## National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

# FISCAL YEAR 2021 MS4 GENERAL PERMIT PROGRESS REPORT YEAR 3



Comprehensive Site Compliance Inspection Public Works Maintenance Shop – 06/05/20 Chemical Drums on Rolling Spill Decks



Chesapeake Bay Restoration – Hotspot Site Investigation HSI 16 Area for BMP – 02/10/20 Thompson's Auto Repair Center / Budget Rental

#### Prepared By:

City of Aberdeen
Department of Public Works
60 North Parke Street
Aberdeen, MD 21001



**OCTOBER 29, 2021** 



## National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

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## FISCAL YEAR 2021 MS4 GENERAL PERMIT PROGRESS REPORT YEAR 3

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Impervious Area Restoration Work Plan – Year 3.

#### **ATTACHMENT I-2:**

Watershed Assessment and Restoration Plan.

#### **ATTACHMENT I-3:**

**Best Management Practices Database** 

- PDFs: BMP Database Tables B.1.a, B.1.b, and B.1.c provided as pdf files within Progress Report.
- Electronic: BMP Database Tables B.1.a, B.1.b, and B.1.c also provided via separate Excel attachment.

#### **ATTACHMENT I-4:**

Phase II MS4 Restoration Activity Schedule

- PDFs: Phase II MS4 Restoration Activity Schedule provided as pdf files within Progress Report.
- Electronic: Phase II MS4 Restoration Activity Schedule also provided via separate Adobe attachment.

#### **ATTACHMENT I-5:**

SR-1, SR-2, SR-9 Stream Site Assessment and Concept Designs Memorandum.



National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

## FISCAL YEAR 2021 MS4 GENERAL PERMIT PROGRESS REPORT YEAR 3

## MARYLAND DEPARTMENT OF THE ENVIRONMENT MS4 GENERAL PERMIT PROGRESS REPORT – APPENDIX D FORM

## FISCAL YEAR 2021 MUNICIPAL SMALL MS4 PROGRESS REPORT YEAR 3

#### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

#### GENERAL DISCHARGE PERMIT NO. 13-IM-5500 GENERAL NPDES NO. MDR055500

Final Determination: April 27, 2018 Effective Date: October 31, 2018 Expiration Date: October 30, 2023

This National Pollutant Discharge Elimination System (NPDES) general permit covers small municipal separate storm sewer systems (MS4s) in certain portions of the State of Maryland. MS4 owners and operators to be regulated under this general permit must submit a Notice of Intent (NOI) to MDE by October 31, 2018. An NOI serves as notification that the MS4 owner or operator intends to comply with the terms and conditions of this general permit.

#### APPENDIX D

**Municipal Small MS4 Progress Report** 

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#### Maryland Department of the Environment (MDE)

#### National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer Systems (MS4) General Permit

This Progress Report is required for those jurisdictions covered under General Discharge Permit No. 13-IM-5500. Progress Reports must be submitted to:

Maryland Department of the Environment, Water and Science Administration Sediment, Stormwater, and Dam Safety Program 1800 Washington Boulevard, Suite 440, Baltimore, MD 21230-1708 Phone: 410-537-3543 FAX: 410-537-3553

Web Site: www.mde.maryland.gov

### Contact Information

Contact Information		
Permittee Name:	City of Aberdeen	
Responsible Personnel:	Kyle Torster, P.E.	
Mailing Address:	60 N. Parke St.	
	Aberdeen, MD 21001	
Phone Number(s):	410-272-1600 Extension 217	
Email address:	ktorster@aberdeenmd.gov	
Additional Contact(s):		
Mailing Address:		
Phone Number(s): Email address:		
Signature of Responsible	Personnel	
direction or supervision in personnel properly gather a person or persons who may the information, the informaccurate, and complete. I a	aw that this document and all attachment accordance with a system designed to a sand evaluate the information submitted nage the system, or those persons direct nation submitted is, to the best of my known aware that there are significant penal possibility of fine and imprisonment for	assure that qualified  Based on my inquiry of the ly responsible for gathering whele and belief, true, alties for submitting false
Kyle Torster	Kyle Jorstes	10/29/21
Printed Name	Signature	Date

Reporting Period (State Fiscal Year): FY21; July 1, 2020 - Jun 30, 2021			
<b>Due Date:</b>	10/31/2021	Date of Submission:	10/29/2021
Type of Re	eport Submitted:		
Imp	pervious Area Restorat	tion Progress Report (Annua	l): 🗹
Six	Minimum Control Me	easures Progress (Years 2 an	d 4):
Bot	h: 🗖		
Permittee	Information:		
Ren	newal Permittee:		
Nev	w Permittee:		

#### **Compliance with Reporting Requirements**

Part VI of the Small MS4 General Discharge Permit (No. 13-IM-5500) specifies the reporting information that must be submitted to MDE to demonstrate compliance with permit conditions. The specific information required in this MS4 Progress Report includes:

- 1. Annual: Progress toward compliance with impervious area restoration requirements in accordance with Part V of the general permit. All requested information and supporting documentation must be submitted as specified in Section I of the Progress Report.
- 2. Years 2 and 4: Progress toward compliance with the six minimum control measures in accordance with Part IV of the general permit. All requested information and supporting documentation shall be reported as specified in Section II of the Progress Report. MDE may request more frequent reporting and/or a final report in year 5 if additional information is needed to demonstrate compliance with the permit.

#### **Instructions for Completing Appendix D Reporting Forms**

The reporting forms provided in Appendix D allow the user to electronically fill in answers to questions. Users may enter quantifiable information (e.g., number of outfalls inspected) in text boxes. When a more descriptive explanation is requested, the reporting forms will expand as the user types to allow as much information needed to fully answer the question. The permittee must indicate in the forms when attachments are included to provide sufficient information required in the MS4 Progress Report.

**Section I: Impervious Area Restoration Reporting Form** 

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**Section I: Impervious Area Restoration Reporting** 

1.	a. Was the impervious area baseline assessment submitted in year 1? ▼Yes □No
	b. If No, describe the status of completing the required information and provide a date at which all information required by MDE will be submitted:
	c. Has the baseline been adjusted since the previous reporting year?  ▼ Yes □ No
2. (	Complete the information below based on the most recent data:
	Total impervious acres of jurisdiction covered under this permit: 988.51
	Total impervious acres treated by stormwater water quality best management practices (BMPs): 19.46
	Total impervious acres treated by BMPs providing partial water quality treatment (multiply acres treated by percent of water quality provided): 10.00
	Total impervious acres treated by nonstructural practices (i.e., rooftop disconnections, non-rooftop disconnections, or vegetated swales):  N/A  An analysis of these practices may be considered in the future.
	Total impervious acres untreated in the jurisdiction: 969.05
	Twenty percent of this total area (this is the restoration requirement): 193.81
	Verify that all impervious area draining to BMPs with missing inspection records is not considered treated. Describe how this information was incorporated into the overall analysis:
	BMPs that did not pass inspection within the past three years were not included in impervious area calculations. The BMPs included in the calculations are included in Appendix A of the Impervious Area Restoration Work Plan (Attachment I-1).
2.	Has an Impervious Area Restoration Work Plan been developed and submitted to MDE in accordance with Part V.B, Table 1 of the permit or other format?  Yes No
	The Impervious Area Restoration Work Plan – Year 3 is submitted as <b>Attachment I-1</b> of this Annual Report.
	Has MDE approved the work plan?  ▼Yes No

**Section I: Impervious Area Restoration Reporting** If the answer to either question is No, describe the status of submitting (or resubmitting) the work plan to MDE and provide a date at which all outstanding information will be available: Describe progress made toward restoration planning, design, and construction efforts and describe adaptive management strategies necessary to meet restoration requirements by the end of the permit term: In FY21, the City focused on moving forward with three stream restoration projects (SR-1, SR-2 and SR-9) identified in the Stream Site Assessment and Concept designs document (Attachment I-5) to help meet the City's impervious area restoration requirement of 193.81 acres. 3. Has a Restoration Schedule been completed and submitted to MDE in accordance with Part V.B, Table 2 of the permit? ✓ Yes No The Restoration Activity Schedule is submitted as Attachment I-4 of this Annual Report. In year 5, has a complete restoration schedule been submitted including a complete list of projects and implementation dates for all BMPs needed to meet the twenty percent restoration requirement? □Yes □No N/A Are the projected implementation years for completion of all BMPs no later than 2025? □Yes ■No Describe actions planned to provide a complete list of projects in order to achieve compliance by the end of the permit term: A list of projects is located in the Impervious Area Restoration Work Plan included with this report as **Attachment I-1**. Describe the progress of restoration efforts (attach examples and photos of proposed or completed projects when available): The Restoration Activity Schedule is submitted as Attachment I-4 of this Annual Report. A list of projects is located in the Impervious Area Restoration Work Plan included with this report as Attachment I-1. 4. Has the BMP database been submitted to MDE in Microsoft Excel format in accordance with Appendix B, Tables B.1.a, b, and c? ✓ Yes No

The BMP Database is submitted as **Attachment I-3** of this Annual Report; and also

provided via electronic excel attachment.

Is the database complete?

✓ Yes No

#### **Section I: Impervious Area Restoration Reporting**

If either answer is No, describe efforts underway to complete all data fields, and a date that MDE will receive the required information:

N/A

- 5. Provide a summary of impervious area restoration activities planned for the next reporting cycle (attach additional information if necessary):

  In FY21, the City has worked with KCI Technologies, Inc. (KCI) to create Stream Restoration Concept plans for projects SR-1, SR-2, and SR-9 (Attachment I-5).
- 6. Describe coordination efforts with other agencies regarding the implementation of impervious area restoration activities:
  The City has had discussions with other permittees, and no partnerships have been developed to date. However, at this time the City feels that partnerships are unlikely to develop.
- 7. List total cost of developing and implementing the impervious area restoration program during the permit term:

  The City is working towards specific funding needs and a long-term budget to meet the cost of design and construction of the stream restoration projects that are expected to be

implemented to meet their restoration requirements.

### **Intentionally Left Blank**

### **Section II: Minimum Control Measures Reporting Forms**

Not required in Year 3 of the Permit.

### **Intentionally Left Blank**

#### MCM #1: Public Education and Outreach

1.	Does the permittee maintain a process and phone number for the public to report water quality complaints?  Yes No
	Number of complaints received:
	Describe the actions taken to address the complaints:
2.	Describe training to employees to reduce pollutants to the MS4:
3.	Describe the target audience(s) within the jurisdiction:
4.	Are examples of educational/training materials attached with this report?  Yes No
	Provide the number and type of educational materials distributed: Describe how the public outreach program is appropriate for the target audience(s):
5.	Describe how stormwater educational materials were distributed to the public (e.g., newsletters, website):
6.	Describe how educational programs facilitated efforts to reduce pollutants in stormwater runoff:
7.	Provide a summary of the activities planned for the next reporting cycle:
8.	List the total cost of implementing this MCM over the permit term:

#### MCM #2: Public Involvement and Participation

1.	Describe how the public involvement and participation program is apptarget audience(s):	propriate for the
2.	Quantify and report public involvement and participation efforts show applicable.	n below where
	Number of participants at public events:	
	Quantity of trash and debris removed at clean up events:	
	Number of employee volunteers participating in sponsored events:	
	Number of trees planted:	
	Length of stream cleaned (feet):	
	Number of storm drains stenciled:	
	Number of public notices published to facilitate public participation:	
	Number of public meetings organized:	
	Total number of attendees at all public meetings:	
	Describe the agenda, items discussed, and collaboration efforts with in for public meetings:	nterested parties
	Describe how public comments have been incorporated into the permit program, including water quality improvement projects to address imprestoration requirements:	
	Describe any additional events and activities if applicable:	
3.	Provide a summary of activities planned for the next reporting cycle:	
4.	List the total cost of implementing this MCM for the permit term:	

#### MCM #3: Illicit Discharge Detection and Elimination (IDDE)

1.	Does the permittee maintain a map of the MS4 owned or operated by the permittee, including stormwater conveyances, outfalls, stormwater best management practices (BMPs), and waters of the U.S. receiving stormwater discharges?  Yes No  If Yes, attach the map to this report and provide a progress update on any features that are still being mapped. If No, detail the current status of map development and provide an estimated date of submission to MDE:
2.	Does the permittee have an ordinance, or other regulatory means, that prohibits illicit discharges? $\square$ Yes $\square$ No
	If Yes, describe the means for enforcement utilized by the permittee (alternatively, a link may be provided to the permittee's webpage where this information is available). If No, describe the permittee's plan, including approximate time frame, to establish a regulatory means to prohibit illicit discharges:
3.	Describe the process the permittee utilizes for gaining access to private property to investigate and eliminate illicit discharges:
4.	Did the permittee submit to MDE standard operating procedures (SOPs) in accordance with Part IV.C of the permit?  Yes No
	If No, provide a proposed date that SOPs will be submitted to MDE. MDE may require more frequent reports for delays in program development:  Did MDE approve the submitted SOPs?  Yes No
	If No, describe the status of requested SOP revisions and approximate date of resubmission for MDE approval:

#### MCM #3: Illicit Discharge Detection and Elimination (IDDE)

5.	Describe how the permittee prioritized screening locations in areas of high pollutant potential and identify the areas within which screenings were conducted during this reporting period:
6.	Answers to the following questions must reflect this two-year reporting period.
	How many outfalls are identified on the map?
	How many outfalls were required to be screened for dry weather flows to meet the minimum numeric requirement (i.e., 20% of total outfalls, up to 100)?
	How many outfalls were screened for dry weather flows?  Per the permittee's SOP, how frequently were outfalls required to be screened?
	At what frequency were outfalls screened during the reporting period?
	How many dry weather flows were observed?
	If dry weather flows were observed, how many were determined to be illicit discharges?
	Describe the investigation process to track and eliminate each suspected illicit discharge and report the status of resolution:
7.	Describe maintenance or corrective actions undertaken during this reporting period to address erosion, debris buildup, sediment accumulation, or blockage problems:
8.	Is the permittee maintaining all IDDE inspection records and are they available to MDE during site inspections?  Yes No

#### MCM #3: Illicit Discharge Detection and Elimination (IDDE)

9. If spills, illicit discharges, and illegal dumping occurred during this reporting period, describe the corrective actions taken, including enforcement activities, and indicate the status of resolution:
10. Attach to this report specific examples of educational materials distributed to the public related to illicit discharge reporting, illegal dumping, and spill prevention. If these are not available, describe plans to develop public education materials and submit examples with the next Progress Report:
11. Specify the number of employees trained in illicit discharge detection and spill prevention:
12. Provide examples of training materials. If not available, describe plans to develop employee training and submit examples with the next Progress Report:
13. List the cost of implementing this MCM during this permit term:

#### MCM #4: Construction Site Stormwater Runoff Control

## Erosion & Sediment Control Program Procedures, Ordinances, and Legal Authority 1. Does the permittee have an MDE approved ordinance? ☐ Yes ☐ No Has the permittee submitted modifications to MDE? ☐ Yes ☐ No Has the adopted ordinance been submitted to MDE? ☐ Yes ☐ No If No, is the adopted ordinance attached? ☐ Yes ☐ No 2. Does the permittee rely on the County, local Soil Conservation District, or MDE to perform any or all requirements for an acceptable erosion and sediment control ☐ Yes ☐ No program? If Yes, check all that apply: Plan Review and Approval Construction Inspections Enforcement 3. Does the permittee have a process to ensure that all necessary permits for a proposed development have been obtained prior to issuance of a grading or building permit? ☐ Yes ☐ No Explain how the permittee ensures all permits are in place: **Erosion & Sediment Control Program Implementation Information** 1. Does the permittee have a process for receiving, investigating, and resolving complaints from interested parties related to construction activities and erosion and sediment control? ☐ Yes ☐ No Describe the process: Provide a list of all complaints and summary of actions taken to resolve them:

#### MCM #4: Construction Site Stormwater Runoff Control

2.	Total number of active construction projects within the reporting period:
	Provide a list of all construction projects and disturbed areas:
	Does the permittee submit grading reports to MDE (only applies if the permittee has an MDE approved ordinance)? $\square$ Yes $\square$ No $\square$ N/A
3.	Total number of violation notices issued related to this MCM within the permit area (report total number whether the permittee or another entity performs inspections):
	Describe the status of enforcement activities:
	Describe how the permittee communicates and collaborates with the enforcement authority for violations within the permit area. Include measures taken by the permittee such as suspending or denying a building or grading permit in order to prevent the discharge of pollutants into the MS4:
	Are erosion and sediment control inspection records retained and available to MDE during field review of local programs?  Yes No
	If No, explain:
4.	Number of staff trained in MDE's Responsible Personnel Certification:
5.	Describe the coordination efforts with other entities regarding the implementation of this MCM:
6.	List the total cost of implementing this MCM over the permit term:

MCM #5: Post Construction Stormwater Management

	Stormwater Management Program Procedures, Ordinances, an	d Legal A	uthority
1.	Does the permittee have an MDE approved ordinance?	□ Yes	□ No
	Has the permittee submitted modifications to MDE?	□ Yes	□ No
	Has the adopted ordinance been submitted to MDE?	□ Yes	□ No
	If No, is the adopted ordinance attached?	□ Yes	□ No
2.	Does the permittee have a memorandum of understanding (M perform any or all requirements for an acceptable stormwater $\square$ Yes $\square$ No	/	•
	If Yes, check all that apply:  ☐ Plan Review and Approval ☐ First Year Post Construction Inspections ☐ As-Built Plan Approval ☐ Post Construction Triennial Inspections ☐ Enforcement ☐ BMP Tracking and Reporting		
	Stormwater Management Program Implementation Inf	formation	
1.	Has an Urban BMP database been submitted in accordance w in Appendix B, Tables B.1.a, b, and c as a Microsoft Excel fil ☐ Yes ☐ No		tabase structure
	Describe the status of the database and efforts to complete all	data field	ds:
2.	Total number of triennial inspections performed:		
	Total number of BMPs jurisdiction-wide:		
	Are inspections performed at least once every three years for $\hfill \hfill Yes \hfill \hfi$	all BMPs	?
	If No, describe how the permittee will catch up on past inspector perform BMP inspections once every three years:	tions and	l remain on track

#### MCM #5: Post Construction Stormwater Management

	Are BMP inspection records retained and available to MDE during field review of local programs?  Yes No
3.	Total number of violation notices issued:  Describe efforts to bring BMPs into compliance and the status of enforcement activities within the jurisdiction:
4.	Describe how the permittee coordinates and cooperates with the County to ensure stormwater BMPs are functioning according to approved standards. (Applicable for municipalities that rely on the County to perform stormwater triennial inspections):
5.	Provide a summary of routine maintenance activities for all publicly owned BMPs:  Number of publicly owned BMPs:  Describe how often BMPs are maintained. Specify whether maintenance activities are more frequent for certain BMP types:  Are BMP maintenance checklists and procedures for publicly owned BMPs available to MDE during field review of local programs?  Yes No  Are BMP maintenance records retained and available to MDE during field review of local programs?  Yes No  If either answer is No, describe planned actions to implement maintenance checklists and procedures and provide formal documentation of these activities:
6.	Number of staff trained in proper BMP design, performance, inspection, and routine maintenance:

#### MCM #5: Post Construction Stormwater Management

- 7. Provide a summary of activities planned for the next reporting cycle:
- 8. List the total cost of implementing this MCM over the permit term:

MCM #6: Pollution Prevention and Good Housekeeping

1.	Provide a list of topics covered during the last training session related to pollution prevention and good housekeeping, and attach to this report specific examples of training materials:
	List all training dates within this two-year reporting period:
	Number of staff attended:
2.	Are the good housekeeping plan and inspection records at each property retained and available to MDE during field review of the local program?   Yes No
	If No, explain:
	Provide details of all discharges, releases, leaks, or spills that occurred in the past reporting period using the following format (attach additional sheets if necessary).
	Property Name: Date:
	Describe observations:
	Describe permittee's response:
3.	Quantify and report property management efforts as shown below, where applicable (attach additional sheets if necessary).
	Number of miles swept:
	Amount of debris collected from sweeping (indicate units):
	If roads and streets are swept, describe the strategy the permittee has implemented to maximize efficiency and target high priority areas:
	Number of inlets cleaned:
	Amount of debris collected from inlet cleaning (indicate units):
	Describe how trash and hazardous waste materials are disposed of at permittee owned

MCM #6: Pollution Prevention and Good Housekeeping

	and operated property(ies), including debris collected from street sweeping and inlet cleaning:
	Does the permittee have a current State of Maryland public agency permit to apply pesticides?  Yes No
	If No, explain (e.g., contractor applies pesticides):
	Does the permittee employ at least one individual certified in pesticide application?  Yes No
	If Yes, list name(s):
	If the permittee applied pesticides during the reporting year, describe good housekeeping methods (e.g., integrated pest management, alternative materials/techniques):
	If the permittee applied fertilizer during the reporting year, describe good housekeeping methods (e.g., application methods, chemical storage, native or low maintenance species, training):
	If the permittee applied materials for snow and ice control during the reporting year, describe good housekeeping methods (e.g., pre-treatment, truck calibration and storage, salt domes):
	Describe good housekeeping BMP alternatives not listed above:
4	. If applicable, provide a status update for permittee owned or operated properties regarding coverage under the Maryland General Permit for Stormwater Discharges Associated with Industrial Activity or an individual industrial surface water discharge permit:
5	. List the total cost of implementing this MCM over the permit term:



National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

## FISCAL YEAR 2021 MS4 GENERAL PERMIT PROGRESS REPORT YEAR 3

#### **ATTACHMENT I-1**

## IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 3

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

# IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 3

Prepared By:

City of Aberdeen
Department of Public Works
60 North Parke Street
Aberdeen, MD 21001



OCTOBER 29, 2021



## National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

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## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM PHASE II MS4 PERMIT

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500

#### IMPERVIOUS AREA RESTORATION WORK PLAN - YEAR 3

The City of Aberdeen is continuing to make updates to the Impervious Area Restoration Work Plan throughout the Permit cycle. The report below summarizes updates to the Year 1 and Year 2 Work Plan as well as activities in Year 3.

#### I. Develop Impervious Area Baseline Assessment

The City of Aberdeen's Fiscal Year 2020 Phase II MS4 Annual Report dated October 28, 2020 summarized the methodology for preparing the City's Baseline Area Impervious Assessment. As reported in the 2020 report, **Table 1** documents the City's total impervious area, total impervious acres treated by BMPs, and twenty percent of the untreated impervious area.

TABLE 1 - 2004 IMPERVIOUS AREAS YEAR 2 1

Category	Total Area (Acres)	
Total Impervious Area	988.51	
Impervious Area Treated by BMPs with Full Water Quality Treatment <sup>2</sup>	10.16	
Impervious Area Treated by BMPs with Partial Water Quality Treatment <sup>3</sup>	10.23	
Impervious Area Treated by Non-structural Practices	To Be Determined	
Untreated Impervious Area	968.12	
Restoration Requirement (20% of Untreated Impervious Area)	193.62	

Areas may continue to be refined during each reporting year as funding allows and as new data becomes available.

#### A. Year 3 Updates

The following changes were made to the City of Aberdeen's BMP Database and baseline impervious areas:

- Updated Pe values per MDE's comments on the FY2020 MDE Annual Report (See Section XII).
- Removed BMPs from the baseline that did not pass inspection within the last 3 years.
- Added new BMPs to the baseline that passed inspection since Year 1 and Year 2.

BMPs with a  $P_E$  value  $\geq 1$  were considered Full Water Quality Treatment BMPs.

 $<sup>^{3}</sup>$  BMPs with a  $P_{E}$  value < 1 were considered Partial Water Quality Treatment BMPs.

Based on the changes above BMP Fact Sheets were updated for each BMP detailing the calculations used to determine the impervious acres treated. These BMP Fact Sheets are included in **Appendix A** of this report.

#### B. <u>Year 3 Impervious Acreage</u>

- ➤ The total impervious area treated by BMPs providing <u>FULL</u> water quality treatment in Year 3 is approximately 9.46 acres (Table 2).
- The total impervious area treated by BMPs providing <u>PARTIAL</u> water quality treatment is approximately 10.00 acres (Table 2).
- The total untreated impervious area in the City of Aberdeen increased to 969.05.

TABLE 2 - 2004 IMPERVIOUS AREAS YEAR 3 1

Category	Total Area (Acres)		
Total Impervious Area	988.51		
Impervious Area Treated by BMPs with Full Water Quality Treatment <sup>2</sup>	9.46		
Impervious Area Treated by BMPs with Partial Water Quality Treatment <sup>3</sup>	10.00		
Impervious Area Treated by Non-structural Practices	To Be Determined		
Untreated Impervious Area	969.05		
Restoration Requirement (20% of Untreated Impervious Area)	193.81		

<sup>&</sup>lt;sup>1</sup> Areas may continue to be refined during each reporting year as funding allows and as new data becomes available.

#### II. Develop a Restoration Work Plan for MDE Review and Approval

The City will continue to revise and adjust the Impervious Area Restoration Work Plan as appropriate. The City has already begun to discuss plans for meeting the restoration requirement by evaluating stream restoration projects described in Sections VIII and XIV of this report.

#### III. Assess Opportunities and Timelines for Implementing Water Quality BMPs

The City developed a Watershed Assessment and Restoration Plan in September 2020 that identified several potential opportunities to implement Water Quality BMPs. They fall into the categories of Stream Restoration, Reforestation, Rain Barrels, and Rain Gardens. More information is located in Section VIII of this report.

<sup>&</sup>lt;sup>2</sup> BMPs with a  $P_E$  value  $\geq 1$  were considered Full Water Quality Treatment BMPs.

<sup>&</sup>lt;sup>3</sup> BMPs with a P<sub>E</sub> value < 1 were considered Partial Water Quality Treatment BMPs.

#### IV. Assess Opportunities to Develop Partnerships with other NPDES Permittees

The City has had discussions with other permittees, and no partnerships have been developed to date. The City feels partnerships are unlikely to develop.

#### V. Determine Funding Needs and Develop a Long-Term Budget

The City currently has an agreement with Harford County that allows a portion of the taxes paid to the County within City limits to be used by the City for stormwater retrofits and improvements. These funds will be used to fund a portion of the City's 20% restoration requirement.

The City is working towards specific funding needs and a long-term budget to meet the cost of design and construction of the stream restoration projects that are expected to be implemented to meet their restoration requirements.

In FY22, the City is planning to apply for grant funding to help finance some of the stream restoration projects the City has selected for impervious area restoration credit.

#### VI. Update and Submit Urban BMP Database

A summary of past updates were previously documented in the City of Aberdeen's Fiscal Year 2020 Phase II MS4 Annual Report dated October 28, 2020.

#### VII. Maintain Inspection Records for all BMPs

The City continues to inspect all BMPs tri-annually according to the Permit and maintain up-to-date inspection records. All new inspection information is current in the BMP Database submitted in the Fiscal Year 2021 MS4 General Permit Progress Report Year 3 **Attachment I-3**.

## VIII. Perform Watershed Assessments and Identify Water Quality Problems and Opportunities for Restoration

The City completed a Watershed Assessment and Restoration Plan in September 2020 in accordance with the Phase II MS4 Permit (**Attachment I-2** of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3). The assessments described below support the City's goals for healthy watersheds and natural resources, and also support progress towards satisfying several regulatory and permit requirements. These assessments provide the next step in the planning process specifically for the urban stormwater sector regulated by the Phase II MS4 Permit. This watershed assessment, through both desktop and field assessments, identifies watershed conditions and specific restoration solutions to meet the City's watershed restoration goals.

Results of desktop and field watershed assessments were compiled and analyzed to determine specific areas of impairment most in need of restoration. Restoration measures were then developed according to the type and source of impact. The following section presents the results and cost for Stream Restoration.

#### **Stream Restoration**

Stream restoration opportunities were field-identified during a Stream Corridor Assessment (SCA). The current condition of streams was assessed, and locations of stream erosion were identified and mapped using a global positioning system (GPS).

The assessment rated each segment of stream erosion on a 1 to 5 scale according to its severity, correctability, and accessibility; where a score of 1 is the most severe, but also the most correctible and the most accessible. These scores were used to identify high priority stream reaches for stream restoration and were generally sites with a severity score of 1 or 2, and a correctability/access score of 1-4.

Eleven (11) stream restoration projects were identified, with a total length of approximately 11,545 linear feet. **Table 3** provides a summary of cost, impervious acre credit, and load reduction for each stream restoration project identified.

TABLE 3: STREAM RESTORATION COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

Site	SCA Reach	Erosion length (ft)	Total Initial Cost	Total Cost Over 20 Years	Imperv- ious	Cost Per	Loa	d Reductio	n (lbs/yr)
ID					Credit (Acres)*	Impervious Credit	TN	TP	TSS
SR_1	R022	130	\$97,393	\$124,301	2.6	\$47,808	9.8	8.8	32,240.0
SR_2	R173	3,856	\$2,888,823	\$3,686,945	77.12	\$47,808	289.2	262.2	956,288.0
SR_3	R165	230	\$172,311	\$219,916	4.6	\$47,808	17.3	15.6	57,040.0
SR_4	R137, R141	2025	\$1,517,082	\$1,936,219	40.5	\$47,808	151.9	137.7	502,200.0
SR_5	R126	103	\$77,165	\$98,484	2.06	\$47,808	7.7	7.0	25,544.0
SR_6	R123	80	\$59,935	\$76,492	1.6	\$47,808	6.0	5.4	19,840.0
SR_7	R105	1485	\$1,112,527	\$1,419,894	29.7	\$47,808	111.4	101.0	368,280.0
SR_8	R107	770	\$576,865	\$736,241	15.4	\$47,808	57.8	52.4	190,960.0
SR_9	R088	1,585	\$1,187,444	\$1,515,510	31.7	\$47,808	118.9	107.8	393,080.0
SR_10	R043	996	\$746,179	\$952,333	19.92	\$47,808	74.7	67.7	247,008.0
SR_11	R057	285	\$213,516	\$272,504	5.7	\$47,808	21.4	19.4	70,680.0
	Total	11,545	\$8,649,240	\$11,038,839	230.9	\$47,808	865.9	785.1	2,863,160.0

<sup>\*</sup>Impervious credit calculated with planning rate. Actual site-specific impervious credit may be higher.

In FY21, the City worked with KCI Technologies, Inc. (KCI) to create Stream Restoration Concept plans for projects SR-1, SR-2, and SR-9 listed in **Table 3** above. One of the main intents of the Stream Restoration Concept Plans is to apply for grant monies to help fund these projects. A summary of work completed for FY21 for these three projects is listed in **Table 4** below:

**TABLE 4: SUMMARY OF WORK COMPLETED** 

Description	SR1	SR2	SR9
Budget Estimates	٧	٧	<b>V</b>
Trilogy Letters	٧	٧	٧
USGS Streamstats Hydrology	٧	٧	√
Visual Assessments	٧	٧	V
Wetland Delineations	٧	٧	√
Forest Stand Delineations	٧	٧	√
Invasive Baseline Assessment	٧	٧	V
BANCS or P5 Data Collection	٧	٧	٧
Sediment Sampling	٧	٧	V
Geomorphic Survey	٧		V
Upland BMP Site ID	٧	NA	V
Assessment, concept design, NRI Report	٧	٧	V
P1/P5 Credit Comps	٧	٧	V
Concept Design and NRI Mapping	٧	٧	√
Grant Field Walk		٧	٧

Based upon field surveys and additional research an updated summary of the equivalent impervious acre credit potential the City may receive for these three stream restoration projects is listed below in **Table 5**:

**TABLE 5: EQUIVALENT IMPERVIOUS ACRE CREDIT POTENTIAL** 

Site	Approximate Restoration (LF)	Physiographic Region	Site Specific Credit (ac)	Planning Rate Credit (ac)	Selected Project Credit (ac)
SR-1	400	Coastal Plain	4.6	8.0	8.0
SR-1 Upland BMP*	N/A	Coastal Plain	2.6	N/A	2.6
SR-2	3856	Piedmont	23.5	115.7	115.7
SR-2 Pond Trib	72	Piedmont	0.6	2.2	2.2
SR-2 Wetland Swale	28	Piedmont	3.2	0.8	3.2
SR-2 Upstream Trib	577	Piedmont	26.0	17.3	26.0
SR-9	1635	Coastal Plain	38.7	32.7	38.7
SR-9 Upland BMP*	N/A	Coastal Plain	7.8	N/A	7.8
TOTAL	6568		107	187.1	204.1

## IX. Develop List of Specific Projects to be Implemented for Restoration and Identify on the Restoration Activity Schedule

At this time, the City has selected some projects as listed in the Phase II MS4 Restoration Activity Schedule (Attachment I-4 of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3). Additional potential projects are listed in Section VIII of this Impervious Area Restoration Work Plan; as well as in Section 4 (Potential Water Quality Improvement Projects) of the *Watershed Assessment and Restoration Plan* (Attachment I-2 of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3).

In FY21, the City focused on moving forward with three stream restoration projects (SR-1, SR-2 and SR-9) to help meet the City's impervious area restoration requirement of 193.382 acres. This is further described in the Impervious Area Restoration Work Plan Year 3 Section XIV below.

## X. Incorporate Future Growth Agency-Wide/Jurisdiction-Wide Master Plans into Restoration Planning Efforts

The City will continue to require that all future growth and development adhere to current MDE sediment and stormwater regulations. The City will require full treatment of all new development and impervious surfaces.

#### XI. Evaluate and Refine Budget Needs for Project Implementation

The City has an agreement with Harford County that allows a portion of the taxes paid to the County within City limits to be used by the City for stormwater retrofits and improvements. These funds will be used to fund a portion of the City's 20% restoration requirement. In FY22, the City is working with KCI Technologies, Inc. to apply for grant funding through the Watershed Assistance Grant Program (WAGP) administered through the Chesapeake Bay Trust (CBT).

The City is working towards specific funding needs and a long-term budget to meet the cost of design and construction of the stream restoration projects that are expected to be implemented to meet their restoration requirements.

## XII. Update Submit Urban BMP Database and Documented Maintenance and Inspection Status for all BMPs

New BMPs were added to the BMP Database according to the permit-required specifications (Phase II MS4 Permit Pages B-17 through B-23). Each BMP the Town is claiming credit for has a BMP Fact Sheet detailing all impervious information and calculations. The BMP Fact Sheets are located in **Appendix A** of this report.

Existing BMPs in the database have been updated with the latest inspection and impervious information. All changes are also reflected in the BMP Fact Sheets in **Appendix A** of this report.

The following changes were made to the existing BMP Database, which were based on MDE Year 2 Comments.

#### **MDE Comment:**

As noted in the Department's previous review, extra credit for over management was intended to be calculated for restoration projects and not for BMPs implemented to meet regulatory requirements for new development. BMPs built after 2002 should be assumed to have a PE of 1". Additional treatment may only be applied to BMPs that provide treatment that exceeds regulatory requirements. The City indicated in its response that the estimated treatment for five BMPs was adjusted. However, Table B.1.b lists 29 BMPs with a PE of greater than 1.0. In the next progress report the City must provide information on the how treatment provided by these practices was determined, e.g., was the developer required to provide additional treatment above State regulatory requirements. The City should provide further documentation showing that treatment was verified for each practice. For example, AB19BMP000027 and AB19BMP000168 were built 1992 and treat 2.7".

#### **City Response:**

The following BMPs built after 2002 that have a Pe value > 1 were revised to have a Pe value -1.0". The explanation of these Pe values is located on the BMP Fact Sheets located in **Appendix A** of this report.

#### Impacts:

- 1. AB04BMP000110 Pe value was revised from 1.60" to 1.0".
  - a. This decreased the treatment credit from 0.19 ac to 0.17 ac, a loss of 0.02 ac.
- 2. AB04BMP000111 Pe value was revised from 1.40" to 1.0".
  - a. This decreased the treatment credit from 0.23 ac to 0.21 ac, a loss of 0.02 ac.
- 3. AB05BMP000102 Pe value was revised from 0.20" to 1.0".
  - a. This increased the treatment credit from 0.13 ac to 0.65 ac, an increase of 0.52 ac.
- 4. AB05BMP000148 Pe value was revised from 0.70" to 1.0".
  - a. This increased the treatment credit from 0.10 ac to 0.15 ac, an increase of 0.05 ac.
- 5. AB03BMP000184 Pe value was revised from 2.40" to 1.0".
  - a. This decreased the treatment credit from 5.64 ac to 4.18 ac, a loss of 1.46 ac.

