock feedlot operations, or as additionally set forth by the state board in regulations, including engineering operations as follows: construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds, ditches, strip cropping, lister furrowing, contour cultivating, contour furrowing, land drainage, and land irrigation; however this exception shall not apply to harvesting of forest crops unless the area on which harvesting occurs is reforested artificially or naturally in accordance with the provisions of Chapter 11(§ 10.1-1100 et seq.) of Title 10.1 of the Code of Virginia or is converted to bona fide agricultural or improved pasture use as described in subsection B of § 10.1-1163 of Article 9 or Chapter 11 of Title 10.1 of the Code of Virginia;
- Discharges to a sanitary sewer or a combined sewer system; or
- Activities under a state or federal reclamation program to return an abandoned property to an agricultural or open land use.

"Municipal separate storm sewer system" means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains.

"MS4 Program Plan" means the completed registration statement and all approved additions, changes and modifications detailing the comprehensive program implemented by the operator under this state permit to reduce the pollutants in the stormwater discharged from its municipal separate storm sewer system (MS4) that has been submitted and accepted by DEQ.

"MS4 regulated service area" or "service area" means for Phase II permittees, the drainage area served by the permittee's MS4 that is located within an urbanized area as determined by the 2010 decennial census performed by the Bureau of the Census. MS4 regulated service area may also be referred to as "served by the MS4" as it pertains to the tables in Part II A of this permit.

"Outfall" means, when used in reference to municipal separate storm sewers, a point source at the point where a MS4 discharges to surface waters and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other surface waters and are used to convey surface waters.

"Physically interconnected" means that one MS4 is connected to a second MS4 in such a manner that it allows for direct discharges to the second system.

"Pollutants of concern" means pollutants specifically identified in a U.S. Environmental Protection Agency approved total maximum daily load report as causing a water quality impairment.

"Public" means, for the purpose of this Program Plan, the citizens of the City of Salem or the population who attends or is employed by the City of Salem.

"Point of discharge" means a location at which concentrated stormwater runoff is released.

"State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

"Stormwater" means precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt runoff, and surface runoff and drainage.

"Stormwater management plan" means a document(s) containing material for describing methods for complying with the requirements of the Virginia Stormwater Management Program.

"Total maximum daily load" means the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources, natural background loading and a margin of safety. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. The TMDL process provides for point versus nonpoint source trade-offs.

"Wasteload allocation" or "wasteload" means the portion of receiving surface water's loading or assimilative capacity allocated to one of its existing or future point sources of pollution. WLAs are a type of water quality-based effluent limitation.

"Watershed" means a defined land area drained by a river or stream, karst system, or system of connecting rivers or streams such that all surface water within the area flows through a single outlet.

1.0 MS4 Program Plan

The Program Plan when implemented constitutes compliance with the standard of reducing pollutants to the maximum extent practicable (MEP) of the VAR04 General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s), referred to in the remainder of this Plan as the General Permit.

1.1 Minimum Control Measures

The General Permit requires the Program Plan to include Best Management Practices (BMP) to address the requirements of six minimum control measures (MCMs) described in Part I E of the General Permit. The MCMs are summarized as:

- MCM 1: Public Education and Outreach on Stormwater Impacts
- MCM 2: Public Involvement and Participation
- MCM 3: Illicit Discharge Detection and Elimination
- MCM 4: Construction Site Stormwater Runoff Control
- MCM 5: Post-construction Stormwater Management
- MCM 6: Pollution Prevention/Good Housekeeping for Operations

Section 3.1 of this Program Plan includes BMPs developed to explicitly address the General Permit requirements for each MCM. The title of each BMP is followed with a reference to the corresponding permit section. Each BMP included in the Program Plan is intended to specifically address permit requirements and includes the following information described in Part I C of the General Permit:

- The roles and responsibilities of each of the City's divisions and departments in the implementation of the requirements of the permit tasked with ensuring that the permit requirements are met;
- If the City utilizes another entity to implement portions of the MS4 program, a copy of the written agreement. The description of each party's roles and responsibilities, including any written agreements with third parties, shall be updated as necessary;
- For each MCM in Part I E, the following information shall be included:
 - Each specific requirement as listed in Part I E for each MCM;
 - A description of the BMPs or strategies that the permittee anticipates will be implemented to demonstrate compliance with the permit conditions in Part I E;
 - All standard operating procedures or policies necessary to implement the BMPs;
 - The measurable goal by which each BMP or strategy will be evaluated; and
 - The persons, positions, or departments responsible for implementing each BMP or strategy; and
- A list of documents incorporated by reference including the version and date of the document being incorporated.

1.2 Special Conditions for TMDLs

The City is not located within the Chesapeake Bay Watershed and therefore is not subject to the Special Conditions for the Chesapeake Bay TMDL.

The City of Salem is currently subject to several Local TMDLs which include: the Roanoke River PCB TMDL, the Roanoke River E. Coli TMDL, and the Roanoke River Benthic-Macroinvertebrate Bioassessment TMDL. Where the City of Salem is assigned a WLA for a Local TMDL, an action plan will be developed and included by reference in this Program Plan.

The City of Salem is subject to the Special Conditions of the Roanoke River PCB TMDL, the Roanoke River E. Coli TMDL, and the Roanoke River Benthic-Macroinvertebrate Bioassessment TMDL (Sediment TMDL). Since these local TMDLs were approved by the EPA prior to July 1, 2013 and WLAs were allocated to this permittee, an update to these previously approved local TMDL Action Plans (to meet conditions of Part II B(3)-B(7), as applicable) is required by May 1, 2020. Continued implementation of the Action Plan will be performed.

No additional TMDLs have been approved by the EPA between July 1, 2013 and June 30, 2018 applicable to the City of Salem, therefore the City of Salem is not required to develop or implement any TMDL action plans beyond those previously discussed.

1.3 Roles and Responsibilities (Part I C 1 a & b)

Each BMP lists the individual(s) responsible for implementation. At the City of Salem, the Engineering Department implements the MS4 Program Plan and the Stormwater Manager is the signatory authority in accordance with Part III K. The City of Salem uses the Clean Valley Council annually to assist with implementation of portions of the MS4 Program Plan. In accordance with Part I C 1 b., a written letter is provided on the [City's Stormwater Page](#), describing the parts of the MS4 Program Plan that other entities assist with for any given reporting period. The City of Salem is the ESC and VSMP plan approving authority.

1.4 Program Modifications (Part I C 4)

Revisions to the MS4 program plan are expected throughout the life of the General Permit as part of the iterative process to reduce pollutant loading and protect water quality to the MEP. As such, revisions made in accordance with the General Permit as a result of the iterative process do not require modification of this permit. The permittee shall summarize revisions to the MS4 program plan as part of the annual report as described in Part I D 2 of the General Permit.

1.5 List of Reference Materials (Part I C 1 d)

The list of documentation below is incorporated into the Program Plan via reference along with any associated maps and forms, where applicable. All necessary documents for implementation not listed here, not provided in the MS4 Program Plan and may or may not be provided in the annual reports are retained on file for a minimum of 3 years and are available upon request.

- *Illicit Discharge Detection and Elimination Manual*, June 2014 (Revised November 2020)
- *Good Housekeeping and Pollution Prevention Manual*, October 2014 (Revised November 2020)
- *Public Education and Outreach Plan*, July 2014 (Revised June 2017, Superseded by this Program Plan)
- *Post-Construction Stormwater Management Inspection & Maintenance Manual*, September 2015 (Revised November 2020)
- *Draft Nutrient Management Plan Location Sites*, September 2013
- *Construction Oversight Program*, July 2016
- *Outfall Prioritization Methodology*, October 2016
- *Roanoke River PCB TMDL Action Plan*, April 2020
- *Roanoke River Sediment TMDL Action Plan*, April 2020
- *Roanoke River Bacteria TMDL Action Plan*, April 2020

1.6 Annual Reporting (Part I D)

This Program Plan includes requirements to satisfy annual reporting of the General Permit:

- The City shall submit an annual report to the department no later than October 1 of each year in a format as specified by the department. The report shall cover the previous year from July 1 to June 30.
- The annual report shall include the following general information:
 - The permittee, system name, and permit number;
 - The reporting period for which the annual report is being submitted;
 - A signed certification as per Part III K;
 - Each annual reporting item as specified in an MCM in Part I E; and
 - An evaluation of the MS4 program implementation, including a review of each MCM, to determine the MS4 program's effectiveness and whether or not changes to the MS4 program plan are necessary.
- When applicable, the City shall include a status report on the implementation of the local TMDL action plans in accordance with Part II B including any revisions to the plan.
- For the purposes of the General Permit, the MS4 program plan and annual report shall be maintained separately and submitted to the department as required by this permit as two separate documents.

2.0 SCHEDULE

Some of the BMPs require program documents or actions to address permit requirements. Table 1 lists some of these documents and actions with dates critical for assuring compliance with the General Permit. Table 1 is intended to assist with Program Plan implementation.

Table 1: Summary of Critical Items and Deadlines for Program Implementation		
BMP/Regulation	Necessary Action	Due date*
9VAC-23-890-30	Submit Registration Statement, Draft Chesapeake Bay TMDL Action Plan/Public Comment Period	Completed (June 1, 2018/15 days)
2.1	Post updated version of MS4 Program Plan on Permittee's Website	May 1, 2019
9VAC-23-890-40D	Submit Annual Report	Annually (October 1)
1.2	Update Public Education/Outreach Plan	May 1, 2019
2.1	Post Annual Report on Website	Annually (Within 30 days)
2.2	Implement Public Participation Activities	4x annually
3.1, 3.5	Update MS4 Map and Information Table	Annually (June 30)
3.1	Submit GIS Shapefile of MS4 Map	July 1, 2019
3.1	Send Notification to Interconnected MS4s	May 1, 2019
5.2	Update Post Construction electronic database	30 days after new facility online
6.1	Review High Priority Facilities	Annually (June 30)
3.4, 6.1, 6.3	Conduct GHPP/IDDE Training	Once every 24 months
CB-SC.1	Submit Final Chesapeake Bay TMDL Action Plan	November 1, 2019
Part III B 1 a	Update Roanoke River PCB, E. Coli, and Sediment TMDL Action Plans/ Public Comment Period	May 1, 2020/ 15 days
Part III B 1 b	Develop New Local TMDL Action Plan (if EPA approved between 2013-2018) /Public Comment Period	Not Applicable
*Not bolded text indicates schedule item is complete or not applicable. Bolded text indicates the schedule item is not complete or is completed continuously throughout the permit cycle.		

3.0 PROGRAM PLAN BEST MANAGEMENT PRACTICES

This Section includes the BMPs that the City will implement to meet the requirements for each MCM, and the applicable Special Conditions described in the General Permit.

BMP 1.1 Public Education and Outreach Program (Part I E 1)

Description: The City shall implement a public education and outreach program designed to:

- Increase the public's knowledge of how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- Increase the public's knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts.

The City shall identify no less than three high-priority stormwater issues to meet the goal of educating the public in accordance with Part I E 1 a. High-priority issues may include the following examples: nutrients, pet wastes, local receiving water impairments, TMDLs, high-quality receiving waters, and illicit discharges from commercial sites. The high-priority public education and outreach program, as a whole, shall:

- Clearly identify the high-priority stormwater issues;
- Explain the importance of the high-priority stormwater issues;
- Include measures or actions the public can take to minimize the impact of the high-priority stormwater issues; and
- Provide a contact and telephone number, website, or location where the public can find out more information. That information can be found at the link in [BMP 2.1](#).

Salem partners with the Clean Valley Council (CVC) to assist in the implementation of the City's Public Education and Outreach and Public Participation and Involvement MCMs. The CVC organizes and implements dozens of programs, curriculum, events, festivals, conferences, etc. throughout the year.

