Action Plan for the Roanoke River PCB TMDL

City of Salem Virginia

A Plan to Address the City's Assigned Waste Load Allocation for the Roanoke River PCB TMDL

June 30, 2016 (Revised December 2016)

This document addresses Section 1, Part B, of the General Virginia Pollution Discharge Elimination System Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer System. This document serves as a City-specific Total Maximum Daily Load Action Plan to identify the best management practices and other interim milestone activities to be implemented to address the PCB waste load allocation assigned to the City's regulated MS4 area in the *"Roanoke River* PCB *TMDL Development (Virginia)"* approved by the State Water Control Board on December 9, 2010.

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EEE Consulting, Inc.

EXECUTIVE SUMMARY

The City of Salem (City) is authorized to discharge stormwater from its municipal separate storm sewer system (MS4) under the Virginia Pollutant Discharge Elimination System (VPDES) General Permit for Discharge of Stormwater from Small MS4s (MS4 General Permit). To maintain permit compliance, the City implements an MS4 Program Plan that includes best management practices (BMPs) to address six minimum control measures (MCMs) and special conditions for the Total Maximum Daily Loads (TMDLs) in which the City has been assigned a wasteload allocation (WLA). The Environmental Protection Agency (EPA) describes a TMDL as a "pollution diet" that identifies the maximum amount of a pollutant the waterway can receive and still meet water quality standards. A WLA determines the required reduction in pollutant of concern loadings from the MS4 to meet those standards. The MS4 General Permit serves as the regulatory mechanism for addressing the load reductions described in the TMDL, predominantly through the requirement of a TMDL Action Plan.

The purpose of this Action Plan is to address the WLA assigned to the City of Salem for the Roanoke River Polychlorinated Biphenyl (PCB) TMDL in accordance with the special conditions in the MS4 General Permit. The TMDL entitled the "*Roanoke River PCB TMDL Development (Virginia),*" approved by the State Water Control Board on December 9th, 2010, assigns a WLAs to the City of Salem's MS4 in the Upper Roanoke River study area for Mason Creek, Peters Creek, and the Roanoke River of 8.8 mg/yr, 0.2 mg/yr, and 42.3 mg/yr, respectively. These WLAs are equivalent to a 99.05% reduction from the existing conditions. The Action Plan addresses PCBs in accordance with the special conditions, demonstrating that the City uses an adaptive and iterative approach to reduce or eliminate the pollutant to the maximum extent practicable. Compliance to the special conditions is demonstrated within the Action Plan through:

- ✓ Implementation of the City MS4 Program BMPs and associated policies and procedures;
- ✓ BMPs integrated into the City MS4 Program Plan beyond those required by the permit;
- ✓ Enhancement of the City MS4 Public Education and Outreach Plan;
- ✓ An assessment of city-owned facilities;
- ✓ Implementation of Spill Prevention, Control, and Countermeasures (SPCC) Plans at the City of Salem Electric Department Pole Yard and Main Facility.
- ✓ A methodology to measure Action Plan effectiveness through MS4 annual reporting.

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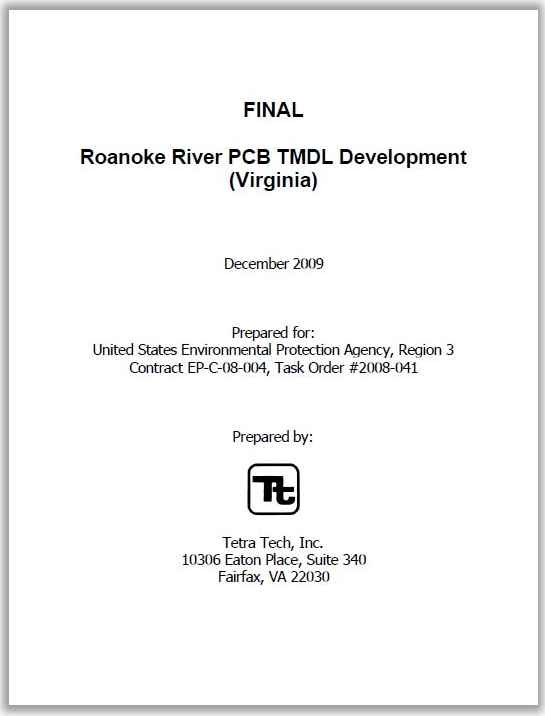
Acronyms

BMP	Best Management Practice
CUA	Census Urbanized Area
CWA	Clean Water Act
DEQ	Virginia Department of Environmental Quality
EPA	Environmental Protection Agency
IDDE	Illicit Discharge Detection and Elimination
LA	Load Allocation
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MOS	Margin of Safety
MS4	Municipal Separate Stormwater Sewer System
MS4 GP	General Permit for Discharge of Stormwater from Small MS4s
NPDES	National Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
SWM	Stormwater Management
TMDL	Total Maximum Daily Load
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program
WLA	Wasteload Allocation

1.0 INTRODUCTION AND PURPOSE



FINAL

Roanoke River PCB TMDL Development (Virginia)

December 2009

Prepared for:
United States Environmental Protection Agency, Region 3
Contract EP-C-08-004, Task Order #2008-041

Prepared by:

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Fairfax, VA 22030

Mandated by Congress under the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) storm water program includes the Municipal Separate Storm Sewer System (MS4), Construction, and Industrial General Permits. In Virginia, the NPDES Program is administered by the Virginia Department of Environmental Quality (DEQ) through the Virginia Stormwater Management Program (VSMP) and the Virginia Pollutant Discharge Elimination System (VPDES). The City of Salem (City) is authorized to discharge stormwater from its MS4 under the VPDES General Permit for Discharge of Stormwater from Small MS4s (MS4 General Permit). As part of the MS4 General Permit authorization, the City developed and implements an MS4 Program Plan with best management practices (BMPs) to address the six minimum control measures (MCMs) and the special conditions for applicable total maximum daily loads (TMDLs), as outlined in the MS4 General Permit. Implementation of these BMPs is consistent with the provisions of an iterative MS4 Program, which constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable," or MEP.

