IDENTIFICATION OF MS4 HIGH-PRIORITY FACILITIES

City of Salem
Virginia

September 2016

EEE Consulting, Inc.

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1.0 INTRODUCTION

The VAR04 General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s) requires the City of Salem to include BMPs to address the requirements of six minimum control measures (MCMs) described in Section II 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

The permit also includes special conditions for TMDLs. The purpose of the efforts described in this report is to address Sections II.B.6.b.1 and b.2 of the VAR04 that require identification of Salem's high priority facilities that have high potential of discharging pollutants. This requirement is part of MCM 6 and ultimately is intended to determine locations where a Stormwater Pollution Prevention Plan (SWPPP) will be required for minimizing the discharge of pollutants from stormwater runoff. Tables 3 and 4 in this report, along with the methods and actions described herein, satisfy compliance to Section II.B.6.b.1 and b.2 of the VAR04.

2.0 OBJECTIVE

The overall objective of the efforts described in this report is to address Sections II.B.6.b.1 and b.2 of the VAR04, which requires the City to achieve the following:

- ✓ Identify all high-priority facilities. These high-priority facilities shall include: (i) composting facilities, (ii) equipment storage and maintenance facilities, (iii) materials storage yards, (iv) pesticide storage facilities, (v) public works yards, (vi) recycling facilities, (vii) salt storage facilities, (viii) solid waste handling and transfer facilities, and (ix) vehicle storage and maintenance yards.

- ✓ Identify which of the municipal high-priority facilities have a high potential of discharging pollutants.
- ✓ Develop a list of high priority sites that will require a SWPPP per Section II.B.6.b.3 of the VAR04 General Permit.

3.0 METHODS

The City owns and operates numerous discrete properties. In order to address Sections II.B.6.b.1 and b.2 of the VAR04, the City identified all facilities that could potentially be considered high priority per the VAR04 utilizing the identification process depicted in Figure 1 below. The following sub-sections describe the methodology and efforts applied throughout the identification process.