The City shall use two or more of the strategies listed in Table 2 below per year to communicate to the public the high-priority stormwater issues identified in accordance with Part I E 1 b including how to reduce stormwater pollution.

Table 2: Strategies for Public Education and Outreach	
Strategies	Examples (not meant to be all inclusive or limiting)
Traditional written materials	Informational brochures, newsletters, fact sheets, utility bill inserts, or recreational guides for targeted groups of citizens
Alternative materials	Bumper stickers, refrigerator magnets, t-shirts, or drink koozies
Signage	Temporary or permanent signage in public places or facilities, vehicle signage, bill boards, or storm drain stenciling
Media materials	Information disseminated through electronic media, radio, televisions, movie theater, or newspaper

Table 2: Strategies for Public Education and Outreach	
Strategies	Examples (not meant to be all inclusive or limiting)
Speaking engagements	Presentations to school, church, industry, trade, special interest, or community groups
Curriculum materials	Materials developed for school-aged children, students at local colleges or universities, or extension classes offered to local citizens
Training materials	Materials developed to disseminate during workshops offered to local citizens, trade organization, or industrial officials

Water Quality Issue No. 1: Public education on stormwater impacts

Rationale: This issue was selected based on the results of the public survey that indicate a strong need for increased effectiveness of public education efforts.

Public Audience: The City's public audience is approximately 25,862 residents.

Strategy to Communicate High Priority Stormwater Message: CVC will implement one of the strategies listed in Table 2 in order to educate the public audience on stormwater impacts.

Relevant Message: To address goals of the Program and concerns stemming from the survey results, the relevant message will include:

- Information regarding the City's stormwater program
- Steps that can be taken to reduce stormwater pollution
- Knowledge of hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications
- Information for reporting a potential illicit discharge
- Information regarding TMDL pollutants of concern, specifically polychlorinated biphenyls (PCBs) and sediment.
- Methods to identify, eliminate, and reduce potential discharges of pollutants into the MS4.

Time Period: The implemented strategy will occur during the permit year.

Measurable Goal: The implementation of the strategy that may include metrics on the event such as the number of attendants, example of brochures distributed, etc.

Water Quality Issue No. 2: Education on impacts of bacteria and sediment on stormwater

Rationale: Salem is in the Upper Roanoke River Watershed TMDL and has been assigned a waste load allocation for bacteria (E. coli) and sediment. Selection of these issues are also consistent with survey respondents who ranked "too much bacteria in waterways" as their top stormwater pollution concern.

Public Audience: The City's public audience is approximately 25,862 residents.

Strategy to Communicate High Priority Stormwater Message: CVC will implement one of the strategies listed in Table 2 in order to educate the public audience on stormwater impacts.

Relevant Message: To address goals of the Program and concerns stemming from the survey results, the relevant message will include:

- General information about stormwater runoff (where it drains, pollutants, etc.)
- Explanation of the Roanoke River E. Coli and sediment TMDLs and the City's Action Plans

Time Period: The implemented strategy will occur during the permit year.

Measurable Goal: The implementation of the strategy that may include metrics on the event such as the number of attendants, example of brochures distributed, etc.

Water Quality Issue No. 3: Pollution Prevention

Rationale: This issue was selected based on the results of the public survey that indicate 67% of respondents do not know that stormwater runoff is discharged directly to surface waters.

Public Audience: The City's public audience is approximately 25,862 residents.

Strategy to Communicate High Priority Stormwater Message: CVC will implement one of the strategies listed in Table 2 in order to educate the public audience on stormwater impacts.

Relevant Message: Information on pollution prevention and effects to waterways.

Time Period: The implemented strategy will occur during the permit year.

Measurable Goal: The implementation of the strategy that may include metrics on the event such as the number of attendants, example of brochures distributed, etc.

Necessary documentation for implementation: (1) CVC report and support documentation.

Responsible individual for implementation: Stormwater Manager

Implementation schedule: Outreach will be conducted a minimum of once a year to the public audience for each water quality issue identified.

Measurable goal: Effectiveness of the BMP will be determined by the communication of the two selected strategies to convey the three water quality issues.

Table 3: Summary of Anticipated Public Education and Outreach Activities			
#	Water quality Issue	Strategy	Communication
1	Public education on stormwater impacts	Speaking Engagement	Educational Classroom Program
2	Education on impacts of bacteria & sediment on stormwater	Speaking Engagement	Earth Summit event/festival
3	Pollution Prevention	Signage	Storm Drain Marking

BMP 2.1 Webpage Dedicated to MS4 Program & Stormwater Pollution Prevention (Part 1 E 2 a & b)

Description: The City shall develop and implement procedures for the following:

- The public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns;
- The public to provide input on the City's MS4 program plan;
- Receiving public input or complaints;
- Responding to public input received on the MS4 program plan or complaints; and
- Maintaining documentation of public input received on the MS4 program and associated MS4 program plan and the City's response.

No later than three months after November 1, 2019, the permittee shall develop and maintain a webpage dedicated to the MS4 program and stormwater pollution prevention. The following will be maintained on the City's Stormwater Information webpage:

- The effective MS4 permit and coverage letter;
- The most current MS4 program plan or location where the MS4 program plan can be obtained;
- The annual report for each year of the term covered by this permit no later than 30 days after submittal to the department;
- A mechanism for the public to report potential illicit discharges, improper disposal, or spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns in accordance with Part I E 2 a (1); and
- Methods for how the public can provide input on the permittee's MS4 program plan in accordance with Part I E 2 a (2).

Webpage address: <https://salemva.gov/Departments/Community-Development/Stormwater-Information>

Necessary documentation for implementation: (1) Public input received on the MS4 Program and associated the City responses; (2) Effective MS4 Permit and coverage letter; (3) Most current the City MS4 Program Plan; and (4) the City MS4 Annual Reports within permit cycle

Responsible individual for implementation: Stormwater Manager

Implementation schedule: The City shall provide mechanisms on the City website for public input, reporting illicit discharges or complaints by January 31, 2019. The Program Plan will be posted on the City website within by May 1, 2019. Annual reports will be posted on the webpage within 30 days of submittal to DEQ, or by November 1st of each year.

Measurable goal: Effectiveness will be determined by the webpage including: (1) effective MS4 permit and coverage letter; (2) most current MS4 Program Plan; (3) each of the annual reports developed within the permit cycle no later than 30 days after submittal to the department; (4) a mechanism for the public to report potential illicit discharges, improper disposal, or spills to the City, complaints regarding land disturbing activities, or other potential pollution concerns; (5) methods for how the public can provide input on the City's MS4 Program Plan and other documents that have a required public comment period; (6) responding to public input; and (7) maintaining public input received and the City responses.

BMP 2.2 Public Involvement and Participation (Part 1 E 2 c)

Description: The City will implement no less than four activities per year for two or more of the categories listed in Table 3 below to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects. The City may coordinate the public involvement opportunities listed in Table 3 with other MS4 permittees; however, each permittee shall be individually responsible for meeting all of the permit requirements.

Table 4 below provides the anticipated activities for the permit reporting year including:

- A description of the public involvement activities to be implemented by the permittee,
- The anticipated time period the activities will occur, and
- A metric for each activity to determine if the activity is beneficial to water quality. An example of metrics may include the weight of trash collected from a stream cleanup, the number of participants in a hazardous waste collection event, etc.

Table 4: Public Involvement Opportunities	
Public Involvement Opportunity Categories	Examples (provided as example & are not meant to be all inclusive or limiting)
Monitoring	Establish or support citizen monitoring group
Restoration	Stream or watershed clean-up day, adopt-a-water way program,
Educational events	Booth at community fair, demonstration of stormwater control projects, presentation of stormwater materials to schools to meet applicable education Standards of Learning or curriculum requirements, watershed walks, participation on environmental advisory committees
Disposal or collection events	Household hazardous chemicals collection, vehicle fluids collection
Pollution prevention	Adopt-a-storm drain program, implement a storm drain marking program, promote use of residential stormwater BMPs, implement pet waste stations in public areas, adopt-a-street program.

Table 5: Summary of Anticipated Public Involvement Activities			
Category	Activity Description	Time Period Activity to Occur	Metric to Determine Benefit
Restoration	Fall Waterways Cleanup	Fall 2020	Number of participants
Restoration	Clean Valley Day	April 3, 2021	Tons of trash collected
Educational	Earth Summit	Spring 2021	Number of attendees
Educational	Riverfest @ Smith Park	June 19, 2021	Number of attendees

Necessary documentation for implementation: (1) A description of public involvement activities implemented; (2) Anticipated time period the activities will occur; (3) Metric for each activity to determine if the activity is beneficial to water quality.

Responsible individual for implementation: Stormwater Manager

Implementation schedule: Public participation will be conducted a minimum of four times a year at the anticipated times indicated in Table 5.

Measurable goal: Effectiveness will be determined by the selected metric for each activity.

BMP 3.1 Storm Sewer Map and Outfall Information Table (Part 1 E 3 a)

Description: The City shall develop and maintain an accurate MS4 map and information table as follows:

- A map of the storm sewer system owned or operated by the permittee within the census urbanized area identified by the 2010 decennial census that includes, at a minimum:
 - MS4 outfalls discharging to surface waters, except as follows:
 - In cases where the outfall is located outside of the MS4 permittee's legal responsibility, the permittee may elect to map the known point of discharge location closest to the actual outfall; and
 - In cases where the MS4 outfall discharges to receiving water channelized underground, the permittee may elect to map the point downstream at which the receiving water emerges above ground as an outfall discharge location. If there are multiple outfalls discharging to an underground channelized receiving water, the map shall identify that an outfall discharge location represents more than one outfall. This is an option a permittee may choose to use and recognizes the difficulties in accessing outfalls to underground channelized stream conveyances for purposes of mapping, screening, or monitoring.
 - A unique identifier for each mapped item required in Part I E 3;
 - The name and location of receiving waters to which the MS4 outfall or point of discharge discharges;
 - MS4 regulated service area; and
 - Stormwater management facilities owned or operated by the permittee.
- The permittee shall maintain an information table associated with the storm sewer system map that includes the following information for each outfall or point of discharge for those cases in which the permittee elects to map the known point of discharge in accordance with Part I E 3 a (1) (a):
 - A unique identifier as specified on the storm sewer system map;
 - The latitude and longitude of the outfall or point of discharge;
 - The estimated regulated acreage draining to the outfall or point of discharge;
 - The name of the receiving water;
 - The 6th Order Hydrologic Unit Code of the receiving water;
 - An indication as to whether the receiving water is listed as impaired in the Virginia 2016 305(b)/303(d) Water Quality Assessment Integrated Report;
 - The predominant land use for each outfall discharging to an impaired water; and
 - The name of any EPA approved TMDLs for which the permittee is assigned a wasteload allocation.
- No later than July 1, 2019, the permittee shall submit to DEQ a GIS-compatible shapefile of the permittee's MS4 map as described in Part I E 3 a. If the permittee does not have an MS4 map in a GIS format, the permittee shall provide the map as a PDF document.
- No later than October 1 of each year, the permittee shall update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediately preceding reporting period.
- The permittee shall provide written notification to any downstream adjacent MS4 of any known physical interconnection established or discovered after the effective date of this permit.

Table 6: List of Interconnected MS4 Regulated Area(s)

Virginia Department of Transportation
Veteran's Administration
Roanoke City
Roanoke County

*The City has already notified the MS4 areas above and will notify any new or newly found MS4 interconnections in writing that might occur with new development or be found.