In 1998, the Virginia Department of Environmental Quality (DEQ) listed portions of the Roanoke River watershed on their biennial 303(d) Total Maximum Daily Load (TMDL) Priority List and Report due to violations of the state's water quality standard for PCBs. PCBs are a group of synthetic chemicals consisting of 209 different compounds and are known to be carcinogenic in humans. The particularly stable structure of the compounds allows them to accumulate in the fatty tissue of fish and other animals, causing bioaccumulation in the food chain and a threat to human health. As a consequence, the PCB TMDLs for the Roanoke River were developed and approved by the State Water Control Board (SWCB).

The TMDL assigned a waste load allocation (WLA) to the City of Salem's MS4 in the Upper Roanoke River study area by subwatershed. The City was assigned WLAs of 8.8 mg/yr for Mason Creek, 0.2 mg/yr. for Peters Creek, and 42.3 mg/yr. for the Roanoke River. These WLAs represent a 99.05% reduction from the existing loads. The WLA represents the allowable PCB load from the City's MS4s to prevent instances of exceedance of PCB discharge water quality standards. The expectation from the Commonwealth for the City is to address the WLA through iterative implementation of programmatic BMPs. The City's programmatic BMPs applicable to the

pollutant of concern are described herein and only failing to implement the BMPs would be considered a violation of the MS4 General Permit.

1.1 Total Maximum Daily Loads

A TMDL is the total maximum daily load, or the amount of pollutant a water body can assimilate and still meet water quality standards for its designated use. Typically, TMDLs are represented numerically in three main components:

- Wasteload Allocations (WLA) for point source contributions and MS4 Permit operators
- Load Allocations (LA) for non-point source contributions and natural background sources
- Margin of Safety (MOS)

Point source pollution is any single identifiable source from which pollutants are discharged. If point source discharges, including a permitted MS4, are present in the TMDL watershed, then any allocations assigned to that permittee must be in the form of a WLA. The City's MS4 outfalls are defined as point source discharges and therefore fall under this category in the TMDL. Pollution that is not from an identifiable source, such as a pipe or a ditch, but rather originates from multiple sources over a relatively large area, are considered to be non-point source pollution. These sources are typically categorized as contaminated sites, where analysis of on-site soil samples found measurable concentrations of PCBs, and where Load Allocations (LAs) are assigned for each. The Margin of Safety (MOS) is a required component that accounts for the modeling uncertainty in the response of the waterbody to loading reductions and in this TMDL is included both implicitly in conservative estimates and also explicitly, specified at 5% of the total TMDL. The TMDL is expressed in the following equation:

$$TMDL = \sum WLA + \sum LA + MOS$$

The TMDL represents the sum of calculable sources plus a margin of safety that is required to not exceed the state water quality standard. Water quality targets for PCBs are derived from bioaccumulation factors and the Virginia DEQ fish tissue criterion for total PCBs, which are developed to be protective of fish for human consumption. The human health criterion that applies to waterbodies used for public water supply is also covered under this approach, though it is less stringent.

1.2 MS4 General Permit TMDL Special Conditions

The City operates a regulated MS4 that lies within the Roanoke River PCB TMDL watershed and is therefore subject to the WLAs assigned in the TMDL. The special conditions for the TMDL listed in the MS4 General Permit require the City to develop a TMDL Action Plan that identifies the BMPs and other interim milestone activities to be implemented during the remaining terms of

the MS4 General Permit. The special conditions and addressed in this Action Plan are as described in Table 1.

Table 1. Summary of Special Conditions to address the City's PCB WLA.

Action Plan	Special Condition	MS4 Permit
Section 3.0	*Assess all significant sources of pollutant(s) from facilities of concern owned and operated by the MS4 operator that are not covered under a separate VPDES permit and identify all municipal facilities that may be a significant source of the identified pollutant.*	**Section 1.B.2.d**
Section 4.1	*Develop and maintain a list of its legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements applicable to reducing the pollutant identified in each applicable WLA.*	**Section 1.B.2.a**
Section 4.2	*Identify and maintain an updated list of all additional management practices, control techniques and system design and engineering methods, beyond those identified in Section II V, that have been implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA.*	**Section 1.B.2.b**
Section 4.3	*Enhance public education and outreach and employee training programs to also promote methods to eliminate and reduce discharges of the pollutants identified in the WLA.*	**Section 1.B.2.c**
Section 5.0 & Appendix B	*Develop and implement a method to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs.*	**Section 1.B.2.e**

1.3 Salem's PCB Action Plan

The purpose of Salem's Action Plan for the Roanoke River PCB TMDL is to address each of the MS4 General Permit special conditions listed in Section 1.2. As an adaptive and iterative approach to meet surface water quality goals, the Action Plan may be revised from time to time to reduce PCB discharges from the City's MS4 to the maximum extent practicable (MEP). The Action Plan is incorporated, by reference, into Salem's MS4 Program Plan, which outlines the BMPs that address the entirety of the conditions set forth in the MS4 General Permit.

2.0 THE ROANOKE RIVER PCB TMDL

The TMDL study area includes most of the upper and lower sections of the Roanoke River as it passes through southwest and southern Virginia toward North Carolina, comprising approximately 2,379 square miles. The upper section begins at the river headwaters in the Blue Ridge Mountains downstream to Niagara Dam, which is approximately 1.5 miles east of the City of Roanoke. The lower section begins at the Leesville Dam downstream to the confluence with the Dan River. The Roanoke River as it flows into Smith Mountain Lake, along with the lake's tributaries, are excluded from the PCB TMDL study area. Figure 1 depicts the study areas, as indicated in the TMDL. There are two impaired sections of the Roanoke River which flow through the City of Salem—near Dixie Caverns to Mason Creek and Masons Creek to Back Creek.