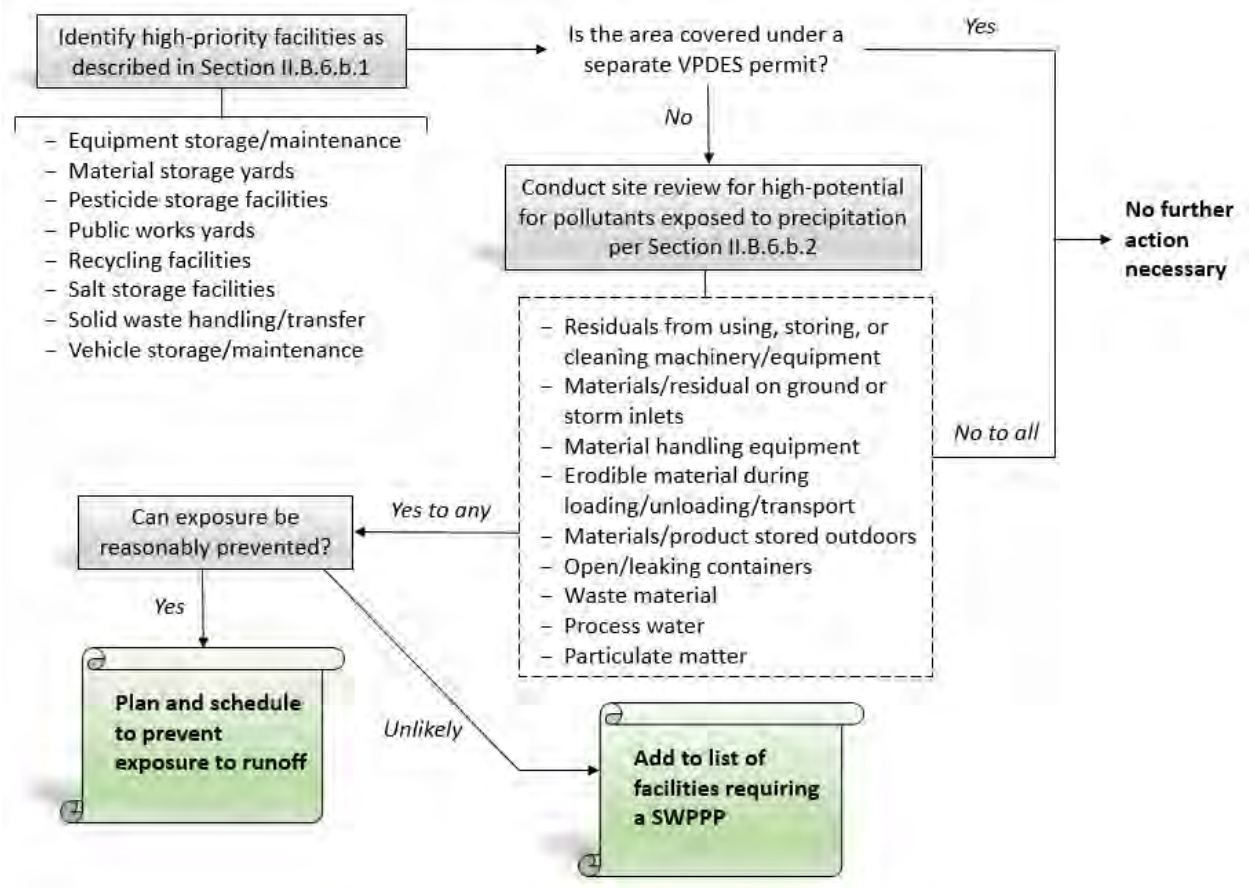


Figure 1: Process diagram to address Section 1.B.6.b.1 and b.2 of the VAR04.

3.1 Identification of High Priority Facilities

Initial efforts included a query of the City of Salem GIS Real Estate Application to identify all properties owned by the City (see Appendix A). The query resulted in the identification of 192 individual parcels; however, it is noted some sites included multiple parcels. A desktop assessment using aerial photography was performed to determine if there was evidence or potential for any of the activities identified in Section II.B.6.b.1 of the VAR04 to potentially occur at each site. The desktop assessment identified 6 properties in which activities identified in Section II.B.6.b.1 could potentially occur. Each of the 6 properties identified as potentially "high priority" is depicted in Appendix B.

3.2 Site Review and Characterization to Evaluate High Pollution Potential

Site inspections were conducted for each of the high priority locations identified in Appendix B. The purpose of the site inspections was to address Section II.B.6.b.2 of the VAR04 that requires the permittee to identify which of the "high-priority" facilities have a "high potential" of discharging pollutants. Per Section II.B.6.b.2, an area would be considered to have a high potential of discharging pollutants if the following occur or exist on-site and are expected to have exposure to stormwater resulting from rain, snow, snowmelt or runoff:

a. Areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater;
b. Materials or residuals on the ground or in stormwater inlets from spills or leaks;
c. Material handling equipment (except adequately maintained vehicles);
d. Materials or products that would be expected to be mobilized in stormwater runoff during loading/unloading or transporting activities (e.g., rock, salt, fill dirt);
e. Materials or products stored outdoors (except final products intended for outside use where exposure to stormwater does not result in the discharge of pollutants);
f. 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;
g. Waste material except waste in covered, non-leaking containers (e.g., dumpsters);

h. Application or disposal of process wastewater (unless otherwise permitted); or

i. 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. Collect samples from a representative outfall for each identified property.

Characterization of each of the 6 potentially high priority areas was developed based on the field inspections in reference to the materials and activities listed above. Each location was first assigned a "high priority" area classification, or multiple classifications, consistent with Section II.B.6.b.1 of the VAR04. Classification was recorded with the identification numbers shown in Table 1.