Necessary documentation for implementation: (1) Storm sewer system map; (2) Outfall Information Table in Appendix B; and (3) GIS compatible shapefile of MS4 map; and (4) Written notification of physical interconnections to the downstream MS4

Responsible individual for implementation: Stormwater Manager and City Engineer I

Implementation schedule: The map and information table will be updated annually at the end of each reporting year. Any new MS4 interconnections will be notified upon discovery.

Measurable goals: Effectiveness will be determined by maintaining an up-to-date map of the storm sewer map and outfall information table and by submitting the GIS-compatible shapefile of the storm sewer map; and notifying any discovered interconnected MS4s.

BMP 3.2 Prohibit Non-Stormwater Discharges (Part 1 E 3 b)

Description: The City shall prohibit, through ordinance, policy, standard operating procedures, or other legal mechanism, to the extent allowable under federal, state, or local law, regulations, or ordinances, unauthorized non-stormwater discharges into the storm sewer system. Non-stormwater discharges or flows identified in 9VAC25-890-20 D 3 shall only be addressed if they are identified by the permittee as a significant contributor of pollutants discharging to the MS4. Flows that have been identified by the department as de minimis discharges are not significant sources of pollutants to surface water.

The City will prohibit non-stormwater discharges into the storm sewer system through language provided within the City's Stormwater Ordinance and reiterated in the Standard Operating Procedures, each of which provide methods and procedures for reporting and corrective and disciplinary action.

For effective prohibition of non-stormwater discharges from contractors operating within the jurisdictional boundaries, refer to BMP 6.4.

Necessary documentation for implementation: Chapter 30, Article V of the City Code; (2) A list of any instances of violation and summary of actions taken by the City; (3) Completed IDDE Follow-up information.

Responsible individual for implementation: Stormwater Manager and Fire Chief

Implementation schedule: Implementation of Chapter 30, Article V of the City Code and Standard Operating Procedures will continue.

Measurable goal: Effectiveness will be based on implementation of the inspections, surveillance, monitoring, and enforcement procedures. Effectiveness will be based on the progression of elimination of reported or observed non-stormwater discharges.

BMP 3.3 Implement Illicit Discharge Detection and Elimination Procedures (Part 1 E 3 c)

Description: The City shall maintain, implement, and enforce illicit discharge detection and elimination (IDDE) written procedures designed to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping, to the small MS4 to effectively eliminate the unauthorized discharge. Written procedures shall include:

- A description of the legal authorities, policies, standard operating procedures or other legal mechanisms available to the permittee to eliminate identified sources of ongoing illicit discharges including procedures for using legal enforcement authorities.
- Dry weather field screening protocols to detect, identify, and eliminate illicit discharges to the MS4. The protocol shall include:
 - A prioritized schedule of field screening activities and rationale for prioritization determined by the permittee based on such criteria as age of the infrastructure, land use, historical illegal discharges, dumping or cross connections;
 - If the total number of MS4 outfalls is equal to or less than 50, a schedule to screen all outfalls annually;
 - If the total number of MS4 outfalls is greater than 50, a schedule to screen a minimum of 50 outfalls annually such that no more than 50% are screened in the previous 12-month period. The 50% criteria is not applicable if all outfalls have been screened in the previous three years; and
 - A mechanism to track the following information:
 - The unique outfall identifier;
 - Time since the last precipitation event;
 - The estimated quantity of the last precipitation event;
 - Site descriptions (e.g., conveyance type and dominant watershed land uses);
 - Whether or not a discharge was observed; and
 - If a discharge was observed, the estimated discharge rate (e.g., width and depth of discharge flow rate) and visual characteristics of the discharge (e.g., odor, color, clarity, floatables, deposits or stains, vegetation condition, structural condition, and biology).
- A timeframe upon which to investigate to identify and locate the source of any observed unauthorized non-stormwater discharge. Priority of investigations shall be given to discharges of sanitary sewage and those believed to be a risk to human health and public safety. Discharges authorized under a separate VPDES or state permit require no further action under this permit.
- Methodologies to determine the source of all illicit discharges. If the permittee is unable to identify the source of an illicit discharge within six months of beginning the investigation, then the permittee shall document that the source remains unidentified. If the observed discharge is intermittent, the permittee shall document that attempts to observe the discharge flowing were unsuccessful.
- Methodologies for conducting a follow-up investigation for illicit discharges that are continuous or that permittees expect to occur more frequently than a one-time discharge to verify that the discharge has been eliminated except as provided for in Part 1 E 3 c (4);

- A mechanism to track all illicit discharge investigations to document the following:
 - The dates that the illicit discharge was initially observed, reported, or both;
 - The results of the investigation, including the source, if identified;
 - Any follow-up to the investigation;
 - Resolution of the investigation; and
 - The date that the investigation was closed.

The IDDE procedures described in Part I E 3 c., the storm sewer map and outfall information table are incorporated into the MS4 program plan by reference. The map shall be made available to the department within 14 days upon request.

Necessary documentation for implementation: (1) Illicit Discharge Detection and Elimination (IDDE) Manual; (2) Outfall Prioritization Methodology; (3) Outfall information table; (4) Storm sewer map; (5) Outfall screening field forms; and (6) IDDE Follow-up Information.

Responsible individual for implementation: Stormwater Manager and City Engineer I

Implementation schedule: Annual outfall screening, as described in the City's IDDE Program Manual that includes the schedules, mechanisms, and procedures described in this BMP and the General Permit.

Measurable goals: Effectiveness will be determined by maintaining, implementing, and enforcing illicit discharge detection and elimination (IDDE) written procedures and screening of at least 50 outfalls each year.

BMP 4.1 ESC Compliance for Land Disturbing Activities (Part 1 E 4)

Description: The City shall utilize its legal authority, such as ordinances, permits, orders, specific contract language, and interjurisdictional agreements, to address discharges entering the MS4 from regulated construction site stormwater runoff. the City shall control construction site stormwater runoff as follows:

- The City has adopted a Virginia Erosion and Sediment Control Program (VESCP) and shall implement the VESCP consistent with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840).
- Regulated land disturbance activity in the City of Salem is subject to Chapter 30, Article III of the City Ordinance (Erosion and Sediment Control). Regulated land disturbance activities are those defined in §62.1-44.15:51 of the Code of Virginia that result in the disturbance of 5,000 square feet or greater and those on individual residential lots or sections of residential developments being developed by different property owners and where the total land disturbance of the residential development is 5,000 square feet or greater. The City utilizes an agreement in lieu of a plan as provided in §62.1-44.15:55 of the Code of Virginia for this category of land disturbances.

Section 30-92 of Article III requires a land disturbance permit from the City prior to engaging in land disturbance activity that is conditioned on an approved erosion and sediment control plan or an agreement in lieu of a plan in accordance with the Erosion and Sediment Control Law (§62.1-44.15:51et seq. of the Code of Virginia). Plans shall be compliant with the minimum standards identified in 9VAC25-840-40 of the Erosion and Sediment Control Regulations.

Section 30-90 of Article III provides legal authority for the City to conduct inspections with an inspector holding an ESC Inspector's Certification from DCR/DEQ. Inspections will be conducted:

- Upon initial installation of erosion and sediment controls;
- At least once during every two-week period;
- Within 48 hours of any runoff-producing storm event; and
- Upon completion of the project and prior to the release of any applicable performance bonds.

The City's Construction Oversight Program includes the Guidance for Land Disturbance Activities document (available upon request) which describes the documentation and inspection procedures used to perform land disturbance inspections. Documentation used during inspections include the VESP-approved ESC Plans and City inspection checklists.

Section 30-90 of Article III also provides legal authority for the City to require compliance with the approved plan and require changes to an approved plan when an inspection finds that the approved plan is inadequate. Orders that the City uses to ensure compliance include "Notice of Violation", "Notice to Comply" and "Stop-Work" Letters. If the non-compliance is not resolved, or escalates, City's ordinance specifies that legal action and conditions that the City may pursue including fines, court orders, or misdemeanor charges, per City Code.

The City shall require implementation of appropriate controls to prevent non-stormwater discharges to the MS4, such as wastewater, concrete washout, fuels and oils, and other illicit discharges identified

during land disturbing activity inspections of the MS4. The discharge of non-stormwater discharges other than those identified in 9VAC25-890-20 D through the MS4 is not authorized by this state permit.

Necessary documentation for implementation: (1) Chapter 30, Article III of the City Code; (2) ESC Plan(s) approved by the City, include procedures and documents used in plan review (e.g. checklists); (3) Documentation of ESC Inspector Certification; (4) Completed ESC Inspection Forms for each regulated project; and (5) Total number of inspections conducted, number of enforcement actions implemented, and the type of enforcement actions implemented.

Roles and responsible individual for implementation: Stormwater Manager and City Engineer

Implementation schedule: The implementation of this BMP will be on-going with all regulated land disturbing activities within the jurisdiction.

Measurable goals: Effectiveness will be determined by the implementation of the procedures, review, inspection, and enforcement described in the City Code. A measurable component is the number of enforcement actions (notice to comply or stop-work orders).

BMP 5.1 Compliance to Post-Construction Stormwater Management Regulation (Part 1 E 5)

Description: The City shall address post-construction stormwater runoff that enters the MS4 from the following land disturbing activities by implementing a post-construction stormwater runoff management program as follows:

- The City shall implement the VSMP consistent with the Virginia Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and VSMP Regulations (9VAC25-870) as well as develop an inspection and maintenance program in accordance with Parts I E 5 b and c.

The City shall implement an inspection and maintenance program for those stormwater management facilities owned or operated by the City that discharges to the MS4 as follows:

- The City shall develop and maintain written inspection and maintenance procedures in order to ensure adequate long-term operation and maintenance of its stormwater management facilities;
- The City shall inspect stormwater management facilities owned or operated by the permittee no less than once per year. the City may choose to implement an alternative schedule to inspect these stormwater management facilities based on facility type and expected maintenance needs provided that the alternative schedule and rationale is included in the MS4 program plan. The alternative inspection frequency shall be no less than once per five years; and
- If during the inspection of the stormwater management facility conducted in accordance with Part I E 5 b (2), it is determined that maintenance is required, the permittee shall conduct the maintenance in accordance with the written procedures developed under Part I E 5 b (1).

Implement an inspection and enforcement program for stormwater management facilities not owned by the permittee (i.e., privately owned) that includes:

- An inspection frequency of no less than once per five years for all privately- owned stormwater management facilities that discharge into the MS4; and
- Adequate long-term operation and maintenance by the owner of the stormwater management facility by requiring the owner to develop and record a maintenance agreement, including an inspection schedule to the extent allowable under state or local law or other legal mechanism;
- Utilize its legal authority for enforcement of the maintenance responsibilities if maintenance is neglected by the owner; and
- The City may develop and implement a progressive compliance and enforcement strategy provided that the strategy is included in the MS4 program plan.

The City will ensure post-construction stormwater management (SWM) for all regulated land disturbing activities over 5,000 square feet through plan approval in accordance with the City Ordinances for Erosion and Sediment Control and Stormwater Management. Approval from the City will ensure the SWM plan has been prepared per the VSMP Regulations that, in part, require that stormwater runoff controls:

- Are designed and installed in accordance with the appropriate water quality and water quantity design criteria as required in Part II (9VAC25-870-40 et seq.) of 9VAC25-870; and
- Have an inspection and maintenance plan.

The City will extract and retain a copy of SWM facility inspection and maintenance plans from the approved stormwater management plan for proposed stormwater management facilities to be used with the implementation of BMP 5.3.

The City enforces stormwater maintenance and inspections as outlined in their Construction Oversight Manual and as specified in the City Ordinance Section 30-150 through 30-161. Written procedures and all associated documents used in the inspection of stormwater management facilities, and for compliance and enforcement of inspection and maintenance requirements for privately owned BMPs.