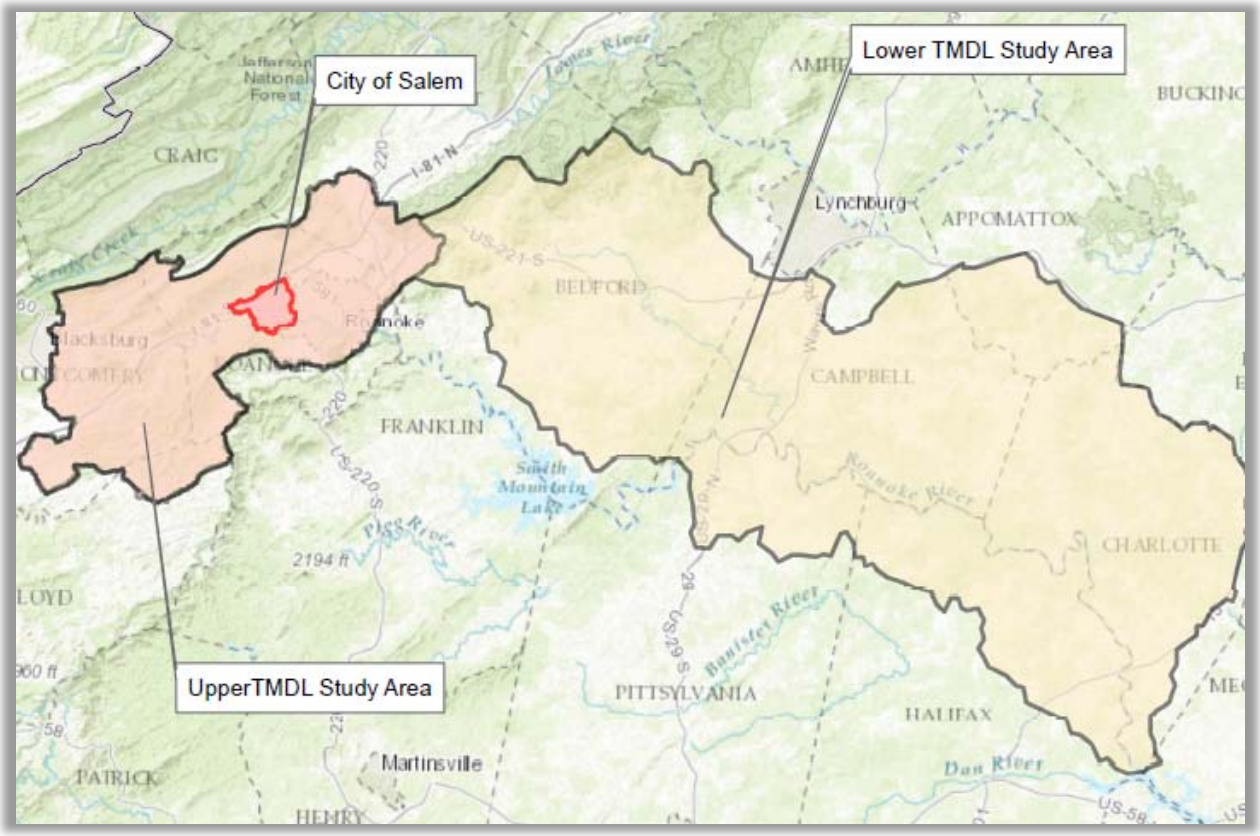


Figure A. Map of the Upper and Lower Sections of the Roanoke River TMDL Watershed

The PCB impairment is due to violations to water quality standards as it relates to safe human consumption of fish. This particular pollutant is typically found in lake, stream, and river sediments in watersheds that have been contaminated or were contaminated prior to the ban on manufacture and use of PBCs in 1979. Due to significant resistance to breakdown, PCBs remain associated with sediment for many years, and sites and facilities that are no longer directly associated with PCB handling may still be discharging the pollutant due to historical contamination.

2.1 Wasteload Allocation

The "*Roanoke River PCB TMDL Development (Virginia)*" assigns a WLA for PCBs to existing point sources, including permitted MS4s. The TMDL was established based on scenarios where no violations of water quality standard would occur. This includes reductions from point source and non-point source contributors, including MS4s, and range from 5% reduction for atmospheric loadings to 100% reduction for known contaminated sites. The City of Salem's MS4, as a point source, is assigned a WLA in the Upper Roanoke River study area broken down by subwatershed drainage area, as summarized in Table 2.

Table 2. WLA for discharges from City of Salem's MS4 in the Upper Roanoke River study area.

Watershed	Baseline Discharge (mg/yr)	Wasteload Allocation (mg/yr)	Percent Reduction
Mason Creek	923.7	8.8	99.05%
Peters Creek	18.6	0.2	99.05%
Roanoke River	4,451.6	42.3	99.05%

2.2 Characterization of PCB Sources in the TMDL

Potential sources of PCBs from MS4s are classified in the TMDL as either current or legacy. Current sources have a pathway to a waterbody that is defined and that is also able to be controlled or disrupted. Legacy sources are often not as easily defined, as they exist at the interface with a waterbody where there is a continuous exchange of material. Legacy sources cannot be easily controlled due to having no disruptable pathway; they must be removed at the source. Examples of each are as follows:

Current Source Examples

- Contaminated Soils – Upland facilities and lands that are or were historically associated with PCB handling may contain contaminated soil. If not properly protected or removed, soil that comes in contact with stormwater can be washed into waterbodies.
- Leachate – Landfill sites and industrial disposal areas containing PCBs, if not properly capped or lined, may release contaminated water that has infiltrated. This leachate then becomes associated with the surrounding soil and may be washed into a waterbody.
- Transformers and Storage Containers – Many electrical transformers manufactured prior to 1979 used PCBs as fire-retardant ballast. Fluorescent light fixtures installed in buildings prior to 1979 may also contain PCB ballast. These materials, and any containers used to store them, are potential sources.
- Effluent Discharge – Liquids containing PCBs may be released into the storm drain or sanitary sewer.