Table 1: Classification of high priority locations consistent with Section II.B.6.b.1.

I.D.	High Priority Area Classification
1	Equipment Storage/Maintenance
2	Material Storage
3	Pesticide Storage Facility
4	Public Works Yard
5	Recycling Facility
6	Salt Storage Facility
7	Solid Waste Handling/Transfer
8	Vehicle Storage/Maintenance

Each area was then further characterized to determine if the area had a "high potential" for discharging pollutants consistent with Section II.B.6.b.2 of the VAR04. Likewise, identification letters were assigned for each location, as shown in Table 2.

Table 2: Characterization of high priority locations consistent with Section II.B.6.b.2.

I.D.	High Potential Classification
a	Residuals from using, storing, or cleaning machinery/equipment
b	Materials/residual on ground or storm inlets
c	Material handling equipment
d	Erodible material during loading/unloading/transport
e	Materials/product stored outdoors
f	Open/leaking containers
g	Waste material
h	Process water

As part of the field inspection, the scale of presence of materials and activities conducted was considered to determine if good housekeeping/pollution prevention practices, included as part of City's MS4 Program, would effectively and feasibly prevent pollutant discharge without the need for a site-specific SWPPP. For example, if an uncovered dumpster or a storage container left outdoors were the only instances to trigger an area to be classified as a high potential area, inclusion of site staff in the City's MS4 training (required in Section II.B.6.d of the VAR04) would likely be appropriate instead of a site-specific SWPPP. Also, for each high priority area where a high potential trigger could be removed based on activity or site modifications, a schedule to address the trigger is proposed in-lieu of a SWPPP. A summary of field inspection characterization of all of the high priority facilities is provided in Appendix C. The characterization for each location includes:

- A Map ID that corresponds with the mapping in Appendix B.
- Facility Description
- A description of the activities of concern resulting from field investigation that assisted with both the high priority and high priority classifications from Table 1 and Table 2
- Determination if high potential triggers can be removed with Good Housekeeping/Pollution Prevention practices or site modifications to remove potential of exposure of pollutants to precipitation.

4.0 DETERMINATION OF HIGH PRIORITY/HIGH POTENTIAL LOCATIONS

For the sites where the scale of presence of materials and/or activities could not effectively and feasibly be prevented from exposure to precipitation with Program training or activity/site modifications, the location is classified as a high priority location with a high potential to discharge pollutants. Table 3 provides a list of these sites that will require a site-specific SWPPP per Section II.B.6.b.3 of the VAR04.

Table 3: High priority areas with high potential to discharge pollutants requiring a SWPPP.

Map I.D. (Appendix B)	Facility Description
3	1010 Tidewater Street (Stockpiling, vehicle and equipment storage)
6	1001 Roanoke Blvd. (Area south of baseball field)

5.0 SCHEDULE TO MINIMIZE DISCHARGE

Section II.B.6.b.3 of the VAR04 requires SWPPPs be developed and implemented for the locations identified in Table 3 by July 1, 2017. SWPPPs shall be developed to include the specific components described in Section II.B.6.b.4 of the VAR04 and include:

- A site description that includes a site map identifying all outfalls, direction of flows, existing source controls, and receiving water bodies.
- A discussion and checklist of potential pollutants and pollutant sources.
- A discussion of all potential non-stormwater discharges.
- Written procedures designed to reduce and prevent pollutant discharge.
- A description of the applicable training per Section II.B.6.d of the VAR04.
- Procedures to conduct an annual comprehensive site compliance evaluation.
- An inspection and maintenance schedule for site specific source controls. The date of each inspection and associated findings and follow-up shall be logged in each SWPPP.

SWPPP development should facilitate effective implementation of inspections with site-specific mapping and inspection forms that identify potential pollutant sources. Upon SWPPP development, monthly inspections recorded in an electronic data base are recommended for the

individual identified as responsible for each of the locations in Table 3. It is recommended that the City's MS4 Program Administrator, or appointee, conduct the annual comprehensive site compliance evaluation as an oversight control.