#### **City Response:**

The following BMPs listed in Table B.1.b below have a Pe of greater than 1.0. The City has provided further documentation showing that treatment was verified for each practice located in **Appendix B** of this report.

#### Impacts:

- 1. AB19BMP000027 Pe value was revised from 2.7 to 2.00.
- 2. AB19BMP000097 Pe value was revised from 2.7 to 2.18.
- 3. AB19BMP000098 Pe value was revised from 2.7 to 2.13.
- 4. AB19BMP000099 Pe value was revised from 2.7 to 2.16.
- 5. AB19BMP000100 Pe value was revised from 2.7 to 2.18.
- 6. AB19BMP000101 Pe value was revised from 2.7 to 2.07.
- 7. AB19BMP000102 Pe value was revised from 2.7 to 2.21.
- 8. AB19BMP000103 Pe value was revised from 2.7 to 2.13.
- 9. AB19BMP000104 Pe value was revised from 2.7 to 2.17.
- 10. AB19BMP000105 Pe value was revised from 2.7 to 2.40.
- 11. AB19BMP000106 Pe value was revised from 2.7 to 2.08.
- 12. AB19BMP000107 Pe value was revised from 1.24 to 2.05.
- 13. AB19BMP000168- Pe value was revised from 2.7 to 2.23.
- 14. AB20BMP000051 Pe value remains 1.80.
- 15. AB20BMP000052 Pe value remains 1.80.
- 16. AB20BMP000053 Pe value remains 2.00.
- 17. AB20BMP000054 Pe value remains 2.60.
- 18. AB20BMP000055 Pe value remains 1.80.
- 19. AB20BMP000056 Pe value remains 2.60.
- 20. AB20BMP000057 Pe value remains 2.40.
- 21. AB20BMP000109 Pe value remains 1.40.
- 22. AB20BMP000110 Pe value remains 1.20.
- 23. AB20BMP000111 Pe value remains 1.01.
- 24. AB21BMP000002- Pe value remains 1.01.
- 25. AB21BMP000003- Pe value remains 2.56.

#### **MDE Comment:**

Some BMPs type XOTH were listed in B.1.a; however, were not listed in Table B.1.b. Please complete data for these BMPs in all appropriate tables.

#### **City Response:**

All BMPs with XOTH were moved to Table B.1.b.

#### **MDE Comment:**

BMPs AB20BMP000014 – AB20BMP000018 PE\_ADR was listed in cubic feet; however, the database requires that this data is listed in inches.

#### **City Response:**

- 1. AB20BMP000014– PE ADR was revised from 2246 to 1.95.
- 2. AB20BMP000015- PE ADR was revised from 3188 to 2.10.
- 3. AB20BMP000016- PE ADR was revised from 2504 to 2.20.
- 4. AB20BMP000017- PE ADR was revised from 3220 to 2.36.
- 5. AB20BMP000018– PE ADR was revised from 2828 to 2.01.

#### **MDE Comment:**

Please check Built\_Date information and ensure it is entered in the proper format, e.g., check built date for "6/22/1905"; "2017" should be in MM/DD/YYYY format.

#### **City Response:**

BMP AB05BMP000003, AB05BMP000135, and AB05BMP000141 have updated dates in the correct format in the database.

#### **MDE Comment:**

Several BMP records reported IMP\_ACRES as "20,000" or similar. Please check this data and confirm that the units are reported in acres. For example, the impervious acre data reported for AB20BMP000025 appears to use the wrong units (BMP type FBIO). Please correct this information.

#### **City Response:**

All BMPs with IMP\_ACRES listed in cubic feet were updated to acres. These changes did not impact the impervious area baseline as these BMPs are all built after 2018.

#### Impacts:

- 1. AB20BMP000025 Impervious Acres was revised from 28732 to 0.66.
- 2. AB20BMP000035 Impervious Acres was revised from 25822 to 0.59.
- 3. AB20BMP000026 Impervious Acres was revised from 22572 to 0.51.
- 4. AB20BMP000027 Impervious Acres was revised from 20733 to 0.47.
- 5. AB20BMP000015 Impervious Acres was revised from 3188 to 0.07.
- 6. AB20BMP000018 Impervious Acres was revised from 17547 to 0.40.
- 7. AB20BMP000017 Impervious Acres was revised from 16998 to 0.39.
- 8. AB20BMP000014 Impervious Acres was revised from 14423 to 0.33.
- 9. AB20BMP000016 Impervious Acres was revised from 14176 to 0.32.
- 10. AB20BMP000046 Impervious Acres was revised from 12465 to 0.29.
- 11. AB20BMP000028 Impervious Acres was revised from 12384 to 0.28.
- 12. AB20BMP000037 Impervious Acres was revised from 12300 to 0.28.
- 13. AB20BMP000044 Impervious Acres was revised from 11981 to 0.27.
- 14. AB20BMP000029 Impervious Acres was revised from 10837 to 0.24.
- 15. AB20BMP000043 Impervious Acres was revised from 10485 to 0.24.
- 16. AB20BMP000047 Impervious Acres was revised from 6889 to 0.15.
- 17. AB20BMP000041 Impervious Acres was revised from 6573 to 0.15.
- 18. AB20BMP000036 Impervious Acres was revised from 6248 to 0.14.
- 19. AB20BMP000034 Impervious Acres was revised from 6192 to 0.14.
- 20. AB20BMP000038 Impervious Acres was revised from 6184 to 0.14.
- 21. AB20BMP000042 Impervious Acres was revised from 6164 to 0.14.
- 22. AB20BMP000045 Impervious Acres was revised from 6037 to 0.13.
- 23. AB20BMP000039 Impervious Acres was revised from 5084 to 0.11.
- 24. AB20BMP000040 Impervious Acres was revised from 4826 to 0.11.
- 25. AB20BMP000031 Impervious Acres was revised from 3382 to 0.07.
- 26. AB20BMP000030 Impervious Acres was revised from 3133 to 0.07.
- 27. AB20BMP000033 Impervious Acres was revised from 1737 to 0.03.
- 28. AB20BMP000032 Impervious Acres was revised from 1737 to 0.03.

## XIII. Develop Adaptive Management Strategies for BMP Implementation that Identify Opportunities for Improved Processes and Procedures

The City has worked on developing adaptive management strategies by conducting a watershed assessment that identified multiple types of BMPs to meet their impervious area restoration requirements. Through an iterative process that included prioritizing projects and conducting field studies the City is now in the position to meet their impervious area requirements by implementing three stream restoration projects, as described in Section VIII of this impervious area restoration work plan.

## XIV. Continue to Identify Opportunities for Water Quality Improvement Projects and Collaborative Partnerships to Meet Restoration Requirements

The City worked with KCI Technologies, Inc. (KCI) to create Stream Restoration Concept plans for projects SR-1, SR-2, and SR-9.

In FY22, the City plans to work with property owners in order to establish collaborative partnerships regarding access and maintenance agreements for the three stream restoration projects mentioned above. The Stream Restoration Concept Memo is included in **Attachment I-4** of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3.



#### **CITY OF ABERDEEN**

## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

## IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 3

**APPENDIX A** 

**BMP FACT SHEETS** 





Date:

#### **Pe Addressed Calculation:**

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

100 (1)	
BMP ID Number	AB00BMP000041
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	1999
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	16.60
Total Impervious Area (Acres)	6.81
Total Impervious Area within City Limits (Acres)	6.81
I	41.00
Rv	0.42
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseli	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	6.81	Town Owned Impervious (Acres):	6.81	
Impervious Acres Treated:		0.00	)	





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

11003 + .003(1)	
BMP ID Number	AB00BMO000150
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	30.85
Total Impervious Area (Acres)	17.08
Total Impervious Area within City Limits (Acres)	17.08
I	55.00
Rv	0.55
Runnoff Storage Volume (cf) (RS)	32670
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.50

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.53
---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baselin	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.50	0.50	
Total Impervious (Acres):	17.08	Town Owned Impervious (Acres):	17.08	
Impervious Acres Treated:		8.54		





Date:

#### **Pe Addressed Calculation:**

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

BMP ID Number	AB00BMP000030
ВМР Туре	Other - Water Quality Basin
BMP Type Code	XOTH
Plan Date	1999
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.95
Total Impervious Area (Acres)	0.78
Total Impervious Area within City Limits (Acres)	0.78
I	82.00
Rv	0.79
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	0.78	Town Owned Impervious (Acres):	0.78	
Impervious Acres Treated:		0.00		





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .03 + .003(1)	
BMP ID Number	AB00BMP000151
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	3.11
Total Impervious Area (Acres)	0.60
Total Impervious Area within City Limits (Acres)	0.60
I	19.00
Rv	0.22
Runnoff Storage Volume (cf) (RS)	Attributed to AB00BMP000152
P <sub>E</sub> Treated by BMP (inches) (Pe)	

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

(" ')	
Q	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

 $\left[ \textit{Impervious Acres} \times \frac{(\textit{PE Treated by BMP} - 1)}{0.4} \times 0.1 \right] + \textit{Impervious Acres} = \textit{Impervious Acres Treated}$ 

Construction Purpose:		Baseline	Baseline	
PETreated by BMP (inches):				
Total Impervious (Acres):	0.60	Town Owned Impervious (Acres):	0.60	
Impervious Acres Treated:		N/A	N/A	





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB00BMP000152
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	4.48
Total Impervious Area (Acres)	1.54
Total Impervious Area within City Limits (Acres)	1.54
I	34.00
Rv	0.36
Runnoff Storage Volume (cf) (RS)	11566
PETreated by BMP (inches) (Pe)	2.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\)	
Q	2.07

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		2.00	2.00	
Total Impervious (Acres):	1.54	Town Owned Impervious (Acres):	1.54	
Impervious Acres Treated:		1.92		





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB00BMP000193
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	3.00
Total Impervious Area (Acres)	2.55
Total Impervious Area within City Limits (Acres)	2.55
I	85.00
Rv	0.82
Runnoff Storage Volume (cf) (RS)	2264
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.30

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.24

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.30	0.30	
Total Impervious (Acres):	2.55	Town Owned Impervious (Acres):	2.55	
Impervious Acres Treated:		0.77	0.77	





Date: 9/27/2021

#### Pe Addressed Calculation:

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

100 1000 117	
BMP ID Number	AB01BMP000118
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	46.18
Total Impervious Area (Acres)	6.19
Total Impervious Area within City Limits (Acres)	2.72
ſ	13.00
Rv	0.17
Runnoff Storage Volume (cf) (RS)	UNK
PETreated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
IQ	

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
P <sub>E</sub> Treated by BMP (inches):		0.00
Total Impervious (Acres):	6.19	Town Owned Impervious 2. (Acres):
Impervious Acres Treated:		0.00





Date:

**Pe Addressed Calculation:** 

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

AB01BMP000124
Extended Detention Structure, Dry
XDED
2001
Pass
6.63
3.13
3.13
47.00
0.47
0
0.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.00
---	------

#### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	3.13	Town Owned Impervious (Acres):	3.13	
Impervious Acres Treated:		0.00		





Date:

10/08/2020

#### **Pe Addressed Calculation:**

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

111 100 1000 (1)	
BMP ID Number	AB02BMP000016
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	5.49
Total Impervious Area (Acres)	4.33
Total Impervious Area within City Limits (Acres)	4.33
I	79.00
Rv	0.76
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00
---	------

#### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	4.33	Town Owned Impervious (Acres):	4.33	
Impervious Acres Treated:		0.00		





Date:

**Pe Addressed Calculation:** 

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

NV = .005 + .005(1)	
BMP ID Number	AB03BMP000012
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	2.09
Total Impervious Area (Acres)	1.39
Total Impervious Area within City Limits (Acres)	1.39
I	66.00
Rv	0.64
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Q	0.00

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	1.39	Town Owned Impervious (Acres):	1.39	
Impervious Acres Treated:		0.00		





Date:

#### Pe Addressed Calculation:

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

111 100 1 1005 (1)	
BMP ID Number	AB03BMP000139
ВМР Туре	Oil Grit Separator
BMP Type Code	XOGS
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.65
Total Impervious Area (Acres)	0.00
Total Impervious Area within City Limits (Acres)	0.00
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

Q = (RS)\*12 (IA)

In	
IQ	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	0.00	Town Owned Impervious (Acres):	0.00	
Impervious Acres Treated:		0.00		





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .005 + .005(1)	
BMP ID Number	AB03BMP000184
ВМР Туре	Multiple Pond System
BMP Type Code	PMPS
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	17.38
Total Impervious Area (Acres)	4.18
Total Impervious Area within City Limits (Acres)	4.18
I	24.00
Rv	0.27
Runnoff Storage Volume (cf) (RS)	41077
P <sub>E</sub> Treated by BMP (inches) (Pe)	1.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	2.71
---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baselin	Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	1.00	
Total Impervious (Acres):	4.18	Town Owned Impervious (Acres):	4.18	
Impervious Acres Treated:		4.18		





Date: 9/27/2021

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

NV 103 1 1003(1)	
BMP ID Number	AB03BMP000186
BMP Type	Submerged Gravel Wetland
BMP Type Code	MSGW
Plan Date	UNK
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	10.37
Total Impervious Area (Acres)	6.26
Total Impervious Area within City Limits (Acres)	6.26
1	60.00
Rv	0.59
Runnoff Storage Volume (cf) (RS)	UNK
PETreated by BMP (inches) (Pe)	

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):				
Total Impervious (Acres):	6.26	Town Owned Impervious (Acres):	6.26	
Impervious Acres Treated:	•			





Date: 9/2

#### Pe Addressed Calculation:

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

110 1005 119	
BMP ID Number	AB04BMP000049
ВМР Туре	UNK
BMP Type Code	XDED
Plan Date	Before 1999
BMP Inspection Status	Fail
GIS Drainage Area (Acres)	13.70
Total Impervious Area (Acres)	5.60
Total Impervious Area within City Limits (Acres)	5.60
I	41.00
Rv	0.42
Runnoff Storage Volume (cf) (RS)	UNK
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
<sub>[</sub> Q	

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	
Total Impervious (Acres):	5.60	Town Owned Impervious (Acres):	
Impervious Acres Treated:		0.00	





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .05 1 .005(1)		
BMP ID Number	AB04BMP000052	
ВМР Туре	Shallow Marsh	
BMP Type Code	WSHW	
Plan Date	2002	
BMP Inspection Status	Pass	
GIS Drainage Area (Acres)	5.23	
Total Impervious Area (Acres)	0.52	
Total Impervious Area within City Limits (Acres)	0.52	
1	10.00	
Rv	0.14	
Runnoff Storage Volume (cf) (RS)	9652	
PETreated by BMP (inches) (Pe)	2.60	

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\ /	
Q	5.16

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:  PE Treated by BMP (inches):		Baseline	Baseline 2.60	
		2.60		
Total Impervious (Acres):	0.52	Town Owned Impervious (Acres):	0.52	
Impervious Acres Treated:		0.72		





Date:

#### Pe Addressed Calculation:

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

BMP ID Number	AB04BMP000053
ВМР Туре	Other - Conveyance Swale
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	4.73
Total Impervious Area (Acres)	0.01
Total Impervious Area within City Limits (Acres)	0.01
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00		
Total Impervious (Acres):	0.01	Town Owned Impervious (Acres):	0.01	
Impervious Acres Treated:		0.00		





Date:

**Pe Addressed Calculation:** 

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

AB04BMP000054
Other - Conveyance Swale
XOTH
2002
Pass
0.72
0.08
0.08
11.00
0.15
0
0.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.00
---	------

#### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	
Total Impervious (Acres):	0.08	Town Owned Impervious (Acres):	0.08
Impervious Acres Treated:		0.00	





Date:

Pe Addressed Calculation:

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

111 111 1111	
BMP ID Number	AB04BMP000055
ВМР Туре	Other - Conveyance Swale
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.47
Total Impervious Area (Acres)	0.00
Total Impervious Area within City Limits (Acres)	0.00
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
<sub>[</sub> Q	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
PETreated by BMP (inches):		0.00
Total Impervious (Acres):	0.00	Town Owned Impervious (Acres):
Impervious Acres Treated:	•	0.00





Date:

#### **Pe Addressed Calculation:**

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .003 + .003(1)	
BMP ID Number	AB04BMP000109
ВМР Туре	Infiltration Trench
BMP Type Code	ITRN
Plan Date	2004
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	1.53
Total Impervious Area (Acres)	1.37
Total Impervious Area within City Limits (Acres)	1.37
1	89.00
Rv	0.85
Runnoff Storage Volume (cf) (RS)	2465
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.50

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.50

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.50	
Total Impervious (Acres):	1.37	Town Owned Impervious (Acres):	1.37
Impervious Acres Treated:		0.69	





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)		
BMP ID Number	AB04BMP000110	
ВМР Туре	Underground Filter	
BMP Type Code	FUND	
Plan Date	2004	
BMP Inspection Status	Pass	
GIS Drainage Area (Acres)	0.19	
Total Impervious Area (Acres)	0.17	
Total Impervious Area within City Limits (Acres)	0.17	
1	90.00	
Rv	0.86	
Runnoff Storage Volume (cf) (RS)	960	
PETreated by BMP (inches) (Pe)	1.00	

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	1.57

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
PE Treated by BMP (inches):		1.00
Total Impervious (Acres):	0.17	Town Owned Impervious (Acres):
Impervious Acres Treated:	•	0.17





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB04BMP000111
ВМР Туре	Underground Filter
BMP Type Code	FUND
Plan Date	2004
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.23
Total Impervious Area (Acres)	0.21
Total Impervious Area within City Limits (Acres)	0.21
1	90.00
Rv	0.86
Runnoff Storage Volume (cf) (RS)	960
PETreated by BMP (inches) (Pe)	1.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	1.29

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	1.00	
Total Impervious (Acres):	0.21	Town Owned Impervious (Acres):	0.21	
Impervious Acres Treated:		0.21		





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .05 + .005(1)	
BMP ID Number	AB04BMP000147
ВМР Туре	Dry Swale
BMP Type Code	ODSW
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.31
Total Impervious Area (Acres)	0.10
Total Impervious Area within City Limits (Acres)	0.10
1	32.00
Rv	0.34
Runnoff Storage Volume (cf) (RS)	399
PETreated by BMP (inches) (Pe)	1.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

<b>1.10</b>	Q	1.10
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### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	1.00	
Total Impervious (Acres):	0.10	Town Owned Impervious (Acres):	0.10	
Impervious Acres Treated:		0.10	0.10	





Date: 9/27/2021

#### Pe Addressed Calculation:

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

1005 (1)	
BMP ID Number	AB04BMP000200
BMP Type	Bioretention
BMP Type Code	FBIO
Plan Date	UNK
BMP Inspection Status	Fail
GIS Drainage Area (Acres)	21.61
Total Impervious Area (Acres)	17.24
Total Impervious Area within City Limits (Acres)	17.24
1	80.00
Rv	0.77
Runnoff Storage Volume (cf) (RS)	UNK
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
IQ	

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Basel	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	17.24	Town Owned Impervious (Acres):	17.24	
Impervious Acres Treated:		0.00	0.00	





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .003 + .003(1)	
BMP ID Number	AB05BMP000046
ВМР Туре	Impervious Surface Elimination (to pervious)
BMP Type Code	IMPP
Plan Date	2005
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.09
Total Impervious Area (Acres)	0.09
Total Impervious Area within City Limits (Acres)	0.09
I	100.00
Rv	0.95
Runnoff Storage Volume (cf) (RS)	N/A
P <sub>E</sub> Treated by BMP (inches) (Pe)	

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

(" ')	
Q	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

 $\left[ \textit{Impervious Acres} \times \frac{(\textit{PE Treated by BMP} - 1)}{0.4} \times 0.1 \right] + \textit{Impervious Acres} = \textit{Impervious Acres Treated}$ 

Construction Purpose:		Baseline	Baseline	
PETreated by BMP (inches):				
Total Impervious (Acres):	0.09	Town Owned Impervious (Acres):	0.09	
Impervious Acres Treated:	•			





Date:

#### Pe Addressed Calculation:

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB05BMP000084
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	1997
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	10.39
Total Impervious Area (Acres)	5.88
Total Impervious Area within City Limits (Acres)	5.56
1	57.00
Rv	0.56
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Q	0.00

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baselir	ne
PE Treated by BMP (inches):		0.00	
Total Impervious (Acres):	5.88	Town Owned Impervious (Acres):	5.56
Impervious Acres Treated:		0.00	





Date:

#### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .03 + .003(1)	
BMP ID Number	AB05BMP000102
ВМР Туре	Bioretention
BMP Type Code	FBIO
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.66
Total Impervious Area (Acres)	0.65
Total Impervious Area within City Limits (Acres)	0.65
ı	98.00
Rv	0.93
Runnoff Storage Volume (cf) (RS)	448
P <sub>E</sub> Treated by BMP (inches) (Pe)	1.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.19

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	
Total Impervious (Acres):	0.65	Town Owned Impervious (Acres):	0.65
Impervious Acres Treated:		0.65	





Date:

#### **Pe Addressed Calculation:**

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

RV = .05 + .009(1)	
BMP ID Number	AB05BMP000148
ВМР Туре	Dry Swale
BMP Type Code	ODSW
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.78
Total Impervious Area (Acres)	0.15
Total Impervious Area within City Limits (Acres)	0.15
1	19.00
Rv	0.22
Runnoff Storage Volume (cf) (RS)	460
PE Treated by BMP (inches) (Pe)	1.00

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.87

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
PE Treated by BMP (inches):		1.00	
Total Impervious (Acres):	0.15	Town Owned Impervious (Acres):	0.15
Impervious Acres Treated:		0.15	





Date:

#### **Pe Addressed Calculation:**

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

RV = .05 + .009(1)	
BMP ID Number	AB05BMP000167
ВМР Туре	Extended Detention Structure, Wet
BMP Type Code	PWED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	5.38
Total Impervious Area (Acres)	1.21
Total Impervious Area within City Limits (Acres)	1.21
I	23.00
Rv	0.26
Runnoff Storage Volume (cf) (RS)	7492
PE Treated by BMP (inches) (Pe)	1.50

## **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	1.70

## **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
P <sub>E</sub> Treated by BMP (inches):		1.50
Total Impervious (Acres):	1.21	Town Owned Impervious (Acres):
Impervious Acres Treated:		1.36



#### **CITY OF ABERDEEN**

## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

## IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 3

**APPENDIX B** 

**BMP Pe DOCUMENTATION** 

## Stormwater Management Report

Frito-Lay, Inc.
Commercial Vehicle Storage

800 Hickory Drive Aberdeen, MD 21001

August 2014



Prepared for:

Frito-Lay, Inc. c/o The Haskell Company 111 Riverside Avenue Jacksonville, FL 32202 (904) 791-4500

Prepared by:

KCI Technologies, Inc. 1352 Marrows Road Suite 100 Newark, DE 19711 (302) 731-9176 PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ATRCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3487, EXPIRATION DATE: 7/03/2016.



KCI Job No 27065506B

Project:	Frito Lay - Aberdeen - Co	ommercial Vehicle S	Storage
J.O.	27065506B	_	
By:	JMS	Date:	8/27/2014
K (   Checked:		Date:	
			<u> </u>

#### Submerged Gravel Wetland Facility 1 - AB19BMP000027

Drainage Area to Facility = 1.865 Acres Impervious = 1.597 Acres Pervious = 0.268 Acres

#### **Total Facility Storage Requirements:**

Target Pe = Rv = 0.05 + 0.009(I)ESDv = Rv = 0.05 + 0.009 ( 85.630027) (Pe)(Rv)(A) 0.82067 12 Rv =ESDv = 3.0611 12 0.255092 Ac/Ft ESDv = 11,112 Cubic Feet

Max Pe = 2.7 ESDv = (Pe)(Rv)(A) 12 ESDv = 4.132485 12 ESDv = 0.344374 Ac/Ft 15.001 Cubic Feet or

#### **Facility Geometry:**

5145 Square Feet Facility Surface Area = Ponding Area = 6258 Square Feet Ponding Depth = 1 Feet

Check to ensure facility is  $\geq 2\%$  of the contributing area: 5,145 81,239

#### **Facility Storage:**

5,702 Cubic Feet of Storage Above Filter Media Media thickness = 3 feet below facility bottom

6174 Cubic Feet of Storage within Filter Media 5.145 0.4 5,702 6,174 11,876 Cubic Feet of Total Storage for Facility

#### **Required Temporary Storage Volume Above Facility:**

Af / Ai = Required Surface Storage Percentage 5,145 s.f. Af = Ai = 69,565 s.f.

1 69,565 7 % 5,145

Using the Table for SHA-BSM, the Required

Storage Percentage = 7%

11,112 c.f. x 7% 778 c.f.. of Temporary Surface Storage Required with SHA-BSM If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

8,334 c.f. of Temporary Surface Storage Required w/o SHA-BSM 11,112

Total Temporary Storage Volume Provided Above Facility = 5,702 c.f. Total Temporary Storage Volume Provided Below Facility = 6,174 c.f. Total Temporary Storage Volume Provided = 11,876 c.f. Maximum Storage Volume Allowed = 15,001 c.f.

Total Credited Volume towards ESD Requirement = 11,876 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

## Stormwater Management Report

Frito-Lay, Inc.
Warehouse Expansion

800 Hickory Drive Aberdeen, MD

February 2014



Prepared for:

Frito-Lay, Inc. c/o The Haskell Company 111 Riverside Avenue Jacksonville, FL 32202

Prepared by:

KCI Technologies, Inc. 1352 Marrows Road Suite 100 Newark, DE 19711 PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26990,

EXPIRATION DATE: 12/21/2015.



KCI Job No 27065506A

Project:	Frito Lay - Aberdeen			
J.O.				
By:	CEM	Dat	2/27/2014	
Checked		Dat		

#### Micro-Bioretention Facility # 1 - AB19BMP000097

Drainage Area to Facility =

0.476 Acres

Impervious =

0.395 Acres

Pervious =

1

0.081 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

2,000

20.735

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000 Х

Х 1,600

1600 Cubic Feet of Storage within Filter Media

2,250

3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

1.8 "

0.7968

12

Rv = 0.05 + 0.009(1)

Rv = 0.05 + 0.009 (

82.983193)

Rv =

ESDv =

1.8 х 0.476

ESDv =

0.68274

12

ESDv =

0.056895 Ac/Ft

2.478 Cubic Feet

Af =

12 %

Ai =

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f.

2,000

17,206

0.7968

17,206 s.f.

Using the Table for SHA-BSM, the Required

Storage Percentage = 2,478 c.f. x

43% 43%

1,066 C.F. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility,

75% of the Required

2,250 /

ESDv must be Provided Above the Facility

2,478

75% 1,859 c.f.

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

3,000 )(12)/( 0.7968)( PE = (

0.476)

PE =

Project:	Frito Lay - Aberdeen				
J.O	OFM	Det	2/26/2014		
TZ C T By:	CEM	Dat	2/20/2014		
K C Checked:		Dat			

#### Micro-Bioretention Facility # 2 - AB19BMP000098

Drainage Area to Facility =

0.491 Acres

Impervious =

0.404 Acres

Pervious =

0.087 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

2,000

21,388

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000 Х Х

1600 Cubic Feet of Storage within Filter Media

1.8 "

3,850 Cubic Feet of Total Storage for Facility 2,250 1,600

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

82.281059)

Rv = 0.7905

ESDv =

0.7905 1.8 х

0.491

ESDv =

0.69867

12

ESDv =

0.058223 Ac/Ft

2,536 Cubic Feet

Af =

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f. 17,598 s.f.

2,000

17,598

Ai = 11 %

Using the Table for SHA-BSM, the Required

Storage Percentage = 2,536 c.f. x

46% 46%

1,167 c.f. of Temporary Surface Storage Required with SHA BS MM

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,536 x 75%

1,902 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

2,250 / 0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

0.7905)(

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

3,000 PE = ( )(12)/(

0.491)

PE =

Project:	Frito Lay - Aberdeen			
J.O	OFM	Det	2/26/2014	
By:	CEM	Dat	2/20/2014	
Checked:		Dat		

#### Micro-Bioretention Facility #3 - AB19BMP000099

Drainage Area to Facility =

0.496 Acres

Impervious =

0.398 Acres

Pervious =

1

0.098 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area: 21,606

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000

0.4

1600 Cubic Feet of Storage within Filter Media

2,250

2 1,600

3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)12

1.8 " Pe =

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 ( 80.241935)

0.7722

ESDv =

1.8 0.7722 x 0.496

ESDv =

0.6894

12

ESDv =

0.05745 Ac/Ft

2,503 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

Ai =

2,000

17,337

12 %

Using the Table for SHA-BSM, the Required

1

Storage Percentage =

c.f. x

50%

1,251 c.f. of Temporary Surface Storage Required

2,000 s.f. 17,337 s.f.

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,503 x 75%

1,877 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility = 2,250 / 2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

0.496) 0.7722)( PE = ( 3,000 )(12) /(

PE =

Project:	Frito Lay - Aberdeen		
J.O	CEM	Dat	2/26/2014
KC I Checked:		Dat	

#### Micro-Bioretention Facility # 4 - AB19BMP000100

Drainage Area to Facility =

0.408 Acres

Impervious =

0.34 Acres

Pervious =

0.068 Acres

Facility Surface Area =

1,700 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

1,700 1 17,772

Facility Storage:

1,934 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

1,700

0.4 х

1360 Cubic Feet of Storage within Filter Media

1,934

2 1,360

3,294 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv = (Pe)(Rv)(A) 1.8 "

12

Rv = 0.05 + 0.009(I)Rv = 0.05 + 0.009 ( 83.333333)

0.8

Rv =

0.408

E\$Dv =

х

0.8 x

ESDv =

0.58752

1.8

12

ESDv = 0.04896 Ac/Ft

2,133 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage Af =

Ai =

1,700 s.f. 14,810 s.f.

1,700

14,810

11 %

#### Using the Table for SHA-BSM, the Required

Storage Percentage = 55%

1

2,133 c.f. x

55%

1,173 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,133 x 75%

1,600 c.f. of Temporary Surface Storage Required w/o SHA-BSM

1,934 /

Total Temporary Storage Volume Provided Above Facility = Total Credited Volume towards ESD Requirement =

1,934 c.f.

Total Credited Volume towards ESD Requirement =

0.75 2,578 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility.

0.8)(

The Facility does not Require the use of SHA-BSM.

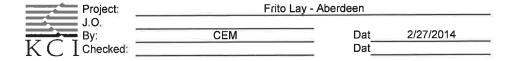
PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

)(12) /( 2.18 " PE = ( 2,578

0.408)

PE =



#### Micro-Bioretention Facility #5 - AB19BMP000101

Drainage Area to Facility =

0.483 Acres

Impervious =

0.403 Acres

Pervious =

1

0.08 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area: 2,000

21,039

Facility Storage:

2,175 Cubic Feet of Storage Above Filter Media 2

Media thickness =

2 feet below facility bottom

2,000 х

х

1600 Cubic Feet of Storage within Filter Media

3,775 Cubic Feet of Total Storage for Facility 1,600 2,175 =

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe = 1.8 "

12

Rv = 0.05 + 0.009(I)

83.436853) Rv = 0.05 + 0.009 (

Rv = 0.8009

0.483

ESDv =

1.8 0.8009

ESDv =

0.69633

12

ESDv =

0.058028 Ac/Ft

or

2,528 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

Af = Ai =

17,555 2,000

c.f. x

11 %

Using the Table for SHA-BSM, the Required

Storage Percentage =

59%

59%

1,491 c.f. of Temporary Surface Storage Required

2,000 s.f.

17,555 s.f.

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,528 x 75%

1,896 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility =

2,175 c.f.

Total Credited Volume towards ESD Requirement =

2,175 / 0.75

Total Credited Volume towards ESD Requirement =

2,900 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

0.8009)(

#### PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

2,900 PE = (

)(12) /(

0.483)

PE =

Project:	Frito Lay - Aberdeen			
J.O.				
By:	CEM	Dat	2/26/2014	
K C   Checked:		Dat		

#### Micro-Bioretention Facility #6 - AB19BMP000102

Drainage Area to Facility =

0.488 Acres

Impervious =

0.389 Acres

Pervious =

0.099 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

21,257

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000

1600 Cubic Feet of Storage within Filter Media

79.713115)

2,250

2 1,600

0.4 3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

1.8 " Pe =

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

0.488

Rv = 0.7674

ESDv =

1.8 0.7674

ESDv =

0.6741

12

ESDv =

0.056175 Ac/Ft

2,447 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f.

2,000 1

16,945

Ai = 12 %

Using the Table for SHA-BSM, the Required

Storage Percentage = 2,447 c.f. x

50% 50%

1,223 c.f. of Temporary Surface Storage Required

16,945 s.f.

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,447 x 75%

1,835 c.f. of Temporary Surface Storage Required w/o SHA-BSM

2,250 /

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

3,000 PE = ( 0.7674)( )(12) /(

0.488)

PE =

Project:	Frito Lay - Aberdeen			
J.O.	CEM	Dat	2/26/2014	
KC I Checked:		Dat		

#### Micro-Bioretention Facility #7 - AB19BMP000103

Drainage Area to Facility =

0.492 Acres

Impervious =

0.445 Acres

Pervious =

0.047 Acres

Facility Surface Area =

2,200 (See Storage Table)

1

Check to ensure facility is ≥ 2% of the contributing area:

2,200

21,432

#### Facility Storage:

2,464 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2.200

0.4 х

1760 Cubic Feet of Storage within Filter Media

2,464

2 1,760

4,224 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

1.8 "

12

Rv = 0.05 + 0.009(I)Rv = 0.05 + 0.009 (

90.447154)

Rv =

ESDv =

1.8 х 0.864 X 0.492

0.864

ESDv =

0.76518

12

ESDv =

0.063765 Ac/Ft

2,778 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage Af =

Ai =

2,200 s.f. 19,384 s.f.

2,200

19,384

11 %

Using the Table for SHA-BSM, the Required

Storage Percentage =

50% 50%

1,389 c.f. of Temporary Surface Storage Required

2,778 If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

c.f. x

2,778 x 75%

2,083 c.f. of Temporary Surface Storage Required w/o SHA-BSM

2,464 /

Total Temporary Storage Volume Provided Above Facility =

2,464 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,285 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

 $\overline{PE} = (\overline{ESDv})(12) / (Rv)(A)$ 

PE = ( 3,285 )(12)/( 0.864)( 0.492)

PE =

Project:	Frito Lay - Aberdeen		
J.O.	CEM	Dat	2/26/2014
KC I Checked:		Dat	

#### Micro-Bioretention Facility #8 - AB19BMP000104

Drainage Area to Facility =

0.357 Acres

Impervious =

0.283 Acres

Pervious =

1

0.074 Acres

Facility Surface Area =

1,400 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

1,400

15,551

9 %

#### Facility Storage:

1.613 Cubic Feet of Storage Above Filter Media

2 feet below facility bottom

1,400

1120 Cubic Feet of Storage within Filter Media

1,613

2 1,120 0.4

2,733 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

1.8 "

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

79,271709)

Rv = 0.7634

ESDv =

1.8

0.7634 Х 0.357

ESDv =

0.49059

12

ESDv =

0.040883 Ac/Ft

1,781 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

1,400

Af / Ai = Required Surface Storage Percentage Af = 12,327

1,400 s.f. 12,327 s.f.

Ai =

11 %

#### Using the Table for SHA-BSM, the Required

Storage Percentage =

50%

50% 1,781 c.f. x

1

890 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

1,781 x 75%

1,336 c.f. of Temporary Surface Storage Required w/o SHA-BSM

1,613 /

Total Temporary Storage Volume Provided Above Facility =

1,613 c.f.