The City will perform long-term operations and maintenance of all City-owned stormwater facilities utilizing the inspection and maintenance plans obtained from implementation of BMP 5.1. Where inspection and maintenance plans are not available from approved SWM plans, the City will utilize BMP-specific inspection and maintenance instruction from the Virginia Stormwater Management Handbook or the City Post-Construction Stormwater Manual. Inspections will be performed either:

- As dictated on the schedule provided on the inspection and maintenance plans; or
- A minimum of once annually, whichever are the more frequent criteria.

Inspections will be performed using the best management practice (BMP) inspection and maintenance checklist, corresponding with the type of BMP, as provided in either the City Post-Construction Stormwater Manual or the latest edition of the Virginia Stormwater Management Handbook. The checklists provide lists of potential issues and methods to address the issue. Necessary maintenance identified during inspections will be conducted in a timely manner or depending on the complexity of the maintenance which may result in an alternative schedule indicated on the SWM Facility Tracking Database.

Necessary documentation for implementation: (1) City approved SWM Plans and Calculations (maintained on active construction sites); (2) Material used for plan review (e.g. checklists, BMP Clearinghouse Standards and Specifications); (3) SWM Facility Inspection and Maintenance Plans for approved projects with SWM facilities; (4) Proof of records for inspection and maintenance agreements and easements.

Responsible individual for implementation: Stormwater Manager; City Engineer I.

Implementation schedule: The implementation of this BMP will be on-going with all regulated land disturbing activities.

Measurable goal: Effectiveness will be measured by the implementation of the Inspection and maintenance program on post-construction stormwater management facilities.

BMP 5.2 Stormwater Management Facility Tracking and Reporting (Part I E 5 d)

Description: The City shall maintain an electronic database or spreadsheet of all known the City-owned or permittee-operated and privately-owned stormwater management facilities that discharge into the MS4. The database shall also include all BMPs implemented by the permittee to meet TMDL load reductions as required. A database shall include the following information as applicable:

- The stormwater management facility or BMP type;
- The stormwater management facility or BMPs location as latitude and longitude;
- The acres treated by the stormwater management facility or BMP, including total acres, pervious acres, and impervious acres;
- The date the facility was brought online (MM/YYYY). If the date brought online is not known, the permittee shall use June 30, 2005;
- The 6th Order Hydrologic Unit Code in which the stormwater management facility is located;
- Whether the stormwater management facility or BMP is owned or operated by the City or privately owned;
- Whether or not the stormwater management facility or BMP is part of the City's Chesapeake Bay TMDL action plan required in Part II A or local TMDL action plan required in Part II B, or both; and
- If the stormwater management facility or BMP is privately owned, whether a maintenance agreement exists; and
- The date of the City's most recent inspection of the stormwater management facility or BMP.

The electronic database or spreadsheet shall be updated no later than 30 days after a new stormwater management facility is brought online, a new BMP is implemented to meet a TMDL load reduction as required in Part II or discovered if it is an existing stormwater management facility.

The City shall use the DEQ Construction Stormwater Database or other application as specified by the department to report each stormwater management facility installed after July 1, 2014, to address the control of post-construction runoff from land disturbing activities for which the permittee is required to obtain a General VPDES Permit for Discharges of Stormwater from Construction Activities.

No later than October 1 of each year, the City shall electronically report the stormwater management facilities and BMPs implemented between July 1 and June 30 of each year using the DEQ BMP Warehouse and associated reporting template for any practices not reported in accordance with Part I E 5 f including stormwater management facilities installed to control post-development stormwater runoff from land disturbing activities less than one acre in accordance with the Chesapeake Bay Preservation Act regulations (9VAC25-830) and for which a General VPDES Permit for Discharges of Stormwater from Construction Activities was not required.

Necessary documentation for implementation: (1) SWM Facility Tracking Database in Appendix D

Responsible individual for implementation: Stormwater Manager; City Engineer I

Implementation schedule: The implementation of this BMP will be on-going as inspections are performed as specified for each BMP in the SWM Facility Tracking Database.

Measurable goal: Effectiveness will be measured by the completeness of the annually reported database by October 1 each year.

BMP 6.1 Pollution Prevention Procedures for Operations & Maintenance Activities (Part 1 E 6)

Description: The City shall maintain and implement written procedures for those activities at facilities owned or operated by the permittee, such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers designed to:

- Prevent illicit discharges;
- Ensure the proper disposal of waste materials, including landscape wastes;
- Prevent the discharge of wastewater or permittee vehicle wash water or both into the MS4 without authorization under a separate VPDES permit;
- Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;
- Minimize the pollutants in stormwater runoff from bulk storage areas (e.g., salt storage, topsoil stockpiles) through the use of best management practices;
- Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment; and
- Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

Necessary documentation for implementation: (1) the City Good Housekeeping/Pollution Prevention Program Manual; (2) Site-specific SWPPPs; (3) Training documentation; (4) Completed Comprehensive Evaluation forms.

Responsible individual for implementation: Stormwater Manager

Objectives and expected results in meeting measurable goals: The objective is to minimize or prevent pollutant discharges from operations and maintenance activities. The expected result is staff adherence to the City Good Housekeeping/Pollution Prevention Manual during daily activities.

Implementation schedule: Training will be provided once every 24 months, and facility evaluations will be performed with the schedule described in BMP 6.2. No later than June 30 of each year, the City will annually review any high-priority facility owned or operated by the City for which a SWPPP has not been developed to determine if the facility has a high potential to discharge potential pollutants. If the facility is determined to be a high priority facility with a high potential to discharge pollutants, the City will develop a SWPPP no later than December 31 of that same year.

Measurable goals: Effectiveness will be measured the implementation of Facility-specific Stormwater Pollution Prevention Plans (SWPPPs) as described in BMP 6.2, evaluated with a Facility compliance evaluation as described for the measure of effectiveness for BMP 3.4, and the Pollution Prevention training described in BMP 6.3.

BMP 6.2 Stormwater Pollution Prevention Plans (Part 1 E 6 c)

Description: The City shall identify which of the high-priority facilities have a high potential of discharging pollutants. the City shall maintain and implement a site-specific stormwater pollution prevention plan (SWPPP) for each facility identified. High priority facilities that have a high potential for discharging pollutants are those facilities that are not covered under a separate VPDES permit and which any of the following materials or activities occur and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:

- Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
- Materials or residuals on the ground or in stormwater inlets from spills or leaks;
- Material handling equipment;
- Materials or products that would be expected to be mobilized in stormwater runoff during loading or unloading or transporting activities (e.g., rock, salt, fill dirt);
- Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
- Materials or products that would be expected to be mobilized in stormwater runoff contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- Waste material except waste in covered, nonleaking containers (e.g., dumpsters);
- Application or disposal of process wastewater (unless otherwise permitted); or
- Particulate matter or visible deposits of residuals from roof stacks, vents or both not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater runoff.

Each SWPPP as required in Part I E 6 c shall include the following:

- A site description that includes a site map identifying all outfalls, direction of stormwater flows, existing source controls, and receiving water bodies;
- A description and checklist of the potential pollutants and pollutant sources;
- A description of all potential non-stormwater discharges;
- Written procedures designed to reduce and prevent pollutant discharge;
- A description of the applicable training as required in Part I E 6 m;
- Procedures to conduct an annual comprehensive site compliance evaluation;
- An inspection frequency of no less than once per year and maintenance requirements for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP; and
- A log of each unauthorized discharge, release, or spill incident reported in accordance with Part III G including the following information:
 - Date of incident;
 - Material discharged, released, or spilled; and
 - Estimated quantity discharged, released or spilled.

No later than June 30 of each year, the City shall annually review any high-priority facility owned or operated by the City for which a SWPPP has not been developed to determine if the facility has a high potential to discharge pollutants as described in Part I E 6 c. If the facility is determined to be a high-priority facility with a high potential to discharge pollutants, the City shall develop a SWPPP meeting the requirements of Part I E 6 d no later than December 31 of that same year.

The City shall review the contents of any site specific SWPPP no later than 30 days after any unauthorized discharge, release, or spill reported in accordance with Part III G to determine if additional measures are necessary to prevent future unauthorized discharges, releases, or spills. If necessary, the SWPPP shall be updated no later than 90 days after the unauthorized discharge.

The SWPPP shall be kept at the high-priority facility with a high potential to discharge and utilized as part of staff training required in Part I E 6 m. The SWPPP and associated documents may be maintained as a hard copy or electronically as long as the documents are available to employees at the applicable site.

If activities change at a facility such that the facility no longer meets the criteria of a high-priority facility with a high potential to discharge pollutants as described in Part I E 6 c, the permittee may remove the facility from the list of high-priority facilities with a high potential to discharge pollutants.

The City will not apply any deicing agent containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces in accordance with Part I E 6 k. The ingredients of deicers used on site will be maintained.

The SWPPP will provide instruction for updates, as necessary, to reflect changes at facilities, modifications to operations and maintenance procedures, or short-comings resulting in a reportable spill. Inspection forms will be completed in accordance with the prescribed schedule within the SWPPP and maintained on file with the Facilities Director.

The City shall provide a list of all high-priority facilities owned or operated by the permittee required in accordance with Part I E 6 c, and whether or not the facility has a high potential to discharge.

Table 7: List of High Priority Facilities	
High Priority Facility	Address
Street and General Maintenance Facility	1228 Indiana Street
Stockpiling, vehicle and equipment storage	1010 Tidewater Street
Material and vehicle storage area	1001 Roanoke Boulevard

Necessary documentation for implementation: (1) Good Housekeeping & Pollution Prevention Manual; (2) SWPPPs; (3) Annual comprehensive site compliance evaluation forms; and (4) Identification of High Priority Facilities report.

Responsible individual for implementation: Stormwater Manager.

Implementation schedule: By June 30th every year the City will review its properties to determine if the facilities meet the criteria of a high priority facility and develop SWPPPs by December 31 of the same permit year. The City will also review its properties to determine if the properties no longer meet the criteria of a high priority facility. The City will review the Facility SWPPPs no later than 30 days after an unauthorized discharge, release or spill reported in accordance with Part III G to determine if additional measures are necessary to prevent future unauthorized discharges, releases or spills. The SWPPP shall be updated no later than 90 days after the unauthorized discharge. The annual comprehensive compliance evaluation will be completed once per year.

Measurable goals: Effectiveness will be measured by the completed annual comprehensive compliance evaluation once per year; a review of a SWPPP within 30 days after an unauthorized discharge, release or spill reported; and an update to the SWPPP within 90 days after an unauthorized discharge. In addition, effectiveness will be measured by the review of the City's properties to determine if the properties meet the criteria of a high priority facility and a SWPPP is developed, or no longer meet the criteria of a high priority facility.

BMP 6.3 Turf and Landscape Management (Part I E 6 j)

Description: The City applies nutrients to lands regulated under § 10.1-104.4 of the Code of Virginia; and therefore, shall continue to implement turf and landscape nutrient management plans in accordance with this statutory requirement.

The City shall implement a Department of Conservation and Recreation (DCR) approved and Nutrient Management Plans (NMP) prepared by a Certified Nutrient Management Planner. Fertilizer application records will be maintained with each application using the application record provided in the NMP.

The City shall provide a list of lands for which turf and landscape nutrient management plans are required in accordance with Part I E 6 i and j, including the following information:

- The total acreage on which nutrients are applied;
- The date of the most recently approved nutrient management plan for the property; and
- The location in which the individual turf and landscape nutrient management plan is located.