- Off-gassing Deposition – Contaminated sites where PCBs are exposed to the air may produce off-gassing of PCB molecules. These can then be carried in the atmosphere and redeposited locally.

Legacy Source Examples

- In-stream Sediments – PCBs washed into streams can become associated with streambed sediment and be rereleased when shear stress is excessive, such as during a heavy storm event.
- Streambank soils – Contaminated soils within a streambank may become eroded during storm events, releasing PCBs into the downstream flow.
- Biota – Animals exposed to PCBs may accumulate them in their fatty tissue, where they may remain for its lifetime. Some plants may also accumulate PCBs through their roots or via atmospheric deposition.
- Atmospheric Deposition – Background concentrations in the atmosphere may be deposited directly to waterbodies.

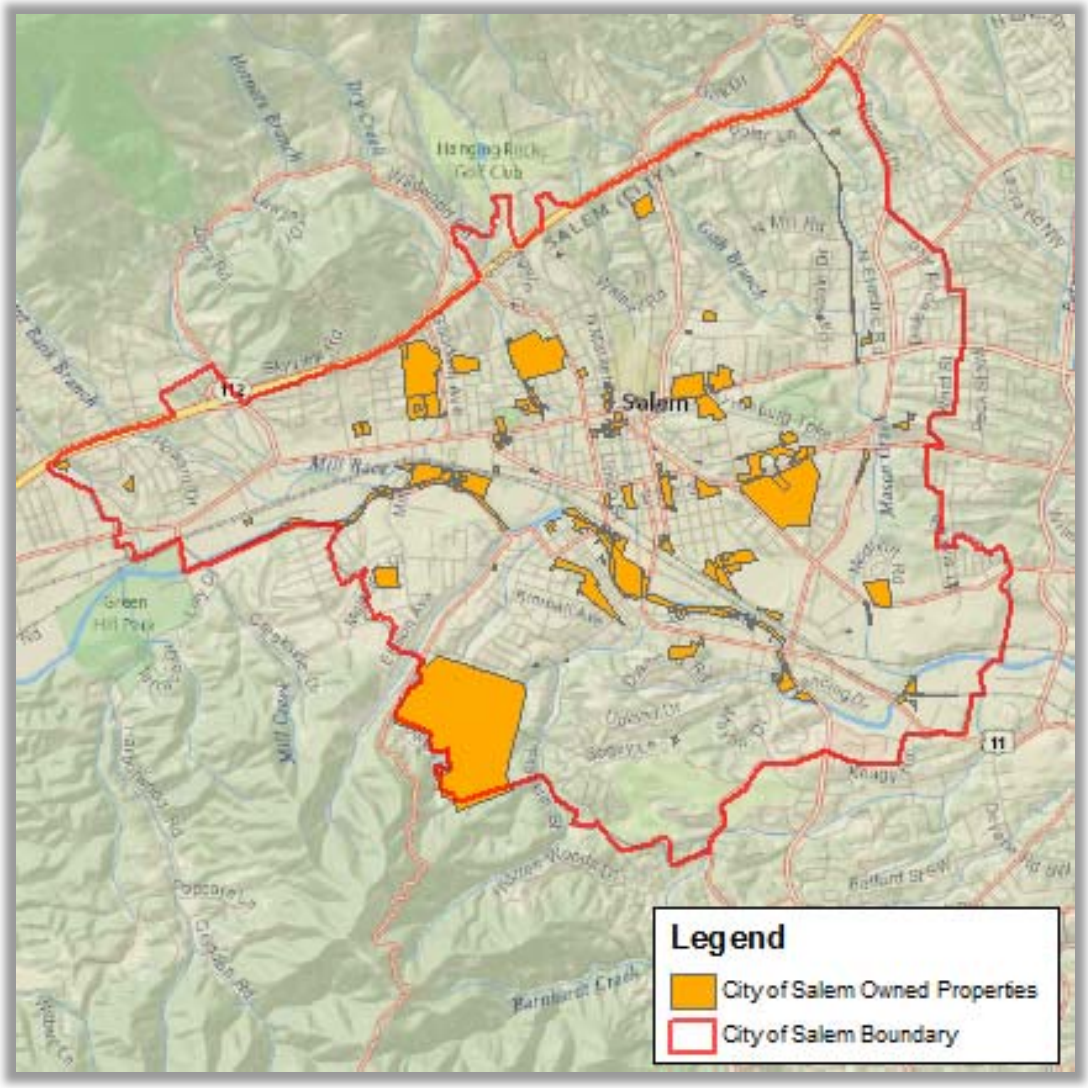
For the WLA calculation in the TMDL, those areas known to be contaminated within the spatial context of the MS4, and that are not otherwise regulated under a specific stormwater permit, are considered a component of the associated MS4. Sites with known contamination that were studied in the TMDL are spread throughout the study area, though none are located within the City of Salem.