Total Credited Volume towards ESD Requirement = Total Credited Volume towards ESD Requirement =

0.75 2,151 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

PE = ( 2,151 )(12) /( 0.7634)(

0.357)

PE =

Project:	Frito Lay - Aberdeen		
J.O	CEM	Dat	2/26/2014
KC I Checked:	OLIVI	Dat	2/20/2011

#### Micro-Bioretention Facility #10 AB19BMP000105

Drainage Area to Facility =

0.304 Acres

Impervious =

0.184 Acres

Pervious =

0.12 Acres

Facility Surface Area =

1,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

13,242

Facility Storage:

1,183 Cubic Feet of Storage Above Filter Media

Media thickness =

1,000

2 feet below facility bottom

2 0.4 800 Cubic Feet of Storage within Filter Media

60.526316)

800 1,983 Cubic Feet of Total Storage for Facility 1,183

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe = 1.8 "

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

0.5947

ESDv =

0.304 1.8 0.5947

ESDv =

0.32544

12

ESDv =

0.02712 Ac/Ft

1,181 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

1,000 s.f.

1,000

8,015

Ai =

8,015 s.f.

1

12 %

Using the Table for SHA-BSM, the Required

Storage Percentage = 1,181 c.f. x

46% 46%

543 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

1,181 x 75%

886 c.f. of Temporary Surface Storage Required w/o SHA-BSM

1,183 /

Total Temporary Storage Volume Provided Above Facility =

1,183 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

1,577 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

1,577 PE = ( )(12) /( 0.5947 )( 0.304)

2.40 " PE =

Project:	Frito Lay - Aberdeen			
J.O.	CEM	— Dat	2/26/2014	
KC I Checked:		Dat		

#### Micro-Bioretention Facility #11- AB19BMP000106

Drainage Area to Facility =

0.486 Acres

Impervious =

0.414 Acres

Pervious =

1

0.072 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

2,000

21,170

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000 Х Х

1600 Cubic Feet of Storage within Filter Media

2,250

1,600

3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

Rv = 0.05 + 0.009(1)

12

Rv = 0.05 + 0.009 ( 85.185185)

1.8 "

Rv = 0.8167

ESDv =

1.8 х 0.8167

0.486

ESDv =

0.71442

12

ESDv =

0.059535 Ac/Ft

or

2,593 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f. 18,034 s.f.

18,034

Af = Ai = 11 %

2,000

Using the Table for SHA-BSM, the Required Storage Percentage =

2,593

50% 50%

1,297 c.f. of Temporary Surface Storage Required

2,250 /

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility 1,945 c.f. of Temporary Surface Storage Required w/o SHA-BSM

2,593 x 75%

c.f. x

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

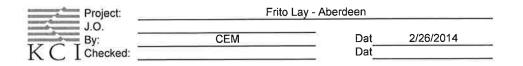
Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

)(12) /( 0.486) 0.8167)( PE = ( 3,000

PE =



#### Micro-Bioretention Facility #12 - AB19BMP000107

Drainage Area to Facility =

0.222 Acres

Impervious =

0.164 Acres

Pervious =

/

0.058 Acres

=

Facility Surface Area =

1,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area: 1,000

9,670

10 %

Facility Storage:

1,183 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

1,000

0.4 Х

800 Cubic Feet of Storage within Filter Media

1,183 + 2

1,983 Cubic Feet of Total Storage for Facility 800

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 ( 73.873874)

1.8 "

Rv = 0.7149

ESDv =

1.8 0.7149 Х

0.222

ESDv =

0.28566

12

ESDv =

0.023805 Ac/Ft

1,037 Cubic Feet

Х

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

1

1,000 s.f.

1,000

7,144

7,144 s.f. Ai =

Using the Table for SHA-BSM, the Required

Storage Percentage =

45% 45%

467 c.f. of Temporary Surface Storage Required

Af =

14 %

1,037 c.f. x If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

1,037 x .75 778 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility = 1,183 / 1,183 c.f.

Total Credited Volume towards ESD Requirement = Total Credited Volume towards ESD Requirement =

0.75 1,183 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided

for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

 $\overline{PE} = (ESDv)(12) / (Rv)(A)$ 

PE = ( 1,183 0.7149 )( 0.222))(12) /(

PE =

Project:	Frito Lay - Aberdeen			
J.O.	CEM	Dat	2/26/2014	
KC I Checked:		Dat		

#### Micro-Bioretention Facility #9 - AB19BMP000168

Drainage Area to Facility =

0.488 Acres

Impervious =

0.288 Acres

Pervious =

0,2 Acres

Facility Surface Area =

1,500 (See Storage Table)

/

Check to ensure facility is ≥ 2% of the contributing area:

1,500

21,257

#### Facility Storage:

1,720 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

1,500

1200 Cubic Feet of Storage within Filter Media

2

0.4

1,200 1,720 2,920 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe = 1.8 "

12

Rv = 0.05 + 0.009(1)

Rv = 0.05 + 0.009 ( 59.016393)

Rv = 0.5811

ESDv =

1.8 0.5811 0.488 х Х

ESDv =

0.51048

12

ESDv =

0.04254 Ac/Ft

1,853 Cubic Feet

Ai =

12 %

#### Required Temporary Storage Volume Above Facility:

1,853

Af / Ai = Required Surface Storage Percentage Af =

1,500

12,545

1,500 s.f. 12,545 s.f.

1,720 /

Using the Table for SHA-BSM, the Required

Storage Percentage =

50% 50%

927 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

1,853 x 75%

c.f. x

1

1,390 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility =

1,720 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

2,293 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

PE = ( 0.5811 )( 0.488) 2,293 )(12) /(

PE =



#### **SWM Record Computations**

SUBMIT TO:

City of Aberdeen Department of Planning and Community Development

PROJECT:

LIDL - Aberdeen MD142108

PROJECT LOCATION:

621 S. Philadelphia Blvd (U.S. Route 40)
Aberdeen, MD
City of Aberdeen
Harford County

#### OWNER/DEVELOPER:

LIDL US OPERATIONS, LLC 3500 South Clark St. Arlington, VA, 22202



I, Joseph J. Ucceferro, P.E., hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 36064, Expiration Date: 6/26/2020.

January 4, 2019

**Bohler Engineering** 901 Dulaney Valley Road Suite 801 Towson, MD, 21204

Phone: 410-821-7900 Fax : 410-821-7987

#### Bioretention 1 - AB20BMP000051

1/4/2019

#### **BASE DATA**

Drainage Area = 1.58 Acres.

Total Impervious Area on site= 1.16 Acres.

Soils Type on the site: Type B and C soils

#### **COMPUTATION OF WATER QUALITY VOLUME**

Water Quality Volume is given by:

$$WQ_v = (P.R_v.A)/12$$
  
Where P = rainfall depth  
= 1.8 "

Total Drainage Area = 1.58 Acres
$$R_v = \text{Volumetric runoff Coefficient}$$

$$= 0.05 + 0.009(I)$$

$$\text{where I = Percentage Impervious Cover}$$

$$= (1.16/1.58) * 100$$

$$= 73.42 %$$

$$R_v = 0.05 + 0.009(73.42)$$

$$= 0.711$$

Thus, the Water Quality Volume is given by :

$$WQ_v = (1.8 * 0.71 * 1.58) / 12$$
  
= 0.168 Ac -ft.

Thus, the Total Water Quality Volume required for this Bioretention is (75% of total WQv):

 $WQ_v = 0.168$  Acre-feet 7338 cf X 75% = 5503 cf

#### Bioretention 2 - AB20BMP000052

1/4/2019

#### **BASE DATA**

Drainage Area = 2.01 Acres.

Total Impervious Area on site= 1.25 Acres.

Soils Type on the site: Type B and C soils

#### COMPUTATION OF WATER QUALITY VOLUME

Water Quality Volume is given by:

$$WQ_v = (P.R_v.A)/12$$
  
Where P = rainfall depth  
= 1.8 "

Total Drainage Area = 2.01 Acres 
$$R_v = \text{Volumetric runoff Coefficient}$$
 
$$= 0.05 + 0.009(I)$$
 where I = Percentage Impervious Cover 
$$= (1.25/2.01) * 100$$
 
$$= 62.19 \%$$
 
$$R_v = 0.05 + 0.009(62.19)$$
 
$$= 0.610$$

Thus, the Water Quality Volume is given by :

$$WQ_v = (1.8 * 0.61 * 2.01) / 12$$
  
= 0.184 Ac -ft.

Thus, the Total Water Quality Volume required for this pond is:

 $WQ_v = 0.184$  Acre-feet 8007 cf X 75% = 6006 cf

#### M-6 MBIO-1 - AB20BMP000053

SWM As-Builts

Location:

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.46	acres	20000	square feet	(20,000 sf Max, not including facility)
Total Proposed Impervious Area	0.33	acres	14375	square feet	
Impervious Area Percentage, Ipost	71.9%			<del>-</del> "	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.697				

## Calculate ESD Volumes Provided Using Micro-Bioretention: Filter Bed Area ( $A_{\rm f}$ ) Sizing

A<sub>f</sub> must be a minimum of 2% of DA

$A_{f(min)} = 0.02 * DA =$	400 sf
Area of Filter Bed Provided =	775 sf

Stage Storage Table for Micro-Bioretention

etage eterage ran		• • • • • • • • • • • • • • • • • • • •					
	AREA	AVG	INC ELEV	-	INTERVAL	TOTAL	TOTAL
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft)
61.00	775					0	0.00000
		878	0.5		439		
61.50	980			0.5		439	0.01007
		1,080	0.25		270		
61.75	1,180			0.75		709	0.01627
		1,313	0.25		328		
62.00	1.445			1.00		709	0.01627

Ponding depth =	1.00	ft
Volume Provided prior to filtration =	709	cf
Depth of Mulch =	0.25	ft
Depth of Filter Media =	4.0	ft
Depth of Stone to Invert of Underdrain =	0.8	ft
Volume Provided within mulch, filter and stone	e layers	
+ 4 + 0.8) * 775 * 0.4 =	1,566	cf
Total Volume Provided in Facility =	2,274	cf

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6)  $Max ESDv = (P)(R_v)(A)/12 = 3,020$ 

ESDv Provided by Micro-Bioretention =	2.274	cf
(Use smaller of two volumes)	2,274	CT

Ŀ	P <sub>E</sub> (in) Achieved =	2.0

#### M-6 MBIO-3-AB20BMP000054

SWM As-Builts

Location:

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.13	acres
Total Proposed Impervious Area	0.07	acres
Impervious Area Percentage, Ipost	53.8%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.535	

5663	square feet	(20
3049	square feet	

20,000 sf Max, not including facility)

#### Calculate ESD Volumes Provided Using Micro-Bioretention:

Filter Bed Area (A<sub>f</sub>) Sizing  $A_{\mbox{\scriptsize f}}$  must be a minimum of 2% of DA

$A_{f(min)} = 0.02 * DA =$	113 sf
Area of Filter Bed Provided =	845 st

Stage Storage Table for Micro-Bioretention

ELEV	AREA (sf)	AVG AREA (sf)	INC ELEV DIFF (ft)	TOTAL DEPTH (ft)	INTERVAL STOR. (cf)	TOTAL STOR (cf)	TOTAL STOR. (ac-fi
ELEV	(31)	AILA (SI)	Dil I (II)	DEPIR (II)	310K. (ci)	310K. (ci)	STOR. (ac-it
61.75	845					0	0.00000
		950	0.3		238		
62.00	1,055			0.3		238	0.00545
		1,223	0.50		611		
62.50	1,390			0.75		849	0.01948
		1,475	0.25		369		
62.75	1,560			1.00		1,218	0.02795

Elev of mulch approx. 61.60 +/-

Ponding depth =	1.00 ft
Volume Provided prior to filtration =	1,218 cf
Depth of Mulch =	0.25 ft
Depth of Filter Media =	2.0 ft
Depth of Stone to Invert of Underdrain =	1.0 ft
Volume Provided within mulch, filter and stone	layers
5 + 2 + 1) * 845 * 0.4 =	1,099 cf
Total Volume Provided in Facility =	2,316 cf
	_,

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

 $\label{eq:maximum} \begin{tabular}{lll} Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6) \\ \hline \begin{tabular}{lll} Max ESDv = (P)(R_v)(A)/12 = & 656 \\ \hline \end{tabular}$ 

ESDv Provided by Micro-Bioretention =	656	cf
(Use smaller of two volumes)	000	CI

P <sub>E</sub> (in) Achieved =	2.6

Location:

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.19	acres
Total Proposed Impervious Area	0.17	acres
Impervious Area Percentage, Ipost	90.4%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.86	

8196 square feet 7405 square feet

(20,000 sf Max, not including facility)

#### Calculate ESD Volumes Provided Using Micro-Bioretention:

Filter Bed Area (A<sub>f</sub>) Sizing
A<sub>f</sub> must be a minimum of 2% of DA

A <sub>f(min)</sub> = 0.02 * DA =	164 sf
Area of Filter Red Provided =	450 sf

Stage Storage Table for Micro-Bioretention

Jugo Ciorage ran	rage storage rable for militie bioretermon						
	AREA	AVG	INC ELEV	TOTAL	INTERVAL	TOTAL	TOTAL
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft
58.00	450					0	0.00000
		505	0.3		126		
58.25	560			0.3		126	0.00290
		610	0.25		153		
58.50	660			0.50		279	0.00640

Ponding depth =	0.50
Volume Provided prior to filtration =	279
Depth of Mulch =	0.25
Depth of Filter Media =	3.0
Depth of Stone to Invert of Underdrain =	1.0
Volume Provided within mulch, filter and stone	e layers
5 + 3 + 1) * 450 * 0.4 =	765
Total Volume Provided in Facility =	1,044

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

 $\label{eq:maximum} \begin{array}{lll} \mbox{Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6)} \\ \mbox{Max ESDv = (P)(R_v)(A)/12 =} \\ \mbox{1,533} \end{array}$ 

ESDv Provided by Micro-Bioretention =	4.044	۱.,
(Use smaller of two volumes)	1,044	Cf

P <sub>E</sub> (in) Achieved =	1.8
--------------------------------	-----

#### M-6 MBIO-5 - AB20BMP000056

Location:

- AB20BMP000056 SWM As-Builts

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.22	acres
Total Proposed Impervious Area	0.12	acres
Impervious Area Percentage, Ipost	54.5%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.54	

9583 square feet square feet

(20,000 sf Max, not including facility)

## Calculate ESD Volumes Provided Using Micro-Bioretention: Filter Bed Area ( $\mathbf{A}_{\mathbf{f}}$ ) Sizing

A<sub>f</sub> must be a minimum of 2% of DA

A <sub>f(min)</sub> = 0.02 * DA =	192 sf
Area of Filter Bed Provided =	1,100 sf

#### Stage Storage Table for Micro-Bioretention

	AREA	AVG	INC ELEV	TOTAL	INTERVAL	TOTAL	TOTAL
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft)
58.00	1,100					0	0.00000
		1,230	0.3		308		
58.25	1,360			0.3		308	0.00706
		1,660	0.25		415		
58.50	1,960			0.50		723	0.01659

Total Volume Provided in Facility =	2,153			
+ 2 + 1) * 1100 * 0.4 =	1,430			
Volume Provided within mulch, filter and stone	layers			
Depth of Stone to Invert of Underdrain =	1.0			
Depth of Filter Media =	2.0			
Depth of Mulch =	0.25			
Volume Provided prior to filtration =	723			
Ponding depth =	0.50			

(1 ft Max)

(2 - 4 ft) (Including 4" pea gravel bridging layer)

 $\label{eq:maximum} \begin{tabular}{lll} Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6) \\ \hline \begin{tabular}{lll} Max ESDv = (P)(R_v)(A)/12 = & 1,123 \\ \hline \end{tabular}$ 

ESDv Provided by Micro-Bioretention =	1.123	cf
(Lise smaller of two volumes)	1,123	CI

P <sub>E</sub> (in) Achieved =	2.6

#### M-6 MBIO-6 - AB20BMP000057

Location:

SWM As-Builts

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.23	acres
Total Proposed Impervious Area	0.05	acres
Impervious Area Percentage, Ipost	22.7%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.25	

9971	square feet
2259	square feet

(20,000 sf Max, not including facility)

#### Calculate ESD Volumes Provided Using Micro-Bioretention:

#### Filter Bed Area (A<sub>f</sub>) Sizing

 $A_{\mbox{\scriptsize f}}$  must be a minimum of 2% of DA

$A_{f(min)} = 0.02 * DA =$	200 sf
Area of Filter Bed Provided =	200 sf

Stage Storage Table for Micro-Bioretention

Otage Otorage Tax	DIG TOT WINCTO-DIGIT	Sterition					
	AREA	AVG	INC ELEV	TOTAL	INTERVAL	TOTAL	TOTAL
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft)
58.00	200					0	0.00000
		203	0.3		51		
58.25	205			0.3		51	0.00116
		208	0.55		114		
58.80	210			0.80		165	0.00378

MULCH AREA SHOWN AT VARYING ELEVATIC

5 + 3 + 1) * 200 * 0.4 =	340
Volume Provided within mulch, filter and stone	lavers
Depth of Stone to Invert of Underdrain =	1.0
Depth of Filter Media =	3.0
Depth of Mulch =	0.25
Volume Provided prior to filtration =	165
Ponding depth =	0.80

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

		_
ESDv Provided by Micro-Bioretention =	FOF	L
(Use smaller of two volumes)	505	C1

P <sub>E</sub> (in) Achieved = 2.4
------------------------------------

#### STORMWATER MANAGEMENT REPORT

#### Hampton Inn & LaQuinta Inn

City of Aberdeen Harford County, Maryland



## CITY OF ABERDEEN

#### OWNER/DEVELOPER

Crossroads Hospitality 793 West Bel Air Avenue Aberdeen, Maryland 21001 Attn: Mr. Nick Patel Phone: 410.272.6000



#### **Professional Certification**

"I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 34672, Expiration Date: 08/23/2015."



#### PREPARED BY:

#### **MORRIS & RITCHIE ASSOCIATES, INC.**

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS
3445-A Box Hill Corporate Center Drive
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CONTACT: Amy G. DiPietro, P.E., LEED AP
MRA Project No. 18189

January 2015

Project:

Aberdeen Hotel

Job #:

18189

Designed by: CEM

Date

12/31/2014

Checked by: AGD

## Design of Micro-Bioretention Facility in Drainage Area 1a

AB20BMP000109



#### Objective #1: Define the drainage area.

Total Drainage Area (DA) =

Total Impervious Area (Ai) =

6,339 sf

Impervious Percentage (I) =

67.5%

9,386 sf

 $I = A_i / DA$ 

Runoff Coefficient (R<sub>v</sub>) =

0.658

 $R_v = 0.05 + 0.009 \times I \times 100$ 

#### Objective #2: Determine the ESD Volume provided.

Bottom Area of Ponding =

Top Area of Ponding =

300 sf 300 sf 12" Length = Width =

Ponding Depth = Ponding Volume =

300 cf

Filter Area (A<sub>f</sub>) =

300 sf

Planting Media Thickness =

2.0 ft.

Storage within Planting Media =

240 cf

(assumes 40% porosity in planting media)

Total ESD<sub>V</sub> Provided =

540 cf

Micro-bioretention facilities shall be sized to capture a minimum of 75% of ESD volume

Total ESD<sub>V</sub> Credited =

720 cf

(ESDv provided / 75%)

Equivalent P<sub>E</sub> Provided =

1.4 in.

 $P_E = (12 \times ESD_V) / (R_v \times DA)$ 



Project:

Aberdeen Hotel

Job #:

Designed by: CEM

Date

12/31/2014

18189

Checked by: AGD

## Design of Micro-Bioretention Facility in Drainage Area 2a

AB20BMP000110



#### Objective #1: Define the drainage area.

Total Drainage Area (DA) =

18,187 sf

Total Impervious Area (Ai) =

12,177 sf 67.0%

Impervious Percentage (I) =

0% I = A<sub>i</sub> / DA

Runoff Coefficient (R<sub>v</sub>) =

0.653

 $R_v = 0.05 + 0.009 \times I \times 100$ 

#### Objective #2: Determine the ESD Volume provided.

Bottom Area of Ponding =

Top Area of Ponding =

515 sf 515 sf

Width =

Length =

Ponding Depth = Ponding Volume =

12" 515 cf

Filter Area (A<sub>f</sub>) =

515 sf

Planting Media Thickness =

2.0 ft.

Storage within Planting Media =

412 cf

(assumes 40% porosity in planting media)

Total ESD<sub>V</sub> Provided =

927 cf

Micro-bioretention facilities shall be sized to capture a minimum of 75% of ESD volume

Total ESD<sub>V</sub> Credited =

1,236 cf

(ESDv provided / 75%)

Equivalent P<sub>E</sub> Provided =

1.2 in.

 $P_E = (12 \times ESD_V) / (R_v \times DA)$ 

Project:

Hamilton Reserve

Job#: 17023 Designed by DRS

Date 1/14/2015

Checked by: AGD

Design of Bio-Swale Facility #2b in Drainage Area 2b (Offline Facility - see Flowmaster Outputs)



#### AB20BMP000111

#### Objective #1: Define the drainage area.

Total Drainage Area (DA) = 20,728 sf 18,000 sf Total Impervious Area (A<sub>i</sub>) = 86.8% Impervious Percentage (I) =

0.832 Runoff Coefficient (R<sub>v</sub>) =

 $I = A_i / DA$ 

 $R_v = 0.05 + 0.009 \times I \times 100$ 

#### Objective #2: Determine the ESD Volume provided.

Peak Flow Rate (Q<sub>ESD</sub>) =

690 sf Total Filter Area (A<sub>f</sub>) = 6" Temporary Ponding Depth = Planting Media Thickness = 4.0 ft. Total ESD<sub>V</sub> Provided = 1.449 cf 1.01 in. Equivalent P<sub>E</sub> Provided =

Length = 220 Width =

 $P_E = (12 \times ESD_V) / (R_v \times DA)$ 

 $Q_{ESD} = q_u \times DA(mi^2) \times Qa$ 

#### Objective #3: Determine the peak discharge flow rate for the ESD event (MDE Appendix D.10)

0.84 in.  $Qa = P_E \times R_v$ Runoff Volume (Qa) =  $CN = 1000/[10+5P_E+10Qa-10\sqrt{(Qa^2+1.25QaP_E)}]$ Runoff Curve Number (CN) = 98 assumed 5 min Time of Concentration (Tc) = la = 200 / CN - 2 0.032 Initial Abstraction (la) =

TR-55 Exhibit 4-II 1062 Unit Peak Discharge (qu) =

0.662 cfs

#### 1.20 cfs \* SEE FLOWMASTER OUTPUT FOR BYPASS MH 7 10-yr Peak Discharge (Q 10) =

#### Objective #4: Determine the swale velocity for the ESD and 10-yr events (Manning's Equation)

Swale G	eometry			ESD Event	10-yr Event
Width	8.0 ft.		Manning's	0.10	0.10
Side Slope	2:1		Depth	0.15 ft.	0.21 ft.
Slope	1.7%	1	Discharge	0.661 cfs	1.20 cfs
			Velocity	0.531 fps	0.666 fps

16

#### **Middelton Road Extension**

From MD Route 22 and Beards Hill Road Aberdeen, MD 21001

#### STORMWATER MANAGEMENT REPORT



#### **ENGINEERS CERTIFICATION**

I HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.28378, EXPIRATION DATE: 01/01/2021.

SIGNATURE

CHRISTOPHER R. MINK

PRINT NAME

Property Owner:

Department of Public Works City of Aberdeen 60 N. Parke Street Aberdeen, MD 21001 Attn: Parley Hess Prepared by:

CNA, LLC. 1630 Robin Circle Forest Hill, Maryland 21050 Office: 443-652-6160 Contact: Bob Royer

February 2019



Area	GS1 - Al	321BMP00000	2 Grass	Swale #1		_	E	SD Requireme	nts	
Total Drainage	e Area =			34,924	SF	(	0.80	Acres +/-)		
Total Impervio	ous Cover	to Facility =		23,670	SF	(	0.54	Acres +/-)	67.8%	
Rv= 0.05+0.00	9 (1)=	0.66								
CS	Soil = Soil = Soil			7,344 18,536 9,044	SF	( (	0.17 0.43 0.21	Acres +/-) Acres +/-) Acres +/-)	21.0% 53.1% 25.9%	
Target B Soil I	-	2.2 " 2.0 "				(Table	5.3)			
Target D Soil F	P <sub>E</sub> =	1.8		Weighte	d A	ve. Soil F	P <sub>E</sub> = 1.99	9		
Target ESDv =	=	[ 2.2 3,823	" x 0.21 CF	+ 2.0	) "×	0.53	+ 1.8	3 "x 0.26 ]x	0.66 x	34,924 /12'
Minimum ESD Maximum ESD		1.0 x 2.69 x	0.66 0.66			34,924 34,924	•	12 = 1,921 12 = 5,167		
Area shown o	n plan =	5,90	4 SF							
PE = ESDv x 12	2" / Rv x [	DA =	1,948	x12"/	(	D.66 x	34	,924 = 1	01 "	
Af = PE x DA /	15	1.99	x 34,9	924 / 15	"=	1,24	9 SF N	leeded		
Min A <sub>f</sub> =	2% of	34,924	=	698	SF					
Grass S	Grass Swale #1 Facility GS1									
ESDv Treat	tment =	0.33 'x	738	'L x		8 '	W			

CF 1948

Total Storage Volume = 1,948 CF ESDv Provided = 1,948 CF 1,921 CF Facility Meets Minimum ESDv Requirements 1,948 CF



Area	GS2 - A	B21BMP000003	Grass Swale #2			E	SD Requireme	ents	
Total Draina	ge Area =		39,900	SF	(	0.92	Acres +/-)		
Total Imperv	vious Cove	r to Facility =	11,208	SF	(	0.26	Acres +/-)	28.1%	
Rv= 0.05+0.0	009 (I)=	0.30							
E	B Soil =		8,830	SF	(	0.20	Acres +/-)	22.1%	
(	C Soil =		12,319	SF	(	0.28	Acres +/-)	30.9%	
[	D Soil =		18,751	SF	(	0.43	Acres +/-)	47.0%	
Target B Soi	l PE=	1.6	,		•		, ,		
Target C Soi	l PE=	1.6			(Table	5.3)			
Target D Soi		1.2 "			•	•			
			Weighte	d Av	ve. Soil	P <sub>E</sub> = 1.43	1		
Target ESDv	= =		x 0.22 + 1.6 CF	5 " x	0.31	+ 1.2	2 "x 0.47 ]x	0.30 x	39,900 /12"
Minimum ES	SDv=	1.0 x	0.30 x		39,900	\ :	12 = 1,007	CF	
Maximum E	SDv=	2.69 x	0.30 x		39,900	\ 2	12 = 2,708	CF	
Area shown	on plan =	7,800	SF						
PE = ESDv x	12" / Rv x i	DA = 2	2,574 x12"/	(	0.30 x	x 39	,900 = 2	2.56 "	
Af = PE x DA	/ 15	1.41 x	39,900 / 15	"=	4,44	13 SF N	leeded		
Min A <sub>f</sub> =	2% of	39,900	= 798	SF					
Grass	Swale #2	Facility	GS2						
ESDv Tre	eatment = =	0.33 'x 2574 CF	975 'L x		8 '	W			

Total Storage Volume =	2,574	CF
ESDv Provided =	2,574	CF
2,574 CF > 1,422	CF Facility N	leets Minimum ESDv Requirements

#### CITY OF ABERDEEN

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

# IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 3

Prepared By:

City of Aberdeen
Department of Public Works
60 North Parke Street
Aberdeen, MD 21001



OCTOBER 29, 2021



#### **CITY OF ABERDEEN**

## National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES Permit No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

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#### **CITY OF ABERDEEN**

## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM PHASE II MS4 PERMIT

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500

#### IMPERVIOUS AREA RESTORATION WORK PLAN - YEAR 3

The City of Aberdeen is continuing to make updates to the Impervious Area Restoration Work Plan throughout the Permit cycle. The report below summarizes updates to the Year 1 and Year 2 Work Plan as well as activities in Year 3.

#### I. Develop Impervious Area Baseline Assessment

The City of Aberdeen's Fiscal Year 2020 Phase II MS4 Annual Report dated October 28, 2020 summarized the methodology for preparing the City's Baseline Area Impervious Assessment. As reported in the 2020 report, **Table 1** documents the City's total impervious area, total impervious acres treated by BMPs, and twenty percent of the untreated impervious area.

TABLE 1 - 2004 IMPERVIOUS AREAS YEAR 2 1

Category	Total Area (Acres)	
Total Impervious Area	988.51	
Impervious Area Treated by BMPs with Full Water Quality Treatment <sup>2</sup>	10.16	
Impervious Area Treated by BMPs with Partial Water Quality Treatment <sup>3</sup>	10.23	
Impervious Area Treated by Non-structural Practices	To Be Determined	
Untreated Impervious Area	968.12	
Restoration Requirement (20% of Untreated Impervious Area)	193.62	

Areas may continue to be refined during each reporting year as funding allows and as new data becomes available.

#### A. Year 3 Updates

The following changes were made to the City of Aberdeen's BMP Database and baseline impervious areas:

- Updated Pe values per MDE's comments on the FY2020 MDE Annual Report (See Section XII).
- Removed BMPs from the baseline that did not pass inspection within the last 3 years.
- Added new BMPs to the baseline that passed inspection since Year 1 and Year 2.

BMPs with a  $P_E$  value  $\geq 1$  were considered Full Water Quality Treatment BMPs.

 $<sup>^{3}</sup>$  BMPs with a  $P_{E}$  value < 1 were considered Partial Water Quality Treatment BMPs.

Based on the changes above BMP Fact Sheets were updated for each BMP detailing the calculations used to determine the impervious acres treated. These BMP Fact Sheets are included in **Appendix A** of this report.

#### B. <u>Year 3 Impervious Acreage</u>

- ➤ The total impervious area treated by BMPs providing <u>FULL</u> water quality treatment in Year 3 is approximately 9.46 acres (Table 2).
- The total impervious area treated by BMPs providing <u>PARTIAL</u> water quality treatment is approximately 10.00 acres (Table 2).
- The total untreated impervious area in the City of Aberdeen increased to 969.05.

TABLE 2 - 2004 IMPERVIOUS AREAS YEAR 3 1

Category	Total Area (Acres)		
Total Impervious Area	988.51		
Impervious Area Treated by BMPs with Full Water Quality Treatment <sup>2</sup>	9.46		
Impervious Area Treated by BMPs with Partial Water Quality Treatment <sup>3</sup>	10.00		
Impervious Area Treated by Non-structural Practices	To Be Determined		
Untreated Impervious Area	969.05		
Restoration Requirement (20% of Untreated Impervious Area)	193.81		

<sup>&</sup>lt;sup>1</sup> Areas may continue to be refined during each reporting year as funding allows and as new data becomes available.

#### II. Develop a Restoration Work Plan for MDE Review and Approval

The City will continue to revise and adjust the Impervious Area Restoration Work Plan as appropriate. The City has already begun to discuss plans for meeting the restoration requirement by evaluating stream restoration projects described in Sections VIII and XIV of this report.

#### III. Assess Opportunities and Timelines for Implementing Water Quality BMPs

The City developed a Watershed Assessment and Restoration Plan in September 2020 that identified several potential opportunities to implement Water Quality BMPs. They fall into the categories of Stream Restoration, Reforestation, Rain Barrels, and Rain Gardens. More information is located in Section VIII of this report.

<sup>&</sup>lt;sup>2</sup> BMPs with a  $P_E$  value  $\geq 1$  were considered Full Water Quality Treatment BMPs.

<sup>&</sup>lt;sup>3</sup> BMPs with a P<sub>E</sub> value < 1 were considered Partial Water Quality Treatment BMPs.

#### IV. Assess Opportunities to Develop Partnerships with other NPDES Permittees

The City has had discussions with other permittees, and no partnerships have been developed to date. The City feels partnerships are unlikely to develop.

#### V. Determine Funding Needs and Develop a Long-Term Budget

The City currently has an agreement with Harford County that allows a portion of the taxes paid to the County within City limits to be used by the City for stormwater retrofits and improvements. These funds will be used to fund a portion of the City's 20% restoration requirement.

The City is working towards specific funding needs and a long-term budget to meet the cost of design and construction of the stream restoration projects that are expected to be implemented to meet their restoration requirements.

In FY22, the City is planning to apply for grant funding to help finance some of the stream restoration projects the City has selected for impervious area restoration credit.

#### VI. Update and Submit Urban BMP Database

A summary of past updates were previously documented in the City of Aberdeen's Fiscal Year 2020 Phase II MS4 Annual Report dated October 28, 2020.

#### VII. Maintain Inspection Records for all BMPs

The City continues to inspect all BMPs tri-annually according to the Permit and maintain up-to-date inspection records. All new inspection information is current in the BMP Database submitted in the Fiscal Year 2021 MS4 General Permit Progress Report Year 3 **Attachment I-3**.

## VIII. Perform Watershed Assessments and Identify Water Quality Problems and Opportunities for Restoration

The City completed a Watershed Assessment and Restoration Plan in September 2020 in accordance with the Phase II MS4 Permit (**Attachment I-2** of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3). The assessments described below support the City's goals for healthy watersheds and natural resources, and also support progress towards satisfying several regulatory and permit requirements. These assessments provide the next step in the planning process specifically for the urban stormwater sector regulated by the Phase II MS4 Permit. This watershed assessment, through both desktop and field assessments, identifies watershed conditions and specific restoration solutions to meet the City's watershed restoration goals.

Results of desktop and field watershed assessments were compiled and analyzed to determine specific areas of impairment most in need of restoration. Restoration measures were then developed according to the type and source of impact. The following section presents the results and cost for Stream Restoration.

#### **Stream Restoration**

Stream restoration opportunities were field-identified during a Stream Corridor Assessment (SCA). The current condition of streams was assessed, and locations of stream erosion were identified and mapped using a global positioning system (GPS).

The assessment rated each segment of stream erosion on a 1 to 5 scale according to its severity, correctability, and accessibility; where a score of 1 is the most severe, but also the most correctible and the most accessible. These scores were used to identify high priority stream reaches for stream restoration and were generally sites with a severity score of 1 or 2, and a correctability/access score of 1-4.

Eleven (11) stream restoration projects were identified, with a total length of approximately 11,545 linear feet. **Table 3** provides a summary of cost, impervious acre credit, and load reduction for each stream restoration project identified.

TABLE 3: STREAM RESTORATION COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

Site ID	SCA	Erosion length (ft)	Total Initial Cost	Total Cost Over 20 Years	Imperv- ious Credit (Acres)*	Cost Per Impervious Credit	Load Reduction (lbs/yr)		
	Reach						TN	TP	TSS
SR_1	R022	130	\$97,393	\$124,301	2.6	\$47,808	9.8	8.8	32,240.0
SR_2	R173	3,856	\$2,888,823	\$3,686,945	77.12	\$47,808	289.2	262.2	956,288.0
SR_3	R165	230	\$172,311	\$219,916	4.6	\$47,808	17.3	15.6	57,040.0
SR_4	R137, R141	2025	\$1,517,082	\$1,936,219	40.5	\$47,808	151.9	137.7	502,200.0
SR_5	R126	103	\$77,165	\$98,484	2.06	\$47,808	7.7	7.0	25,544.0
SR_6	R123	80	\$59,935	\$76,492	1.6	\$47,808	6.0	5.4	19,840.0
SR_7	R105	1485	\$1,112,527	\$1,419,894	29.7	\$47,808	111.4	101.0	368,280.0
SR_8	R107	770	\$576,865	\$736,241	15.4	\$47,808	57.8	52.4	190,960.0
SR_9	R088	1,585	\$1,187,444	\$1,515,510	31.7	\$47,808	118.9	107.8	393,080.0
SR_10	R043	996	\$746,179	\$952,333	19.92	\$47,808	74.7	67.7	247,008.0
SR_11	R057	285	\$213,516	\$272,504	5.7	\$47,808	21.4	19.4	70,680.0
	Total	11,545	\$8,649,240	\$11,038,839	230.9	\$47,808	865.9	785.1	2,863,160.0

<sup>\*</sup>Impervious credit calculated with planning rate. Actual site-specific impervious credit may be higher.