Table 8: List of Lands where Nutrient Management Plans are Required			
Property Name	Area (acres)	NMP Date	Location of NMP Area
Parks (Golf Course Clubhouse, Ted Webber Field, Moyer Complex, Parks & Rec. Office, Kiwanis Field, Civic Center Complex, Oakey Complex)	27.31	7/2018 - 5/2021	All lawn areas except BMP's
City of Salem Schools (ALMS, GW Carver, SHS, South Elem, West Elem, East Elem.)	38.13	9/2019 - 9/2022	All lawn areas except BMP's
Municipal Buildings/Grounds (City Hall/Health Clinic, Fire Dept. Admin, Library, Police Academy, City Courthouse/PD/Fire Station #1, Senior Center, Electric Dept, ROW Medians)	4.82	11/2019 - 11/2022	All lawn areas except BMP's
Salem Memorial Stadium (Red Sox Field)	2.4	3/2018 - 3/2021	All lawn areas except BMP's
Salem Municipal Golf Course	25	4/2016 - 4/2021	All lawn areas except BMP's

Necessary documentation for implementation: (1) the City Nutrient Management Plans; and (2) Completed Fertilizer Application Records.

Responsible individual for implementation: Stormwater Manager

Implementation schedule: The NMPs will continue to be updated and modified as needed. Fertilizer application records will be maintained with each application.

Measurable goals: Effectiveness will be measured by the implementation of the NMPs through completion of the application record and periodic updates to the NMPs to make necessary adjustments based on soil conditions.

BMP 6.6 Contractor Safeguards to Ensure Program Consistent Measures and Procedures (Part I E 6 I)

Description: The City shall require through the use of contract language, training, standard operating procedures, or other measures within the City's legal authority that contractors employed by the City and engaging in activities with the potential to discharge pollutants use appropriate control measures to minimize the discharge of pollutants to the MS4.

The City will use contract language that references the City Good Housekeeping and Pollution Prevention Manual to require contractors to use appropriate control measures and procedures for stormwater discharges, when applicable. Oversight will be provided by the City through periodic inspections. Contract language will require contractors to address items identified during inspections within a time period appropriate to prevent the potential of non-stormwater discharges. The contract language will also allow the City to stop-work, address the problem, and recoup cost for the remedy from the contractor.

Contractors implementing the stormwater program shall obtain the appropriate certifications as required under the Virginia Stormwater Management Act (VSMA) and its attendant regulations.

A summary of mechanisms the City uses to ensure contractors working on behalf of the permittees implement the necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate:

- the City incorporates contract language that includes a reference to the Good Housekeeping and Pollution Prevention Manual located on the City's website.

Contract language described in this BMP is not intended for regulated land disturbing activity addressed with BMPs 4.1, 4.2, and 4.3.

Necessary documentation for implementation: (1) Contract language; (2) Inspection Forms; and (3) Good Housekeeping and Pollution Prevention Manual

Responsible individual for implementation: Stormwater Manager

Implementation schedule: The City will continue to incorporate language into contracts to ensure contractors engaging in activities with the potential to discharge pollutants use appropriate control measures to minimize the discharge of pollutants to the MS4.

Measurable goals: Effectiveness will be measured by all signed contracts executed with contract good housekeeping and pollution prevention language.

BMP 6.4 Contractor Certification for Pesticide Application (Part I E 6 m 4)

Description: Contractors hired by the City who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VCACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement.

Necessary documentation for implementation: (1) Contract language; (2) Proof of certifications

Responsible individual for implementation: Stormwater Manager

Implementation schedule: The City will continue to obtain proof of certifications from contractors applying pesticide and herbicide.

Measurable goal: Effectiveness will be measured by all signed contracts executed for pesticide and herbicide application maintain proof of certifications on file.

BMP 6.5 Employee Good Housekeeping/Pollution Prevention Training Plan (Part 1 E 6 m)

Description: The City shall develop a training plan in writing for applicable staff that ensures the following:

- Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months;
- Employees performing road, street, and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months;
- Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months;
- Employees who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act (§ 3.2-3900 et seq. of the Code of Virginia). Certification by the Virginia Department of Agriculture and Consumer Services (VCACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement;
- Employees serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations;
- Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations; and
- Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law-enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.

The City shall maintain documentation of each training event conducted by the permittee to fulfill the requirements of Part I E 6 m for a minimum of three years after the training event. The documentation shall include the following information:

- The date of the training event;
- The number of employees attending the training event; and
- The objective of the training event.

The City may fulfill the training requirements in Part I E 6 m, in total or in part, through regional training programs involving two or more MS4 permittees; however, the permittee shall remain responsible for ensuring compliance with the training requirements.

The City will incorporate a written training plan into its Good Housekeeping/Pollution Prevention and IDDE Program Manuals, including a schedule of training events. The Program Manuals will serve as the training material and include Appendices to document training and list relevant staff for the following specific training:

- Training once every 24 months to relevant field personnel in the recognition and reporting of illicit discharges. Training will utilize the IDDE Manual described in BMP 3.3.
- Training once every 24 months to relevant employees in good housekeeping and pollution prevention practices that are to be employed during road and parking lot maintenance and around maintenance and operations facilities. Training will utilize the City Good Housekeeping/Pollution Prevention Manual described in BMP 6.1.

The plan will also require the following:

- Training or certification in spill response for emergency response employees.
- Training or certification for applying pesticides and herbicides in accordance with the Virginia Pesticide Control Act (§ 3.1-249.27 et seq. of the Code of Virginia) for employees performing applications.

Training required by the General Permit that is not applicable to the City includes the following:

- Training to employees in and around recreational facilities.
- Certifications as required under the Virginia Erosion & Sediment Control Law (See BMPs 4.1 and 4.3).
- Certifications as required under the Virginia Stormwater Management Act and its attendant regulations.

Necessary documentation for implementation: (1) Training documentation or appropriate certifications for employees; (2) the City IDDE Manual; and (3) the City Good Housekeeping/Pollution Prevention Program Manual.

Responsible individual for implementation: Stormwater Manager

Implementation schedule: Training for illicit discharge and good housekeeping will occur no less than every 24 months. Certifications will be maintained, and proof of certification updated as appropriate.

Measurable goals: Effectiveness will be determined by the training occurring no less than every 24 months, and proof of certifications updated as appropriate.

3.1 SPECIAL CONDITIONS FOR THE CHESAPEAKE BAY TMDL

The City of Salem is not within the Chesapeake Bay Watershed and therefore, is not subject to the Chesapeake Bay TMDL Special Conditions.

3.2 SPECIAL CONDITIONS FOR LOCAL TMDLS

Description: The permittee shall develop a local TMDL action plan designed to reduce loadings for pollutants of concern if the permittee discharges the pollutants of concern to an impaired water for which a TMDL has been approved by the U.S. Environmental Protection Agency (EPA) as described below:

- For TMDLs approved by the EPA prior to July 1, 2013, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall update the previously approved local TMDL action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan; and
- For TMDLs approved by EPA on or after July 1, 2013, and prior to June 30, 2018, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable for each pollutant for which wasteloads have been allocated to the permittee's MS4 no later than 30 months after the permit effective date.

The permittee shall complete implementation of the TMDL action plans as soon as practicable. TMDL action plans may be implemented in multiple phases over more than one permit cycle using the adaptive iterative approach provided adequate progress is achieved in the implementation of BMPs designed to reduce pollutant discharges in a manner that is consistent with the assumptions and requirements of the applicable TMDL.

Each local TMDL action plan developed by the permittee shall include the following:

- The TMDL project name;
- The EPA approval date of the TMDL;
- The wasteload allocated to the permittee (individually or in aggregate), and the corresponding percent reduction, if applicable;
- Identification of the significant sources of the pollutants of concern discharging to the permittee's MS4 and that are not covered under a separate VPDES permit. For the purposes of this requirement, a significant source of pollutants means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL;
- The BMPs designed to reduce the pollutants of concern in accordance with Parts II B 4, B 5, and B 6;
- Any calculations required in accordance with Part II B 4, B 5, or B 6;
- For action plans developed in accordance with Part II B 4 and B 5, an outreach strategy to enhance the public's education (including employees) on methods to eliminate and reduce discharges of the pollutants; and
- A schedule of anticipated actions planned for implementation during this permit term.

BMP SC.1.a Roanoke River Bacteria TMDL Action Plan (Part II B)

Bacteria TMDLs:

If the permittee is an approved VSMP authority, they shall select and implement at least 3 of the strategies listed below designed to reduce the load of bacteria to the MS4. If they are not an approved VSMP authority, the permittee shall select and implement at least 1 of the strategies listed below. Selection of the strategies shall correspond to sources identified in Part II B 3 d.

Table 9: Strategies for Bacteria Reduction Stormwater Control/Management Strategy	
Source	Strategy Examples (not meant to be all inclusive or limiting)
Domestic pets (dogs and cats)	<p>Provide signage to pick up dog waste, providing pet waste bags and disposal containers.</p> <p>Adopt and enforce pet waste ordinances or policies, or leash laws or policies.</p> <p>Place dog parks away from environmentally sensitive areas.</p> <p>Maintain dog parks by removing disposed of pet waste bags and cleaning up other sources of bacteria.</p> <p>Protect riparian buffers and provide unmanicured vegetative buffers along streams to dissuade stream access.</p>
Urban Wildlife	<p>Educate the public on how to reduce food sources accessible to urban wildlife (e.g., manage restaurant dumpsters and grease traps, residential garbage, feed pets indoors).</p> <p>Install storm drain inlet or outlet controls.</p> <p>Clean out storm drains to remove waste from wildlife.</p> <p>Implement and enforce urban trash management practices.</p> <p>Implement rooftop disconnection programs or site designs that minimize connections to reduce bacteria from rooftops</p> <p>Implement a program for removing animal carcasses from roadways and properly disposing of the same (either through proper storage or through transport to a licensed facility).</p>
Illicit connections or illicit discharges to the MS4	<p>Implement an enhanced dry weather screening and illicit discharge, detection, and elimination program beyond the requirements of Part I E 3 to identify and remove illicit connections and identify leaking sanitary sewer lines infiltrating to the MS4 and implement repairs.</p> <p>Implement a program to identify potentially failing septic systems.</p> <p>Educate the public on how to determine whether their septic system is failing.</p>

Table 9: Strategies for Bacteria Reduction Stormwater Control/Management Strategy

Source	Strategy Examples (not meant to be all inclusive or limiting)
	<p>Implement septic tank inspection and maintenance program.</p> <p>Implement an educational program beyond any requirements in Part I E 1 through E 6 to explain to citizens why they should not dump materials into the MS4.</p>
Dry weather urban flows (irrigations, car washing, powerwashing, etc.)	<p>Implement public education programs to reduce dry weather flows from storm sewers related to lawn and park irrigation practices, car washing, powerwashing and other nonstormwater flows.</p> <p>Provide irrigation controller rebates.</p> <p>Implement and enforce ordinances or policies related to outdoor water waste.</p> <p>Inspect commercial trash areas, grease traps, washdown practices, and enforce corresponding ordinances or policies.</p>
Birds (Canadian geese, gulls, pigeons, etc.)	<p>Identify areas with high bird populations and evaluate deterrents, population controls, habitat modifications and other measures that may reduce bird-associated bacteria loading.</p> <p>Prohibit feeding of birds.</p>
Other sources	<p>Enhance maintenance of stormwater management facilities owned or operated by the permittee.</p> <p>Enhance requirements for third parties to maintain stormwater management facilities.</p> <p>Develop BMPs for locating, transporting, and maintaining portable toilets used on permittee-owned sites. Educate third parties that use portable toilets on BMPs for use.</p> <p>Provide public education on appropriate recreational vehicle dumping practices.</p>
Training materials	Materials developed to disseminate during workshops offered to local citizens, trade organization, or industrial officials

In the 2018 - 2023 MS4 Permit cycle, the City has selected the following three strategies from the list in Table 9 to further reduce the load of bacteria to the MS4 and improve the water quality of the local waterways:

- Provide signage to pick up dog waste, providing pet waste bags and disposal containers.
- Implement and enforce ordinances or policies related to outdoor water waste.
- Educate the public on sewer backup prevention and actions taken if they happen.