For sites identified in Appendix B that were determined either to:

1. Not to have a high potential to discharge pollutants in accordance per Section II.B.6.b.2 of the VAR04 based on site inspection; or
2. It was determined that the City's good housekeeping/pollution prevention practices or activity/site modifications were feasibly expected to remove the activities that would classify the location as high potential per Section II.B.6.b.2 of the VAR04.

Actions to address sites requiring good housekeeping/pollution prevention practices or activity/site modifications in lieu of a SWPPP are summarized in Table 4.

Table 4: Schedule to address sites to prevent "high potential" classification in lieu of SWPPPs.

Map I.D. (Appendix B)	Facility Description	Necessary Site/Activity Modifications
1	40 Dixie Street	Relocate erodible stockpiles off of pavement to area with cover or maintained perimeter controls. The site maintains an SPCC Plan to address other pollutant sources.
2	1130 Tidewater Street	Ensure materials remain under cover and on-site vehicles are adequately maintained (i.e. no leaks).
4	1000 Union Street	South of ballfields, ensure equipment maintained indoors and relocate stockpile off of pavement to area with cover or maintained perimeter controls.
5	620 Florida Street	Relocate stockpile off of pavement to area with cover or maintained perimeter controls.

* If activities/site modifications are not made by July 1, 2017, a SWPP is required by July 1, 2017.

APPENDIX A

MAPPING OF CITY PROPERTIES

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

N

Prepared by JL, 09-30-2016
Sources: VBMP 2015 Aerial Imagery
Projection: NAD 1983 StatePlane Virginia South FIPS 4502 Feet