In FY21, the City worked with KCI Technologies, Inc. (KCI) to create Stream Restoration Concept plans for projects SR-1, SR-2, and SR-9 listed in **Table 3** above. One of the main intents of the Stream Restoration Concept Plans is to apply for grant monies to help fund these projects. A summary of work completed for FY21 for these three projects is listed in **Table 4** below:

**TABLE 4: SUMMARY OF WORK COMPLETED** 

Description	SR1	SR2	SR9
Budget Estimates	٧	٧	√
Trilogy Letters	٧	٧	٧
USGS Streamstats Hydrology	٧	٧	√
Visual Assessments	٧	٧	V
Wetland Delineations	٧	٧	√
Forest Stand Delineations	٧	٧	√
Invasive Baseline Assessment	٧	٧	V
BANCS or P5 Data Collection	٧	٧	٧
Sediment Sampling	٧	٧	V
Geomorphic Survey	٧		V
Upland BMP Site ID	٧	NA	V
Assessment, concept design, NRI Report	٧	٧	V
P1/P5 Credit Comps	٧	٧	V
Concept Design and NRI Mapping	٧	٧	√
Grant Field Walk		٧	٧

Based upon field surveys and additional research an updated summary of the equivalent impervious acre credit potential the City may receive for these three stream restoration projects is listed below in **Table 5**:

**TABLE 5: EQUIVALENT IMPERVIOUS ACRE CREDIT POTENTIAL** 

Site	Approximate Restoration (LF)	Physiographic Region	Site Specific Credit (ac)	Planning Rate Credit (ac)	Selected Project Credit (ac)
SR-1	400	Coastal Plain	4.6	8.0	8.0
SR-1 Upland BMP*	N/A	Coastal Plain	2.6	N/A	2.6
SR-2	3856	Piedmont	23.5	115.7	115.7
SR-2 Pond Trib	72	Piedmont	0.6	2.2	2.2
SR-2 Wetland Swale	28	Piedmont	3.2	0.8	3.2
SR-2 Upstream Trib	577	Piedmont	26.0	17.3	26.0
SR-9	1635	Coastal Plain	38.7	32.7	38.7
SR-9 Upland BMP*	N/A	Coastal Plain	7.8	N/A	7.8
TOTAL	6568		107	187.1	204.1

### IX. Develop List of Specific Projects to be Implemented for Restoration and Identify on the Restoration Activity Schedule

At this time, the City has selected some projects as listed in the Phase II MS4 Restoration Activity Schedule (Attachment I-4 of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3). Additional potential projects are listed in Section VIII of this Impervious Area Restoration Work Plan; as well as in Section 4 (Potential Water Quality Improvement Projects) of the *Watershed Assessment and Restoration Plan* (Attachment I-2 of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3).

In FY21, the City focused on moving forward with three stream restoration projects (SR-1, SR-2 and SR-9) to help meet the City's impervious area restoration requirement of 193.382 acres. This is further described in the Impervious Area Restoration Work Plan Year 3 Section XIV below.

### X. Incorporate Future Growth Agency-Wide/Jurisdiction-Wide Master Plans into Restoration Planning Efforts

The City will continue to require that all future growth and development adhere to current MDE sediment and stormwater regulations. The City will require full treatment of all new development and impervious surfaces.

#### XI. Evaluate and Refine Budget Needs for Project Implementation

The City has an agreement with Harford County that allows a portion of the taxes paid to the County within City limits to be used by the City for stormwater retrofits and improvements. These funds will be used to fund a portion of the City's 20% restoration requirement. In FY22, the City is working with KCI Technologies, Inc. to apply for grant funding through the Watershed Assistance Grant Program (WAGP) administered through the Chesapeake Bay Trust (CBT).

The City is working towards specific funding needs and a long-term budget to meet the cost of design and construction of the stream restoration projects that are expected to be implemented to meet their restoration requirements.

### XII. Update Submit Urban BMP Database and Documented Maintenance and Inspection Status for all BMPs

New BMPs were added to the BMP Database according to the permit-required specifications (Phase II MS4 Permit Pages B-17 through B-23). Each BMP the Town is claiming credit for has a BMP Fact Sheet detailing all impervious information and calculations. The BMP Fact Sheets are located in **Appendix A** of this report.

Existing BMPs in the database have been updated with the latest inspection and impervious information. All changes are also reflected in the BMP Fact Sheets in **Appendix A** of this report.

The following changes were made to the existing BMP Database, which were based on MDE Year 2 Comments.

#### **MDE Comment:**

As noted in the Department's previous review, extra credit for over management was intended to be calculated for restoration projects and not for BMPs implemented to meet regulatory requirements for new development. BMPs built after 2002 should be assumed to have a PE of 1". Additional treatment may only be applied to BMPs that provide treatment that exceeds regulatory requirements. The City indicated in its response that the estimated treatment for five BMPs was adjusted. However, Table B.1.b lists 29 BMPs with a PE of greater than 1.0. In the next progress report the City must provide information on the how treatment provided by these practices was determined, e.g., was the developer required to provide additional treatment above State regulatory requirements. The City should provide further documentation showing that treatment was verified for each practice. For example, AB19BMP000027 and AB19BMP000168 were built 1992 and treat 2.7".

#### **City Response:**

The following BMPs built after 2002 that have a Pe value > 1 were revised to have a Pe value -1.0". The explanation of these Pe values is located on the BMP Fact Sheets located in **Appendix A** of this report.

#### Impacts:

- 1. AB04BMP000110 Pe value was revised from 1.60" to 1.0".
  - a. This decreased the treatment credit from 0.19 ac to 0.17 ac, a loss of 0.02 ac.
- 2. AB04BMP000111 Pe value was revised from 1.40" to 1.0".
  - a. This decreased the treatment credit from 0.23 ac to 0.21 ac, a loss of 0.02 ac.
- 3. AB05BMP000102 Pe value was revised from 0.20" to 1.0".
  - a. This increased the treatment credit from 0.13 ac to 0.65 ac, an increase of 0.52 ac.
- 4. AB05BMP000148 Pe value was revised from 0.70" to 1.0".
  - a. This increased the treatment credit from 0.10 ac to 0.15 ac, an increase of 0.05 ac.
- 5. AB03BMP000184 Pe value was revised from 2.40" to 1.0".
  - a. This decreased the treatment credit from 5.64 ac to 4.18 ac, a loss of 1.46 ac.

#### **City Response:**

The following BMPs listed in Table B.1.b below have a Pe of greater than 1.0. The City has provided further documentation showing that treatment was verified for each practice located in **Appendix B** of this report.

#### Impacts:

- 1. AB19BMP000027 Pe value was revised from 2.7 to 2.00.
- 2. AB19BMP000097 Pe value was revised from 2.7 to 2.18.
- 3. AB19BMP000098 Pe value was revised from 2.7 to 2.13.
- 4. AB19BMP000099 Pe value was revised from 2.7 to 2.16.
- 5. AB19BMP000100 Pe value was revised from 2.7 to 2.18.
- 6. AB19BMP000101 Pe value was revised from 2.7 to 2.07.
- 7. AB19BMP000102 Pe value was revised from 2.7 to 2.21.
- 8. AB19BMP000103 Pe value was revised from 2.7 to 2.13.
- 9. AB19BMP000104 Pe value was revised from 2.7 to 2.17.
- 10. AB19BMP000105 Pe value was revised from 2.7 to 2.40.
- 11. AB19BMP000106 Pe value was revised from 2.7 to 2.08.
- 12. AB19BMP000107 Pe value was revised from 1.24 to 2.05.
- 13. AB19BMP000168- Pe value was revised from 2.7 to 2.23.
- 14. AB20BMP000051 Pe value remains 1.80.
- 15. AB20BMP000052 Pe value remains 1.80.
- 16. AB20BMP000053 Pe value remains 2.00.
- 17. AB20BMP000054 Pe value remains 2.60.
- 18. AB20BMP000055 Pe value remains 1.80.
- 19. AB20BMP000056 Pe value remains 2.60.
- 20. AB20BMP000057 Pe value remains 2.40.
- 21. AB20BMP000109 Pe value remains 1.40.
- 22. AB20BMP000110 Pe value remains 1.20.
- 23. AB20BMP000111 Pe value remains 1.01.
- 24. AB21BMP000002- Pe value remains 1.01.
- 25. AB21BMP000003- Pe value remains 2.56.

#### **MDE Comment:**

Some BMPs type XOTH were listed in B.1.a; however, were not listed in Table B.1.b. Please complete data for these BMPs in all appropriate tables.

#### **City Response:**

All BMPs with XOTH were moved to Table B.1.b.

#### **MDE Comment:**

BMPs AB20BMP000014 – AB20BMP000018 PE\_ADR was listed in cubic feet; however, the database requires that this data is listed in inches.

#### **City Response:**

- 1. AB20BMP000014- PE ADR was revised from 2246 to 1.95.
- 2. AB20BMP000015- PE ADR was revised from 3188 to 2.10.
- 3. AB20BMP000016- PE ADR was revised from 2504 to 2.20.
- 4. AB20BMP000017- PE ADR was revised from 3220 to 2.36.
- 5. AB20BMP000018– PE ADR was revised from 2828 to 2.01.

#### **MDE Comment:**

Please check Built\_Date information and ensure it is entered in the proper format, e.g., check built date for "6/22/1905"; "2017" should be in MM/DD/YYYY format.

#### **City Response:**

BMP AB05BMP000003, AB05BMP000135, and AB05BMP000141 have updated dates in the correct format in the database.

#### **MDE Comment:**

Several BMP records reported IMP\_ACRES as "20,000" or similar. Please check this data and confirm that the units are reported in acres. For example, the impervious acre data reported for AB20BMP000025 appears to use the wrong units (BMP type FBIO). Please correct this information.

#### **City Response:**

All BMPs with IMP\_ACRES listed in cubic feet were updated to acres. These changes did not impact the impervious area baseline as these BMPs are all built after 2018.

#### Impacts:

- 1. AB20BMP000025 Impervious Acres was revised from 28732 to 0.66.
- 2. AB20BMP000035 Impervious Acres was revised from 25822 to 0.59.
- 3. AB20BMP000026 Impervious Acres was revised from 22572 to 0.51.
- 4. AB20BMP000027 Impervious Acres was revised from 20733 to 0.47.
- 5. AB20BMP000015 Impervious Acres was revised from 3188 to 0.07.
- 6. AB20BMP000018 Impervious Acres was revised from 17547 to 0.40.
- 7. AB20BMP000017 Impervious Acres was revised from 16998 to 0.39.
- 8. AB20BMP000014 Impervious Acres was revised from 14423 to 0.33.
- 9. AB20BMP000016 Impervious Acres was revised from 14176 to 0.32.
- 10. AB20BMP000046 Impervious Acres was revised from 12465 to 0.29.
- 11. AB20BMP000028 Impervious Acres was revised from 12384 to 0.28.
- 12. AB20BMP000037 Impervious Acres was revised from 12300 to 0.28.
- 13. AB20BMP000044 Impervious Acres was revised from 11981 to 0.27.
- 14. AB20BMP000029 Impervious Acres was revised from 10837 to 0.24.
- 15. AB20BMP000043 Impervious Acres was revised from 10485 to 0.24.
- 16. AB20BMP000047 Impervious Acres was revised from 6889 to 0.15.
- 17. AB20BMP000041 Impervious Acres was revised from 6573 to 0.15.
- 18. AB20BMP000036 Impervious Acres was revised from 6248 to 0.14.
- 19. AB20BMP000034 Impervious Acres was revised from 6192 to 0.14.
- 20. AB20BMP000038 Impervious Acres was revised from 6184 to 0.14.
- 21. AB20BMP000042 Impervious Acres was revised from 6164 to 0.14.
- 22. AB20BMP000045 Impervious Acres was revised from 6037 to 0.13.
- 23. AB20BMP000039 Impervious Acres was revised from 5084 to 0.11.
- 24. AB20BMP000040 Impervious Acres was revised from 4826 to 0.11.
- 25. AB20BMP000031 Impervious Acres was revised from 3382 to 0.07.
- 26. AB20BMP000030 Impervious Acres was revised from 3133 to 0.07.
- 27. AB20BMP000033 Impervious Acres was revised from 1737 to 0.03.
- 28. AB20BMP000032 Impervious Acres was revised from 1737 to 0.03.

### XIII. Develop Adaptive Management Strategies for BMP Implementation that Identify Opportunities for Improved Processes and Procedures

The City has worked on developing adaptive management strategies by conducting a watershed assessment that identified multiple types of BMPs to meet their impervious area restoration requirements. Through an iterative process that included prioritizing projects and conducting field studies the City is now in the position to meet their impervious area requirements by implementing three stream restoration projects, as described in Section VIII of this impervious area restoration work plan.

### XIV. Continue to Identify Opportunities for Water Quality Improvement Projects and Collaborative Partnerships to Meet Restoration Requirements

The City worked with KCI Technologies, Inc. (KCI) to create Stream Restoration Concept plans for projects SR-1, SR-2, and SR-9.

In FY22, the City plans to work with property owners in order to establish collaborative partnerships regarding access and maintenance agreements for the three stream restoration projects mentioned above. The Stream Restoration Concept Memo is included in **Attachment I-4** of the Fiscal Year 2021 MS4 General Permit Progress Report Year 3.



#### **CITY OF ABERDEEN**

### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

### IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 3

**APPENDIX A** 

**BMP FACT SHEETS** 





Date:

### **Pe Addressed Calculation:**

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

100 (1)	
BMP ID Number	AB00BMP000041
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	1999
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	16.60
Total Impervious Area (Acres)	6.81
Total Impervious Area within City Limits (Acres)	6.81
I	41.00
Rv	0.42
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseli	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	6.81	Town Owned Impervious (Acres):	6.81	
Impervious Acres Treated:		0.00	)	





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

11003 + .003(1)	
BMP ID Number	AB00BMO000150
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	30.85
Total Impervious Area (Acres)	17.08
Total Impervious Area within City Limits (Acres)	17.08
I	55.00
Rv	0.55
Runnoff Storage Volume (cf) (RS)	32670
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.50

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.53
---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baselin	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.50	0.50	
Total Impervious (Acres):	17.08	Town Owned Impervious (Acres):	17.08	
Impervious Acres Treated:		8.54		





Date:

### **Pe Addressed Calculation:**

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

BMP ID Number	AB00BMP000030
ВМР Туре	Other - Water Quality Basin
BMP Type Code	XOTH
Plan Date	1999
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.95
Total Impervious Area (Acres)	0.78
Total Impervious Area within City Limits (Acres)	0.78
I	82.00
Rv	0.79
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	0.78	Town Owned Impervious (Acres):	0.78	
Impervious Acres Treated:		0.00		





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .03 + .003(1)	
BMP ID Number	AB00BMP000151
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	3.11
Total Impervious Area (Acres)	0.60
Total Impervious Area within City Limits (Acres)	0.60
I	19.00
Rv	0.22
Runnoff Storage Volume (cf) (RS)	Attributed to AB00BMP000152
P <sub>E</sub> Treated by BMP (inches) (Pe)	

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

(" ')	
Q	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

 $\left[ \textit{Impervious Acres} \times \frac{(\textit{PE Treated by BMP} - 1)}{0.4} \times 0.1 \right] + \textit{Impervious Acres} = \textit{Impervious Acres Treated}$ 

Construction Purpose:		Baseline	Baseline	
PETreated by BMP (inches):				
Total Impervious (Acres):	0.60	Town Owned Impervious (Acres):	0.60	
Impervious Acres Treated:		N/A	N/A	





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB00BMP000152
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	4.48
Total Impervious Area (Acres)	1.54
Total Impervious Area within City Limits (Acres)	1.54
I	34.00
Rv	0.36
Runnoff Storage Volume (cf) (RS)	11566
PETreated by BMP (inches) (Pe)	2.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\)	
Q	2.07

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		2.00	2.00	
Total Impervious (Acres):	1.54	Town Owned Impervious (Acres):	1.54	
Impervious Acres Treated:		1.92		





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB00BMP000193
ВМР Туре	Shallow Marsh
BMP Type Code	WSHW
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	3.00
Total Impervious Area (Acres)	2.55
Total Impervious Area within City Limits (Acres)	2.55
I	85.00
Rv	0.82
Runnoff Storage Volume (cf) (RS)	2264
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.30

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.24

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.30	0.30	
Total Impervious (Acres):	2.55	Town Owned Impervious (Acres):	2.55	
Impervious Acres Treated:		0.77	0.77	





Date: 9/27/2021

### Pe Addressed Calculation:

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

100 1000 117	
BMP ID Number	AB01BMP000118
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	46.18
Total Impervious Area (Acres)	6.19
Total Impervious Area within City Limits (Acres)	2.72
ſ	13.00
Rv	0.17
Runnoff Storage Volume (cf) (RS)	UNK
PETreated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
IQ	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
P <sub>E</sub> Treated by BMP (inches):		0.00
Total Impervious (Acres):	6.19	Town Owned Impervious 2. (Acres):
Impervious Acres Treated:		0.00





Date:

**Pe Addressed Calculation:** 

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

AB01BMP000124
Extended Detention Structure, Dry
XDED
2001
Pass
6.63
3.13
3.13
47.00
0.47
0
0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.00
---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	3.13	Town Owned Impervious (Acres):	3.13	
Impervious Acres Treated:		0.00		





Date:

10/08/2020

### **Pe Addressed Calculation:**

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

111 100 1000 (1)	
BMP ID Number	AB02BMP000016
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2000
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	5.49
Total Impervious Area (Acres)	4.33
Total Impervious Area within City Limits (Acres)	4.33
I	79.00
Rv	0.76
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00
---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	4.33	Town Owned Impervious (Acres):	4.33	
Impervious Acres Treated:		0.00		





Date:

**Pe Addressed Calculation:** 

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

NV = .005 + .005(1)	
BMP ID Number	AB03BMP000012
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	2.09
Total Impervious Area (Acres)	1.39
Total Impervious Area within City Limits (Acres)	1.39
I	66.00
Rv	0.64
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	1.39	Town Owned Impervious (Acres):	1.39	
Impervious Acres Treated:		0.00		





Date:

### Pe Addressed Calculation:

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

111 100 1 1005 (1)	
BMP ID Number	AB03BMP000139
ВМР Туре	Oil Grit Separator
BMP Type Code	XOGS
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.65
Total Impervious Area (Acres)	0.00
Total Impervious Area within City Limits (Acres)	0.00
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

Q = (RS)\*12 (IA)

In	
IQ	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	0.00	Town Owned Impervious (Acres):	0.00	
Impervious Acres Treated:		0.00		





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .005 + .005(1)	
BMP ID Number	AB03BMP000184
ВМР Туре	Multiple Pond System
BMP Type Code	PMPS
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	17.38
Total Impervious Area (Acres)	4.18
Total Impervious Area within City Limits (Acres)	4.18
I	24.00
Rv	0.27
Runnoff Storage Volume (cf) (RS)	41077
P <sub>E</sub> Treated by BMP (inches) (Pe)	1.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	2.71
---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baselin	Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	1.00	
Total Impervious (Acres):	4.18	Town Owned Impervious (Acres):	4.18	
Impervious Acres Treated:		4.18		





Date: 9/27/2021

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

NV 103 1 1003(1)	
BMP ID Number	AB03BMP000186
BMP Type	Submerged Gravel Wetland
BMP Type Code	MSGW
Plan Date	UNK
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	10.37
Total Impervious Area (Acres)	6.26
Total Impervious Area within City Limits (Acres)	6.26
1	60.00
Rv	0.59
Runnoff Storage Volume (cf) (RS)	UNK
PETreated by BMP (inches) (Pe)	

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):				
Total Impervious (Acres):	6.26	Town Owned Impervious (Acres):	6.26	
Impervious Acres Treated:	•			





Date: 9/2

### Pe Addressed Calculation:

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

110 1005 119	
BMP ID Number	AB04BMP000049
ВМР Туре	UNK
BMP Type Code	XDED
Plan Date	Before 1999
BMP Inspection Status	Fail
GIS Drainage Area (Acres)	13.70
Total Impervious Area (Acres)	5.60
Total Impervious Area within City Limits (Acres)	5.60
I	41.00
Rv	0.42
Runnoff Storage Volume (cf) (RS)	UNK
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
<sub>[</sub> Q	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	
Total Impervious (Acres):	5.60	Town Owned Impervious (Acres):	
Impervious Acres Treated:		0.00	





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .05 1 .005(1)		
BMP ID Number	AB04BMP000052	
ВМР Туре	Shallow Marsh	
BMP Type Code	WSHW	
Plan Date	2002	
BMP Inspection Status	Pass	
GIS Drainage Area (Acres)	5.23	
Total Impervious Area (Acres)	0.52	
Total Impervious Area within City Limits (Acres)	0.52	
1	10.00	
Rv	0.14	
Runnoff Storage Volume (cf) (RS)	9652	
PETreated by BMP (inches) (Pe)	2.60	

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\ /	
Q	5.16

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:  PE Treated by BMP (inches):		Baseline	Baseline 2.60	
		2.60		
Total Impervious (Acres):	0.52	Town Owned Impervious (Acres):	0.52	
Impervious Acres Treated:		0.72		





Date:

### Pe Addressed Calculation:

Pe = (RS)\*12(Rv)\*A

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

BMP ID Number	AB04BMP000053
ВМР Туре	Other - Conveyance Swale
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	4.73
Total Impervious Area (Acres)	0.01
Total Impervious Area within City Limits (Acres)	0.01
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

(RS)\*12 Q = (IA)

Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00		
Total Impervious (Acres):	0.01	Town Owned Impervious (Acres):	0.01	
Impervious Acres Treated:		0.00		





Date:

**Pe Addressed Calculation:** 

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

AB04BMP000054
Other - Conveyance Swale
XOTH
2002
Pass
0.72
0.08
0.08
11.00
0.15
0
0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.00
---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	
Total Impervious (Acres):	0.08	Town Owned Impervious (Acres):	0.08
Impervious Acres Treated:		0.00	





Date:

Pe Addressed Calculation:

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

111 111 1111	
BMP ID Number	AB04BMP000055
ВМР Туре	Other - Conveyance Swale
BMP Type Code	XOTH
Plan Date	2002
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.47
Total Impervious Area (Acres)	0.00
Total Impervious Area within City Limits (Acres)	0.00
I	0.00
Rv	0.05
Runnoff Storage Volume (cf) (RS)	0
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
<sub>[</sub> Q	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
PETreated by BMP (inches):		0.00
Total Impervious (Acres):	0.00	Town Owned Impervious (Acres):
Impervious Acres Treated:	•	0.00





Date:

### **Pe Addressed Calculation:**

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .003 + .003(1)	
BMP ID Number	AB04BMP000109
ВМР Туре	Infiltration Trench
BMP Type Code	ITRN
Plan Date	2004
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	1.53
Total Impervious Area (Acres)	1.37
Total Impervious Area within City Limits (Acres)	1.37
1	89.00
Rv	0.85
Runnoff Storage Volume (cf) (RS)	2465
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.50

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.50

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.50	
Total Impervious (Acres):	1.37	Town Owned Impervious (Acres):	1.37
Impervious Acres Treated:		0.69	





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)		
BMP ID Number	AB04BMP000110	
ВМР Туре	Underground Filter	
BMP Type Code	FUND	
Plan Date	2004	
BMP Inspection Status	Pass	
GIS Drainage Area (Acres)	0.19	
Total Impervious Area (Acres)	0.17	
Total Impervious Area within City Limits (Acres)	0.17	
1	90.00	
Rv	0.86	
Runnoff Storage Volume (cf) (RS)	960	
PETreated by BMP (inches) (Pe)	1.00	

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	1.57

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
PE Treated by BMP (inches):		1.00
Total Impervious (Acres):	0.17	Town Owned Impervious (Acres):
Impervious Acres Treated:	•	0.17





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB04BMP000111
ВМР Туре	Underground Filter
BMP Type Code	FUND
Plan Date	2004
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.23
Total Impervious Area (Acres)	0.21
Total Impervious Area within City Limits (Acres)	0.21
1	90.00
Rv	0.86
Runnoff Storage Volume (cf) (RS)	960
PETreated by BMP (inches) (Pe)	1.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	1.29

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	1.00	
Total Impervious (Acres):	0.21	Town Owned Impervious (Acres):	0.21	
Impervious Acres Treated:		0.21		





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .05 + .005(1)	
BMP ID Number	AB04BMP000147
ВМР Туре	Dry Swale
BMP Type Code	ODSW
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.31
Total Impervious Area (Acres)	0.10
Total Impervious Area within City Limits (Acres)	0.10
1	32.00
Rv	0.34
Runnoff Storage Volume (cf) (RS)	399
PETreated by BMP (inches) (Pe)	1.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

<b>1.10</b>	Q	1.10
-------------	---	------

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	1.00	
Total Impervious (Acres):	0.10	Town Owned Impervious (Acres):	0.10	
Impervious Acres Treated:		0.10	0.10	





Date: 9/27/2021

### Pe Addressed Calculation:

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

NOTE: Additional information is needed to determine the treatment provided by this facility.

Rv = .05 + .009(I)

1005 (1)	
BMP ID Number	AB04BMP000200
BMP Type	Bioretention
BMP Type Code	FBIO
Plan Date	UNK
BMP Inspection Status	Fail
GIS Drainage Area (Acres)	21.61
Total Impervious Area (Acres)	17.24
Total Impervious Area within City Limits (Acres)	17.24
1	80.00
Rv	0.77
Runnoff Storage Volume (cf) (RS)	UNK
P <sub>E</sub> Treated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

In	
IQ	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Basel	Baseline	
P <sub>E</sub> Treated by BMP (inches):		0.00	0.00	
Total Impervious (Acres):	17.24	Town Owned Impervious (Acres):	17.24	
Impervious Acres Treated:		0.00	0.00	





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .003 + .003(1)	
BMP ID Number	AB05BMP000046
ВМР Туре	Impervious Surface Elimination (to pervious)
BMP Type Code	IMPP
Plan Date	2005
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.09
Total Impervious Area (Acres)	0.09
Total Impervious Area within City Limits (Acres)	0.09
I	100.00
Rv	0.95
Runnoff Storage Volume (cf) (RS)	N/A
P <sub>E</sub> Treated by BMP (inches) (Pe)	

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

(" ')	
Q	

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

 $\left[ \textit{Impervious Acres} \times \frac{(\textit{PE Treated by BMP} - 1)}{0.4} \times 0.1 \right] + \textit{Impervious Acres} = \textit{Impervious Acres Treated}$ 

Construction Purpose:		Baseline	Baseline	
PETreated by BMP (inches):				
Total Impervious (Acres):	0.09	Town Owned Impervious (Acres):	0.09	
Impervious Acres Treated:	•			





Date:

### Pe Addressed Calculation:

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

NOTE: This BMP does not provide water quality treatment.

Rv = .05 + .009(I)

NV = .000 + .000 (1)	
BMP ID Number	AB05BMP000084
ВМР Туре	Extended Detention Structure, Dry
BMP Type Code	XDED
Plan Date	1997
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	10.39
Total Impervious Area (Acres)	5.88
Total Impervious Area within City Limits (Acres)	5.56
1	57.00
Rv	0.56
Runnoff Storage Volume (cf) (RS)	0
PETreated by BMP (inches) (Pe)	0.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Q	0.00

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baselir	ne
PE Treated by BMP (inches):		0.00	
Total Impervious (Acres):	5.88	Town Owned Impervious (Acres):	5.56
Impervious Acres Treated:		0.00	





Date:

### **Pe Addressed Calculation:**

 $Pe = \frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

NV = .03 + .003(1)	
BMP ID Number	AB05BMP000102
ВМР Туре	Bioretention
BMP Type Code	FBIO
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.66
Total Impervious Area (Acres)	0.65
Total Impervious Area within City Limits (Acres)	0.65
ı	98.00
Rv	0.93
Runnoff Storage Volume (cf) (RS)	448
P <sub>E</sub> Treated by BMP (inches) (Pe)	1.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.19

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
P <sub>E</sub> Treated by BMP (inches):		1.00	
Total Impervious (Acres):	0.65	Town Owned Impervious (Acres):	0.65
Impervious Acres Treated:		0.65	





Date:

### **Pe Addressed Calculation:**

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

RV = .05 + .009(1)	
BMP ID Number	AB05BMP000148
ВМР Туре	Dry Swale
BMP Type Code	ODSW
Plan Date	2003
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	0.78
Total Impervious Area (Acres)	0.15
Total Impervious Area within City Limits (Acres)	0.15
1	19.00
Rv	0.22
Runnoff Storage Volume (cf) (RS)	460
PE Treated by BMP (inches) (Pe)	1.00

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	0.87

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline	
PE Treated by BMP (inches):		1.00	
Total Impervious (Acres):	0.15	Town Owned Impervious (Acres):	0.15
Impervious Acres Treated:		0.15	





Date:

### **Pe Addressed Calculation:**

Pe =  $\frac{(RS)*12}{(Rv)*A}$ 

Rv = .05 + .009(I)

RV = .05 + .009(1)	
BMP ID Number	AB05BMP000167
ВМР Туре	Extended Detention Structure, Wet
BMP Type Code	PWED
Plan Date	2001
BMP Inspection Status	Pass
GIS Drainage Area (Acres)	5.38
Total Impervious Area (Acres)	1.21
Total Impervious Area within City Limits (Acres)	1.21
I	23.00
Rv	0.26
Runnoff Storage Volume (cf) (RS)	7492
PE Treated by BMP (inches) (Pe)	1.50

### **Runoff Depth Treated per Impervious:**

 $Q = \frac{(RS)*12}{(IA)}$ 

Q	1.70

### **Impervious Area Treated Calculation:**

If  $P_E$  is less than or equal to 1, then:

Impervious Acres x PE Treated by BMP = Impervious Acres Treated

If P<sub>E</sub> is greater than 1, then:

Construction Purpose:		Baseline
P <sub>E</sub> Treated by BMP (inches):		1.50
Total Impervious (Acres):	1.21	Town Owned Impervious (Acres):
Impervious Acres Treated:		1.36



#### **CITY OF ABERDEEN**

### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT FOR DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

## IMPERVIOUS AREA RESTORATION WORK PLAN YEAR 3

**APPENDIX B** 

**BMP Pe DOCUMENTATION** 

# Stormwater Management Report

Frito-Lay, Inc.
Commercial Vehicle Storage

800 Hickory Drive Aberdeen, MD 21001

August 2014



Prepared for:

Frito-Lay, Inc. c/o The Haskell Company 111 Riverside Avenue Jacksonville, FL 32202 (904) 791-4500

Prepared by:

KCI Technologies, Inc. 1352 Marrows Road Suite 100 Newark, DE 19711 (302) 731-9176 PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ATRCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3487, EXPIRATION DATE: 7/03/2016.



KCI Job No 27065506B

Project:	Frito Lay - Aberdeen - Co	ommercial Vehicle S	Storage
J.O.	27065506B	_	
By:	JMS	Date:	8/27/2014
K (   Checked:		Date:	
			<u> </u>

#### Submerged Gravel Wetland Facility 1 - AB19BMP000027

Drainage Area to Facility = 1.865 Acres Impervious = 1.597 Acres Pervious = 0.268 Acres

#### **Total Facility Storage Requirements:**

Target Pe = Rv = 0.05 + 0.009(I)ESDv = Rv = 0.05 + 0.009 ( 85.630027) (Pe)(Rv)(A) 0.82067 12 Rv =ESDv = 3.0611 12 0.255092 Ac/Ft ESDv = 11,112 Cubic Feet

Max Pe = 2.7 ESDv = (Pe)(Rv)(A) 12 ESDv = 4.132485 12 ESDv = 0.344374 Ac/Ft 15.001 Cubic Feet or

#### **Facility Geometry:**

5145 Square Feet Facility Surface Area = Ponding Area = 6258 Square Feet Ponding Depth = 1 Feet

Check to ensure facility is  $\geq 2\%$  of the contributing area: 5,145 81,239

#### **Facility Storage:**

5,702 Cubic Feet of Storage Above Filter Media Media thickness = 3 feet below facility bottom

6174 Cubic Feet of Storage within Filter Media 5.145 0.4 5,702 6,174 11,876 Cubic Feet of Total Storage for Facility

#### **Required Temporary Storage Volume Above Facility:**

Af / Ai = Required Surface Storage Percentage 5,145 s.f. Af = Ai = 69,565 s.f.

1 69,565 7 % 5,145

Using the Table for SHA-BSM, the Required

Storage Percentage = 7%

11,112 c.f. x 7% 778 c.f.. of Temporary Surface Storage Required with SHA-BSM If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

8,334 c.f. of Temporary Surface Storage Required w/o SHA-BSM 11,112

Total Temporary Storage Volume Provided Above Facility = 5,702 c.f. Total Temporary Storage Volume Provided Below Facility = 6,174 c.f. Total Temporary Storage Volume Provided = 11,876 c.f. Maximum Storage Volume Allowed = 15,001 c.f.

Total Credited Volume towards ESD Requirement = 11,876 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

# Stormwater Management Report

Frito-Lay, Inc.
Warehouse Expansion

800 Hickory Drive Aberdeen, MD

February 2014



Prepared for:

Frito-Lay, Inc. c/o The Haskell Company 111 Riverside Avenue Jacksonville, FL 32202

Prepared by:

KCI Technologies, Inc. 1352 Marrows Road Suite 100 Newark, DE 19711 PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26990,

EXPIRATION DATE: 12/21/2015.



KCI Job No 27065506A

Project:	Frito Lay - Aberdeen			
J.O.				
By:	CEM	Dat	2/27/2014	
Checked		Dat		

# Micro-Bioretention Facility # 1 - AB19BMP000097

Drainage Area to Facility =

0.476 Acres

Impervious =

0.395 Acres

Pervious =

1

0.081 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

2,000

20.735

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000 Х

Х 1,600

1600 Cubic Feet of Storage within Filter Media

2,250

3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

1.8 "

0.7968

12

Rv = 0.05 + 0.009(1)

Rv = 0.05 + 0.009 (

82.983193)

Rv =

ESDv =

1.8 х 0.476

ESDv =

0.68274

12

ESDv =

0.056895 Ac/Ft

2.478 Cubic Feet

Af =

12 %

Ai =

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f.

2,000

17,206

0.7968

17,206 s.f.

Using the Table for SHA-BSM, the Required

Storage Percentage = 2,478 c.f. x

43% 43%

1,066 C.F. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility,

75% of the Required

2,250 /

ESDv must be Provided Above the Facility

2,478

75% 1,859 c.f.

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

3,000 )(12)/( 0.7968)( PE = (

0.476)

PE =

Project:	Frito Lay - Aberdeen				
J.O	OFM	Det	2/26/2014		
TZ C T By:	CEM	Dat	2/20/2014		
K C Checked:		Dat			

#### Micro-Bioretention Facility # 2 - AB19BMP000098

Drainage Area to Facility =

0.491 Acres

Impervious =

0.404 Acres

Pervious =

0.087 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

2,000

21,388

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000 Х Х

1600 Cubic Feet of Storage within Filter Media

1.8 "

3,850 Cubic Feet of Total Storage for Facility 2,250 1,600

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

82.281059)

Rv = 0.7905

ESDv =

0.7905 1.8 х

0.491

ESDv =

0.69867

12

ESDv =

0.058223 Ac/Ft

2,536 Cubic Feet

Af =

## Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f. 17,598 s.f.

2,000

17,598

Ai = 11 %

Using the Table for SHA-BSM, the Required

Storage Percentage = 2,536 c.f. x

46% 46%

1,167 c.f. of Temporary Surface Storage Required with SHA BS MM

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,536 x 75%

1,902 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

2,250 / 0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

0.7905)(

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

3,000 PE = ( )(12)/(

0.491)

PE =

Project:	Frito Lay - Aberdeen			
J.O	OFM	Det	2/26/2014	
By:	CEM	Dat	2/20/2014	
Checked:		Dat		

#### Micro-Bioretention Facility #3 - AB19BMP000099

Drainage Area to Facility =

0.496 Acres

Impervious =

0.398 Acres

Pervious =

1

0.098 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area: 21,606

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000

0.4

1600 Cubic Feet of Storage within Filter Media

2,250

2 1,600

3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)12

1.8 " Pe =

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 ( 80.241935)

0.7722

ESDv =

1.8 0.7722 x 0.496

ESDv =

0.6894

12

ESDv =

0.05745 Ac/Ft

2,503 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

Ai =

2,000

17,337

12 %

Using the Table for SHA-BSM, the Required

1

Storage Percentage =

c.f. x

50%

1,251 c.f. of Temporary Surface Storage Required

2,000 s.f. 17,337 s.f.