3.0 POTENTIAL PCB SOURCE CHARACTERIZATION IN THE CITY OF SALEM

Consistent with the special conditions of the MS4 General Permit, properties owned and operated by the City of Salem were assessed to determine their potential for presence of sources of PCBs to the City's MS4 or directly into surface waters. Potential sources include facilities and buildings that were constructed prior to the PCB ban in 1979, those associated with the municipal waste stream, those potentially producing PCB pollution due to former site uses, or those storing any PCB related materials.

An assessment of City-owned facilities begins with an overall identification of all properties as depicted in Figure B.

Figure B. City-owned properties.



The next level of assessment was conducted as illustrated in Figure C and included for each property shown in Figure B. Additionally, the US EPA's PCB Transformer Registration Database was searched to determine if any City-owned facilities or properties are registered sites, which would indicate the presence of any PCB-containing transformers. No City-owned facilities are listed in the database.

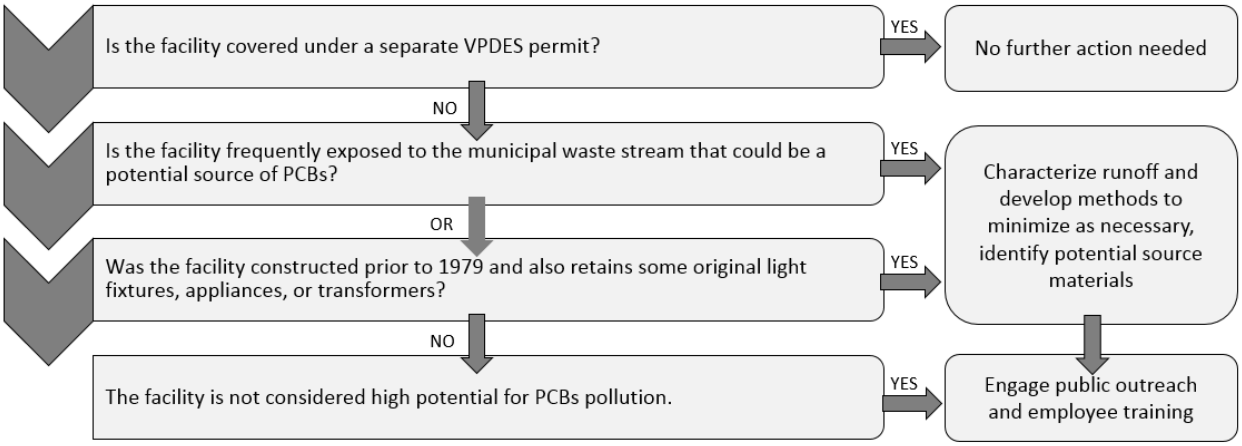


Figure C. City-owned properties assessment process

The assessment addresses the following MS4 General Permit special condition:

- ✓ *Assess all significant sources of pollutant(s) from facilities of concern owned and operated by the MS4 operator that are not covered under a separate VPDES permit and identify all municipal facilities that may be a significant source of the identified pollutant.* [Section I(B)(2)(b)]

The following properties were identified as <u>potential</u> sources of PCBs:

- **Municipal Buildings** – City owned buildings and facilities that were constructed prior to 1979 may still utilize electrical equipment and appliances that contain PCBs. Fluorescent light fixture ballasts and transformers are common features in buildings from this era. If not identified and properly disposed of, these sources can potentially cause exposure during maintenance, replacement, or an accident.
- **City of Salem Electric Department** – The City owns and operates its own electricity distribution system. The Electric Department was established in 1892, well prior to the 1979 ban. Spill Prevention, Control, and Countermeasures (SPCC) Plans for Electric Department properties were updated in 2013, including eight substations, the main facility at 730 West Main Street, and the Pole Yard Storage Facility. SPCC Plan updates included specific actions for containing any potential future leaks of stored transformers, regardless of their containing PCB materials. Each of these SPCC plans are incorporated by reference into this TMDL Action Plan.

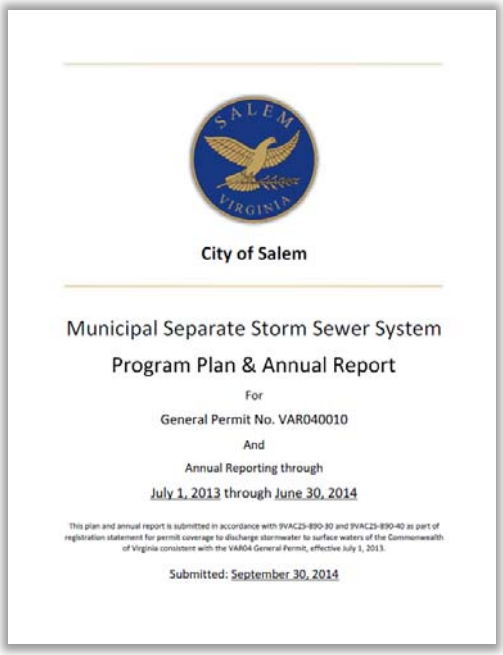
4.0 BEST MANAGEMENT PRACTICES TO ADDRESS PCBS

Salem's MS4 Permit covers stormwater discharges from areas included within the census urbanized areas (CUA). The City's collective efforts, as described in the Salem MS4 Program Plan, result in significant reduction of pollutants that may be discharged from its regulated MS4. BMPs already included in the Salem Program Plan that address PCBs are described in the following subsections. Each subsection is provided to address the referenced special condition in the MS4 General Permit.