These strategies will be included in the annual MS4 Program Plan update and implementation will be reported during the annual MS4 reporting process.

Necessary documentation for implementation: (1) Roanoke River Bacteria TMDL Action Plan; and (2) Program Plan.

Responsible individual for implementation: Stormwater Manager

Implementation schedule: See Table 10 for the implementation schedule.

Table 10: Schedule of Anticipated Actions Planned for Implementation of Bacteria Reduction			
Strategies	Method	Timeframe	Metric
Provide signage to pick up dog waste, providing pet waste bags and disposal containers	Post signage and provide disposal containers and waste bags.	Completed and ongoing	Waste bags maintained and stocked
Implement and enforce ordinances or policies related to outdoor water waste.	See Section 4.1.8 of this report	Completed and ongoing	Approved ordinances
Educate the public on sewer backup prevention and actions taken if the sewer overflows.	https://salemva.gov/Departments/Water-Sewer-Dept/Wastewater-Operations/Sewer-Backups-and-Overflows	Completed and ongoing	Website updated and online
Implement an educational program beyond any requirements in Part I E 1 through E 6 to explain to citizens why they should not dump materials into the MS4.	Enhanced Public Education and Outreach and Public Participation within the watershed through partnership with the Clean Valley Council	Completed and ongoing	Continued participation in the Clean Valley Council

Measurable goal: Effectiveness will be measured by the implementation of the TMDL Action Plan strategies and reporting on the metrics as outlined in Table 10.

BMP SC.1.b Roanoke River Sediment TMDL Action Plan (Part II B)

Local sediment, phosphorous, and nitrogen TMDLs:

The permittee shall reduce the loads associated with sediment, phosphorus, or nitrogen through implementation of one or more of the following:

- One or more of the BMPs from the Virginia Stormwater BMP Clearinghouse listed in 9VAC25-870-65 or other approved BMPs found on the Virginia Stormwater BMP Clearinghouse website;
- One or more BMPs approved by the Chesapeake Bay Program; or
- Land disturbance thresholds lower than Virginia's regulatory requirements for ESC and post-development SWM.

The permittee may meet the local TMDL requirements for sediment, phosphorus, or nitrogen through BMPs implemented to meet the requirements of the Chesapeake Bay TMDL in Part II A as long as the BMPs are implemented in the watershed for which local water quality is impaired. The permittee shall calculate the anticipated load reduction achieved from each BMP and include the calculations in the action plan required in Part II B 3 f. No later than 36 months after the effective date of this permit, the permittee shall submit to the department the anticipated end dates by which the permittee will meet each WLA for sediment, phosphorus, or nitrogen. The proposed end date may be developed in accordance with Part II B 2.

The City will be using the lane mile approach from 2016 Expert Panel Report. The information in Table 11 indicates the mileage required to be swept annually per street sweeping practice in order to meet the sediment reduction required (793.55 tons/year or 1,587,100 lbs./year) for future sediment loads towards achieving the WLA.

Table 11: Estimate of Sediment Removal by Sweeping Using the Lane Mile Approach

Salem TSS TMDL WLA Reduction Scenarios				Approx. Min. Lane Miles or Acres/Yr.	Approx. Min. Lane Miles or Acres to Sweep per Pass	
Advanced Sweeping Technology	Street Cleaning Practices Available for Credit		Removal Rate			
	Practice	Description*	Passes/Yr.	TSS		
	SCP-1	2 passes per week	100	0.21	5,814	58
	SCP-2	1 pass per week	50	0.16	7,631	153
	SCP-3	1 pass per 2 weeks	25	0.11	11,099	444
	SCP-4	1 pass every 4 weeks	10	0.06	20,348	2,035
	SCP-5	1 pass every 8 weeks	6	0.04	30,522	5,087
	SCP-6	1 pass every 12 weeks	4	0.02	61,043	15,261
	SCP-7	Seasonal scenario 1 or 2	15	0.07	17,441	1,163
	SCP-8	Seasonal scenario 3 or 4	20	0.1	12,209	610
Mechanical Broom	SCP-9	2 passes per week	100	0.01	122,085	1,221
	SCP-10	1 pass per week	50	0.005	244,170	4,883
	SCP-11	1 pass every 4 weeks	10	0.001	1,220,847	122,085

*Seasonal scenarios are defined as follows:

S1: Spring - One pass every week from March to April. Monthly otherwise.

S2: Spring - One pass every other week from March to April. Monthly otherwise.

S3: Spring and fall - One pass every week (March to April, October to November) Monthly otherwise.

S4: Spring and fall - One pass every other week during the season. Monthly otherwise.

Notes:

(1) The standard street cleaning unit is the number of curb miles swept. One impervious acre is equivalent to one curb-lane mile swept assuming swept on one side only.

(2) Acres of parking lot swept are converted to lane miles using one acre = one curb lane mile.

(3) Loading Rates associated with urban impervious cover in the Chesapeake Bay Watershed.

Average TN Load 15.5 lbs/ac/yr

Average TP Load 1.93 lbs/ac/yr

Average TSS Load 1,300 lbs/ac/yr

Necessary documentation for implementation: (1) Roanoke River Sediment TMDL Action Plan; (2) Program Plan Updates, as necessary.

Responsible individual for implementation: Stormwater Manager

Implementation schedule: See Table 12 for the implementation schedule.

Table 12: Schedule for Salem's TMDL Action Plan Street Sweeping Program

Step	General Description	Measurable Goal	Completion Date
1	Research additional credits to decrease the required reduction and select a street sweeping scenario to implement	Coordination with DEQ to be able to take additional credit for the implementation of Salem's MS4 Program. Evaluate a credit for the reduced land disturbance threshold written in Salem's ordinance. Determine lane miles swept potential of City streets. Select a street sweeping scenario to implement from Table 6 of this report.	June 30, 2021
2	Tracking documentation	Develop necessary documentation per expert panel report.	June 30, 2022
3	Staff training	Develop sweeping training materials and implement training.	June 30, 2023

4	Program evaluation	<p>Assess numerical progress towards meeting the WLA over the permit cycle.</p> <p>Re-evaluate Street Sweeping Program.</p>	June 30, 2024
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Measurable goal: Effectiveness will be measured by the implementation of the TMDL Action Plan measurable goals outlined in Table 12.

BMP SC.1.c Roanoke River Polychlorinated Biphenyl (PCB) TMDL Action Plan (Part II B)

Local Polychlorinated biphenyl (PCB TMDLs):

For each PCB TMDL action plan, the permittee shall include an inventory of potentially significant sources of PCBs owned or operated by the permittee that drains to the MS4 that includes the following information:

- (1) Location of the potential source;
- (2) Whether or not the potential source is from current site activities or activities previously conducted at the site that have been terminated (i.e. legacy activities); and
- (3) A description of any measures being implemented or to be implemented to prevent exposure to stormwater and discharge of PCBs from the site.

If at any time during the permit term, the permittee discovers a previously unidentified significant source of PCBs within the MS4 regulated service area, they shall notify DEQ in writing within 30 days of discovery.

Necessary documentation for implementation: (1) Roanoke River PCB TMDL Action Plan; (2) Program Plan Updates, as necessary.

Responsible individual for implementation: Stormwater Manager

Implementation schedule: See Table 13 for the implementation schedule.

Table 13: Schedule of Anticipated Actions Planned for Implementation of PCB Reduction			
Strategies	Method	Timeframe	Metric
Identification of significant sources of PCBs	Assessment of City Properties	Completed	SWPPP developed
Site-specific SWPPPs for City owned properties with the potential to discharge PCBs	SWPPP developed, implemented and maintained for the Streets Facility	Completed and ongoing	SWPPP inspections conducted annually
MS4 Program MCMs developed to address and minimize PCBs	MCMs 1 - 4 and 6 and City Ordinances developed and implemented to specifically address and minimize PCBs	Completed and ongoing	Annual reporting
New discoveries previously unidentified significant sources of PCBs reported, if found	Notification to DEQ in writing within 30 days of discovery, if found	Ongoing	Letter, if applicable

Measurable goal: Effectiveness will be measured by the implementation of the TMDL Action Plan strategies and reporting on the metrics as outlined in Table 13.

Appendix A - BMP 1.1 Public Education and Outreach Plan & Survey

Public Education and Outreach Plan

(Effective July 1, 2014; Revised June, 2017)

The City of Salem (Salem) operates a Stormwater Management Program in compliance with the Virginia General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit). In accordance with Section II.B.1 of the permit, Salem implements a Public Education and Outreach Program (PEOP) on stormwater impacts.

Consistent with the MS4 General Permit, the PEOP incorporates the following goals:

- Increase the knowledge of Salem's target audiences about the steps that can be taken to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns;
- Increase the knowledge of Salem's target audience about hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications; and
- Implement a diverse program with strategies that are targeted towards audiences most likely to have significant stormwater impacts.



These goals are intended to be met as part of an iterative program that will assess effectiveness of the PEOP by measuring the level of knowledge over time of the City's public. The PEOP is designed consistent with the MS4 General Permit to:

- Identify 3 high-priority water quality issues and provide rationale for the selection of each issue;
- Identify and estimate the population size of the target audience who is most likely to have significant impacts on each water quality issue;
- Identify the relevant message and associated educational and outreach materials for distribution to the target audiences.

Public participation during the development of the PEOP included the distribution of a survey through mail and email that incorporated questions regarding stormwater runoff and surface water quality. Results are provided in Appendix A. The survey was intended to gage Salem's public on their knowledge of stormwater impacts. Response to the survey included 2,053 residents and 106 businesses. Insightful results towards the development of the Program include:

- 90% of respondents indicate they know little or nothing about stormwater pollution.
- 66% of respondents do not know where the storm drain empties or think that it empties into the treatment plant.
- The #1 concern by respondents was bacteria in the waterways. The #2 concern was not enough education on stormwater.
- 21% of dog owners indicate they do not pick up after their pets. Per the dog license database, there are approximately 3,198 dog owners in the City. Only 744 dog owners responded to the survey.

- 80% of respondents do not know if Salem has any projects that deal with stormwater pollution.
- The most frequent way respondents learned about water projects that deal with stormwater pollution was by information pamphlets released and distributed by the City.

Selection of high-priority water quality issues were selected based on results disseminated from the survey and applicable Total Maximum Daily Loads (TMDLs). Salem's high-priority water quality issues for the PEOP are provided below. Based on measures of effectiveness for each, any may be replaced or refined from time to time. Modifications will be reflected in annual reporting with rationale for the modification.

Water Quality Issue No. 1: Improve public education on stormwater impacts

Rationale: This issue was selected based on the results of the public survey that indicate a strong need for increased effectiveness of public education efforts. This rationale is supported with the survey results summarized above and in Attachment A.

Target Audience: Survey results indicate that the entirety of Salem's public audience needs increased education since all could have a positive impact in the improvement of stormwater runoff with knowledge of steps to reduce stormwater pollution. This audience generally includes:

- Population of ±25,000 people

Relevant Message: To address goals of the Program and concerns stemming from the survey results, the relevant message will include:

- General information about stormwater runoff (where it drains, pollutants, etc.)
- Steps that can be taken to reduce stormwater pollution
- Information regarding Salem's Stormwater Program, including information regarding the hazards associated with illegal discharges and improper disposal of waste, including pertinent legal implications
- Contact information for reporting issues that could negatively impact environmental water quality
- Information regarding TMDL pollutants of concern, specifically polychlorinated biphenyls (PCBs) and sediment
- Methods to identify, eliminate, and reduce potential discharges of PCBs into the MS4.