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,503 x 75%

1,877 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility = 2,250 / 2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

0.496) 0.7722)( PE = ( 3,000 )(12) /(

PE =

Project:	Frito Lay - Aberdeen			
J.O	CEM	Dat	2/26/2014	
KC I Checked:		Dat		

#### Micro-Bioretention Facility # 4 - AB19BMP000100

Drainage Area to Facility =

0.408 Acres

Impervious =

0.34 Acres

Pervious =

0.068 Acres

Facility Surface Area =

1,700 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

1,700 1 17,772

Facility Storage:

1,934 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

1,700

0.4 х

1360 Cubic Feet of Storage within Filter Media

1,934

2 1,360

3,294 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv = (Pe)(Rv)(A) 1.8 "

12

Rv = 0.05 + 0.009(I)Rv = 0.05 + 0.009 ( 83.333333)

0.8

Rv =

0.408

E\$Dv =

х

0.8 x

ESDv =

0.58752

1.8

12

ESDv = 0.04896 Ac/Ft

2,133 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage Af =

Ai =

1,700 s.f. 14,810 s.f.

1,700

14,810

11 %

#### Using the Table for SHA-BSM, the Required

Storage Percentage = 55%

1

2,133 c.f. x

55%

1,173 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,133 x 75%

1,600 c.f. of Temporary Surface Storage Required w/o SHA-BSM

1,934 /

Total Temporary Storage Volume Provided Above Facility = Total Credited Volume towards ESD Requirement =

1,934 c.f.

Total Credited Volume towards ESD Requirement =

0.75 2,578 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility.

0.8)(

The Facility does not Require the use of SHA-BSM.

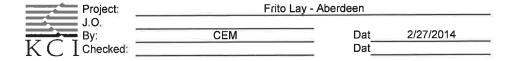
PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

)(12) /( 2.18 " PE = ( 2,578

0.408)

PE =



#### Micro-Bioretention Facility #5 - AB19BMP000101

Drainage Area to Facility =

0.483 Acres

Impervious =

0.403 Acres

Pervious =

1

0.08 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area: 2,000

21,039

Facility Storage:

2,175 Cubic Feet of Storage Above Filter Media 2

Media thickness =

2 feet below facility bottom

2,000 х

х

1600 Cubic Feet of Storage within Filter Media

3,775 Cubic Feet of Total Storage for Facility 1,600 2,175 =

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe = 1.8 "

12

Rv = 0.05 + 0.009(I)

83.436853) Rv = 0.05 + 0.009 (

Rv = 0.8009

0.483

ESDv =

1.8 0.8009

ESDv =

0.69633

12

ESDv =

0.058028 Ac/Ft

or

2,528 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

Af = Ai =

17,555 2,000

c.f. x

11 %

Using the Table for SHA-BSM, the Required

Storage Percentage =

59%

59%

1,491 c.f. of Temporary Surface Storage Required

2,000 s.f.

17,555 s.f.

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,528 x 75%

1,896 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility =

2,175 c.f.

Total Credited Volume towards ESD Requirement =

2,175 / 0.75

Total Credited Volume towards ESD Requirement =

2,900 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

0.8009)(

#### PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

2,900 PE = (

)(12) /(

0.483)

PE =

Project:	Frito Lay - Aberdeen			
J.O.				
By:	CEM	Dat	2/26/2014	
K C I Checked:		Dat		

#### Micro-Bioretention Facility #6 - AB19BMP000102

Drainage Area to Facility =

0.488 Acres

Impervious =

0.389 Acres

Pervious =

0.099 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

21,257

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000

1600 Cubic Feet of Storage within Filter Media

79.713115)

2,250

2 1,600

0.4 3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

1.8 " Pe =

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

0.488

Rv = 0.7674

ESDv =

1.8 0.7674

ESDv =

0.6741

12

ESDv =

0.056175 Ac/Ft

2,447 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f.

2,000 1

16,945

Ai = 12 %

Using the Table for SHA-BSM, the Required

Storage Percentage = 2,447 c.f. x

50% 50%

1,223 c.f. of Temporary Surface Storage Required

16,945 s.f.

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,447 x 75%

1,835 c.f. of Temporary Surface Storage Required w/o SHA-BSM

2,250 /

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

3,000 PE = ( 0.7674)( )(12) /(

0.488)

PE =

Project:	Frito Lay - Aberdeen			
J.O.	CEM	Dat	2/26/2014	
KC I Checked:		Dat		

#### Micro-Bioretention Facility #7 - AB19BMP000103

Drainage Area to Facility =

0.492 Acres

Impervious =

0.445 Acres

Pervious =

0.047 Acres

Facility Surface Area =

2,200 (See Storage Table)

1

Check to ensure facility is ≥ 2% of the contributing area:

2,200

21,432

#### Facility Storage:

2,464 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2.200

0.4 х

1760 Cubic Feet of Storage within Filter Media

2,464

2 1,760

4,224 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

1.8 "

12

Rv = 0.05 + 0.009(I)Rv = 0.05 + 0.009 (

90.447154)

Rv =

ESDv =

1.8 х 0.864 X 0.492

0.864

ESDv =

0.76518

12

ESDv =

0.063765 Ac/Ft

2,778 Cubic Feet

# Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage Af =

Ai =

2,200 s.f. 19,384 s.f.

2,200

19,384

11 %

Using the Table for SHA-BSM, the Required

Storage Percentage =

50% 50%

1,389 c.f. of Temporary Surface Storage Required

2,778 If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

c.f. x

2,778 x 75%

2,083 c.f. of Temporary Surface Storage Required w/o SHA-BSM

2,464 /

Total Temporary Storage Volume Provided Above Facility =

2,464 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,285 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

 $\overline{PE} = (\overline{ESDv})(12) / (Rv)(A)$ 

PE = ( 3,285 )(12)/( 0.864)( 0.492)

PE =

Project:	Frito Lay - Aberdeen		
J.O.	CEM	Dat	2/26/2014
KC I Checked:		Dat	

#### Micro-Bioretention Facility #8 - AB19BMP000104

Drainage Area to Facility =

0.357 Acres

Impervious =

0.283 Acres

Pervious =

1

0.074 Acres

Facility Surface Area =

1,400 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

1,400

15,551

9 %

#### Facility Storage:

1.613 Cubic Feet of Storage Above Filter Media

2 feet below facility bottom

1,400

1120 Cubic Feet of Storage within Filter Media

1,613

2 1,120 0.4

2,733 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

1.8 "

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

79,271709)

Rv = 0.7634

ESDv =

1.8

0.7634 Х 0.357

ESDv =

0.49059

12

ESDv =

0.040883 Ac/Ft

1,781 Cubic Feet

# Required Temporary Storage Volume Above Facility:

1,400

Af / Ai = Required Surface Storage Percentage Af = 12,327

1,400 s.f. 12,327 s.f.

Ai =

11 %

#### Using the Table for SHA-BSM, the Required

Storage Percentage =

50%

50% 1,781 c.f. x

1

890 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

1,781 x 75%

1,336 c.f. of Temporary Surface Storage Required w/o SHA-BSM

1,613 /

Total Temporary Storage Volume Provided Above Facility =

1,613 c.f.

Total Credited Volume towards ESD Requirement = Total Credited Volume towards ESD Requirement =

0.75 2,151 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

PE = ( 2,151 )(12) /( 0.7634)(

0.357)

PE =

Project:	Frito Lay - Aberdeen		
J.O	CEM	Dat	2/26/2014
KC I Checked:	OLIVI	Dat	2/20/2011

#### Micro-Bioretention Facility #10 AB19BMP000105

Drainage Area to Facility =

0.304 Acres

Impervious =

0.184 Acres

Pervious =

0.12 Acres

Facility Surface Area =

1,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

13,242

Facility Storage:

1,183 Cubic Feet of Storage Above Filter Media

Media thickness =

1,000

2 feet below facility bottom

2 0.4 800 Cubic Feet of Storage within Filter Media

60.526316)

800 1,983 Cubic Feet of Total Storage for Facility 1,183

## **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe = 1.8 "

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 (

0.5947

ESDv =

0.304 1.8 0.5947

ESDv =

0.32544

12

ESDv =

0.02712 Ac/Ft

1,181 Cubic Feet

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

1,000 s.f.

1,000

8,015

Ai =

8,015 s.f.

1

12 %

Using the Table for SHA-BSM, the Required

Storage Percentage = 1,181 c.f. x

46% 46%

543 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

1,181 x 75%

886 c.f. of Temporary Surface Storage Required w/o SHA-BSM

1,183 /

Total Temporary Storage Volume Provided Above Facility =

1,183 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

1,577 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

1,577 PE = ( )(12) /( 0.5947 )( 0.304)

2.40 " PE =

Project:	Frito Lay - Aberdeen				
J.O.	CEM	Dat	2/26/2014		
KC I Checked:		Dat			

## Micro-Bioretention Facility #11- AB19BMP000106

Drainage Area to Facility =

0.486 Acres

Impervious =

0.414 Acres

Pervious =

1

0.072 Acres

Facility Surface Area =

2,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area:

2,000

21,170

Facility Storage:

2,250 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

2,000 Х Х

1600 Cubic Feet of Storage within Filter Media

85.185185)

2,250

1,600

3,850 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

1.8 "

12

Rv = 0.05 + 0.009(1)Rv = 0.05 + 0.009 (

Rv = 0.8167

ESDv =

0.8167 1.8 х

0.486

ESDv =

0.71442

12

ESDv =

0.059535 Ac/Ft

or

2,593 Cubic Feet

Af =

## Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

2,000 s.f.

18,034 s.f. Ai =

2,000

18,034

11 %

Using the Table for SHA-BSM, the Required

Storage Percentage = 2,593 c.f. x

50% 50%

1,297 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

2,593 x 75%

1,945 c.f. of Temporary Surface Storage Required w/o SHA-BSM

2,250 /

Total Temporary Storage Volume Provided Above Facility =

2,250 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

3,000 c.f.

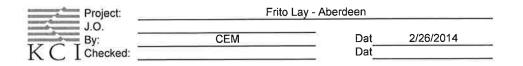
Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

)(12) /( 0.486) 0.8167)( PE = ( 3,000

PE =



#### Micro-Bioretention Facility #12 - AB19BMP000107

Drainage Area to Facility =

0.222 Acres

Impervious =

0.164 Acres

Pervious =

/

0.058 Acres

=

Facility Surface Area =

1,000 (See Storage Table)

Check to ensure facility is ≥ 2% of the contributing area: 1,000

9,670

10 %

Facility Storage:

1,183 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

1,000

0.4 Х

800 Cubic Feet of Storage within Filter Media

1,183 + 2

1,983 Cubic Feet of Total Storage for Facility 800

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe =

12

Rv = 0.05 + 0.009(I)

Rv = 0.05 + 0.009 ( 73.873874)

1.8 "

Rv = 0.7149

ESDv =

1.8 0.7149 Х

0.222

ESDv =

0.28566

12

ESDv =

0.023805 Ac/Ft

1,037 Cubic Feet

Х

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage

1,000 s.f.

1,000

7,144

Af = Ai = 14 %

7,144 s.f.

Using the Table for SHA-BSM, the Required

1

Storage Percentage = 1,037 c.f. x

45% 45%

467 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required

ESDv must be Provided Above the Facility

1,037 x .75 778 c.f. of Temporary Surface Storage Required w/o SHA-BSM

Total Temporary Storage Volume Provided Above Facility = 1,183 / 1,183 c.f.

Total Credited Volume towards ESD Requirement = Total Credited Volume towards ESD Requirement =

0.75 1,183 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility.

The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

 $\overline{PE} = (ESDv)(12) / (Rv)(A)$ 

PE = ( 1,183 0.7149 )( 0.222))(12) /(

PE =

Project:	Frito Lay - Aberdeen			
J.O.	CEM	Dat	2/26/2014	
KC I Checked:		Dat		

#### Micro-Bioretention Facility #9 - AB19BMP000168

Drainage Area to Facility =

0.488 Acres

Impervious =

0.288 Acres

Pervious =

0,2 Acres

Facility Surface Area =

1,500 (See Storage Table)

/

Check to ensure facility is ≥ 2% of the contributing area:

1,500

21,257

#### Facility Storage:

1,720 Cubic Feet of Storage Above Filter Media

Media thickness =

2 feet below facility bottom

1,500

1200 Cubic Feet of Storage within Filter Media

2

0.4

1,200 1,720 2,920 Cubic Feet of Total Storage for Facility

#### **Total Facility Storage Requirement:**

ESDv =

(Pe)(Rv)(A)

Pe = 1.8 "

12

Rv = 0.05 + 0.009(1)

Rv = 0.05 + 0.009 ( 59.016393)

Rv = 0.5811

ESDv =

1.8 0.5811 0.488 х Х

ESDv =

0.51048

ESDv =

12

0.04254 Ac/Ft

1,853 Cubic Feet

12 %

#### Required Temporary Storage Volume Above Facility:

Af / Ai = Required Surface Storage Percentage Af =

1,500 1 12,545

Ai =

1,500 s.f. 12,545 s.f.

#### Using the Table for SHA-BSM, the Required

Storage Percentage =

50%

50% 1,853 c.f. x

927 c.f. of Temporary Surface Storage Required

If SHA-BSM is not Provided for the Facility, 75% of the Required ESDv must be Provided Above the Facility

1,853 x 75%

1,390 c.f. of Temporary Surface Storage Required w/o SHA-BSM

1,720 /

Total Temporary Storage Volume Provided Above Facility =

1,720 c.f.

Total Credited Volume towards ESD Requirement =

0.75

Total Credited Volume towards ESD Requirement =

2,293 c.f.

Therefore, the Total Required Temporary Surface Volume has been Provided for Treating 100% of the Impervious Draining to the Facility. The Facility does not Require the use of SHA-BSM.

PE for Surface Storage of Facility

PE = (ESDv)(12) / (Rv)(A)

PE = ( 0.5811 )( 0.488) 2,293 )(12) /(

PE =



# **SWM Record Computations**

SUBMIT TO:

City of Aberdeen Department of Planning and Community Development

PROJECT:

LIDL - Aberdeen MD142108

PROJECT LOCATION:

621 S. Philadelphia Blvd (U.S. Route 40)
Aberdeen, MD
City of Aberdeen
Harford County

#### OWNER/DEVELOPER:

LIDL US OPERATIONS, LLC 3500 South Clark St. Arlington, VA, 22202



I, Joseph J. Ucceferro, P.E., hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 36064, Expiration Date: 6/26/2020.

January 4, 2019

**Bohler Engineering** 901 Dulaney Valley Road Suite 801 Towson, MD, 21204

Phone: 410-821-7900 Fax : 410-821-7987

# Bioretention 1 - AB20BMP000051

1/4/2019

## **BASE DATA**

Drainage Area = 1.58 Acres.

Total Impervious Area on site= 1.16 Acres.

Soils Type on the site: Type B and C soils

# **COMPUTATION OF WATER QUALITY VOLUME**

Water Quality Volume is given by:

$$WQ_v = (P.R_v.A)/12$$
  
Where P = rainfall depth  
= 1.8 "

Total Drainage Area = 1.58 Acres
$$R_v = \text{Volumetric runoff Coefficient}$$

$$= 0.05 + 0.009(I)$$

$$\text{where I = Percentage Impervious Cover}$$

$$= (1.16/1.58) * 100$$

$$= 73.42 %$$

$$R_v = 0.05 + 0.009(73.42)$$

$$= 0.711$$

Thus, the Water Quality Volume is given by :

$$WQ_v = (1.8 * 0.71 * 1.58) / 12$$
  
= 0.168 Ac -ft.

Thus, the Total Water Quality Volume required for this Bioretention is (75% of total WQv):

 $WQ_v = 0.168$  Acre-feet 7338 cf X 75% = 5503 cf

# Bioretention 2 - AB20BMP000052

1/4/2019

## **BASE DATA**

Drainage Area = 2.01 Acres.

Total Impervious Area on site= 1.25 Acres.

Soils Type on the site: Type B and C soils

# COMPUTATION OF WATER QUALITY VOLUME

Water Quality Volume is given by:

$$WQ_v = (P.R_v.A)/12$$
  
Where P = rainfall depth  
= 1.8 "

Total Drainage Area = 2.01 Acres 
$$R_v = \text{Volumetric runoff Coefficient}$$
 
$$= 0.05 + 0.009(I)$$
 where I = Percentage Impervious Cover 
$$= (1.25/2.01) * 100$$
 
$$= 62.19 \%$$
 
$$R_v = 0.05 + 0.009(62.19)$$
 
$$= 0.610$$

Thus, the Water Quality Volume is given by :

$$WQ_v = (1.8 * 0.61 * 2.01) / 12$$
  
= 0.184 Ac -ft.

Thus, the Total Water Quality Volume required for this pond is:

 $WQ_v = 0.184$  Acre-feet 8007 cf X 75% = 6006 cf

#### M-6 MBIO-1 - AB20BMP000053

SWM As-Builts

Location:

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.46	acres	20000	square feet	(20,000 sf Max, not including facility)
Total Proposed Impervious Area	0.33	acres	14375	square feet	
Impervious Area Percentage, Ipost	71.9%			<del>-</del> "	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.697				

# Calculate ESD Volumes Provided Using Micro-Bioretention: Filter Bed Area ( $A_{\rm f}$ ) Sizing

A<sub>f</sub> must be a minimum of 2% of DA

$A_{f(min)} = 0.02 * DA =$	400 sf
Area of Filter Bed Provided =	775 sf

Stage Storage Table for Micro-Bioretention

otago otorago rabio ror imioro prorottamon							
	AREA	AVG	INC ELEV	-	INTERVAL	TOTAL	TOTAL
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft)
61.00	775					0	0.00000
		878	0.5		439		
61.50	980			0.5		439	0.01007
		1,080	0.25		270		
61.75	1,180			0.75		709	0.01627
		1,313	0.25		328		
62.00	1.445			1.00		709	0.01627

Ponding depth =	1.00	ft
Volume Provided prior to filtration =	709	cf
Depth of Mulch =	0.25	ft
Depth of Filter Media =	4.0	ft
Depth of Stone to Invert of Underdrain =	0.8	ft
Volume Provided within mulch, filter and stone	e layers	
+ 4 + 0.8) * 775 * 0.4 =	1,566	cf
Total Volume Provided in Facility =	2,274	cf

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6)  $Max ESDv = (P)(R_v)(A)/12 = 3,020$ 

ESDv Provided by Micro-Bioretention =	2.274	cf
(Use smaller of two volumes)	2,274	CT

Ŀ	P <sub>E</sub> (in) Achieved =	2.0

#### M-6 MBIO-3-AB20BMP000054

SWM As-Builts

Location:

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.13	acres
Total Proposed Impervious Area	0.07	acres
Impervious Area Percentage, Ipost	53.8%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.535	

5663	square feet	(20
3049	square feet	

20,000 sf Max, not including facility)

# Calculate ESD Volumes Provided Using Micro-Bioretention:

Filter Bed Area (A<sub>f</sub>) Sizing  $A_{\mbox{\scriptsize f}}$  must be a minimum of 2% of DA

$A_{f(min)} = 0.02 * DA =$	113 sf
Area of Filter Bed Provided =	845 st

Stage Storage Table for Micro-Bioretention

ELEV	AREA (sf)	AVG AREA (sf)	INC ELEV DIFF (ft)	TOTAL DEPTH (ft)	INTERVAL STOR. (cf)	TOTAL STOR (cf)	TOTAL STOR. (ac-fi
ELEV	(31)	AILA (SI)	Dil I (II)	DEPIR (II)	310K. (ci)	310K. (ci)	STOR. (ac-11
61.75	845					0	0.00000
		950	0.3		238		
62.00	1,055			0.3		238	0.00545
		1,223	0.50		611		
62.50	1,390			0.75		849	0.01948
		1,475	0.25		369		
62.75	1,560			1.00		1,218	0.02795

Elev of mulch approx. 61.60 +/-

Ponding depth =	1.00 ft
Volume Provided prior to filtration =	1,218 cf
Depth of Mulch =	0.25 ft
Depth of Filter Media =	2.0 ft
Depth of Stone to Invert of Underdrain =	1.0 ft
Volume Provided within mulch, filter and stone	layers
5 + 2 + 1) * 845 * 0.4 =	1,099 cf
Total Volume Provided in Facility =	2,316 cf
	_,

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

 $\label{eq:maximum} \begin{tabular}{lll} Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6) \\ \hline \begin{tabular}{lll} Max ESDv = (P)(R_v)(A)/12 = & 656 \\ \hline \end{tabular}$ 

ESDv Provided by Micro-Bioretention	= 656	cf
(Use smaller of two volumes)	656	CI

P <sub>E</sub> (in) Achieved =	2.6

Location:

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.19	acres
Total Proposed Impervious Area	0.17	acres
Impervious Area Percentage, Ipost	90.4%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.86	

8196 square feet 7405 square feet

(20,000 sf Max, not including facility)

# Calculate ESD Volumes Provided Using Micro-Bioretention:

Filter Bed Area (A<sub>f</sub>) Sizing
A<sub>f</sub> must be a minimum of 2% of DA

A <sub>f(min)</sub> = 0.02 * DA =	164 sf
Area of Filter Red Provided =	450 sf

Stage Storage Table for Micro-Bioretention

rage storage rable for interestination							
	AREA	AVG	INC ELEV	TOTAL	INTERVAL	TOTAL	TOTAL
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft
58.00	450					0	0.00000
		505	0.3		126		
58.25	560			0.3		126	0.00290
		610	0.25		153		
58.50	660			0.50		279	0.00640

Ponding depth =	0.50
Volume Provided prior to filtration =	279
Depth of Mulch =	0.25
Depth of Filter Media =	3.0
Depth of Stone to Invert of Underdrain =	1.0
Volume Provided within mulch, filter and stone	e layers
5 + 3 + 1) * 450 * 0.4 =	765
Total Volume Provided in Facility =	1,044

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

 $\label{eq:maximum} \begin{array}{lll} \mbox{Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6)} \\ \mbox{Max ESDv} = (P)(R_{\nu})(A)/12 = & 1,533 \end{array}$ 

ESDv Provided by Micro-Bioretention =	4.044	_,
(Use smaller of two volumes)	1,044	cí

P <sub>E</sub> (in) Achieved = 1.8
------------------------------------

#### M-6 MBIO-5 - AB20BMP000056

Location:

- AB20BMP000056 SWM As-Builts

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.22	acres
Total Proposed Impervious Area	0.12	acres
Impervious Area Percentage, Ipost	54.5%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.54	

9583 square feet square feet

(20,000 sf Max, not including facility)

# Calculate ESD Volumes Provided Using Micro-Bioretention: Filter Bed Area $(A_{\mbox{\scriptsize f}})$ Sizing

A<sub>f</sub> must be a minimum of 2% of DA

A <sub>f(min)</sub> = 0.02 * DA =	192 sf
Area of Filter Bed Provided =	1,100 sf

#### Stage Storage Table for Micro-Bioretention

	AREA	AVG	INC ELEV	TOTAL	INTERVAL	TOTAL	TOTAL
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft)
58.00	1,100					0	0.00000
		1,230	0.3		308		
58.25	1,360			0.3		308	0.00706
		1,660	0.25		415		
58.50	1,960			0.50		723	0.01659

Total Volume Provided in Facility =	2,153
+ 2 + 1) * 1100 * 0.4 =	1,430
Volume Provided within mulch, filter and stone	layers
Depth of Stone to Invert of Underdrain =	1.0
Depth of Filter Media =	2.0
Depth of Mulch =	0.25
Volume Provided prior to filtration =	723
Ponding depth =	0.50

(1 ft Max)

(2 - 4 ft) (Including 4" pea gravel bridging layer)

 $\label{eq:maximum} \begin{tabular}{lll} Maximum Amount of Runoff that can be captured = Runoff from 1-yr, 24 hr storm (P = 2.6) \\ \hline \begin{tabular}{lll} Max ESDv = (P)(R_v)(A)/12 = & 1,123 \\ \hline \end{tabular}$ 

ESDv Provided by Micro-Bioretention =	1.123	cf
(Lise smaller of two volumes)	1,123	CI

P <sub>E</sub> (in) Achieved =	2.6

#### M-6 MBIO-6 - AB20BMP000057

Location:

SWM As-Builts

#### Calculate R<sub>v</sub>:

Drainage Area, A	0.23	acres
Total Proposed Impervious Area	0.05	acres
Impervious Area Percentage, Ipost	22.7%	
Runoff Coefficient, Rv = 0.05 + 0.009(I <sub>post</sub> )	0.25	

9971	square feet
2259	square feet

(20,000 sf Max, not including facility)

#### Calculate ESD Volumes Provided Using Micro-Bioretention:

#### Filter Bed Area (A<sub>f</sub>) Sizing

 $A_{\mbox{\scriptsize f}}$  must be a minimum of 2% of DA

$A_{f(min)} = 0.02 * DA =$	200 sf
Area of Filter Bed Provided =	200 sf

Stage Storage Table for Micro-Bioretention

Stage Storage Tak	Stage Storage Table for Micro-Bioretention											
	AREA	AVG	INC ELEV	TOTAL	INTERVAL	TOTAL	TOTAL					
ELEV	(sf)	AREA (sf)	DIFF (ft)	DEPTH (ft)	STOR. (cf)	STOR. (cf)	STOR. (ac-ft					
58.00	200					0	0.00000					
		203	0.3		51							
58.25	205			0.3		51	0.00116					
		208	0.55		114							
58.80	210			0.80		165	0.00378					

MULCH AREA SHOWN AT VARYING ELEVATIC

Ponding depth =	0.80
Volume Provided prior to filtration =	165
Depth of Mulch =	0.25
Depth of Filter Media =	3.0
Depth of Stone to Invert of Underdrain =	1.0
Volume Provided within mulch, filter and stone	layers
5 + 3 + 1) * 200 * 0.4 =	340
Total Volume Provided in Facility =	505

(1 ft Max)

(2 - 4 ft)

(Including 4" pea gravel bridging layer)

ESDv Provided by Micro-Bioretention =	505	ء ـ
(Use smaller of two volumes)	505	cf

P <sub>E</sub> (in) Achieved = 2.4
------------------------------------

# STORMWATER MANAGEMENT REPORT

# Hampton Inn & LaQuinta Inn

City of Aberdeen Harford County, Maryland



# CITY OF ABERDEEN

#### OWNER/DEVELOPER

Crossroads Hospitality 793 West Bel Air Avenue Aberdeen, Maryland 21001 Attn: Mr. Nick Patel Phone: 410.272.6000



#### **Professional Certification**

"I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 34672, Expiration Date: 08/23/2015."



#### PREPARED BY:

# MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS
3445-A Box Hill Corporate Center Drive
Abingdon, Maryland 21009
(410) 515-9000
FAX(410) 515-9002
CONTACT: Amy G. DiPietro, P.E., LEED AP
MRA Project No. 18189

January 2015

Project:

Aberdeen Hotel

Job #:

18189

Designed by: CEM

Date

12/31/2014

Checked by: AGD

# Design of Micro-Bioretention Facility in Drainage Area 1a

AB20BMP000109



#### Objective #1: Define the drainage area.

Total Drainage Area (DA) =

Total Impervious Area (Ai) =

Impervious Percentage (I) =

6,339 sf 67.5%

9,386 sf

Runoff Coefficient (R<sub>v</sub>) =

0.658

 $I = A_i / DA$ 

 $R_v = 0.05 + 0.009 \times I \times 100$ 

#### Objective #2: Determine the ESD Volume provided.

Bottom Area of Ponding =

Top Area of Ponding =

Length = Width =

Ponding Depth =

Ponding Volume =

12" 300 cf

300 sf

300 sf

Filter Area (A<sub>f</sub>) =

300 sf

Planting Media Thickness =

2.0 ft.

Storage within Planting Media =

240 cf

(assumes 40% porosity in planting media)

Total ESD<sub>V</sub> Provided =

540 cf

Micro-bioretention facilities shall be sized to capture a minimum of 75% of ESD volume

Total ESD<sub>V</sub> Credited =

720 cf

(ESDv provided / 75%)

Equivalent P<sub>E</sub> Provided =

1.4 in.

 $P_E = (12 \times ESD_V) / (R_v \times DA)$ 



Project:

Aberdeen Hotel

Job #:

Designed by: CEM

Date

12/31/2014

18189

Checked by: AGD

# Design of Micro-Bioretention Facility in Drainage Area 2a

AB20BMP000110



#### Objective #1: Define the drainage area.

Total Drainage Area (DA) =

18,187 sf

Total Impervious Area (Ai) =

12,177 sf 67.0%

Impervious Percentage (I) =

 $I = A_i / DA$ 

Runoff Coefficient (R<sub>v</sub>) =

0.653

 $R_v = 0.05 + 0.009 \times I \times 100$ 

#### Objective #2: Determine the ESD Volume provided.

Bottom Area of Ponding =

Top Area of Ponding =

515 sf 515 sf Length = Width =

Ponding Depth = Ponding Volume =

12" 515 cf

Filter Area (A<sub>f</sub>) =

Planting Media Thickness =

515 sf 2.0 ft.

Storage within Planting Media =

412 cf

(assumes 40% porosity in planting media)

Total ESD<sub>V</sub> Provided =

927 cf

Micro-bioretention facilities shall be sized to capture a minimum of 75% of ESD volume

Total ESD<sub>V</sub> Credited =

1,236 cf

(ESDv provided / 75%)

Equivalent P<sub>E</sub> Provided =

1.2 in.

 $P_E = (12 \times ESD_V) / (R_v \times DA)$ 

Project:

Hamilton Reserve

Job#: 17023 Designed by DRS

Date 1/14/2015 Checked by: AGD

Design of Bio-Swale Facility #2b in Drainage Area 2b (Offline Facility - see Flowmaster Outputs)



AB20BMP000111

Objective #1: Define the drainage area.

Total Drainage Area (DA) = 20,728 sf 18,000 sf Total Impervious Area (A<sub>i</sub>) = 86.8%

Impervious Percentage (I) =

0.832 Runoff Coefficient (R<sub>v</sub>) =

 $I = A_i / DA$ 

 $R_v = 0.05 + 0.009 \times I \times 100$ 

Objective #2: Determine the ESD Volume provided.

690 sf Total Filter Area (A<sub>f</sub>) = 6" Temporary Ponding Depth = Planting Media Thickness = 4.0 ft. Total ESD<sub>V</sub> Provided = 1.449 cf

1.01 in. Equivalent P<sub>E</sub> Provided =

Length = 220 Width =

 $P_E = (12 \times ESD_V) / (R_v \times DA)$ 

Objective #3: Determine the peak discharge flow rate for the ESD event (MDE Appendix D.10)

0.84 in.

98

5 min

0.032

Runoff Volume (Qa) =

Runoff Curve Number (CN) = Time of Concentration (Tc) =

Initial Abstraction (la) = Unit Peak Discharge (qu) =

Peak Flow Rate (Q<sub>ESD</sub>) =

1062 0.662 cfs  $Qa = P_E \times R_v$ 

 $CN = 1000/[10+5P_E+10Qa-10\sqrt{(Qa^2+1.25QaP_E)}]$ 

assumed

la = 200 / CN - 2

TR-55 Exhibit 4-II

 $Q_{ESD} = q_u \times DA(mi^2) \times Qa$ 

10-yr Peak Discharge (Q 10) =

1.20 cfs

\* SEE FLOWMASTER OUTPUT FOR BYPASS MH 7

Objective #4: Determine the swale velocity for the ESD and 10-yr events (Manning's Equation)

Swale Geometry

Width 8.0 ft. Side Slope 2:1 Slope 1.7% Manning's Depth Discharge ESD Event 0.10 0.15 ft. 0.661 cfs

10-yr Event 0.10 0.21 ft. 1.20 cfs

Velocity

0.531 fps 0.666 fps √ < 4 fps
</p> √ < 1 fps
</p>

# **Middelton Road Extension**

From MD Route 22 and Beards Hill Road Aberdeen, MD 21001

#### STORMWATER MANAGEMENT REPORT



## **ENGINEERS CERTIFICATION**

I HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.28378, EXPIRATION DATE: 01/01/2021.

SIGNATURE

CHRISTOPHER R. MINK

PRINT NAME

Property Owner:

Department of Public Works City of Aberdeen 60 N. Parke Street Aberdeen, MD 21001 Attn: Parley Hess Prepared by:

CNA, LLC. 1630 Robin Circle Forest Hill, Maryland 21050 Office: 443-652-6160 Contact: Bob Royer

February 2019



Area	GS1 - Al	321BMP00000	2 Grass	Swale #1		_	E	SD Requireme	nts	
Total Drainage	e Area =			34,924	SF	(	0.80	Acres +/-)		
Total Impervio	ous Cover	to Facility =		23,670	SF	(	0.54	Acres +/-)	67.8%	
Rv= 0.05+0.00	9 (1)=	0.66								
CS	Soil = Soil = Soil			7,344 18,536 9,044	SF	( (	0.17 0.43 0.21	Acres +/-) Acres +/-) Acres +/-)	21.0% 53.1% 25.9%	
Target B Soil I	-	2.2 " 2.0 "				(Table	5.3)			
Target D Soil F	P <sub>E</sub> =	1.8		Weighte	d A	ve. Soil F	P <sub>E</sub> = 1.99	9		
Target ESDv =	=	[ 2.2 3,823	" x 0.21 CF	+ 2.0	) "×	0.53	+ 1.8	3 "x 0.26 ]x	0.66 x	34,924 /12'
Minimum ESD Maximum ESD		1.0 x 2.69 x	0.66 0.66			34,924 34,924	•	12 = 1,921 12 = 5,167		
Area shown o	n plan =	5,90	4 SF							
PE = ESDv x 12	2" / Rv x [	DA =	1,948	x12"/	(	D.66 x	34	,924 = 1	01 "	
Af = PE x DA /	15	1.99	x 34,9	924 / 15	"=	1,24	9 SF N	leeded		
Min A <sub>f</sub> =	2% of	34,924	=	698	SF					
Grass S	wale #1	Facili	ty GS	51						
ESDv Treat	tment =	0.33 'x	738	'L x		8 '	W			

CF 1948

Total Storage Volume = 1,948 CF ESDv Provided = 1,948 CF 1,921 CF Facility Meets Minimum ESDv Requirements 1,948 CF



Area	GS2 - A	B21BMP000003	Grass Swale #2			E	SD Requireme	ents	
Total Draina	ge Area =		39,900	SF	(	0.92	Acres +/-)		
Total Imperv	vious Cove	r to Facility =	11,208	SF	(	0.26	Acres +/-)	28.1%	
Rv= 0.05+0.0	009 (I)=	0.30							
E	B Soil =		8,830	SF	(	0.20	Acres +/-)	22.1%	
(	C Soil =		12,319	SF	(	0.28	Acres +/-)	30.9%	
[	D Soil =		18,751	SF	(	0.43	Acres +/-)	47.0%	
Target B Soi	l PE=	1.6	,		•		, ,		
Target C Soi	l PE=	1.6			(Table	5.3)			
Target D Soi		1.2 "			•	•			
			Weighte	d Av	ve. Soil	P <sub>E</sub> = 1.43	1		
Target ESDv	= =		x 0.22 + 1.6 CF	5 " x	0.31	+ 1.2	2 "x 0.47 ]x	0.30 x	39,900 /12"
Minimum ES	SDv=	1.0 x	0.30 x		39,900	\ :	12 = 1,007	CF	
Maximum E	SDv=	2.69 x	0.30 x		39,900	\ 2	12 = 2,708	CF	
Area shown	on plan =	7,800	SF						
PE = ESDv x	12" / Rv x i	DA = 2	2,574 x12"/	(	0.30 x	x 39	,900 = 2	2.56 "	
Af = PE x DA	/ 15	1.41 x	39,900 / 15	"=	4,44	13 SF N	leeded		
Min A <sub>f</sub> =	2% of	39,900	= 798	SF					
Grass	Swale #2	Facility	GS2						
ESDv Tre	eatment = =	0.33 'x 2574 CF	975 'L x		8 '	W			

Total Storage Volume =	2,574	CF
ESDv Provided =	2,574	CF
2,574 CF > 1,422	CF Facility N	leets Minimum ESDv Requirements



#### **CITY OF ABERDEEN**

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

# FISCAL YEAR 2021 MS4 GENERAL PERMIT PROGRESS REPORT YEAR 3

# **ATTACHMENT I-2**

# WATERSHED ASSESSMENT AND RESTORATION PLAN

# **CITY OF ABERDEEN**

# WATERSHED ASSESSMENT AND RESTORATION PLAN

SEPTEMBER | 2020

## PREPARED FOR

City of Aberdeen

60 N. Parke Street

Aberdeen, MD 21001



# **PREPARED BY**

KCI Technologies, Inc.