4.1 Current Program and Existing Legal Authority

Salem's current MS4 Program provides appropriate policies and procedures to implement a compliant program aligned with the goals and requirements of the Roanoke River PCB TMDL. The following summary of the Salem MS4 Program Plan MCMs list laws, programs, and other regulatory mechanisms relied upon by Salem that are applicable to reducing PCBs. A summary addresses the following special condition:

- ✓ *"Develop and maintain a list of its legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements applicable to reducing the pollutant identified in each applicable WLA."* [Section I(B)(2)(a)]


City of Salem

Municipal Separate Storm Sewer System
Program Plan & Annual Report
For
General Permit No. VAR040010
And
Annual Reporting through
July 1, 2013 through June 30, 2014

This plan and annual report is submitted in accordance with 9VAC25-890-30 and 9VAC25-890-40 as part of registration statement for permit coverage to discharge stormwater to surface waters of the Commonwealth of Virginia consistent with the VAR04 General Permit, effective July 1, 2013.

Submitted: September 30, 2014

- *Minimum Control Measure 1 (Public Education and Outreach)* – Salem's MS4 Program includes, by reference, a Public Education and Outreach Program (PEOP) that incorporates educational information about TMDL pollutants of concern. The PEOP includes, as Water Quality Issue #3, an increase in stormwater pollution prevention training that focuses on day-to-day operations at city-owned properties.

- *Minimum Control Measure 2 (Public Participation)* – The City will post this Action Plan on their stormwater pollution prevention webpage at the Salem Stormwater Web Page. Availability of the Action Plan will increase awareness of the TMDL with web page visitors.

- *Minimum Control Measure 3 (Illicit Discharge Detection and Elimination)* – Salem's MS4 Program includes an Illicit Discharge Detection and Elimination (IDDE) Program with written procedures to detect, identify, and address non-stormwater discharges, including illegal

dumping, to the small MS4, along with policies and procedures for when and how to use legal authorities. Salem prohibits non-stormwater discharges into the storm sewer system through language provided within an Illicit Discharge Ordinance. The IDDE Program includes a proactive approach to reduce illicit discharges with annual outfall screening to seek out and remove non-stormwater discharges into the MS4. IDDE BMPs are described in the MCM 3 BMPs of the City's MS4 Program Plan.

In addition to the IDDE Ordinance described in above, the following City Code sections also serve as mechanisms to reduce the potential for PCBs discharge to the MS4:

1. "*Removal of trash, garbage, etc.,*" as described in the City Code, Article 1, Section 30-4. A violation is a class 4 misdemeanor. Proper disposal of waste can prevent exposure to precipitation and subsequent runoff to the storm sewer.
2. "*Allowing noxious, etc., matter or nuisance to be placed, etc., in or upon house, lot, etc.,*" as described in the City Code, Article 1, Section 30-5. The prohibition of noxious, unwholesome or offensive matter can prevent potential of materials stored outdoors on property.

- *Minimum Control Measure 4 (Construction)* – Salem's Construction Program includes mechanisms to ensure compliance and enforcement on regulated construction sites that are enforced through the SWM and Erosion and Sediment Control Ordinances that are consistent with the Virginia Erosion and Sediment Control and SWM Laws and Regulations and includes:
    1. Required plan approval prior to commencement of a regulated land disturbance activity;
    2. Construction site inspections and enforcement; and
    3. Certification of post-construction SWM facilities

  Through inspections and enforcement, especially in regards to stormwater pollution prevention plan (SWPPP) inspections, potential for PCB discharges is minimized. Minimum Control Measure 4 BMPs in the Salem MS4 Program Plan describe construction site runoff control BMPs.

- *Minimum Control Measure 6 (Good Housekeeping)* – Salem's MS4 Program includes a Pollution Prevention/Good Housekeeping Program that includes policies and procedures to ensure that day-to-day operations minimize the exposure of pollutants to rainfall on City-owned and operated properties to the maximum extent practicable. The Program is supported with Salem's Pollution Prevention & Good Housekeeping Manual and annual training for applicable staff. Minimum Control Measure 6 BMPs in the City's MS4 Program Plan describe pollution prevention and good housekeeping BMPs.

No new policies and procedures or modifications to existing policies and procedures were identified as necessary to meet the requirements of the special conditions.

4.2 Practices and Controls Beyond the Minimum Control Measures

The City has existing prohibitions and increased training aimed to improve the water quality of the local waterways. Additional practices beyond the MCMs to address each of the sources described in the TMDL scenario listed in Section 2 are addressed with practices and controls in as described in the following sub-sections. The inclusion of these practices and controls addresses the following special condition:

- ✓ *"Identify and maintain an updated list of all additional management practices, control techniques and system design and engineering methods, beyond those identified in Section II V, that have been implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA."* [Section I(B)(2)(d)]

4.2.1 Source Controls at City-owned and Operated Properties

One source of potential PCB pollution at City owned facilities is electrical equipment and appliances that may have been installed in buildings prior to 1979. The City will review the condition of such facilities and the need for maintaining or replacing any appliances that may contain PCBs.

Another potential source of PCBs is the City's Electric Department managed properties. Spill Prevention, Control, and Countermeasures (SPCC) Plans for Electric Department properties were updated in 2013, including eight substations, the Main Facility at 730 West Main Street, and the Pole Yard Storage Facility (see Appendix A). SPCC Plan updates included specific procedures for containing any potential future leaks of stored transformers, regardless of their containing PCB materials. Training for personnel and periodic inspections are also required by the plans. The SPCC Plans will continue to be implemented and are incorporated by reference into this Action Plan and available on the City's Stormwater Resource Documents webpage.

The City will conduct a PCB-specific evaluation for PCB sources of the City Electric Department, the Pole Yard Storage Facility and the eight substations as a component of SPCC reviews. As appropriate, the inspection will utilize the EPA PCB Inspection Manual which was developed to guide inspectors in conducting inspections to ensure compliance with regulations promulgated under section 6(e) of the Toxic Substances Control Act (TSCA) pertaining to PCBs. If PCBs are found, the City will incorporate a PCB contingency plan within the site's SPCC Plans which may include:

1. Inventorying equipment that may contain PCBs;
2. Replacing equipment;
3. Disposing of equipment;

4. Training staff in recognizing equipment that may contain PCBs; and
5. Proper disposal

SPCC plans will be updated in accordance with applicable regulation which include a complete review and evaluation of the SPCC Plan at least once every five years. SPCC Plans must also be amended whenever there is a change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for discharging oil.