Outreach Materials to Convey the Relevant Message: A brochure will be distributed by the City with the relevant messages and a link to the Salem stormwater webpage. Brochure distribution was selected as the appropriate mechanism based on survey respondents where informational pamphlets released and distributed by Salem was selected as the most frequent way people learned about stormwater projects.

Schedule: Outreach material will be distributed a minimum of once a year to at least 20% of each target audience.

Method to Determine Effectiveness: The stormwater survey will be re-distributed at the end of the Permit cycle to determine the effectiveness of the water quality issue. Results will be disseminated to determine if the public's knowledge of stormwater runoff and its impacts have increased.

Water Quality Issue No. 2: Education on dog waste impacts and pick-up

Rationale: Salem is in the Upper Roanoke River Watershed TMDL and has been assigned a waste load allocation for bacteria (E. coli). Selection of this issue is also consistent with survey respondents who ranked “too much bacteria in waterways” as their top stormwater pollution concern.

Target Audience: ±3,200 licensed dog owners (licensed pet databased sorted for dog owners)

Relevant Message: Inform dog owners about the effects of pet waste on water quality and encourage dog owners to pick up and properly dispose of pet waste.

Outreach Materials to Convey the Relevant Message: The message will be conveyed using brochures that will be mailed to pet owners. The City maintains a database of licensed pet owners.

Schedule: Brochures will be mailed on a yearly basis to at least 20% of the target audience.

Method to Determine Effectiveness: The stormwater survey will be re-distributed at the end of the Permit cycle to determine the effectiveness of the water quality issue. Results will be disseminated to determine if more pet owners are picking up after their pets.

Water Quality Issue No. 3: Prevention of Non-stormwater Discharges

Rationale: This issue was selected based on the results of the public survey that indicate 67% of respondents do not know that stormwater runoff is discharged directly to surface waters, as indicated in results in Appendix A.

Target Audience: This target audience includes those that may cause non-stormwater discharges into the City’s MS4.

Relevant Message: Information defining non-stormwater discharges and pathways to surface waters, as described in the City’s Illicit Discharge Detection and Elimination (IDDE) Manual and the City’s Ordinance that eliminates illicit discharges.

Outreach Materials to Convey the Relevant Message: Two types of materials will be utilized, including brochures and storm drain markers. Brochures that discuss the relevant message will be distributed to the target audience, notably those types of individuals where illicit discharges are most commonly seen, such as commercial business. At a minimum, twenty storm drain markers will be installed annually as a supplemental outreach tool, with markers installed in “high potential” areas, as illustrated in the mapping generated in the City’s “Outfall Prioritization” report or where illicit discharges have previous occurred.

Schedule: Annually.

Method to Determine Effectiveness: The stormwater survey will be re-distributed at the end of the Permit cycle to determine the effectiveness of the water quality issue. Results will be disseminated to determine if the public’s knowledge of stormwater runoff and its impacts have increased. Effectiveness will also be based on achieving the targeted number of storm markers.

**CITY OF SALEM - STORMWATER
SURVEY 2014**

Are you a resident of Salem or a business?

Resident - 2,053 Business - 106

Do you live in a house or an apartment?

House - 1,893 Apartment - 280

I am not a Salem resident
(if so, disregard all of the following)

Your age:

<18 18-35 35-60 60 or older
(217) (708) (1,297)

Your gender:

Female - 1,164 Male - 703 Both - 37

How much do you know about stormwater pollution?

Nothing A little A lot
(575) (1,411) (232)

Do you think the City of Salem has a problem with storm water pollution?

Yes No Maybe:

(225) (648) (1,144)

Do you know if the City of Salem has any projects that deal with storm water pollution?

Yes (419) No (1636)

**If yes, how did you learn about these projects?
(Check all that apply)**

Information pamphlets released and distributed by the City of Salem (246)

From the Website (57) Heard from a friend (74)

Television (106) Non-applicable (208)

Other (8=3) - - - - -

Do you know where storm drains empty?

Treatment Plant, then river (353)

Straight into river (740) Don't know (1,099)

Please rank the following stormwater pollution concerns in importance with 1 being the most important and 7 being the least important:

Sediment in waterways

Leaves in gutters

How often do you dispose of unused fertilizers or pesticides by pouring them out on the ground?

Usually(?) Sometimes(65) Never(1,941)

Dispose of them in the garbage (113)

Dispose of them at Hazardous Waste Day (232)

How many times a year do you fertilize your lawn?

1-2 (726) 2-6 (309) Monthly (12)

Non-Applicable (1,148)

Do you have any rain barrels for downspouts on your home for watering your lawn or garden?

Yes - 157 No - 2,023

Do you pick up your dog's feces and dispose of it?

Yes (585) No (159) NIA (don't have a dog) (1,446)

Do you have a rain garden?

Yes - 65 No - 2,092

Where do you wash your car?

Home Commercial Both Non-applicable
(334) (1,143) (489) (241)

Bacteria in waterways People washing cars
Dumped motor oil Too much fertilizers
Not enough education on stormwater

How many times a month do you wash your car?

0-1 (1,662) 2 (292) 3(185) More (32)

Do you change your own motor oil?

Yes (262) No(1,765) N/A (don't have a car) (181)

If yes, what do you do with the oil?

Transfer to a container, seal and dispose with other household trash; (12)

Pour it on grass, dirt or gravel; (3) Pour it into a storm drain; (0) Take it to a recycling facility (239)

Pour it into an indoor sink, toilet or drain

(0) Take it to the City's Street Department (4) Other (2)

Survey Concerns	Ranked #1	Ranked #2	Ranked #3	Ranked #4	Ranked #5	Ranked #6	Ranked #7
Sediment in Waterways	244	240	284	345	293	176	91
Bacteria in Waterways	713	353	243	155	119	56	50
Dumped Motor Oil	516	369	323	210	137	65	63
Leaves in Gutters	86	40	75	85	181	382	789
People Washing Cars	72	44	122	200	392	473	328
Too much fertilizers	297	386	350	350	210	72	56
Not enough Education on Stormwater	690	113	140	191	183	173	331

Appendix B – BMP 3.1 Outfall Information Table

Full database can be found on the City's Stormwater Page at: <https://salemva.gov/Departments/Community-Development/Stormwater-Information/Program-Information>

Appendix C - BMP 5.1 VSMP Approval Letter



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Molly Joseph Ward
Secretary of Natural Resources

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

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www.deq.virginia.gov

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

March 30, 2015

Charles E. Van Allman Jr., City Engineer
25 E. Main ST
Salem, VA

Dear Mr. Van Allman:

The Department of Environmental Quality (DEQ) staff has reviewed Salem's VSMP ordinance adopted in May of 2014. Based on this review of Salem's VSMP ordinance and the changes to the Virginia Stormwater Management Program Regulations and Virginia Stormwater Management Act, DEQ staff recommends 2 revisions outlined below in order for the City of Salem's VSMP ordinance to be consistent with the VSMP regulations and Act. These two comments were also reflected in the VSMP Local Ordinance Checklist completed by DEQ staff on April 17, 2014.

1. DEQ staff recommends that Salem amend the grandfathering language in Section 30-145 C to be consistent with the language in Section 9VAC25-870-48 as follows:

9VAC25-870-48. Grandfathering.

A. Any land-disturbing activity shall be considered grandfathered by the City and shall be subject to the Part II C technical criteria of this chapter provided:

1. A proffered or conditional zoning plan, zoning with a plan of development, preliminary or final subdivision plat, preliminary or final site plan, or any document determined by the locality to be equivalent thereto (i) was approved by the City prior to July 1, 2012, (ii) provided a layout as defined in 9VAC25-870-10, (iii) will comply with the Part II C technical criteria of this chapter, and (iv) has not been subsequently modified or amended in a manner resulting in an increase in the amount of phosphorus leaving each point of discharge, and such that there is no increase in the volume or rate of runoff;

2. A state permit has not been issued prior to July 1, 2014; and

3. Land disturbance did not commence prior to July 1, 2014.

B. City, state, and federal projects shall be considered grandfathered by the VSMP authority and shall be subject to the Part II C technical criteria of this chapter provided:

1. *There has been an obligation of City, state, or federal funding, in whole or in part, prior to July 1, 2012, or the department has approved a stormwater management plan prior to July 1, 2012.*
 2. *A state permit has not been issued prior to July 1, 2014; and*
 3. *Land disturbance did not commence prior to July 1, 2014.*
- C. Land disturbing activities grandfathered under subsections A and B of this section shall remain subject to the Part II C technical criteria of this chapter for one additional state permit cycle. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board.*
- D. In cases where governmental bonding or public debt financing has been issued for a project prior to July 1, 2012, such project shall be subject to the technical criteria of Part II C.*
- E. Nothing in this section shall preclude an operator from constructing to a more stringent standard at his discretion.*

2. To address Section 62.1-44.15:28.7 of the revised Stormwater Management Act, DEQ staff recommends that Salem amend Section 30-141 A to add a phrase as follows:

In section 30-141 A, line 3, after the word “developments,” add “including those developed under subsequent owners...” The new sentence would now read: Individual lots in new residential, commercial, or industrial developments, including those developed under subsequent owners, shall not be considered separate land-disturbing activities.

Please note that this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* If you have questions about these recommended amendments or wish to provide any additional information or to discuss this matter further, please feel free to contact Elizabeth Abe at Elizabeth.abe@deq.virginia.gov or myself, Joan Salvati at Joan.Salvati@deq.virginia.gov.