936 Ridgebrook Road

Sparks, MD 21152



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APPENDIX B – HOT SPOT SITE INVESTIGATION DATA SHEETS

APPENDIX C – NEIGHBORHOOD SOURCE ASSESSMENT DATA SHEETS

# **LIST OF ACRONYMS**

BMP Best Management Practices

EPA U.S. Environmental Protection Agency

GPS Global Positioning System

MDE Maryland Department of the Environment
MS4 Municipal Separate Storm Sewer System

NPDES National Pollutant Discharge Elimination System

SPSC Step Pool Storm Conveyance
SCA Stream Corridor Assessment
SW-WLA Stormwater Wasteload Allocation

TN Total Nitrogen
TP Total Phosphorus

TSS Total Suspended Solids

#### 1 Introduction

#### 1.1 BACKGROUND

The City of Aberdeen has initiated a watershed assessment in response to requirements set forth by the Maryland Department of the Environment (MDE) in the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s; 13-IM-5500, MDR055500), issued on October 31, 2018 (MDE, 2018). The assessments described in this report support the City's goals for healthy watersheds and natural resources, and also support progress towards satisfying several regulatory and permit requirements. The assessments provide the next step in the planning process specifically for the urban stormwater sector regulated by the NPDES permit. The watershed assessment, through desktop and field assessment, identify watershed conditions and specific restoration solutions to meet the City's watershed restoration goals.

#### 1.2 Study Area Description

The City of Aberdeen is the largest municipality in Harford County, Maryland, and is located in the southeastern side of the County just north of Aberdeen Proving Grounds (Figure 1). The City falls within three distinct 8-digit watersheds. The northeastern portion of the City is part of the Swan Creek watershed and includes Carsins Run to the west, which flows into the mainstem Swan Creek, which flows southeast to the Chesapeake Bay. The southwestern portion of the City is part of the Bush River watershed and includes several tributaries to Church Creek, which flows south into the Bush River. Finally, several small tributary streams in the Aberdeen Proving Ground watershed of the Bush River fall within the southern portion of the Aberdeen boundary. The City of Aberdeen is bisected by both Pulaski Highway (Route 40) and Interstate 95 (Figure 2).

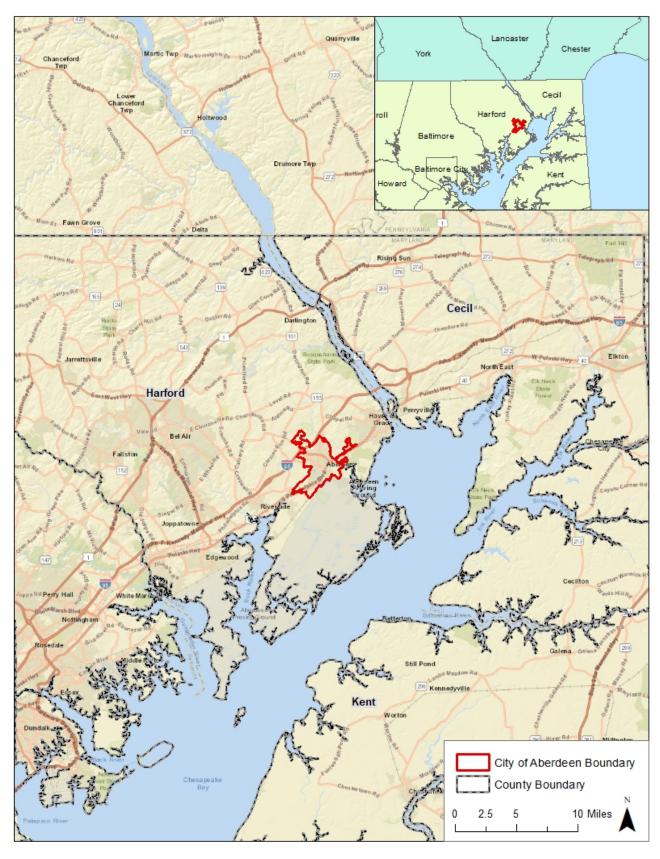


FIGURE 1: STUDY AREA LOCATION MAP

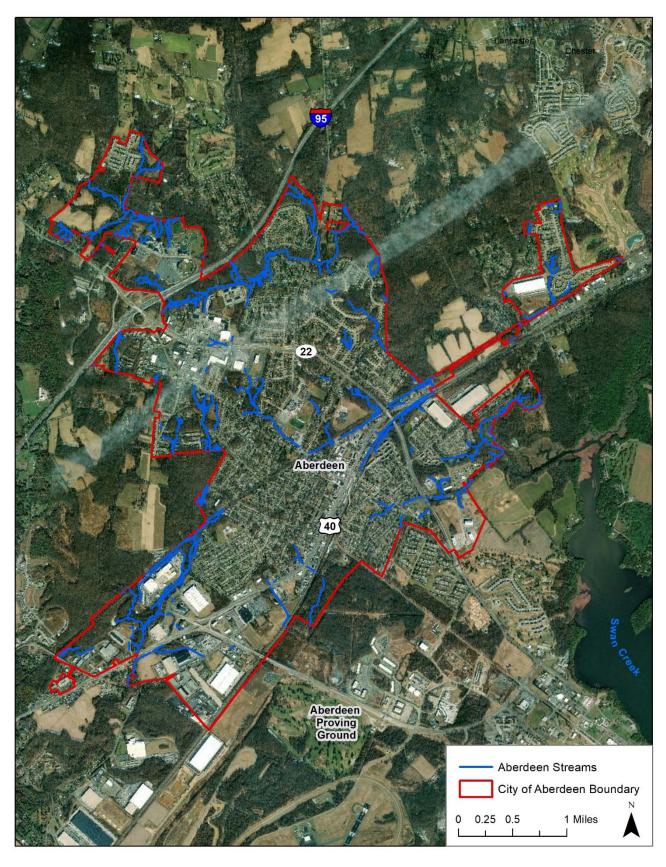


FIGURE 2: CITY OF ABERDEEN LOCATION

# 1.3 IMPERVIOUS RESTORATION GOALS

As a requirement of the NPDES small Municipal Separate Storm Sewer System (MS4) Discharge Permit issued by MDE to small MS4s, the City of Aberdeen must treat 20% of remaining baseline untreated impervious acres by 2025. Impervious accounting methodology is included in *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2019). Untreated impervious includes those areas where stormwater practices provide less than the current Maryland standard water quality volume for runoff from 1" of rainfall. The City of Aberdeen has completed an Impervious Area Restoration Work Plan, which outlines the requirements for restoration activities and begins to outline the suite of Best Management Practices (BMPs) required to meet the 20% impervious surface restoration goal.

The assessments described in this report are designed to rapidly assess the current conditions of stream corridors and upland areas throughout the City. The goal of this effort is to identify and develop conceptual designs and planning level cost estimates for restoration opportunities such as stream restoration, tree planting, and stormwater management retrofits to achieve cost-effective impervious treatment. Section 5.2 of this report describes the impervious credit associated with these recommended projects.

# 2 Watershed Assessment Methods

Stream corridor assessments (SCA) were conducted in the City of Aberdeen in February and March 2020. The assessments required permission to access streams on private property. Target stream sites were identified, and the property owners were sent property access permission letters. No landowners denied access to their properties; therefore, all properties targeted for assessments were able to be accessed as part of this effort.

# 2.1 UPLAND ASSESSMENT

Upland areas in the watershed were assessed to locate potential pollution sources that could influence water quality and to identify opportunities for restoration projects. This assessment was conducted according to the Unified Subwatershed and Site Reconnaissance (USSR) Manual developed by the Center for Watershed Protection (Wright et al., 2005). This manual provides detailed guidance for watershed groups, municipal staff and consultants to quickly identify major sources of stormwater pollution and to assess restoration potential for source controls, pervious area management and improved municipal maintenance (e.g., education, retrofits, street sweeping, open space management, etc.).

This section outlines two major components of the USSR:

- Neighborhood Source Assessment (NSA)
- Hotspot Site Investigation (HSI)

Each of these components is described in detail in the following sections.

#### 2.1.1 NEIGHBORHOOD SOURCE ASSESSMENT

A Neighborhood Source Assessment (NSA) reconnaissance was conducted in residential neighborhood areas to evaluate pollution-producing behaviors. The NSA rates the potential severity and type of non-point source pollution from residential behaviors. It also provides an assessment of the influence of imperviousness for each site by providing an estimate of whether roof drainage is directed to cisterns, storm drains, impervious areas or pervious areas and the percent of driveways in the neighborhood that are impervious.

Prior to conducting NSAs in the field, neighborhoods were delineated in the office using GIS data, including parcel data and aerial photographs. Neighborhoods were delineated and categorized based on groups of homes with similar characteristics such as house type (single family, townhouse, etc.) lot size, age of development, and lot characteristics (majority lawn, forested, etc.). These neighborhoods were then verified in the field.

The field team drove through every street in each selected neighborhood to identify potential pollution sources and restoration opportunities. General information was collected in each neighborhood for yards and lawns; driveways, sidewalks, and curbs; rooftop runoff; and common areas. These are each described briefly below.

# Yards and Lawns

In suburban residential areas, lawns typically represent a large portion of the pervious cover and can be a major source of pollutants such as pesticides and nutrients. Potential pollution sources evaluated by field teams under this category include grass cover and management status (i.e. fertilization and irrigation methods), bare soils, swimming pools and trash in yards. Existing tree cover and landscaping in each neighborhood was also noted to evaluate the potential to expand these areas to intercept additional stormwater runoff.

### <u>Driveways</u>, <u>Parking Lots</u>, <u>Sidewalks and Curbs</u>

The presence of driveways, sidewalks and curbs was noted for each neighborhood assessed. Information was collected for potential or existing pollution sources from these areas such as stained or dirty driveways, lawn clippings or leaves on sidewalks, pet waste, trash and/or debris along curbs and long term car parking (i.e. unused cars can potentially leak oil and other pollutants).

### Rooftops

Rooftops that are directly connected to other impervious surfaces through downspouts can contribute pollutants directly to stream systems. Disconnecting rooftops through downspout retrofits can reduce this potential source of pollution. In each neighborhood field teams estimated the percentage of downspouts discharging to impervious surfaces and evaluated the potential for implementing downspout retrofits.

#### Common Areas

Common areas within neighborhoods and in public parks are a good place to evaluate community behaviors such as pet waste disposal, trash dumping, storm drain marking, and buffer management. Field teams noted the condition of common areas, the activities occurring there that could be a potential source of pollution, and opportunities for tree plantings.

Upon completion of the Neighborhood Source Assessments, specific actions were identified based on the overall assessment. Potential actions that result in restoration credit for the City of Aberdeen generally include:

- Downspout disconnection
- Rain gardens
- Rain barrels
- Conservation landscaping
- Tree planting

Once all of the above neighborhood information was compiled, the final step of the NSA was to rate the overall neighborhood pollution severity and restoration potential. The severity of pollution generated by a neighborhood is denoted by the Pollution Severity Index (PSI). There are up to 14 potential pollution sources rated. Neighborhoods are given PSI ratings of severe (7 or more sources), high (4 to 6), moderate (2 to 3), or low (0 to 1). The neighborhood's potential for restoration projects is also rated with the Restoration Opportunity Index (ROI) in a similar fashion, with nine potential opportunities. These are assigned a rating of high (5 or more), moderate (3 to 4), or low (0 to 2).

#### 2.1.2 Hotspot Site Investigations

Stormwater hotspots are areas that have potential to generate higher concentrations of stormwater pollutants than typically found in urban runoff and/or have a higher risk of spills, leaks, or illicit discharges due to the nature of their operations (Wright et al., 2005). These generally include commercial, industrial, government, or transport-related operations. Stormwater pollutants generated as a result of hotspot operations depend on the specific site activities, but typically include nutrients, hydrocarbons, metals, chloride, pesticides, bacteria, and trash.

Commercial hotspots include a range of businesses and activities. Operations characteristic of commercial hotspots include waste or wash water generation, outdoor material storage, fuel handling, or vehicle repair. Common commercial hotspots include auto repair shops, car dealers, car washes, parking facilities, gas stations, marinas, garden centers, construction equipment and building material lots, community swimming pools, and restaurants.

Industrial operations utilize, generate, handle, and/or store pollutants that can be washed off with stormwater, spilled, or mistakenly discharged into the storm drain. Many industrial hotspots are regulated under National Pollution Discharge Elimination System (NPDES) industrial discharge permits. Like industrial operations, many government hotspots are subject to NPDES stormwater permits. Many are regulated and include uses such as airports, ports, highway construction, and trucking centers.

The purpose of the HSI is to evaluate pollution potential from hotspot operations and identify potential restoration practices that may be necessary.

The HSI assessment was conducted at locations identified in the office from aerial photography and mapping layers in GIS, and was targeted towards business, commercial, and industrial sites. The HSIs were focused on unregulated hotspots since regulated hotspots are previously known pollutant sources. Regulated stormwater hotspots are already subject to NPDES permit regulations.

While hotspots have unique operations, drainage systems, and pollutant-related risks, stormwater quality problems can be characterized and evaluated by operations and activities common to most hotspots. The HSI provides an evaluation of six common operations at each potential hotspot: vehicle operations, outdoor materials, waste management, physical plant, turf/landscaping, and stormwater infrastructure. The field team visited each potential hotspot to determine water quality impacts and restoration opportunities. These six categories were used to standardize the HSI process and to be able to prioritize potential restoration efforts. These categories are described briefly below.

### **Vehicle Operations**

Vehicle operations include maintenance, repair, recycling, fueling, washing or long-term parking. The presence of any of these activities was noted for each site since they can be a major source of metals, oil and grease, and hydrocarbons. Outdoor activities including vehicle storage, repair, fueling, and washing were also noted as potential pollution sources.

### Outdoor Materials

Stormwater quality issues result from improper handling or storage of outdoor materials at hotspots. Locations where materials were loaded or unloaded were examined to see if they were uncovered and draining to a storm drain inlet. Storage areas were also evaluated for types of materials stored outdoors and their potential for entering the storm drain system. The field team looked for improperly labeled storage containers, lack of secondary containment for liquids, and whether the storage area was directly or indirectly connected to the storm drain system. If any of these were observed, they were marked as potential pollution sources.

### Waste Management

Every hotspot generates waste as a result of daily operations that can be potentially hazardous or a source of stormwater pollution depending on the type of waste and how it is stored. The field team noted the type of waste generated (e.g., hazardous, garbage, etc.) and the condition of dumpsters. Dumpsters with no cover or open lids, with leaks, damaged/in poor condition, and/or overflowing were noted as potential pollution sources. Dumpsters located near storm drain inlets or lacking runoff diversion methods were also recorded as potential pollution sources.

#### Physical Plant

Common physical plant practices include cleaning, maintaining, or repairing the building, outdoor work areas, and parking lots. For each hotspot, the condition of the building itself was evaluated. Similarly, parking lots that were stained, dirty, breaking up, and/or impervious were recorded as potential pollution sources.

### Turf/Landscaping

Ground maintenance activities for turf/landscaped areas were also evaluated at hotspot sites. High turf management and improper irrigation practices were noted since they are potential pollution sources of nutrients, fertilizer, and pesticides. The field team also determined whether landscaped areas drained directly to storm drains or if organics such as leaves and grass accumulated on impervious surfaces.

### Stormwater Infrastructure

If stormwater treatment practices were not present, this was flagged as a potential pollution source. Private storm drains were also evaluated for pollution potential. Storm drains with considerable amounts of sediment, organics, and/or trash was identified as potential pollution sources. Opportunities for new stormwater treatment practices were noted and will be revisited during the Retrofit Reconnaissance Inventory (RRI).

For each operation on the HSI field form, there is an observed pollution source box that is checked when there is clear evidence of pollution problems at a site. One example would be washwater from an automotive or vehicle operations business being washed down into a storm drain, or oil and grease stains on the pavement. If applicable, one or more of the potential follow-up actions listed below were identified, based on field observations of a hotspot site:

- Refer for immediate enforcement
- Follow-up on-site inspection
- Test for illicit discharge
- Future education effort
- On-site non-residential retrofit
- Check to see if hotspot is an NPDES non-filer
- Pervious area restoration candidate
- Schedule a review of storm water pollution prevention plan

The overall pollution prevention potential for each hotspot site is assessed based on observed sources of pollution and the potential of the site to generate pollutants that would likely enter the storm drain network. There are up to 26 potential pollution sources rated in the assessment. Sites are classified into four hotspot severity categories:

- Not a Hotspot no observed pollutant; less than 5 sources noted
- Potential no observed pollution; 5 to 10 sources noted
- Confirmed pollution observed; 10 to 15 sources noted
- Severe multiple polluting activities directly observed, more than 15 sources noted

# 2.2 STREAM CORRIDOR ASSESSMENT

Stream corridor assessments (SCA) were conducted on all stream reaches within the City boundary, in order to assess the conditions of the stream corridors and identify potential restoration opportunities.

Field crews conducted stream field investigations using modified SCA protocols as outlined in *Stream Corridor Assessment Survey: SCA Survey Protocols* (Yetman, 2001). Slight modifications were made to the protocols to allow a more rapid assessment to quickly inventory important features and identify restoration opportunities. This allowed field crews to more quickly walk all stream reaches within the City limits. Property access permission letters were sent to all landowners within the target watershed with streams on their property. No landowners denied access to their properties, therefore all properties targeted for assessments were able to be accessed as part of this effort.

The field investigation consisted of a two-person team walking the stream channel and conducting a visual assessment to locate problem areas and assess their severity and correctability. The field team collected information on channel alteration, erosion, exposed utility pipes, drainage pipe outfalls, fish barriers, inadequate buffers, construction in or near the stream, trash dumping, and recorded any unusual conditions observed. Representative sites were selected at locations representative of each perennial stream or intermittent stream segment of significant size or flow. The general physical habitat condition was assessed at the representative sites using a modified version of the *U.S. Environmental Protection Agency's (EPA) Rapid Bioassessment Protocols* (Barbour et al., 1999). The assessment includes qualitative ratings for ten habitat parameters as well as information on wetted width, pool, run, and riffle depths, and channel substrate.

During the field assessment, points were given unique alphanumeric identifiers according to the stream reach and point type. This allowed each point to have a unique ID, for example, 001\_IB001. A complete list of point types and corresponding alphanumeric identifiers used during the field assessments is included below:

- Erosion (ES)
- Exposed pipe (EP)
- Pipe outfall (PO)
- Fish barrier (FB)
- Trash dumping (TD)
- Channel alteration (CA)
- Unusual condition (UC)

Inadequate buffers (IB) are typically documented in stream corridor assessments. Since Aberdeen is highly urbanized, inadequate stream buffers are widespread due to urban encroachment and in most cases it would be impractical to reestablish forest due to the presence of development. As a result, individual inadequate buffer inventory points were not collected. Instead, feasible opportunities for tree planting projects were identified and documented.

Trash dumping (TD) was also ubiquitous across the study area, therefore every location was not documented. Instead, only trash dumping sites that were isolated and severe were recorded.

A GPS location was recorded, and a photograph was taken for each assessment point. Linear features (eroding banks and channel alteration) were documented with a GPS location at each end of the impact and a line feature was developed to better represent the full extent of the problem area. The assessment rated each feature on a 1 to 5 scale according to its severity, correctability, and accessibility; where a score of 1 is the most severe, but also the most correctible and the most accessible. The results were then compiled into a database which will be used to identify and prioritize areas for restoration actions.

In addition to the basic SCA set of impacts and assessments, KCI added an inventory of Potential Best Management Practice (BMP) locations, in which the field crew could identify potential BMP types that could be implemented at any particular location. This reduced the need for additional field visits and property owner coordination. The potential BMP types included the following:

- Bioretention/raingarden
- Outfall stabilization/Step Pool Conveyance System (SPSC)
- Riparian buffer enhancement or replacement
- Stormwater management pond/pond retrofit
- Stream restoration
- Wetland creation

# 3 WATERSHED ASSESSMENT RESULTS

# 3.1 UPLAND ASSESSMENT

Upland assessments including both the NSA and HSI were completed between February 10 and March 9, 2020. Field crews assessed a total of 26 neighborhoods and 20 hotspots in the City of Aberdeen.

### 3.1.1 NEIGHBORHOOD SOURCE ASSESSMENT

A total of 26 neighborhoods were assessed in the City of Aberdeen (**Figure 3**). Neighborhoods consisted of a mix of single family detached, multifamily apartment complexes, single family attached, and mobile homes. In general, the assessed neighborhoods ranged from 10 to 110 years old. General characteristics of each neighborhood are presented in **Table 1**. A complete record of NSA data is included in **Appendix C**.

TABLE 1: GENERAL CHARACTERISTICS OF NEIGHBORHOODS ASSESSED

Site ID	Neighborhood / Subdivision	LU Type	Lot Size (acres)	Age (Decade)	Curb & Gutter	% Imper- vious	% Lawn	% Canopy
NSA-1	Eagle's Rest	Single Fam Detached	1/4	2010	Yes	50	50	0
NSA-2	The Yard's at Fieldside Village	Multifamily	<1/4	2010	Yes	90	10	0
NSA-3	Residences of Summerlin	Multifamily	<1/4	2005	Yes	80	20	0
NSA-4	The Osprey Apartments/ Cranberry Run Apartments	Multifamily	<1/4	1970	Yes	60	30	0
NSA-5	Pine Ridge Rental Homes	Single Fam Detached	<1/4	1950	Yes	40	60	0
NSA-6	Hillside Terrace Apartments	Multifamily	<1/4	2000	No	75	25	0
NSA-7	Bush Chapel Rd, Schofield Ave	Single Fam Detached	1/4	1930	No	50	45	0
NSA-8	Chapel Glen	Single Fam Detached	1/4	2000	Yes	75	25	0
NSA-9	Fairbrooke Apartments	Multifamily	<1/4	1990	Yes	90	5	0
NSA-10	Woodland Green Way, Woodland Green Ct	Single Fam Attached	1/4	1990	Yes	60	30	0
NSA-11	Plater St, Baltimore St	Single Fam Detached	1/4	1910	Yes	50	45	0
NSA-12	Baker St, Colaine Dr	Single Fam Detached	1/4	1950	Yes	50	30	0
NSA-13	Hillcrest Dr, Beards Hill Rd	Single Fam Detached	1/4	1950	Yes	40	50	0

Site ID	Neighborhood / Subdivision	LU Type	Lot Size (acres)	Age (Decade)	Curb & Gutter	% Imper- vious	% Lawn	% Canopy
NSA-14	Farm Rd, Greenbird Ln	Single Fam Attached	<1/4	1980	Yes	70	30	0
NSA-15	Burton Manor Apartments	Multifamily	<1/4	1980	Yes	75	20	0
NSA-16	Cambridge Ave, Avon Dr	Single Fam Detached	1/4	1950	Yes	30	60	0
NSA-17	Robinson Ave, Church Ln	Single Fam Detached	1/4	1910	Yes	40	45	0
NSA-18	Holly Dr, Holly Cir	Single Fam Attached	1/4	1970	Yes	70	30	0
NSA-19	Defense Dr, Darlington Ave	Singe Fam Detached	<1/4	1940	Yes	40	50	0
NSA-20	The Highlands	Single Fam Attached	1/4	2000	Yes	60	30	0
NSA-21	The Residences at Highlands Commons	Multifamily	<1/4	1960	Yes	70	30	0
NSA-22	Spring Valley Estates	Mobile Homes	<1/4	1940- 1950	Yes	35	65	0
NSA-23	Old Post Apartments	Multifamily	<1/4	1970	Yes	70	30	0
NSA-24	Center Deen Ave, N. Deen Ave	Single Fam Attached	<1/4	1960	Yes	40	60	0
NSA-25	S. Deen Ave, Allendale Ave	Single Fam Detached	1/4	1950	Yes	40	60	0
NSA-26	Argonne Dr, Rock Glenn Rd	Single Fam Detached	1/4	2000	Yes	70	25	0

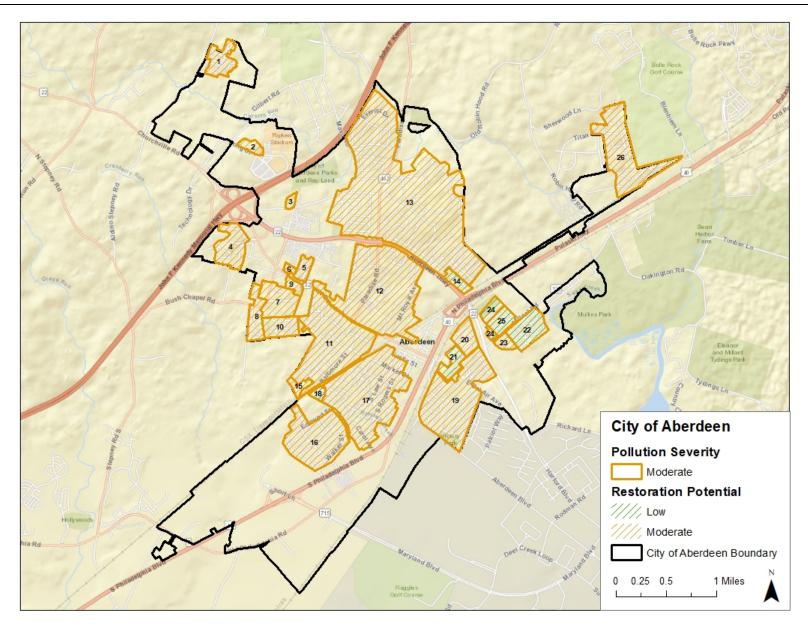


FIGURE 3: NEIGHBORHOOD SOURCE ASSESSMENT RESULTS

All 26 neighborhoods assessed received a 'moderate' pollution severity rating due to various examples of the potential for nutrient, bacteria, trash/litter and oil and grease pollution (**Table 2**). The restoration potential was rated as 'moderate' for all but six neighborhoods, which received a 'low' rating (**Table 2**).

The following sections describe the actions for the City of Aberdeen based on the NSA results. A description of the methods and criteria used to evaluate the potential for each action is provided. Most lots assessed had adequate space for rain barrels, rain gardens, and conservation landscaping. While overall lawn management was not high, there were opportunities for lawn management education. **Appendix C** includes a summary of NSA data collected and the actions needed for each individual neighborhood.

#### Conservation Landscaping

Conservation landscaping, or BayScaping, refers to the use of plants native to the Chesapeake Bay watershed for landscaping. Plants used in conservation landscaping are native to the region and therefore require less irrigation, fertilizers, and pesticides to maintain as compared to non-native or exotic plants. This means less stormwater pollution and lawn maintenance requirements.

Conservation landscaping was identified for implementation in neighborhoods where the lots were at least ¼ acre in size and where there was sufficient open grass area available to implement conservation landscaping. conservation landscaping was recommended in many neighborhoods (**Table 2**).

### Stormwater Retrofits

Potential sites for stormwater management upgrades were identified in two neighborhoods (NSA-2 and 15). The most efficient method to augment stormwater treatment is to convert existing stormwater facilities to a design with greater pollutant removal capability, for example a dry detention pond to an extended detention pond or wetland. This is referred to as a stormwater pond conversion. Two ponds were identified as good candidates for further investigation by stormwater engineers to determine potential retrofit opportunities. Four neighborhoods (NSA-4, 6, 21, and 23) were identified as having ample space for new BMP opportunities.

# Rain Barrels

Installation of rain barrels encourage the community to actively participate in cleaning up and taking ownership of the health of their watershed. Rain barrels capture runoff from roof surfaces, allowing homeowners to use the water later, reducing the amount of runoff to local streams.

Rain barrels were recommended in neighborhoods that had downspouts directed to impervious surfaces and that had enough space for rain barrels. Rain barrels were recommended in many neighborhoods (**Table** 2).

# Rain Gardens

Installation of rain gardens encourages community involvement and awareness in watershed health. These gardens are depressions in the ground placed strategically to capture runoff from a downspout or other impervious surfaces and are planted with native plants, which soak up water while also providing food and habitat for wildlife.

Rain gardens were recommended in neighborhoods with enough available space down gradient of downspouts. Rain gardens were recommended in many neighborhoods (**Table 2**).

TABLE 2: NEIGHBORHOOD POLLUTION SEVERITY AND RESTORATION POTENTIAL

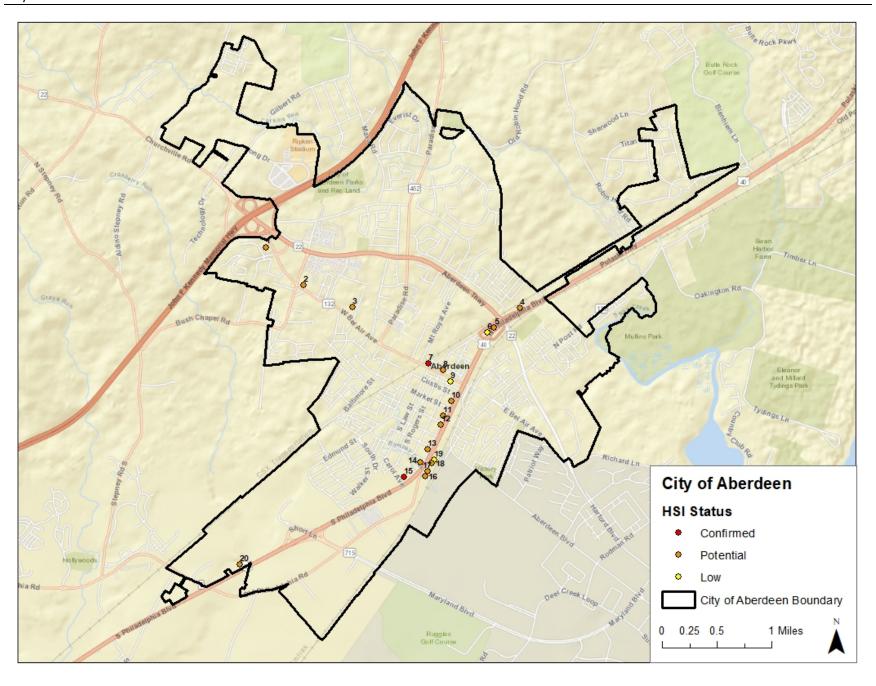
NSA Site ID	Neighborhood / Subdivision	Pollution Severity	Pollution Sources	Restoration Potential	Potential Action
NSA-1	Eagle's Rest	Moderate	Nutrients	Moderate	Conservation landscaping, several
					large existing wet ponds
NSA-2	The Yard's at Fieldside Village	Moderate	Nutrients, Bacteria	Moderate	Pond retrofit
NSA-3	Residences of Summerlin	Moderate	Nutrients, Bacteria	Moderate	None; Abundant BMPs present
NSA-4	The Osprey Apartments/ Cranberry Run Apartments	Moderate	Nutrients, Bacteria	Moderate	Several areas for potential BMPs
NSA-5	Pine Ridge Rental Homes	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-6	Hillside Terrace Apartments	Moderate	Nutrients, Oil and Grease	Moderate	Several areas for potential BMPs
NSA-7	Bush Chapel Rd, Schofield Ave	Moderate	Nutrients, Oil and Grease, Trash/Litter, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-8	Chapel Glen	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-9	Fairbrooke Apartments	Moderate	Nutrients, Bacteria	Moderate	None; SWM pond present
NSA-10	Woodland Green Way, Woodland Green Ct	Moderate	Nutrients, Bacteria	Moderate	None; Limited space, 1 BMP (filter) noted
NSA-11	Plater St, Baltimore St	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, conservation landscaping
NSA-12	Baker St, Colaine Dr	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping
NSA-13	Hillcrest Dr, Beards Hill Rd	Moderate	Nutrients, Bacteria	Moderate	Rain barrels, rain gardens, conservation landscaping

NSA	Neighborhood /	Pollution	Pollution	Restoration	
Site ID	Subdivision	Severity	Sources	Potential	Potential Action
NSA-14	Farm Rd,	Moderate	Nutrients,	Low	None; No room for BMPs
	Greenbird Ln		Trash/Litter,		
			Bacteria		
NSA-15	Burton Manor	Moderate	Nutrients	Moderate	Pond retrofit
	Apartments				
NSA-16	Cambridge Ave,	Moderate	Nutrients	Moderate	Rain barrels, rain garden,
	Avon Dr				conservation landscaping
NSA-17	Robinson Ave,	Moderate	Nutrients	Moderate	Rain barrels, rain garden,
	Church Ln				conservation landscaping
NSA-18	Holly Dr,	Moderate	Nutrients,	Low	None; No room for BMPs
	Holly Cir		Trash/Litter		
NSA-19	Defense Dr,	Moderate	Nutrients,	Moderate	Rain barrels, rain garden,
	Darlington Ave		Bacteria		conservation landscaping
NSA-20	The Highlands	Moderate	Nutrients,	Moderate	None; SWM pond present
			Bacteria		
NSA-21	The Highlands	Moderate	Nutrients,	Low	New BMP opportunities
	Commons		Bacteria		
NSA-22	Spring Valley	Moderate	Nutrients,	Low	None; No room for BMPs
	Estates		Bacteria		
NSA-23	Old Post	Moderate	Nutrients,	Moderate	New BMP opportunities
	Apartments		Bacteria		
NSA-24	Center Deen	Moderate	Nutrients,	Low	None; No room for BMPs
	Ave, N. Deen		Bacteria		
	Ave				
NSA-25	S. Deen Ave,	Moderate	Nutrients,	Low	None; No room for BMPs
	Allendale Ave		Trash/Litter,		
			Bacteria		
NSA-26	Argonne Dr,	Moderate	Nutrients,	Moderate	Rain barrels, rain garden,
	Rock Glenn Rd		Bacteria		conservation landscaping

### 3.1.2 HOTSPOT SITE INVESTIGATIONS

A total of 20 sites were investigated in the City of Aberdeen area (**Figure 4**). The location, general description, and common operations (i.e., vehicle operations, outdoor materials, waste management, physical plant, turf/landscaping) of each site investigated are presented in **Table 3**. A complete record of HSI data is included in **Appendix B**.

Of the 20 sites investigated, only two (HSI-7, HSI-15) were designated 'confirmed' as having high potential for discharging pollutants into stormwater runoff (**Table 3**). These sites had car washing activities observed or significant signs of poor washing practices. A total of 15 locations were designated as 'potential' hotspots (where there were activities that had the potential to be polluting but where no active pollution was found), while the remaining three sites were considered 'low' potential. Most sites had very limited room for new stormwater management facilities; five sites were noted as good opportunities for stormwater management retrofits (HSI-1, 6, 7, 16, 20). Specific recommendations for each site can be found in **Table 3**.



### TABLE 3: HOT SPOT INVESTIGATION LOCATIONS AND OPERATIONS

HSI Site ID	Location	Description	Vehicle Ops	Outdoor Materials	Waste Mgmt.	Physical Plant	Landscaping	HSI Status	Potential Action/Notes
HSI-1	Travelodge Hotel	hotel	No	No	Yes	Yes	Yes	Potential	Potential area for SWM pond. Put lid on dumpster.
HSI-2	Aberdeen Muffler Works	Auto shop	Yes	No	Yes	Yes	Yes	Potential	
HSI-3	One Hour Heating & Air Conditioning	HVAAC	Yes	No	Yes	Yes	No	Potential	
HSI-4	Core + Man	Plumbing supply store	No	Yes	Yes	Yes	Yes	Potential	Put lid on dumpster.
HSI-5	North End Import Service	Auto shop	Yes	No	Yes	Yes	Yes	Potential	Improve vehicle storage procedures.
HSI-6	Chesapeake Bay Dental, S.A. Bham, M.D.	Doctors office	No	No	No	Yes	Yes	Not a Hotspot	Possible rain gardens to treat roof.
HSI-7	Unique Carwash/ Scott's Transportation	Carwash	Yes	No	Yes	Yes	No	Confirmed	Carwash runoff observed. Potential area for SWM pond. Improve car wash discharge measures.
HSI-8	Mr. Tire	Auto shop	Yes	No	Yes	Yes	Yes	Potential	Cleaner car practices. Move dumpsters from storm drain inlet.
HSI-9	Scoop's	Restaurant	No	No	Yes	Yes	No	Not a Hotspot	
HSI-10	Szechuan Inn	Restaurant	No	No	Yes	Yes	No	Potential	Repair parking lot damage.