Parcels Owned by City of Salem

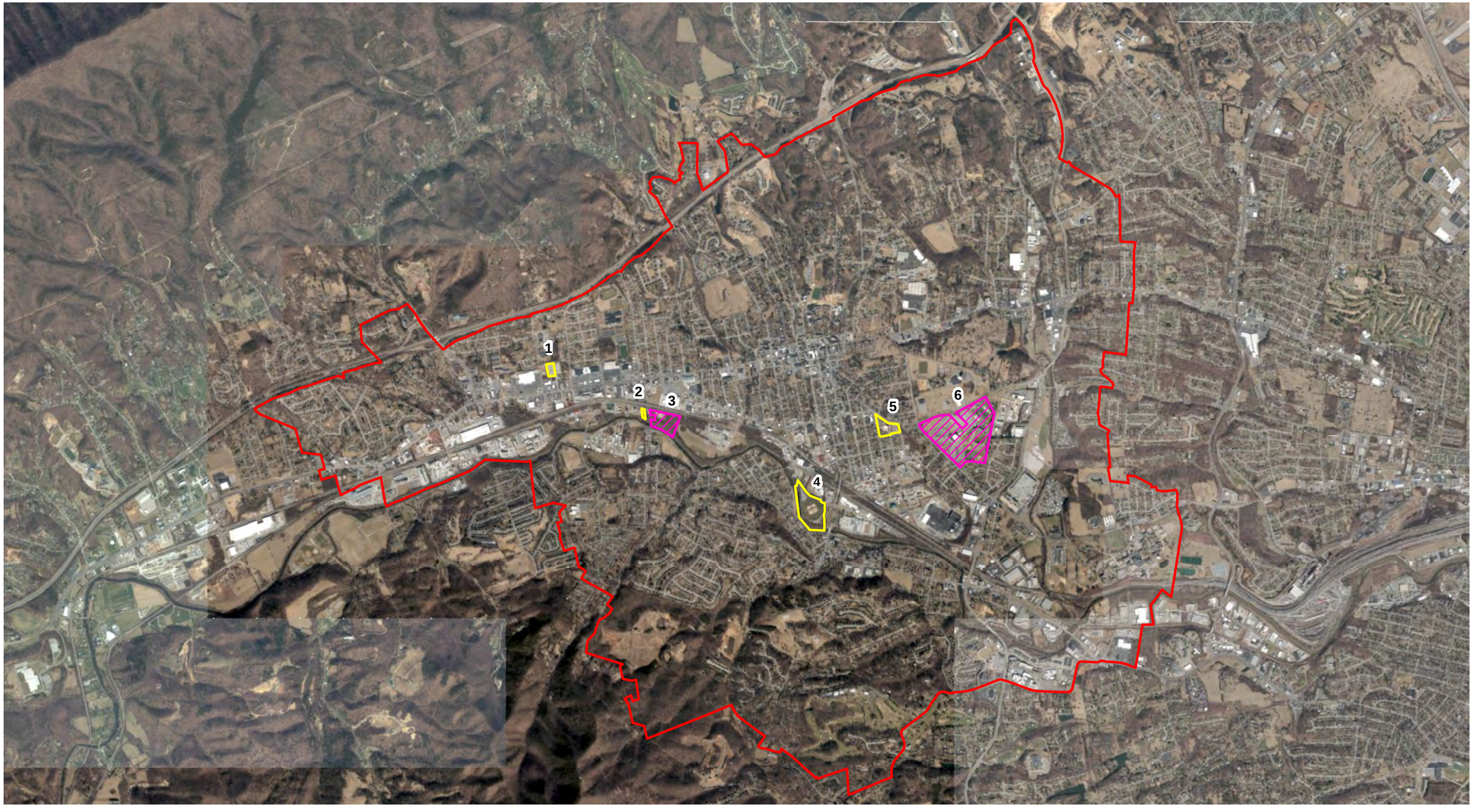
City of Salem Corporate Limits

APPENDIX A
MAPPING OF CITY PROPERTIES
SALEM HIGH PRIORITY FACILITY IDENTIFICATION

0 1 2
Miles
Salem, VA

APPENDIX B

MAPPING OF CITY HIGH PRIORITY AND HIGH POTENTIAL PROPERTIES



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

Prepared by JIL, 09-30-2016
Sources: VBMP 2015 Aerial Imagery
Projection: NAD 1983 StatePlane Virginia South FIPS 4502 Feet

N

High Potential High Priority Facility
High Priority Facility
City of Salem Corporate Limits

APPENDIX B
MAPPING OF CITY HIGH PRIORITY AND HIGH POTENTIAL PROPERTIES

SALEM HIGH PRIORITY FACILITY IDENTIFICATION

0 1 2
Miles

Salem, VA

APPENDIX C

HIGH PRIORITY LOCATION CHARACTERIZATION SUMMARY

Table B-1. High priority-high potential location characterization summary.

Map ID	Location	High Priority Classification (Table 1) *	General Site Inspection Observations	High Potential Classification (Table 2) **	Feasible to prevent exposure (yes/no)?
1	40 Dixie Dr.	1, 2, 8	Material storage: Electric transformers, power poles, electric box, etc. Site has SPCC Plan.	b, d, e	yes
2	1130 Tidewater St.	1, 8	Material storage, mostly covered and several vehicles stored	e	yes
3	1010 Tidewater St.	1, 2, 4	Stockpiling, material, vehicle and equipment storage	a, b, c, d, e	no
4	1000 Union St.	1, 2	Stockpile with sediment transport evident on pavement, apparently for refreshing ball field. Equipment for handling stockpile outdoors	b, c, d	yes
5	620 Florida St.	2	Stockpile with sediment transport evident on pavement, apparently for refreshing ball field	b, d	yes
6	1001 Roanoke Blvd.	1, 2	Material and vehicle storage area south of baseball field. Stockpile south of ball field. Sediment tracked onto pavement	b, d, e, f, g	no

* See Table 1 of report.

** See Table 2 of report.