4.3 Enhanced Public Education and Outreach Plan

Salem's MS4 Program includes, by reference, a Public Education and Outreach Plan (PEOP) that incorporates educational information for identified water quality issues. The City will incorporate a new water quality issue into the PEOP specific to PCBs. Educational material will consist of a brochure that will be distributed as part of informational packets provided to individuals applying for building/demolition permits. Per the schedule in Appendix B, the brochure will be developed in the 2016-2017 reporting year to begin distribution no later than November 2017.

Per BMP 6.3a of the City's MS4 Program Plan, City staff is provided good housekeeping/pollution prevention training utilizing the City's Good Housekeeping/Pollution Prevention Standard Operating Procedures (SOPs) as training material. SOPs include information regarding applicable TMDL pollutants of concern and will be amended per the schedule in Appendix B of this Action Plan to include SOPs specific to PCBs. The inclusion of information regarding PCB sources in stormwater runoff into the PEOP and staff training materials addresses the following permit special condition:

- ✓ *"General Permit SEC I.B.2.c: Enhance [its] public education and outreach and employee training programs to also promote methods to eliminate and reduce discharges of the pollutants identified in the WLA.*

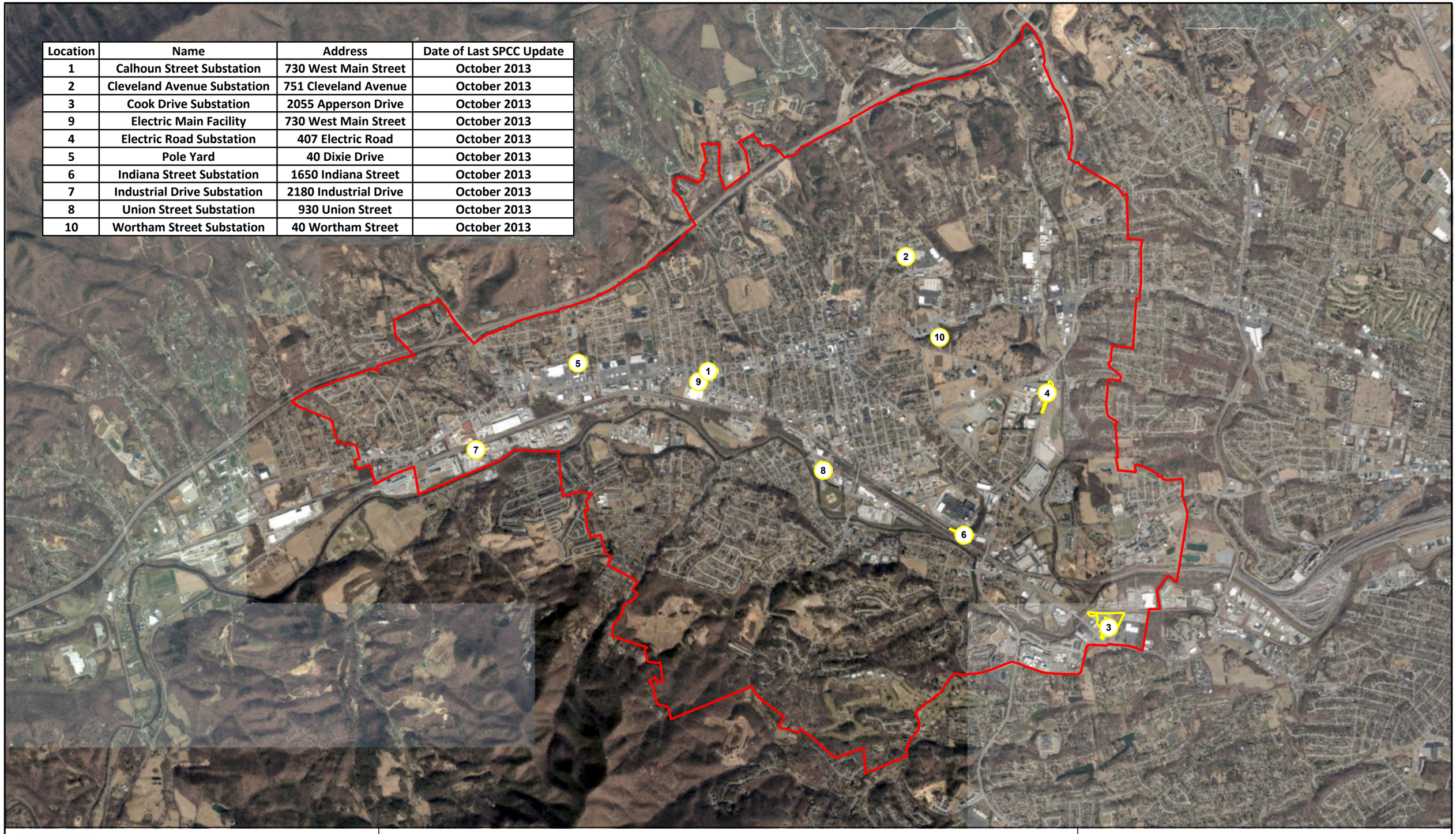
5.0 IMPLEMENTATION TO THE MEP

Salem will implement the MS4 Program components described in Section 4 to reduce the potential of PCB discharge to surface waters to the MEP. The method of assessment is implemented through the annual reporting process with the review of the measures of effectiveness of each MS4 Program Plan BMP and those listed in Appendix B. Annual reporting therefore addresses the following special condition:

- ✓ *"Develop and implement a method to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs."* [Section I(B)(2)(e)]

Appendix A

Location	Name	Address	Date of Last SPCC Update
1	Calhoun Street Substation	730 West Main Street	October 2013
2	Cleveland Avenue Substation	751 Cleveland Avenue	October 2013
3	Cook Drive Substation	2055 Apperson Drive	October 2013
9	Electric Main Facility	730 West Main Street	October 2013
4	Electric Road Substation	407 Electric Road	October 2013
5	Pole Yard	40 Dixie Drive	October 2013
6	Indiana Street Substation	1650 Indiana Street	October 2013
7	Industrial Drive Substation	2180 Industrial Drive	October 2013
8	Union Street Substation	930 Union Street	October 2013
10	Wortham Street Substation	40 Wortham Street	October 2013



3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Prepared by JJL, 12-16-2016
Sources: 2013 VBMP Aerial Imagery, City of Salem GIS
Projection: NAD 1983 StatePlane Virginia South FIPS 4502 Feet

N

City of Salem Limits

SPCC Sites

CITY OF SALEM
SPCC PLAN LOCATIONS

0 0.5 1
Miles

City of Salem, Virginia

Appendix B

Appendix B: The City of Salem PCB TMDL Action Plan BMP Implementation Summary

BMP I.D.	BMP General Description *(Action Plan Section Reference)*	Measurable Goals (milestones)	Measure(s) to Assess Effectiveness	Implementation Schedule
PCB BMP-1	Continued enforcement of applicable City Code sections. ***(Section 4.1)***	When applicable, enforcement of City Codes regarding illicit discharges, disposal and storage of PCB sources.	When applicable, documentation of activity conducted to enforce the City Codes, including documentation of enforcement and outcomes.	Ongoing
PCB BMP-2	Identify City-owned buildings where electrical equipment and appliances were installed prior to 1979 and evaluate for potential sources of PCBs. ***(Section 4.2.1)***	(1) Compiled list of applicable buildings/sites. (2) Evaluation of buildings/site based on interviews with building maintenance staff and field inspection, where deemed necessary based on interviews.	(1) Completed list of applicable buildings/sites. (2) Completed and documented evaluations using methods described in Section 4.2.1.	Prior to June 30, 2017 - (Reported with 2017 Annual Report)
PCB BMP-3	Develop a maintenance, mitigation and/or disposal plan for use where sources are identified from PCB BMP-2. ***(Section 4.2.1)***	Development of the maintenance, mitigation and/or disposal plan, as applicable.	(1) Completion of the developed plan. (2) Percentage of distribution of plans to staff responsible for applicable buildings/sites.	Prior to June 30, 2018 - (Reported with 2018 Annual Report)
PCB BMP-4	Continued Implementation and required reviews of the Electrical Department SPCC Plans. ***(Section 4.2.1)***	(1) Implementation of SPCC Plans. (2) Review and evaluation of SPCC plans, as required per the Plan.	(1) As applicable, completed documentation as described in the SPCC Plans. (2) Completed 5-year Plan review and evaluations.	Ongoing (Review/evaluation by June 30, 2018)
PCB BMP-5	Evaluate the described Electric Department properties for PCB sources and incorporate contingencies into SPCC Plans, as applicable. ***(Section 4.2.1)***	(1) Site evaluations to determine sources of PCBs. (2) Where applicable, incorporation of contingency plans in SPCC Plans.	(1) Documentation of site evaluations. (2) Updated SPCC Plans that include PCB contingencies applicable to the site.	Evaluations by June 20, 2018; Incorporation of contingency Plans by June 30, 2018
PCB BMP-6	Provide written procedures for screening and management of transformers and other equipment for PCBs that pass through the electric department. Procedures will be incorporated into SPCC Plan updates. ***(Section 4.2.1)***	(1) Development of written procedures that include documentation procedures forms. (2) Incorporate into SPCC Plans.	Documentation of implementation of the procedures, as applicable.	Prior to June 30, 2017 - (Reported with 2017 Annual Report)
PCB BMP-7	Provide a link to SPCC Plans on the City's Stormwater webpage. ***(Section 4.2.1)***	Live weblink on the City's Stormwater Webpage.	Maintaining the latest version of the SPCC Plans at the weblink within one MS4 reporting year.	Live link by February 24, 2017
PCB BMP-8	Update City Good Housekeeping/Pollution Prevention SOPs Manual to incorporate applicable PCB-specific SOPs ***(Section 4.3)***	Incorporation of PCB-specific SOPs into the Good Housekeeping/Pollution Prevention SOPs Manual.	Incorporation of the updated Manual into training and posting of the revised version on the City's website.	Prior to June 30, 2017 - (Reported with 2017 Annual Report)
PCB BMP-9	Incorporate PCB-specific information from the SOPs update from PCB BMP-8 into annual staff training. ***(Section 4.3)***	(1) Same as PCB BMP-8. (2) Incorporation into training presentation material, typically a PowerPoint or Handout.	Same as PCB BMP-8. (Note that all City staff potentially conducting daily activities that could impact stormwater runoff as part of their City duties attend training)	Prior to 2018 annual training, for incorporation into the training.
PCB BMP-10	Incorporate PCB water quality issue into the City's Public Education & Outreach Plan. ***(Section 4.3)***	(1) Update the City's Public Education and Outreach Plan. (2) Develop educational material.	Development of outreach materials.	Prior to June 30, 2017.
PCB BMP-11	Distribution of PCB water quality issue outreach material. ***(Section 4.3)***	(1) Production of outreach material. (2) Coordination with appropriate staff for inclusion into distribution packets.	Tracking of number of outreach material units distributed per building/demolition permits obtained.	Prior to November 2017.