HSI Site	Location	Description	Vehicle Ops	Outdoor Materials	Waste Mgmt.	Physical Plant	Landscaping	HSI Status	Potential Action/Notes
HSI-11	Pat's Pizza	Restaurant	No	No	Yes	Yes	Yes	Potential	
HSI-12	Domino's	Restaurant	No	No	Yes	Yes	No	Potential	
HSI-13	Astro Car Wash	Carwash	Yes	No	Yes	Yes	Yes	Potential	
HSI-14	7-Eleven	Gas station	Yes	No	Yes	Yes	Yes	Potential	
HSI-15	MAACO Body Shop	Auto shop	Yes	No	Yes	Yes	Yes	Confirmed	Improve carwash discharge measures. Put lid on dumpsters.
HSI-16	Thompson's Auto Repair Center/ Budget Rental	Auto shop/ rental	Yes	No	Yes	Yes	No	Potential	Potential area for BMP. Improve carwash discharge measures.
HSI-17	Sunoco	Gas station	Yes	No	Yes	Yes	Yes	Potential	
HSI-18	Aberdeen Used Tires	Auto shop	Yes	No	Yes	Yes	Yes	Potential	
HSI-19	Aberdeen Diner	Restaurant	No	No	Yes	Yes	No	Not a Hotspot	
HSI-20	Caliber Collision	Auto shop	Yes	No	Yes	Yes	Yes	Potential	Potential area for BMP.

# 3.2 STREAM CORRIDOR ASSESSMENT

Field crews walked approximately 31.3 miles of stream channels starting on February 10, 2020 and ending on March 9, 2020. **Figure 5** shows the stream reaches walked by field crews and the location of the representative sites for each reach. **Figure 7** presents the locations of the SCA data points and severity scores for stream erosion and pipe outfall points.

The total number of points identified and ranked by severity can be found in **Table 1**. The majority of points were categorized as 'moderate' and 'low' severity. Only two points received a rating of 'very severe'. A more detailed discussion of each data point type follows. A complete dataset is included as **Appendix A**.

Representative sites were selected at locations representative of each perennial, or significant intermittent (larger intermittent streams with significant flow) stream segment. The general physical habitat condition was assessed at the representative sites using a modified version of the EPA's *Rapid Bioassessment Protocols* (Barbour et al., 1999). The assessment included qualitative ratings for ten habitat parameters as well as information on wetted width, pool, run, and riffle depths, and channel substrate. Erosion sites, pipe outfalls, buffer breaks, fish barrier, and unusual condition points were collected.

TABLE 4: STREAM CORRIDOR ASSESSMENT DATA POINTS BY SEVERITY

Potential Problems	Total	Very Severe	Severe	Moderate	Low	Minor
Erosion (13.5 miles)	87	0	24	36	22	5
Pipe Outfall	34	0	2	5	16	11
Fish Barrier	4	1	1	1	1	0
Trash	2	0	1	0	1	0
Channel Alteration	21	1	4	6	6	4
In-Stream Construction	1	0	0	1	0	0
Exposed Pipe	3	0	0	0	1	2
Unusual Conditions	8	0	0	2	4	2
Total	160	2	32	51	51	24
Representative Sites	47					
Potential BMP Sites	29					

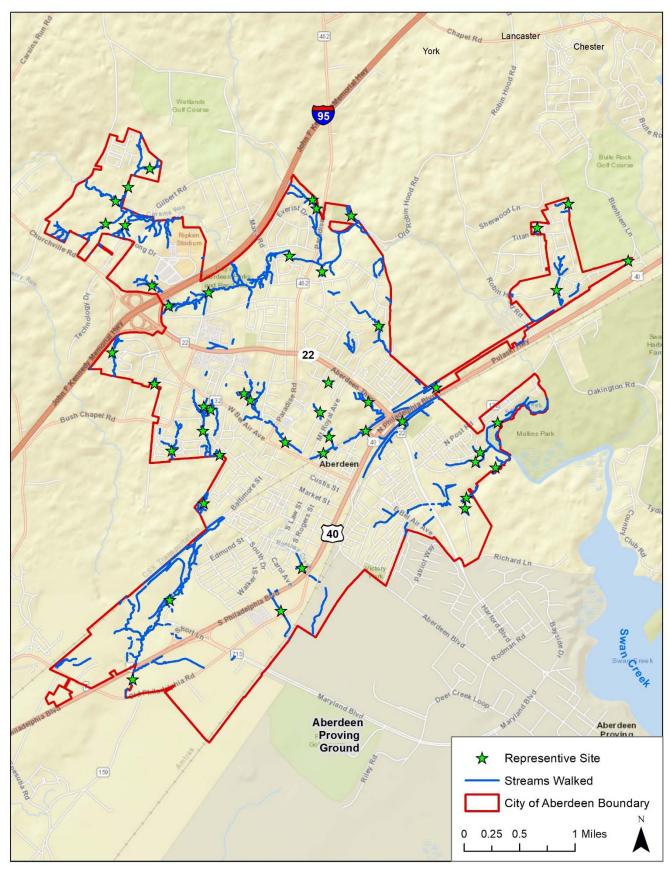


FIGURE 5: CITY OF ABERDEEN STREAM CORRIDOR ASSESSMENT REACHES WALKED AND REPRESENTATIVE SITES

### **Erosion Sites**

Eighty-seven (87) erosion sites totaling 13.5 miles were identified (right and left bank impacts counted separately). Out of the 87 erosion sites, the majority were rated 'moderate' severity, followed by 'severe' and 'low' severity. No sites were rated 'very severe'. The stream erosion process was identified as widening for thirty-four sites, headcutting for ten sites, and downcutting for thirty-six sites, both downcutting and widening for two sites, and both downcutting and headcutting for five sites. While collecting stream erosion data, field crews also attempted to determine the leading possible cause of erosion at each site. These potential causes included: upstream land use changes, matching mainstem channel grade, runoff from infrastructure, and erosion following concrete channelization. The most commonly described possible causes for erosion was landuse change upstream (85%), followed by runoff from infrastructure (10%). Only two sites were identified as a possible threat to infrastructure: site R073\_ES001 documented a parking lot breaking up into the stream channel and R102\_ES001 documented a small area of fence threatened by the eroding bank. Location and severity of erosion sites can be found in Figure 7.

### Pipe Outfalls

Thirty-four pipe (34) outfall points were located and assessed. The majority of the pipes were identified as stormwater outfalls. The field crew was unable to identify the source of two pipes (R155\_PO001 and R165\_PO001). Majority of the pipes had discharge or trickle flow, however, all but one of the discharges noted were clear and odorless. One pipe outfall, R080\_PO001, was documenting the discharge point for the wastewater treatment plant on Michaels Lane, and was noted to have discharge with a detergent odor. Soapy suds and heavy algae in the receiving stream were also observed at this pipe outfall point. Majority (79%) of the pipe outfalls were rated as either 'minor' or 'low' severity. Two pipe outfalls were rated as 'severe;' R054\_PO001 due to the severe channel erosion from the wet pond outfall and R080\_PO001 due to the wastewater treatment plant discharge. The location and severity of these sites are shown in **Figure 7**.

### Fish Barriers

Four (4) fish barriers were located during the survey. Three sites (R057\_FB001, R111\_FB001, and R156\_FB001) were blocking fish movement as a result of pipe crossings. R057\_FB001 received a severity score of 'very severe' due to the height of the drop, measuring approximately 15 feet. R111\_FB001 received a severity score of 'low' due the 5 inch drop between the culvert bottom surface and the stream water level surface. Lastly, R156\_FB001 received a severity score of 'moderate' due to the 11 inch drop between the culvert bottom surface and the stream water level surface.

One site (R184\_FB001) was documenting a concrete channel that was approximately 4 feet above the stream water level surface. This site received a severity score of 'severe.' The location of the fish barriers are displayed in **Figure 7**.

### Trash Dumping

In general, trash was found to be widespread throughout the stream reaches walked. Since this feature was so ubiquitous in the study area, only those trash dumping sites that were considered severe and isolated were recorded.

Two trash dumping sites were documented along the stream reaches walked. Site R139\_TD001 received a severity score of 'low' due to the trash dumping of cans, aluminum, and bottles of approximately one truckload worth. This site is located on public property and is a potential volunteer clean-up opportunity. Site R214\_TD001 received a severity score of 'severe' due to the dumping of old appliances of approximately three truckloads worth. This site is located on private property and contains large heavy trash, therefore may not be considered a volunteer opportunity. Trash dumping locations can be found in **Figure 7**.

# **Channel Alteration**

Twenty-one (21) channel alteration impacts were identified during the survey. Ten sites were documenting concrete channelization, another ten sites were documenting rip rap and/or gabion basket stabilization, and one site was documenting an old concrete wall on one side of the stream. Severity scores of channel alternation sites ranged from 'minor' to 'very severe'. R057\_CA001 documented an old road crossing with concrete channelization and culverts and was the only site to receive a severity score of 'very severe' due to the extent of the channelization and the severe fish barrier caused by the old culverts. In general, sites documenting concrete channelization were rated to be more severe than those documenting riparian and gabion basket stabilization. The locations of channel alteration impacts can be found in **Figure 7**.

### **In-Stream Construction**

One (1) in-stream construction site was identified, site R207\_IC001. Construction of a new residential development was occurring, and a new road crossing was installed. This site had adequate erosion and sediment control measures in place and received a severity score of 'moderate.' The extent of the instream construction was approximately 75 feet. The location of the in-stream construction site can be found in **Figure 7.** 

### **Exposed Pipes**

Three (3) exposed pipes were identified in the assessment. Two sites (R102\_EP001 and R106\_EP001) were documenting fiber optic cables that were located above the stream channel and both sites received severity scores of 'minor.' One site (R071\_EP001) documents two sewage pipes located above the stream, one 18 inch and the other 24 inch, receiving a severity score of 'low.' Exposed pipe locations can be found in **Figure 7.** 

# **Unusual Conditions**

Eight (8) unusual condition points were identified along the assessed stream reaches. The unusual condition points range from a severity rating of 'moderate' to 'minor.' Site R146\_UC001 was documenting a large metal beam across the stream and therefore directing flow to the right bank causing bank erosion and scour. This site received a severity score of 'moderate.'

One site, R041\_UC001 receiving a severity score of 'moderate', is documenting a wetland channel headcutting approximately 2 feet to meet the mainstem after a recent rain storm. Another site, R184\_UC001 receives a severity score of 'minor' due to the stream channel being piped underground for about 10 feet due to an old pond or road bed obstructing the channel. Site R175 UC001 was documenting

an old house foundation and chimney located at the headwaters of a wetland channel. The remaining unusual condition points were documenting sections of concrete pipes in the stream channel. Locations of unusual condition sites can be found in **Figure 7**.

### Representative Points

Representative points were taken at 47 locations (**Figure 5**). **Figure 6**, below, presents the proportion of reaches in each assessment category for each habitat parameter, giving insight into the types of stream impacts creating the most degradation. In general, the modified qualitative RBP assessment at these sites revealed stream channels dominated by gravel substrates. Overall, channel alteration scored high, with over 75% of the sites scoring in the 'optimal' and 'suboptimal' range and only 15% scoring in the 'poor' range. Bank condition scores mostly fell within the 'marginal' range, but bank vegetation was good, with most sites falling in the 'suboptimal' range. Channel flow status ranged from 'marginal' to 'optimal', with most sites falling within the 'suboptimal' range. More than half of the sites were within the 'poor' or 'marginal' categories for velocity/depth diversity, which is generally to be expected when majority of the streams assessed are smaller headwater systems. Sediment deposition scores range from 'poor' to 'optimal,' with 43% of sites falling within the 'poor' and 'marginal' categories. Embeddedness scores ranged widely, with majority of the scores in the 'marginal' and 'suboptimal' categories.

Shelter for fish and benthic macroinvertebrate substrate scores were similar throughout the sites, with majority of the sites scoring in the 'poor' or 'marginal' categories.

Stream channel erosion is a major factor leading to impaired habitat conditions. Erosion sites were described as channel widening and downcutting processes. As the stream channels widen and down cut, the ability to effectively transport sediments (eroded bank material and from runoff over land) is reduced, leading to reduced scores for several habitat parameters including flow, velocity, embeddedness and macroinvertebrate habitat.

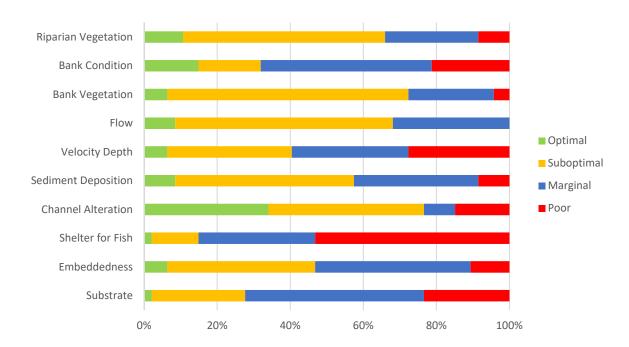


FIGURE 6: PROPORTION OF REACHES PER ASSESSMENT CATEGORY

# **Potential BMP Sites**

Twenty-nine (29) potential improvement site points were created during the SCA fieldwork. Potential BMP types include rain garden, tree planting, wetland creation, stream restoration, wet pond retrofit, impervious surface removal, and SPSC outfall stabilization. Potential BMP locations are presented in **Figure 7**.

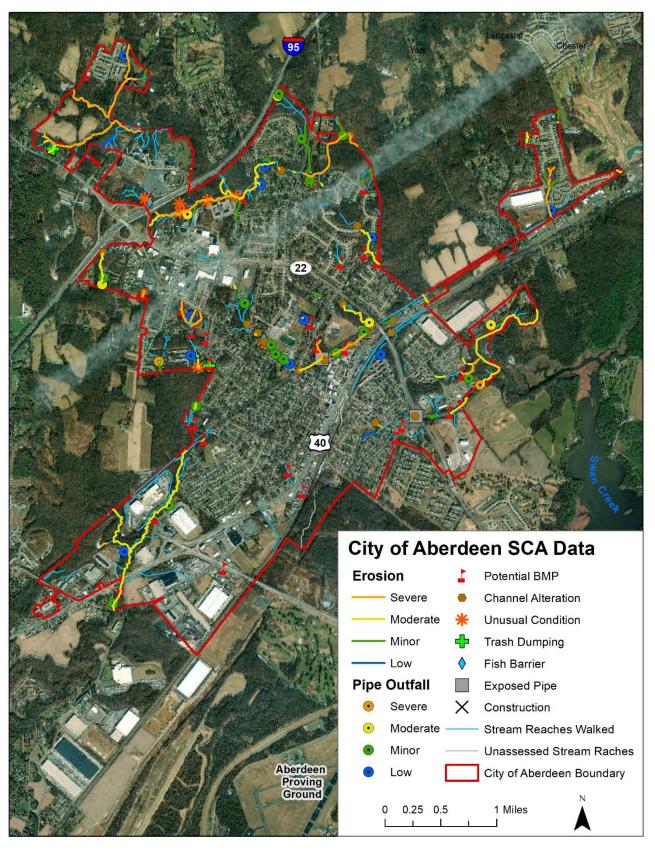


FIGURE 7: STREAM CORRIDOR SURVEY DATA MAP

# 4 POTENTIAL WATER QUALITY IMPROVEMENT PROJECTS

Results of the desktop and field watershed assessments were compiled and analyzed to determine specific areas of impairment most in need of restoration. Restoration measures were then developed according to the type and source of impact. The following section presents the methods and results for each restoration measure type:

- Stream restoration
- Reforestation

Mapping of the site-specific structural practices are included in **Figure 8.** Tables presenting cost, load reduction, and impervious credit associated with each of the proposed projects are included in each section below.

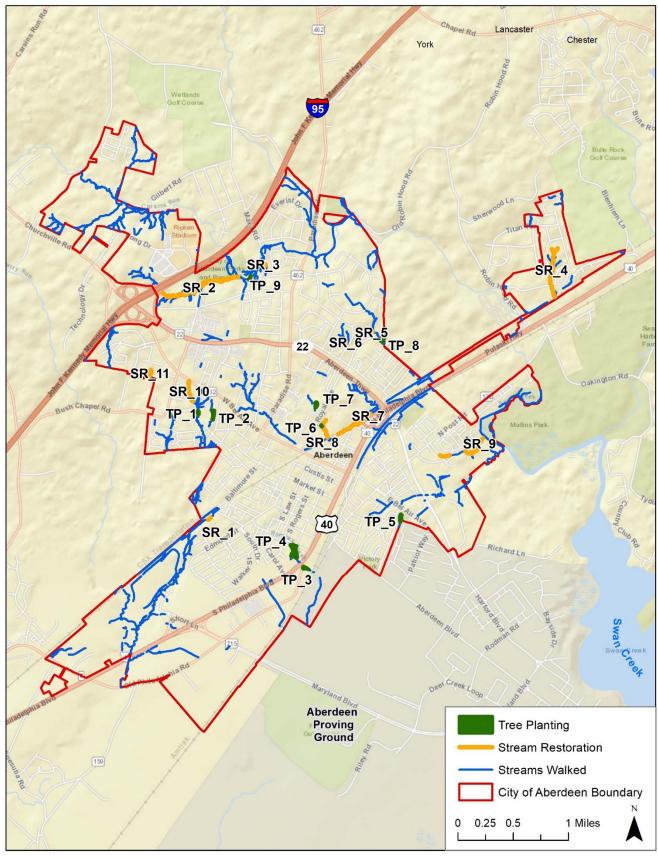


FIGURE 8. LOCATION OF POTENTIAL WATER QUALITY IMPROVEMENT PROJECTS

# 4.1 STREAM RESTORATION

Stream restoration opportunities were field identified during the SCA assessment. The current condition of streams was assessed, and locations of stream erosion were identified and mapped using a global positioning system (GPS). The assessment rated each segment of stream erosion on a 1 to 5 scale according to its severity, correctability, and accessibility; where a score of 1 is the most severe, but also the most correctible and the most accessible. These scores were used to identify high priority stream reaches for stream restoration and were generally sites with a severity score of 1 or 2, and a correctability/access score of 1-4.

Eleven (11) stream restoration projects were identified with a total length of approximately 11,545 linear feet. **Table 5** provides a summary of current conditions and proposed actions of each site.

Costs of Stormwater Management Practices In Maryland Counties (King and Hagan, 2011) was used to calculate cost estimates for stream restoration projects. A unit cost estimate of \$645/ft was used to estimate the initial cost of the stream restoration projects and a cost factor per impervious acre treated was used to derive the total cost over 20 years. The Harford County Cost Adjustment Index of 0.991 was applied, with 17% inflation over 9 years (approximately 1.89% per year from 2011 to 2020). Similar adjustment calculations were used to estimate the cost over 20 years and these projections are current-dollar estimates which do not account for inflation.

Impervious credit and load reductions were calculated for total nitrogen (TN), total phosphorus (TP), and total suspended sediment (TSS) for each restoration site with equivalent impervious acre factors and estimated removal efficiencies from *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2019) which are shown in **Table 6** and **Table 7**. Impervious acre restoration credit estimates were based on the published planning rate of 0.02 impervious credit per linear foot of stream restoration. As stream restoration projects are selected and investigated further, individual site-specific pollutant load reduction and impervious acre credit will be calculated based on the design and stream size using the five stream restoration crediting protocols and may be considerably higher than the planning estimates.

The cost per impervious credit for stream restoration practices is \$47,808 (Table 7).

TABLE 5: STREAM RESTORATION PROJECT DESCRIPTIONS

Restoration Site ID	SCA Reach	Length (ft)	Current Condition	Proposed Actions
SR_1	22	130	North of Hillsdale Elementary School on Board of Education property. Wetland channel headcuts 5' down to channel with eroded bed and banks. Severe downcutting for 130 linear feet.	Stream bank and bed stabilization to repair headcut, bed and bank erosion.
SR_2	173	3,856	Located within forested area between I-95 and Beards Hill Rd. A large portion of stream reach is on property owned by City of Aberdeen. Stream channel is incised and widened with actively eroding bed and banks.	Stream bank and bed stabilization to repair erosion.
SR_3	165	230	Located west of Maxa Rd. A small gully channel previously ineffectively stabilized with curlex. Incised and actively eroding.	Stream bank and bed stabilization to repair erosion.
SR_4	137, 141	2025	Located north of Pulaski Hwy in Glenn Heights neighborhood. Reach begins at several 4' headcuts, gully channel with severe bed and bank erosion. Stream channel is deeply incised and actively eroding. Part of reach is located on property owned by City of Aberdeen.	Stream bank and bed stabilization to repair bank erosion and provide stream access to floodplain. Stream restoration will stabilize headcut.
SR_5	126	103	Short gully channel with 3' banks, located immediately adjacent to residential property in Burns Corner neighborhood. No forest buffer on right bank.	Stream bank and bed stabilization to repair erosion.
SR_6	123	80	Short incised reach with 4' banks, located adjacent to Kendrick Drive in the Burns Corner neighborhood.	Stream bank and bed stabilization to repair erosion.
SR_7	105	1485	Located between N Rogers St and railroad tracks. Severely eroded and incised channel with 6-10' high banks. Broken up sections of concrete channelization present in channel.	Stream bank and bed stabilization to repair erosion. Project could consist of removal of concrete channelization in stream channel.
SR_8	107	770	Located west of Aberdeen Middle School. Incised channel with 5' high banks and active erosion.	Stream bank and bed stabilization to repair erosion.
SR_9	88	1,585	Tributary to Swan Creek, located just north of Aberdeen Wastewater Treatment Plant. Severely eroded vertical 5' banks.	Stream bank and bed stabilization to repair erosion.
SR_10	43	996	Reach originates at outfall south of W Bel Air Ave near Beards Hill Rd intersection. Severely incised 5' banks.	Stream bank and bed stabilization to repair erosion

Restoration Site ID	SCA Reach	Length (ft)	Current Condition	Proposed Actions
SR_11	57	285	Reach originates at outfall south of Aberdeen Plaza off W Bel Air Ave. There is an old road bed, pipe culvert, and concrete channelization at the upstream end, followed by a 10' drop, and severe bank erosion downstream. Channel bed has concrete rubble stabilization.	Stream bank and bed stabilization to repair erosion. Project could possibly involve removing old road bed and associated culverts and installing a step pool conveyance system.

TABLE 6: STREAM RESTORATION REMOVAL EFFICIENCY AND PLANNING RATE IMPERVIOUS ACRE EQUIVALENT

Poun	Impervious Acre		
TN	TP	TSS	Equivalent per Linear Foot
0.075	0.068	248	0.02

Source: MDE, 2019

TABLE 7: STREAM RESTORATION COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

Site	SCA	Erosion	Total Initial	Total Cost	Imper- vious	Cost Per	Loa	d Reductio	n (lbs/yr)
ID	Reach	length (ft)	Cost	Over 20 Years	Credit (Acres)*	Impervious Credit	TN	TP	TSS
SR_1	R022	130	\$97,393	\$124,301	2.6	\$47,808	9.8	8.8	32,240.0
SR_2	R173	3,856	\$2,888,823	\$3,686,945	77.12	\$47,808	289.2	262.2	956,288.0
SR_3	R165	230	\$172,311	\$219,916	4.6	\$47,808	17.3	15.6	57,040.0
SR_4	R137, R141	2025	\$1,517,082	\$1,936,219	40.5	\$47,808	151.9	137.7	502,200.0
SR_5	R126	103	\$77,165	\$98,484	2.06	\$47,808	7.7	7.0	25,544.0
SR_6	R123	80	\$59,935	\$76,492	1.6	\$47,808	6.0	5.4	19,840.0
SR_7	R105	1485	\$1,112,527	\$1,419,894	29.7	\$47,808	111.4	101.0	368,280.0
SR_8	R107	770	\$576,865	\$736,241	15.4	\$47,808	57.8	52.4	190,960.0
SR_9	R088	1,585	\$1,187,444	\$1,515,510	31.7	\$47,808	118.9	107.8	393,080.0
SR_10	R043	996	\$746,179	\$952,333	19.92	\$47,808	74.7	67.7	247,008.0
SR_11	R057	285	\$213,516	\$272,504	5.7	\$47,808	21.4	19.4	70,680.0
	Total	11,545	\$8,649,240	\$11,038,839	230.9	\$47,808	865.9	785.1	2,863,160.0

<sup>\*</sup>Impervious credit calculated with planning rate. Actual site-specific impervious credit may be higher.

### 4.2 Reforestation

A search for potential reforestation sites was conducted during the SCA assessment performed in February and March 2020. Nine (9) reforestation sites were identified, totaling 3.92 acres. These sites mostly consist of open areas available for planting adjacent to stream reaches without an adequate 50-100 foot riparian buffer. Three projects, TP\_3, TP\_4, and TP\_8, have planting areas outside of the 100-foot riparian buffer as well. These forest planting areas were accounted separately from the riparian forest buffer areas. Impervious credit and load reduction efficiencies for each planting type are presented in **Table 8**.

Costs of Stormwater Management Practices In Maryland Counties (King and Hagan, 2011) was used to calculate cost estimates for reforestation projects. A total initial cost estimate of \$11,225/acre and a total cost over 20 years of \$19,458 was used. The Harford County Cost Adjustment Index of 0.991 was applied, with 17% inflation over 9 years (approximately 1.89% per year from 2011 to 2020). Similar adjustment calculations were used to estimate the cost over 20 years and these projections are current-dollar estimates which do not account for inflation.

It should be noted that economy of scale is not built in to this cost estimate. While there are very few large reforestation projects identified, larger projects will likely cost less than estimated here due to economy of scale. Impervious credit and load reductions for total nitrogen, total phosphorus, and total suspended sediment were calculated for each site with estimated removal efficiencies from *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (Table 8; MDE, 2019). These efficiencies assume a survival rate of 100 trees/acre or greater with at least 50% of trees having a two inch diameter or greater (4.5 feet above ground; MDE, 2019). The average cost per impervious credit for the reforestation projects is \$16,179 (**Table 9**).

The City of Aberdeen's NPDES MS4 permit includes a requirement for Public Involvement and Participation (Section IV.B; MDE, 2018). These tree planting sites provide an excellent opportunity to involve the public and significantly reduce the labor cost of the plantings.

TABLE 8: RIPARIAN FOREST BUFFER EFFICIENCY AND IMPERVIOUS ACRE EQUIVALENT

Planting Type	Total Loa	/acre/yr)	Impervious Acre	
	TN	TP	TSS	Equivalent
Riparian Forest Buffer Planting	14.30	2.53	2,349	1.41
Forest Planting	11.08	1.80	696	1.00

Source: MDE, 2019

TABLE 9: REFORESTATION SITE COST, IMPERVIOUS CREDIT, AND LOAD REDUCTION

C:to	SCA	Duonoutu	A # 0 0	Total	<b>Total Cost</b>	Imper-	Cost Per	Load R	eduction	(lbs/year)
Site ID	Reach ID	Property Type	Area (acres)	Initial Cost	Over 20 Years	vious Credit	Impervious Credit	TN	TP	TSS
TP_1	R043	Private	0.17	\$2,216	\$3,842	0.24	\$16,029	2.43	0.43	399.33
TP_2	R053	Private	0.49	\$6,389	\$11,075	0.69	\$16,030	28.73	5.04	4,416.12
TP_3	R065	Private	0.25	\$3,260	\$5,018	0.35	\$14,234	3.58	0.63	587.25
TP_4	R065	Private and Public	1.78	\$23,207	\$40,230	2.46	\$16,350	25.45	4.50	4,181.22
TP_5	R075	Public and Private	0.38	\$4,954	\$8,588	0.54	\$16,029	5.43	0.96	892.62
TP_6	R107	Private	0.07	\$913	\$1,582	0.10	\$16,031	1.00	0.18	164.43
TP_7	R108	Private	0.31	\$4,014	\$7,007	0.44	\$16,030	4.43	0.78	728.19
TP_8	R125	Private	0.33	\$4,303	\$7,458	0.42	\$17,578	4.72	0.83	775.17
TP_9	R146	Private	0.14	\$1,825	\$3,165	0.20	\$16,031	2.00	0.35	328.86
Total			3.92	\$51,081	\$87,965	5.44	\$16,179	77.78	13.72	12,473.19

# 4.3 Homeowner Practices

During the Neighborhood Source Assessment, each neighborhood within the City of Aberdeen was assessed to determine the potential pollutant sources of each neighborhood and to recommend residential-scale BMPs to address these pollutants. While some neighborhoods did not have space for BMPs (primarily apartment complexes and townhomes), several BMP types were determined to be feasible in the neighborhoods of Aberdeen, and include rain barrels, rain gardens, and conservation landscaping practices. The following sections describe these practices and estimate the potential impervious credits and cost of each. To help offset the expense to the homeowner's, the City of Aberdeen may develop a cost-share program in which the City provides funds to pay for half of the cost of the homeowner BMP.

#### Rain Barrels

Rain barrels were recommended in neighborhoods that had downspouts directed to impervious surfaces and that had enough space for the barrel to be installed at one or more of the house's downspouts. A total of ten neighborhoods were found to be good candidates for rain barrel installations. **Table 10** presents the impervious credit and associated cost by NSA neighborhood. Impervious credit is calculated using rainwater harvesting runoff reduction rates (MDE, 2019).

For planning purposes, it was assumed that 30% of the homeowners in each neighborhood would participate and that two 55-gallon rain barrels would be installed at each participating house. The cost per impervious credit for rain barrels is \$27,797, assuming a cost share program is implemented to help homeowners purchase the barrels, which are assumed to be \$85 each. This estimation only accounts for the cost of the rain barrel, and does not include installation and maintenance (assumed that the homeowner installs and maintains the barrel), or implementation and tracking of the homeowner practices program.

TABLE 10. RAIN BARREL IMPERVIOUS CREDIT AND COST BY NEIGHBORHOOD

NSA Neighbor- hood ID	Number of Houses	Average Roof Size (sq ft)	Total Roof Area (sq ft)*	Number of Rain Barrels**	Impervious Credit (ac)	Cost to Neighborhood	Cost to City
5	57	871.2	14,897.5	34	0.05	\$2,907	\$1,454
7	37	1,306.8	14,505.5	22	0.03	\$1,887	\$944
8	90	1,306.8	35,283.6	54	0.08	\$4,590	\$2,295
11	300	871.2	78,408.0	180	0.28	\$15,300	\$7,650
12	200	1,742.4	104,544.0	120	0.18	\$10,200	\$5,100
13	900	1,306.8	352,836.0	540	0.83	\$45,900	\$22,950
16	400	1,306.8	156,816.0	240	0.37	\$20,400	\$10,200
17	600	1,306.8	235,224.0	360	0.55	\$30,600	\$15,300
19	500	653.4	98,010.0	300	0.46	\$25,500	\$12,750
26	200	2,613.6	156,816.0	120	0.18	\$10,200	\$5,100
			Total	1,970	3.01	\$167,484	\$83,742

<sup>\*</sup>Assumed 30% homeowner participation in each neighborhood.

# Rain Gardens

Rain gardens were recommended in neighborhoods that had adequate space down gradient from the house's downspouts for installation of a rain garden. A total of ten neighborhoods were found to be good candidates for rain garden installations. **Table 11** presents the impervious credit and associated cost by NSA neighborhood. Impervious credit is calculated using rain garden runoff reduction rates (MDE, 2019).

For planning purposes, it was assumed that 10% of the homeowners in each neighborhood would participate. The cost per impervious credit for rain gardens is \$68,063, assuming a cost share program is implemented. This estimation only accounts for the installation and planting of the rain garden, but does not include maintenance (assumed that the homeowner maintains the garden), or implementation and tracking of the homeowner practices program.

<sup>\*\*</sup>Assumed 2 rain barrels per house.

TABLE 11. RAIN GARDEN IMPERVIOUS CREDIT AND CAST PER NEIGHBORHOOD

NSA Neighbor- hood ID	Number of Houses	Average Roof Size (sq ft)	Total Roof Area (sq ft)*	Average Rain Garden (sq ft)**	Total Impervious Credit (ac)	Average Cost Per Garden	Cost Per Neighbor- hood	Cost to City
5	57	871.2	4,966	54.5	0.06	\$1,361	\$7,759	\$3,880
7	37	1,306.8	4,835	81.7	0.06	\$2,042	\$7,555	\$ 3,777
8	90	1,306.8	11,761	81.7	0.14	\$2,042	\$18,377	\$9,188
11	300	871.2	26,136	54.5	0.30	\$1,361	\$40,838	\$20,419
12	200	1,742.4	34,848	108.9	0.40	\$2,723	\$54,450	\$27,225
13	900	1,306.8	117,612	81.7	1.35	\$2,042	\$183,769	\$91,884
16	400	1,306.8	52,272	81.7	0.60	\$2,042	\$81,675	\$40,838
17	600	1,306.8	78,408	81.7	0.90	\$2,042	\$122,513	\$61,256
19	500	653.4	32,670	40.8	0.38	\$1,021	\$51,047	\$25,523
26	200	2,613.6	52,272	163.4	0.60	\$4,084	\$81,675	\$40,838
				4.79	\$20,760	\$649,658	\$324,828	

<sup>\*</sup>Assumed 10% homeowner participation in each neighborhood and rain garden will receive runoff from only half of each roof.

# **Conservation Landscaping**

Conservation landscaping is defined by MDE as "land cover conservation from pervious to an unmanaged (unfertilized, unmowed) meadow condition" (MDE, 2019), and at a residential scale involves planting native plants in areas previously managed as lawn. Conservation landscaping was recommended in neighborhoods that had adequate lawn space to convert a portion of the lawn into a native garden. A total of eleven neighborhoods were found to be good candidates for conservation landscaping. **Table 12** presents the impervious credit and associated cost by NSA neighborhood. Impervious credit is calculated using an alternative practice impervious acre equivalence for non-riparian conservation landscaping of 0.37 (MDE, 2019).

For planning purposes, it was assumed that 20% of the homeowners in each neighborhood would participate. An assumed plating area was assigned to each neighborhood based on the average lawn space available. The cost per impervious credit for rain gardens is \$470,921, assuming a cost share program is implemented. This estimation assumed that funds will be provided to the homeowner to help purchase native plants (at \$8 per quart-sized potted plant and planted at one plant per square foot) and assumes that the homeowner will install and maintain the garden). The cost estimates do not include implementation and tracking of the homeowner practices program.

<sup>\*\*</sup> Size calculations assume an average depth of 8 inches and one-inch rainfall depth treated.

TABLE 12. CONSERVATION LANDSCAPING IMPERVIOUS CREDIT AND COST BY NEIGHBORHOOD

NSA Neighbor- hood ID	Number of Houses	Average Planting Area (sq ft)	Impervious Credit (acres)*	Average Cost Per Garden	Cost Per Neighborhood	Cost to City
1	98	200	0.03	\$1,600	\$31,360	\$15,680
5	57	150	0.02	\$1,200	\$13,680	\$6,840
7	37	200	0.01	\$1,600	\$11,840	\$5,920
8	90	150	0.02	\$1,200	\$21,600	\$10,800
11	300	150	0.08	\$1,200	\$72,000	\$36,000
12	200	200	0.07	\$1,600	\$64,000	\$32,000
13	900	200	0.31	\$1,600	\$288,000	\$144,000
16	400	150	0.10	\$1,200	\$96,000	\$48,000
17	600	150	0.15	\$1,200	\$144,000	\$72,000
19	500	100	0.09	\$800	\$80,000	\$40,000
26	200	200	0.07	\$1,600	\$64,000	\$32,000
		Total	0.95	n/a	\$886,480	\$443,240

<sup>\*</sup>Assumed 20% homeowner participation in each neighborhood.