Sincerely,



Joan Salvati, Manager
Office of Local Government Programs

C: Elizabeth Abe, DEQ Blue Ridge Regional Office
Shawn Smith, DEQ Central Office

Appendix D – BMP 5.2 SWM Facility Tracking Database

Facility ID	Latitude	Longitude	Location Description	Type of Facility	Total Drainage (Acres)	Pervious Area (Acres)	Impervious Area (Acres)	Date Built (MM/YYYY)	HUC6	Receiving Water	2010 303(d)/305(b) Impairment(s)	Publicly or Privately Owned?	Inspection Schedule	Maintenace Agreement Exists?	Courthouse Instrument Number	Date of Last Inspection	# of Inspections Completed During Reporting Year	Notes & Necessary Maintenance Resulting from Inspection	Necessary Maintenance Schedule
1	37.296961	-80.0376054	East Main - Rod Shop	Detention	0.945	0.215	0.730	1995 -1996	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	6/8/2018			
2	37.302011	-80.0683853	Academy St. - Emerald Hills	Detention	8.490	3.390	5.100	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
3	37.306188	-80.0738661	Wildwood Rd - Wildwood Forest	Detention	6.240	3.750	2.490	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
4	37.297729	-80.0751291	West Carrollton - The Hill	Detention	22.830	10.300	12.530	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
5	37.272538	-80.0478364	Apperson Dr - city pond	Detention	12.100	9.650	2.450	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/22/2018	None		N/A
6	37.272305	-80.0483721	Yorkshire St - city pond	Detention	14.360	5.580	8.780	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/22/2018	None		N/A
7	37.268009	-80.0477736	Diamond Rd/Baier Dr - Homplance	Detention	115.660	37.160	78.500	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/8/2018			
8	37.263879	-80.0505037	Forest Dr - Orchard Heights/Hidden Valley Forest	Detention	10.330	3.630	6.700	06/1985	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/28/2018		Inlet pipe replacement, establish vegetation, add rip rap	ASAP (2018-2019 FY)
10	37.267926	-80.0184677	Apperson Dr - Varsity Storage	Detention	29.600	11.240	18.360	06/2006	RU14	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	8/30/2018			
11	37.273721	-80.0712496	Meadowrun Ct - Meadowrun/Olde Salem Estates	Detention	88.400	41.300	47.100	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/8/2018			
12	37.301723	-80.0478396	Poage Ln - city pond	Detention	19.670	6.450	13.220	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/22/2018	None		N/A
13	37.311581	-80.0561436	High St - Emerson Pond Estates- pond 1	Detention	8.700	3.170	5.530	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
14	37.307934	-80.0532709	North Ridge Cr - North Ridge	Detention	3.050	1.260	1.790	06/2006	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
15	37.310959	-80.0533658	Bird Ln - Covenant Comm Church	Detention	12.720	5.780	6.940	pre 1998	RU10	Mason Creek	Benthic, E. coli	Private	TBD	No	N/A	TBD			
16	37.306864	-80.0388349	North Woods Ct - North Mill	Detention	9.300	4.720	4.580	06/1994	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	DB 187 PG 796	6/6/2018			
17	37.308153	-80.0336543	North Mill Rd - Kesler Mill Place	Detention	20.200	8.250	11.950	06/1995	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	6/6/2018			
19	37.318379	-80.0323904	971 Russell Dr - Shelton Witt	Detention	7.710	2.510	5.200	1999 - 2000	RU10	Mason Creek	Benthic, E. coli	Private	TBD	No	N/A	6/28/2018	Easement		
20	37.31392	-80.0281556	901 Russell Dr - M & V Assoc	Detention	2.400	0.850	1.550	pre 1998	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	6/28/2018			
21	37.316479	-80.0299069	951 Russell Dr - SPH Corp	Detention	2.190	1.860	0.330	pre 1998	RU10	Mason Creek	Benthic, E. coli	Private	TBD	No	N/A	6/28/2018	Easement		
22	37.290495	-80.0233189	Salem Commons Ln - Salem Commons Apts	Detention	7.100	2.150	4.950	pre 1998	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	6/8/2018			
23	37.281745	-80.0373252	Roanoke Blvd/Turner St - Summerfield - u/g storage tank	Detention	5.730	1.880	3.850	06/2001	RU10	Mason Creek	Benthic, E. coli	Private	TBD	No	N/A	TBD			
24	37.293361	-80.029078	307 Electric Rd - Northern Hydraulics	Detention	10.700	3.600	7.100	pre 1998	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	6/8/2018			
25	37.279394	-80.0148	2383 Roanoke Blvd - DAV Store	Infiltration	1.300	0.420	0.880	pre 1998	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	6/8/2018			
26	37.277348	-80.020556	2000 Roanoke Blvd - @ Reavis Lane	Detention	4.090	0.880	3.210	1998 - 2002	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	6/8/2018			
27	37.267014	-80.0707944	Mowles Spring Park	Detention	80.000	76.000	4.000	06/1994	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/13/2018	None		N/A
28	37.28126	-80.0746429	Kings Arms Dr - Victoria Estates sump	Other	8.970	3.770	5.200	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	TBD	No	N/A	TBD			
29	37.283645	-80.0788256	1340 Southside Dr - Stripe-A-Lot site	Detention	2.300	0.870	1.430	1998 - 2002	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/8/2018			
30	37.285525	-80.0788628	1351 Southside Dr - Blue Ridge Imaging - pond 1	Detention	1.430	0.540	0.890	06/2002	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/8/2018			
31	37.285641	-80.0786231	1351 Southside Dr - Blue Ridge Imaging - pond 2	Detention	1.580	0.630	0.950	06/2002	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/8/2018			
32	37.28725	-80.0817063	Mill Race Dr - Commonwealth Builders	Detention	5.140	1.880	3.260	1998 - 2002	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/8/2018			
34	37.291018	-80.0878156	Turner Rd/1801 Epps Dr - Grape Vine Estates	Detention	4.700	1.610	3.090	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
35	37.29114	-80.0900467	Harrogate Dr / Murrell Ave - Harrogate	Detention	7.230	1.440	5.790	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	TBD	No	N/A	TBD			
36	37.28241	-80.1106095	Butt Hollow Rd - Cline Electric	Detention	1.130	0.280	0.850	06/2001	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
37	37.293427	-80.0863552	1600 Narcissus St - West Salem Baptist Church	Detention	9.040	3.640	5.400	06/1997	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	6/6/2018			
38	37.297806	-80.0811941	Salem High School / Brushy Mountain				1998 - 2002		RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/29/2017		Remove any large trees from embankment and seed/straw necessary areas on far side slope	2017-2018 reporting year
39	37.294418	-80.0917628	1887 Woodmere Ct - Woodmere	Detention	4.400	1.650	2.750	06/1995	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	TBD	No	N/A	TBD			
40	37.299119	-80.0707425	Highfield Rd - The Lawn	Detention	19.720	11.700	8.020	pre 1998	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	10/16/2015	None		
41	37.274704	-80.0804831	1445 Deacon St - Woodhill	Detention	5.930	1.650	4.280	06/1996	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	TBD	No	N/A	TBD			
42	37.28716	-80.0648243	425 West 4th St - Cuz's Auto Body	Detention	0.930	0.250	0.680												

Facility ID	Latitude	Longitude	Location Description	Type of Facility	Total Drainage (Acres)	Pervious Area (Acres)	Impervious Area (Acres)	Date Built (MM/YYYY)	HUC6	Receiving Water	2010 303(d)/305(b) Impairment(s)	Publicly or Privately Owned?	Inspection Schedule	Maintenance Agreement Exists?	Courthouse Instrument Number	Date of Last Inspection	# of Inspections Completed During Reporting Year	Notes & Necessary Maintenance Resulting from Inspection	Necessary Maintenance Schedule
83	37.300657	-80.0296996	Ross Street Townhomes	Detention	0.780	0.280	0.500	06/2010	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	# 080002555	9/4/2015			
84	37.279136	-80.0151564	2321 Roanoke Boulevard - Adult Day Care	Infiltration	2.200	0.600	1.600	06/2008	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	# 080002210	8/3/2015			
85	37.269718	-80.0351431	Cliff View Townhomes	Detention	4.300	0.740	3.560	06/2010	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 080001890	TBD			
86	37.294998	-80.0475429	801 E Main St - Salem Museum	Detention	0.460	0.240	0.220	06/2008	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 080001760	5/29/2015			
87	37.304965	-80.0637968	1001 Mt Vernon Ln - Hopetree Baptist Home	Detention	9.000	4.700	4.300	06/2010	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 080001638	5/20/2015			
88	37.284861	-80.0906412	2pm Frame/Rowe Furniture - Salem Industrial Drive (1950/19	Detention	1.230	0.580	0.650	06/2009	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 080001435	6/6/2016			
89	37.282498	-80.1078882	Keesling Court Townhomes	Detention	0.530	0.130	0.400	06/2010	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 080000820	4/15/2015			
90	37.287444	-80.0426786	Texas St - West Pond	Detention	39.400	26.300	13.100	pre 1998	RU10	Mason Creek	Benthic, E. coli	Public	Annually	No	N/A	6/22/2018		None	N/A
91	37.265426	-80.0643812	Heritage Downs Pond 2 (Front)	Detention	3.630	3.280	0.350	06/2014	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Pending	TBD	TBD			
92	37.26656	-80.0672192	Heritage Downs Pond 1 (Rear)	Detention	5.150	4.640	0.510	06/2014	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Pending	TBD	TBD			
93	37.291258	-80.0870856	Missile Baits - 170 Turner Road	Infiltration Basin	0.997	0.337	0.660	12/2015	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 150001106	TBD			
94	37.290156	-80.0845294	HomestayInn/Salon - 29 Poplar Ave	Infiltration Basin	0.620	0.450	0.170	06/2016	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	No	N/A	TBD			
95	37.319257	-80.0322795	997 Russell Dr - (Holiday Inn Express)	Detention	2.600	0.850	1.750	06/2008	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	# 080000506	12/11/2015			
96	37.274531	-80.055164	6 Front Avenue - Bethel Baptist Church	Infiltration	0.430	0.140	0.290	12/2016	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 150002010	TBD			
97	37.282956	-80.104136	2537 W Main St - Salem Specialties	Infiltration	1.166	0.848	0.318	06/2016	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 160000945	TBD			
98	37.290072	-80.036892	vd - Salem Montessori School - Sand Filter w/ pre-treatment	Other	1.080	0.390	0.690	08/2017	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	# 160000946	TBD			
99	37.309211	-80.038241	Village at North Mill - Pond 1	Detention	7.600	2.650	4.950	TBD	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	# 150002786	TBD			
100	37.31094	-80.0361462	Village at North Mill - Pond 2	Detention	6.400	2.250	4.150	TBD	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	Duplicate	TBD			
101	37.305433	-80.0469927	Craig Avenue Subdivision	Detention	4.490	4.060	0.430	05/2017	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	# 160000947	TBD			
102	37.29723	-80.0557054	Roanoke College Cregger Center - ConTech Storm Filter	Manufactured BMP	2.300	0.250	2.050	06/2017	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 180001794	TBD			
103	37.320714	-80.0332456	Fairfield Inn - Sand Filter w/ U.G. Detention	Other	2.420	0.930	1.490	12/2017	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Yes	# 180000108	TBD			
104	37.287829	-80.0421323	Mount Regis - U/G storage to control SWM release	Other	3.240	1.250	1.990	09/2017	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Pending	TBD	TBD			
105	37.309524	-80.0332822	Parkway Brewery - Permeable Pavement	Other	1.240	1.090	0.150	06/2015	RU10	Mason Creek	Benthic, E. coli	Private	Annually	Pending	TBD	TBD			
106	37.282072	-80.0222358	CLI - North Pond	Detention	5.020	0.520	4.500	06/2009	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	TBD			
107	37.278817	-80.021736	CLI - South Pond	Detention	17.270	15.750	1.520	06/2009	RU10	Mason Creek	Benthic, E. coli	Private	Annually	No	N/A	TBD			
108	37.269297	-80.0377578	419 Rotary Park	Bioretention	3.070	1.070	2.000	01/2018	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/22/2018		Cut down invasive species & trim back understory	Complete
109	37.266217	-80.021737	Aztec Rental: U/G Storage Tank/Rainwater Harvesting	Other	0.207	0.000	0.207	09/2017	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 170000800	TBD			
110	37.289156	-80.0632814	Chestnut Manor Parking Improvements	Detention	0.540	0.180	0.360	TBD	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 170001518	TBD			
111	37.266963	-80.0780994	Mowles Spring Park Upper Pond	Detention	15.700	15.000	0.700	TBD	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Public	Annually	No	N/A	6/29/2018		Under construction	Establish vegetation
112	37.27053	-80.0378129	Riverview Dr - Compost-Amended Filter Path (x3) Pizza Pas	Other	0.170	0.070	0.100	TBD	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 170001670	TBD			
113	37.285972	-80.0969098	West Main Auto Spa	Infiltration	0.421	0.337	0.084	04/2018	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 170001671	TBD			
114	37.283434	-80.0774638	1280 Southside Drive	Detention	0.370	0.290	0.800	TBD	RU09	Roanoke River	Benthic, E. coli, Temperature, PCBs	Private	Annually	Yes	# 180002125				
Total															110				14

* 407 E Calhoun St: Parcel is owned by the City of Salem but the Leasee/Developer is responsible for SWM BMP maintenance per agreement dated 10/01/2009

SWM BMPs that came online during current reporting year

SWM BMPs scheduled to come online in the future, most of these are still in the planning phase or under construction and are not yet used to treat stormwater