# 5 TREATMENT SUMMARY

# 5.1 Proposed Projects Summary

As a requirement of the NPDES MS4 Discharge Permit issued by MDE to the City of Aberdeen on October 31, 2018, the City must treat 20% of remaining baseline untreated impervious acres by 2025. **Table 13** presents a summary of the proposed BMPs described in Section 4, and associated impervious credit and estimated cost.

Costs for restoration projects include the planning, design, surveying, environmental permitting, agency review, and construction costs and were estimated using King and Hagan (2011).

TABLE 13: IMPERVIOUS CREDIT AND COST SUMMARY OF PROPOSED BMPS

BMP	Units	Proposed	Impervious	Total Initial	Cost over 20	
DIVIP	Offics	Implementation	Credit (acres)	Cost	Years	
Reforestation	Acres	3.92	5.44	\$51,081	\$87,965	
Stream Restoration	Linear Feet	11,545	230.90	\$8,649,240	\$11,038,841	
Rain Barrels	Number of	1,970	3.01	\$83,742	n/a	
Naiii DaiTeis	Barrels	1,970				
Rain Gardens	Number of	328	4.77	\$324,828	n/a	
Nain Gardens	Gardens	320	4.77	3324,020	II/a	
Conservation	Number of	676	0.95	¢442.240	/-	
Landscaping	Gardens	0/0	0.95	\$443,240	n/a	
		Total	245.07	\$9,552,131	\$11,126,806	

# 5.2 IMPERVIOUS CREDIT

A summary of the baseline impervious area, restoration requirement, and impervious credit achieved through the projects identified in Section 4 can be found in **Table 14**. The impervious credits gained from the identified stream restoration and reforestation practices exceeds the required 20% restoration goal.

TABLE 14: CITY OF ABERDEEN IMPERVIOUS ACCOUNTING

Impervious Accounting	Aberdeen Acres						
2004 Baseline Impervious Treatment							
Total Impervious Area	998.51 acres						
Impervious Treated	32.72 acres						
Impervious Untreated	965.79 acres						
Restoration Requirement (20% of							
Untreated Impervious Area)	193.16 acres						
FY 19 Progress							
Impervious Treated	X.X acres						
Potential Impervious Treatment							
Operational Practices	TBD						
(Street Sweeping, Inlet Cleaning; annual							
practices)							
Structural Practices (Stream Restoration,	236.34 acres						
Reforestation)							
Homeowner Practices (Rain Barrels, Rain	8.73 acres						
Gardens, Conservation Landscaping)							
Potential Impervious Treatment	245.07 acres						
Summary of Projected Pro	gress						
Impervious Untreated	965.79 acres						
Potential Impervious Treatment	245.07 acres						
Total Progress and Potential Treatment	X.X acres						
Percentage Projected to be Treated	25.4%						

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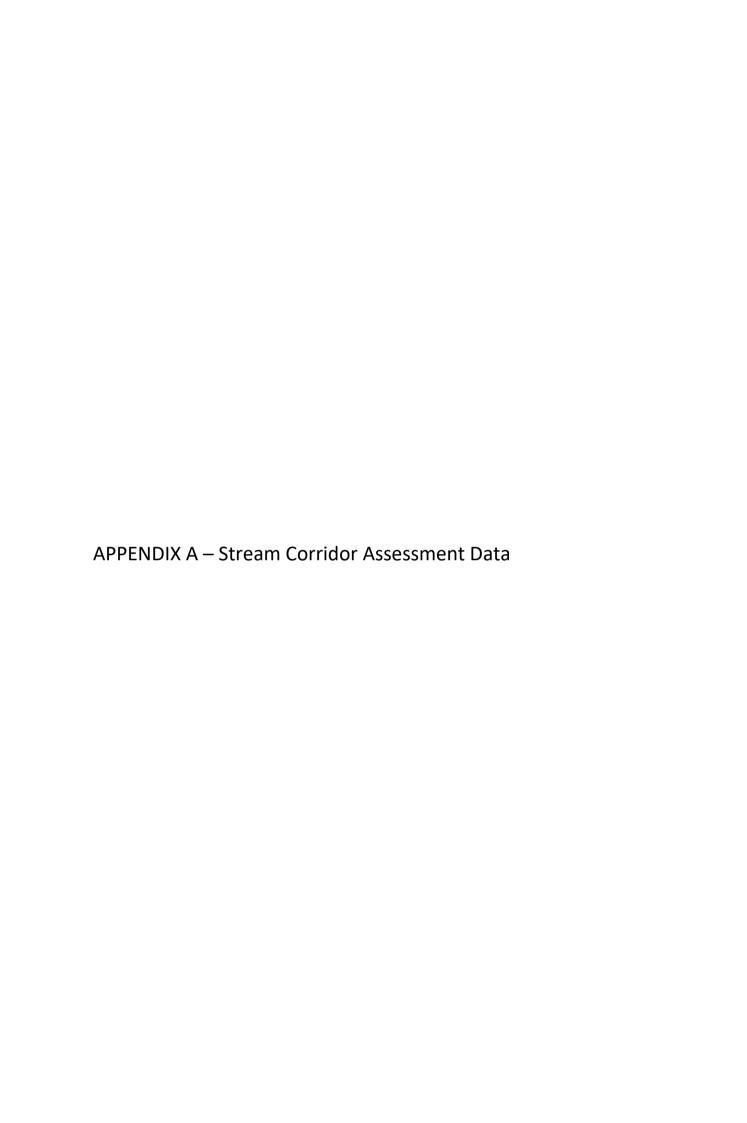
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REACH SIT	E FIE	IELD DATE PHOTO	ТҮРЕ	POSSIBLE CAUSE	LENGTH RIGHT LENGTH LE (FT) (FT)	FT HEIGHT (FT)	LAND USE LEFT		THREAT TO INFRASTRUCTUR E?	DESCRIPTION	CORRECTABILITY ACCESS	SEVERITY
002 ES	001	2/10/2020 R002_ES001_1.jpg,R002_ES001_2.jpg	WIDENING	LAND USE CHANGE US	5820	5820	5 FOREST		NO		4	5 :
003 ES	001	2/10/2020 R003_ES001.jpg 2/11/2020 R016_ES001_1.jpg,R016_ES001_2.jpg	DOWNCUTTING WIDENING	MATCHING GRADE OF MAINSTEM  LAND USE CHANGE US	432 3174	432 3174	5 FOREST 3 FOREST		NO NO	HIGHLY INCISED CHANNEL ORIGINATING AT POND	3	1 2
022 ES	001	2/11/2020 R022_ES001_1.jpg,R022_ES001_2.jpg	DOWNCUTTING/HEADCUTTING	MATCHING GRADE	260	260	5 FOREST		NO	WETLAND CHANNEL HEADCUTS 5' DOWN, CREATING GULLY	2	2
033 ES	001	2/11/2020 R033_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US, REMOVED RIPARIAN	248	248	5 RESIDENTIAL YARD		NO	RAW, ERODED BANKS IN ISOLATED LOCATIONS	2	1 :
039 ES	001	2/13/2020 R039_ES001.jpg	HEADCUTTING DOWNCUTTING	PARK RUNOFF LAND USE CHANGE US	10 532	10 532	3 PARK, TURF 3 FOREST		NO NO	RUNOFF FROM ADJACENT PARK CAUSING 3' HEADCUT RAW ERODED BANKS	2	1 2
041 ES	001	2/13/2020 R041_ES001.jpg 2/13/2020 R041_ES002_1.jpg,R041_ES002_2.jpg	HEADCUTTING	RUNOFF FROM TOWNHOUSES, FLOWS TO WETLAND	20	20	4 FOREST		NO	MULTIPLE HEADCUTS FROM EPHEMERAL WETLAND CHANNEL	3	2
041 ES	003	2/13/2020 R041_ES003.jpg	HEADCUTTING	RUNOFF FROM ROAD UPSTREAM	2	2	3 FOREST		NO	RUNOFF FROM ROAD	3	2
	004	2/13/2020 R041_ES004.jpg	HEADCUTTING	ADJACENT NEIGHBORHOOD RUNOFF	20	20	3 FOREST		NO	EPHEMERAL WETLAND CHANNEL HEADCUTS AT MAINSTEM	3	2 :
041 ES	005	2/13/2020 R041_ES005.jpg 2/13/2020 R043_ES001_1.jpg, R043_ES001_2.jpg	HEADCUTTING DOWNCUTTING	LAND USE CHANGE US  LAND USE CHANGE US	1600	0 1600	4 RESIDENTIAL 5 RESIDENTIAL		NO NO	HEADWATER HEADCUTS SEVERELY INCISED CHANNEL	3	2 3
043 ES	001	2/13/2020 R047_ES001_jpg	DOWNCUTTING	LAND USE CHANGE US			LO FOREST		NO	SEVERELY INCISED CHANNEL ORGINATES AT PIPE AT ROAD	4	2
050 ES	001	2/13/2020 R050_ES001_1.jpg,R050_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US			LO FOREST	+		HEAVILY INCISED AND ACTIVELY ERODING CHANNEL	3	3
054 ES	001	2/14/2020 R054_ES001.jpg	WIDENING	LAND USE CHANGE US	744	744	2 FOREST		NO		3	3 4
	002 001	2/14/2020 R054_ES002.jpg 2/14/2020 R057_ES001.jpg	DOWNCUTTING DOWNCUTTING	POND OUTFALL CHANNEL  LAND USE CHANGE US	570	570 1	3 FOREST/RESIDENTIAL 0 FOREST	<del>'</del>	NO NO	SEVERELY INCISED AND ERODED CHANNEL	2	2 2
059 ES	001	2/14/2020 R059_ES001_1.jpg,R059_ES001_2.jpg	WIDENING	LAND USE CHANGE US	876	876	4 FOREST		NO	SEVEREET INCISED AND ENOBED CHANNEL	4	4
067 ES	001	2/17/2020 R067_ES001_1.jpg,R067_ES001_2.jpg	DOWNCUTTING/WIDENING	LAND USE CHANGE US	358	358	7 FOREST/DEVELOPED		NO		4	3 :
070 ES	001	2/17/2020 R070_ES001.jpg	WIDENING	LAND USE CHANGE US	314	314	2 FOREST		NO	DARKING LOT AT EDGE OF STREAM ASSULATE RESAMING UP	4	4 4
073 ES	001	2/17/2020 R073_ES001_1.jpg,R073_ES001_2.jpg 2/17/2020 R074_ES001_1.jpg,R074_ES001_2.jpg	WIDENING WIDENING	PARKING LOT LAND USE CHANGE US	161	161	3 PARKING LOT 3 RESIDENTIAL YARDS		YES NO	PARKING LOT AT EDGE OF STREAM, ASPHALT BREAKING UP MINOR BANK EROSION	3	2
080 ES	001	2/17/2020 R080_ES001.jpg	WIDENING	LAND USE CHANGE US	1408	1408	5 FOREST		NO	I WINTER BY HITTER TO THE STATE OF THE STATE	4	4
082 ES	001	2/17/2020 R082_ES001_1.jpg,R082_ES001_2.jpg	WIDENING	LAND USE CHANGE US		4666	3 FOREST		NO		4	4
088 ES	001	2/17/2020 R088_ES001_1.jpg,R088_ES001_2.jpg	DOWNCUTTING/WIDENING WIDENING	LAND USE CHANGE US ART COMPLEY DRAINAGE	2178 700	2178 700	5 RESIDENTIAL		NO NO		3	3 7
	002 001	2/17/2020 R088_ES002.jpg 2/18/2020 R089_ES001_1.jpg,R089_ES001_2.jpg	WIDENING	LAND USE CHANGE US, APT COMPLEX DRAINAGE LAND USE CHANGE US	176	176	5 RESIDENTIAL 5 RESIDENTIAL		NO NO		3	2
003	002	2/18/2020 R089_ES002.jpg	HEADCUTTING	LAND USE CHANGE US	502	502	7 RESIDENTIAL		NO		3	2
095 ES	001	2/18/2020 R095_ES001.jpg	WIDENING	LAND USE CHANGE US	380	380 2.	.5 FOREST		NO		3	2 :
100 ES	001	2/18/2020 R100_ES001.jpg 2/18/2020 R102_ES001_1.jpg,R102_ES001_2.jpg,R102_ES001_3.jpg	DOWNCUTTING WIDENING	END OF CONCRETE CHANNELIZATION  LAND USE CHANGE US	10 2442	10 2442	2 FOREST 3 FOREST		NO YES	SMALL AREA OF FENCE THREATENED BY ERODING BANK	2	1 2
102 ES	001	2/18/2020 R102_ES001_1.jpg,R102_ES001_2.jpg 2/18/2020 R105_ES001_1.jpg,R105_ES001_2.jpg	WIDENING	LAND USE CHANGE US	336	336	6 FOREST		NO	SIVIALL AREA OF FENCE THREATENED BY ERODING BANK	3	2
105 ES	002	2/18/2020 ES002_1.jpg,ES002_2.jpg,ES002_3.jpg,ES002_4.jpg	WIDENING	LAND USE CHANGE US	1126		LO RAILROAD		NO		3	2
107 ES	001	2/18/2020 R107_ES001_1.jpg,R107_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	1084	1084	5 FOREST	1 0112017112010 211111112	NO		3	3 7
108 ES	001	2/18/2020 R108_ES001.jpg 2/19/2020 R109_ES001_1.jpg,R109_ES001_2.jpg	WIDENING DOWNCUTTING	DRAINAGE FROM ADJACENT ATHLETIC FIELD  LAND USE CHANGE US	25	25 3. 274	.5 FOREST 2 RESIDENTIAL		NO NO		4	2 3
110 ES	001	2/19/2020 R110_ES001_1.jpg,R110_ES001_2.jpg	WIDENING	LAND USE CHANGE US	558	558	2 RESIDENTIAL		NO NO		2	2
111 ES	001	2/19/2020 R111_ES001_1.jpg,R111_ES001_2.jpg	WIDENING	LAND USE CHANGE US	246	246	1 SCHOOL		NO		3	2 /
111 ES	002	2/19/2020 R111_ES002.jpg	WIDENING	LAND USE CHANGE US	50	50	4 RESIDENTIAL		NO NO		4	3 4
115 ES	001	2/19/2020 R115_ES001.jpg 2/19/2020 R115_ES002_1.jpg,R115_ES002_2.jpg	DOWNCUTTING DOWNCUTTING	LAND USE CHANGE US LAND USE CHANGE US, IMPERVIOUS DRAINAGE	264	264 256	4 FOREST 6 COMMERCIAL		NO NO		4	2 2
123 ES	001	2/19/2020 R123_ES001_1.jpg,R123_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	156	156	4 FOREST/RESIDENTIAL		NO		3	2
125 ES	001	2/19/2020 ES001_1.jpg,ES001_2.jpg,ES001_3.jpg,ES001_4.jpg	DOWNCUTTING	LAND USE CHANGE US	2284	2284	3 FOREST/RESIDENTIAL		NO		3	2 :
126 ES	001	2/19/2020 R126_ES001.jpg	DOWNCUTTING (USABOLITTING	RESIDENTIAL RUNOFF	212	212	3 FOREST		NO NO		2	2 3
129 ES	001	2/19/2020 R129_ES001_1.jpg,R129_ES001_2.jpg 2/19/2020 R130_ES001.jpg	DOWNCUTTING/HEADCUTTING DOWNCUTTING	LAND USE CHANGE US  LAND USE CHANGE US	322	322 14	2 FOREST 3 FOREST		NO NO		4	4
130 ES	002	2/19/2020 R130_ES002.jpg	WIDENING	LAND USE CHANGE US	246	246	2 RESIDENTIAL		NO		3	2
	001	2/20/2020 R132_ES001.jpg	WIDENING	LAND USE CHANGE US	570	570	2 FOREST/RESIDENTIAL		NO		3	2 :
134 ES	001	2/20/2020 R134_ES001.jpg 2/20/2020 R135_ES001.jpg	WIDENING HEADCUTTING	LAND USE CHANGE US  LAND USE CHANGE US	404	404	3 FOREST/GOLFCOURSE 2 FOREST/RESIDENTIAL	+	NO NO		4	4 2
136 ES	001	2/20/2020 R136_ES001.jpg	WIDENING	LAND USE CHANGE US	146	146	4 FOREST		NO NO		3	2
137 ES	001	2/20/2020 R137_ES001_1.jpg,R137_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	758	758	5 FOREST		NO		2	2
137 ES	002	2/20/2020 R137_ES002.jpg	DOWNCUTTING	LAND USE CHANGE US		2018	4 FOREST/RESIDENTIAL	<u> </u>	NO		3	2 7
138 ES	001	2/20/2020 R138_ES001_1.jpg,R138_ES001_2.jpg 2/20/2020 R139_ES001.jpg	DOWNCUTTING/HEADCUTTING DOWNCUTTING	LAND USE CHANGE US LAND USE CHANGE US	230 134	230 134	2 FOREST/RESIDENTIAL 2 FOREST		NO NO		4 4 4	3 2
140 ES	001	2/20/2020 R140_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	20	20	1 FOREST		NO		5	3
141 ES	001	2/20/2020 R141_ES001_1.jpg,R141_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	326	326	4 FOREST		NO		3	2
146 ES	001	3/2/2020 R146_ES001_1,ES001_2,ES001_3,ES001_4.jpg	WIDENING	LAND USE CHANGE US	4720	4720 50	5 FOREST		NO NO		3	4 7
	002 003	3/2/2020 R146_ES002.jpg 3/2/2020 R146_ES003.jpg	WIDENING WIDENING	LAND USE CHANGE US  LAND USE CHANGE US	59	60	4 FOREST 6 FOREST		NO NO	SHORT SEGMENT OF SEVERE BANK EROSION	4 4	2
	004	3/5/2020 R146_ES004.jpg	WIDENING	LAND USE CHANGE US	5694	5694	3 FOREST	FOREST	NO		4	3
148 ES	001	3/2/2020 R148_ES001_1.jpg,R148_ES001_2.jpg	WIDENING	LAND USE CHANGE US	148		.5 FOREST		NO NO	MINOR MEANDER BEND EROSIONS	4	3 /
	001 001	3/2/2020 R154_ES001.jpg 3/2/2020 R155 ES001.jpg	DOWNCUTTING/HEADCUTTING DOWNCUTTING	LAND USE CHANGE US  LAND USE CHANGE US	208	208	4 FOREST 2 FOREST		NO NO		3	3 3
	001	3/2/2020 R156_ES001_1,ES001_2,ES001_3,ES001_4.jpg	WIDENING	LAND USE CHANGE US		2682	4 FOREST		NO		4	3
	001	3/2/2020 R165_ES001_1.jpg,R165_ES001_2.jpg	DOWNCUTTING	RUNOFF FROM ROAD/RESIDENTIAL	396	396 2.	.5 FOREST	FOREST	NO		3	1 :
171 ES	001	3/2/2020 R171_ES001_1.jpg,R171_ES001_2.jpg	DOWNCUTTING	RESIDENTIAL RUNOFF		1332	3 FOREST		NO NO	INCISED CHANNEL, EROSION MOSTLY HEALED OVER	4	3 4
1/3 ES	001 001	3/5/2020 R173_ES001_1.jpg,R173_ES001_2.jpg 3/5/2020 R174_ES001_1.jpg,R174_ES001_2.jpg	WIDENING WIDENING	LAND USE CHANGE US LAND USE CHANGE US	6182 156	6182 156	3 FOREST 2 FOREST		NO NO		2 3	2 2
	001	3/5/2020 R181_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US, ROAD RUNOFF	894	894	2 FOREST		NO	INCISED CHANNEL, ACTIVELY ERODING	2	2
181 ES	002	3/5/2020 R181_ES002.jpg	HEADCUTTING	LAND USE CHANGE US	0	0	3 FOREST	FOREST	NO	3FT HEADCUT, HELD BY TREE ROOTS	4	3
186 ES	001	3/5/2020 R186_ES001_1.jpg,R186_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	126	126	3 FOREST		NO NO	INCISED CHANNEL AT CONFILIENCE WITH CARCUES TO	4	3 /
192 ES	001	3/5/2020 R192_ES001.jpg 3/9/2020 R197_ES001_1.jpg,R197_ES001_2.jpg,R197_ES001_3.jpg	DOWNCUTTING WIDENING	LAND USE CHANGE US  LAND USE CHANGE US	6026	148 6026	3 FOREST 4 FOREST	1 011201	NO NO	INCISED CHANNEL AT CONFLUENCE WITH CARSINS RUN	3 2	4 4
198 ES	001	3/5/2020 R198_ES001.jpg	WIDENING	LAND USE CHANGE US	120		.5 FOREST		NO		4	3
	001	3/5/2020 R200_ES001_1.jpg,R200_ES001_2.jpg	WIDENING	LAND USE CHANGE US	842	842	1 FOREST		NO	ERODED MEANDER BENDS, MOSTLY HELD WITH TREE ROOTS	4	4
	001	3/9/2020 R206_ES001_1,ES001_2,ES001_3,ES001_4.jpg	DOWNCUTTING	LAND USE CHANGE US		4500 234 2.	4 FOREST		NO NO	SEVERELY INCISED CHANNEL	3	2 7
	001 002	3/9/2020 R207_ES001.jpg 3/9/2020 R207_ES002.jpg	DOWNCUTTING HEADCUTTING	LAND USE CHANGE US LAND USE CHANGE US, NEW DEVELOPMENT	234		.5 FOREST .5 FOREST	NEW DEVELOPMENT/CONSTR FOREST	NO NO		3	2
	003	3/9/2020 R207_ES003_1.jpg,R207_ES003_2.jpg,R207_ES003_3.jpg	DOWNCUTTING	LAND USE CHANGE US	610	610	2 FOREST		NO		3	2
208 ES	001	3/9/2020 R208_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	46		.5 FOREST	FOREST	NO	INCISED CHANNEL, MOSTLY OLD EROSION	5	3
210 ES	001	3/9/2020 R210_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US	126	126	3 FOREST		NO NO	REACH BEGINS AT 2FT HEADCUT, INCISED CHANNEL	4	3
211 ES	001	3/9/2020 R211_ES001_1.jpg,R211_ES001_2.jpg,R211_ES001_3.jpg 3/9/2020 R214_ES001.jpg	DOWNCUTTING DOWNCUTTING	LAND USE CHANGE US, AGRICULTURAL FIELD  LAND USE CHANGE US	5090 798	5090 798	5 FOREST 4 FOREST		NO NO	INCISED CHANNEL INCISED CHANNEL STARTS AT TWO 4' HEADCUTS	3	2
216 ES	001	3/9/2020 R216_ES001_1.jpg,R216_ES001_2.jpg	DOWNCUTTING	LAND USE CHANGE US	382	382	4 FOREST		NO	INCISED CHANNEL, STARTS AT HEADCUT	4	4
216 ES	002	3/9/2020 R216_ES002.jpg	HEADCUTTING	LAND USE CHANGE US	0	0	3 FOREST		NO		4	4
[218 ES	001	3/9/2020 R218_ES001.jpg	DOWNCUTTING	LAND USE CHANGE US, OLD EROSION	68	68	6 FOREST	FOREST	NO		4	4

### **Unusual Condition**

REACH	SITE	РНОТО	FIELD DATE	ТҮРЕ	DESCRIPTION	Potential	SEVERITY	CORRECTABILITY	ACCESS	COMMENT
041	UC001	R041_UC001.jpg	2/13/2020	WETLAND CHANNEL HEADCUTTING 2' TO MEET MAINSTEM	FLOWING HEAVY DUE TO RECENT RAIN		3	4	4	
111	UC001	R111_UC001.jpg	2/19/2020	DEBRIS JAM, 2' HIGH HEADCUT			4	3	2	
155	UC001	R155_UC001.jpg	3/2/2020	SECTION OF CONCRETE PIPE IN CHANNEL			4	4	3	
146	UC001	R146_UC001.jpg	3/5/2020	LARGE METAL BEAM ACROSS STREAM	DIRECTING FLOW TO RB, CAUSING BANK EROSION	AND SCOUR	3	2	2	
173	UC001	R173_UC001.jpg	3/5/2020	EXPOSED CONCRETE PIPE AT SEWER CROSSING			4	2	1	
175	UC001	R175_UC001.jpg	3/5/2020	OLD HOUSE FOUNDATION AND CHIMNEY AT HEADWATERS			5	5	5	
173	UC002	R173_UC002.jpg	3/5/2020	CONCRETE PIPE IN CHANNEL			4	4	3	
184	UC001	R184_UC001.jpg	3/5/2020	OLD POND OR ROAD BED, PIPED UNDERGROUND FOR 10FT			5	3	3	

### **Representative Site**

								SEDIMENT	VELOCITY DEPTH		
REACH	SITE	FIELD DATE	РНОТО	SUBSTRATE	EMBEDDEDNESS	SHELTER FOR FISH	CHANNEL ALTERATION	DEPOSITION	DIVERSITY	CHANNEL FLOW STATUS	BANK VEGETATION
002	RE001		R002_RE001_DS.jpg,R002_RE001_US.jpg	MARGINAL	MARGINAL	SUBOPTIMAL	OPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
016	RE001	†	R016_RE001_DS.jpg,R016_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
033	RE001		R033_RE001_DS.jpg,R033_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	OPTIMAL	SUBOPTIMAL
039	RE001		R039_RE001_DS.jpg,R039_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	OPTIMAL	OPTIMAL	MARGINAL	OPTIMAL	OPTIMAL
043	RE001	†	R047_RE001_DS.jpg,R047_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL	MARGINAL
047	RE001		R050_RE001_DS.jpg,R050_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	POOR	MARGINAL	MARGINAL	MARGINAL
050	RE001		R043_RE001_DS.jpg,R043_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	OPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
054	RE001	†	R054_RE001_DS.jpg,R054_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	MARGINAL	POOR	SUBOPTIMAL	SUBOPTIMAL
057	RE001		R057_RE001_DS.jpg,R057_RE001_US.jpg	MARGINAL	SUBOPTIMAL	MARGINAL	POOR	MARGINAL	SUBOPTIMAL	MARGINAL	POOR
059	RE001		R059_RE001_DS.jpg,R059_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL
063	RE001		R063_RE001_DS.jpg,R063_RE001_US.jpg	POOR	MARGINAL	POOR	POOR	MARGINAL	POOR	MARGINAL	SUBOPTIMAL
065	RE001		R065_RE001_DS.jpg,R065_RE001_US.jpg	POOR	POOR	POOR	POOR	POOR	POOR	MARGINAL	SUBOPTIMAL
067	RE001		R067_RE001_DS.jpg,R067_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL
069	RE001		R069_RE001_DS.jpg,R069_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL
080	RE001		R080_RE001_DS.jpg,R080_RE001_US.jpg	SUBOPTIMAL	MARGINAL	MARGINAL	OPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	MARGINAL
082	RE001		R082_RE001_DS.jpg,R082_RE001_US.jpg	MARGINAL	MARGINAL	SUBOPTIMAL	OPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
088	RE001		R088_RE001_DS.jpg,R088_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
089	RE001		R089_RE001_DS.jpg,R089_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	POOR	SUBOPTIMAL	MARGINAL	MARGINAL	SUBOPTIMAL
094	RE001		R094_RE001_DS.jpg,R094_RE001_US.jpg	POOR	MARGINAL	POOR	POOR	MARGINAL	POOR	OPTIMAL	POOR
095	RE001		R095_RE001_DS.jpg,R095_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL
102	RE001		R102_RE001_DS.jpg,R102_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
105	RE001		R105_RE001_DS.jpg,R105_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	POOR	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
107	RE001	†	R107_RE001_DS.jpg,R107_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL
108	RE001		R108_RE001_DS.jpg,R108_RE001_US.jpg	POOR	SUBOPTIMAL	POOR	OPTIMAL	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL
109	RE001		R109_RE001_DS.jpg,R109_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	MARGINAL	SUBOPTIMAL	POOR	SUBOPTIMAL	MARGINAL
110	RE001		R110_RE001_DS.jpg,R110_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	POOR	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL
111	RE001		R111_RE001_DS.jpg,R111_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
115	RE001		R115_RE001_DS.jpg,R115_RE001_US.jpg	MARGINAL	MARGINAL	POOR	OPTIMAL	OPTIMAL	POOR	OPTIMAL	OPTIMAL
116	RE001		R116_RE001_DS.jpg,R116_RE001_US.jpg	MARGINAL	MARGINAL	POOR	OPTIMAL	OPTIMAL	POOR	MARGINAL	SUBOPTIMAL
125	RE001		R125_RE001_DS.jpg,R125_RE001_US.jpg	MARGINAL	OPTIMAL	POOR	OPTIMAL	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL
132	RE001		R132_RE001_DS.jpg,R132_RE001_US.jpg	SUBOPTIMAL	OPTIMAL	POOR	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
134	RE001	2/20/2020	R134_RE001_DS.jpg,R134_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
136	RE001	2/20/2020	R136_RE001_DS.jpg,R136_RE001_US.jpg	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	MARGINAL
137	RE001	2/20/2020	R137_RE001_DS.jpg,R137_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	MARGINAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
146	RE001		R148_RE001_DS.jpg,R148_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL
148	RE001	3/2/2020	R155_RE001_DS.jpg,R155_RE001_US.jpg	MARGINAL	MARGINAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
155	RE001	3/2/2020	R156_RE001_DS.jpg,R156_RE001_US.jpg	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	SUBOPTIMAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL
156	RE001	3/2/2020	R159_RE001_DS.jpg,R159_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL
159	RE001	3/2/2020	R146_RE001_DS.jpg,R146_RE001_US.jpg	OPTIMAL	OPTIMAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL	OPTIMAL	SUBOPTIMAL	SUBOPTIMAL
173	RE001	3/5/2020	R173_RE001_DS.jpg,R173_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL
181	RE001	3/5/2020	R181_RE001_DS.jpg,R181_RE001_US.jpg	POOR	MARGINAL	POOR	MARGINAL	MARGINAL	POOR	MARGINAL	SUBOPTIMAL
184	RE001	3/5/2020	R184_RE001_DS.jpg,R184_RE001_US.jpg	MARGINAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
197	RE001	3/5/2020	R200_RE001_DS.jpg,R200_RE001_US.jpg	POOR	MARGINAL	POOR	OPTIMAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL
200	RE001	3/9/2020	R197_RE001_DS.jpg,R197_RE001_US.jpg	MARGINAL	MARGINAL	MARGINAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	MARGINAL	MARGINAL
206	RE001	3/9/2020	R206_RE001_DS.jpg,R206_RE001_US.jpg	MARGINAL	MARGINAL	POOR	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	SUBOPTIMAL
207	RE001	3/9/2020	R207_RE001_DS.jpg,R207_RE001_US.jpg	POOR	POOR	POOR	SUBOPTIMAL	SUBOPTIMAL	POOR	SUBOPTIMAL	SUBOPTIMAL
211	RE001	3/9/2020	R211_RE001_DS.jpg,R211_RE001_US.jpg	POOR	SUBOPTIMAL	POOR	OPTIMAL	SUBOPTIMAL	MARGINAL	SUBOPTIMAL	OPTIMAL

### Representative Site continued

REACH	SITE	BANK CONDITION	RIPARIAN VEGETATION	WIDTH RIFFLE (IN) WIDTH RUI	1 /1N1)	WIDTH POOL (IN) DEPTH RIFFLE (IN)	DEPTH RUN (IN)	DEPTH POOL (IN)	BOTTOM SUBSTRATE	STREAM NOTES
002	RE001	POOR	SUBOPTIMAL	WIDTH KIFFLE (III) WIDTH KOI	216	240	6	` '	4 SAND/GRAVEL	PERENNIAL
016	RE001	MARGINAL	SUBOPTIMAL	60	84	120	6		4 GRAVEL/SAND	PERENNIAL
033	RE001	SUBOPTIMAL	SUBOPTIMAL	40	48	72	2		2 GRAVEL/SAND	PERENNIAL
039	RE001	OPTIMAL	SUBOPTIMAL	24	30	36	2		0 GRAVEL	PERENNIAL
	RE001	POOR	SUBOPTIMAL	24	30	36	2		8 GRAVEL	PERENNIAL
043					36		2			
047	RE001	POOR	SUBOPTIMAL	24 36	48	48	3		8 GRAVEL/SAND	PERENNIAL
050	RE001	SUBOPTIMAL	SUBOPTIMAL		48 42	60	3		0 GRAVEL 6 GRAVEL	PERENNIAL
054	RE001	MARGINAL	SUBOPTIMAL	36		48	2			PERENNIAL
057	RE001	POOR	SUBOPTIMAL	48	60	96			0 GRAVEL (BOLLINES	PERENNIAL
059	RE001	MARGINAL	SUBOPTIMAL	48	60	72	4		2 GRAVEL/BOULDER	PERENNIAL
063	RE001	SUBOPTIMAL	MARGINAL	36	36	36	2		6 SILT	PERENNIAL
065	RE001		POOR	60	60	60	3		0 SILT	PERENNIAL
067	RE001	MARGINAL	MARGINAL	72	84	96	2		0 GRAVEL	PERENNIAL
069	RE001	MARGINAL	MARGINAL	24	36	48	2		6 SILT	INTERMITTENT STREAM, HIGHLY INCISED, NOT ACTIVELY ERODED
080	RE001	MARGINAL	OPTIMAL	96	120	132	4		2 GRAVEL	PERENNIAL, SMELLS LIKE DETERGENT, SOAPY SUDS OBSERVED
082	RE001	MARGINAL	OPTIMAL	180	288	360	6		6 SAND	PERENNIAL, SWAN CREEK
088	RE001	POOR	SUBOPTIMAL	36	48	60	2		8 GRAVEL	PERENNIAL
089	RE001		MARGINAL	48	48	60	1		6 GRAVEL	PERENNIAL
094	RE001		POOR	60	60	60	3		8 CONCRETE	PERENNIAL
095	RE001		MARGINAL	48	48	60	3		0 GRAVEL	PERENNIAL
102	RE001	MARGINAL	SUBOPTIMAL	48	60	72	2	6 1	8 GRAVEL	PERENNIAL
105	RE001		MARGINAL	36	60	84	3	8 1	8 GRAVEL/SAND	PERENNIAL
107	RE001	POOR	SUBOPTIMAL	12	36	48	2	4	8 GRAVEL	PERENNIAL
108	RE001	OPTIMAL	MARGINAL	12	18	42	1	3	6 GRAVEL	PERENNIAL
109	RE001	MARGINAL	MARGINAL	24	36	42	2	4	8 GRAVEL	PERENNIAL
110	RE001	SUBOPTIMAL	POOR	36	42	72	3	4	8 GRAVEL	PERENNIAL
111	RE001	SUBOPTIMAL	MARGINAL	60	66	84	3	6 1	0 GRAVEL/COBBLE	PERENNIAL, POSSIBLY OLD STREAM RESTORATION PROJECT?
115	RE001	OPTIMAL	OPTIMAL	24	36	36	2	4	6 SILT	INTERMITTENT
116	RE001	OPTIMAL	POOR	12	24	36	2	3	4 SILT	INTERMITTENT, HEAVY ORANGE FLOC
125	RE001	MARGINAL	SUBOPTIMAL	36	42	60	2	4	8 COBBLE/BOULDER	PERENNIAL
132	RE001	POOR	MARGINAL	36	48	8	3	5	7 COBBLE	PERENNIAL
134	RE001	MARGINAL	SUBOPTIMAL	96	108	108	4	6 1	0 COBBLE	PERENNIAL
136	RE001	POOR	SUBOPTIMAL	96	120	144	4	8 1	2 GRAVEL	PERENNIAL
137	RE001	POOR	SUBOPTIMAL	36	36	48	3	4	8 SILT	PERENNIAL
146	RE001	SUBOPTIMAL	SUBOPTIMAL	84	96	108	3	5 1	0 GRAVEL	PERENNIAL
148		MARGINAL	SUBOPTIMAL	12	24	48	1		8 GRAVEL	PERENNIAL
155	RE001		SUBOPTIMAL	96	120	144	6		4 BOULDER COBBLE	PERENNIAL
156	RE001		SUBOPTIMAL	72	120	156	3		8 GRAVEL	PERENNIAL
159		SUBOPTIMAL	MARGINAL	120	144	180	8		4 BOULDERS	PERENNIAL
173	RE001	MARGINAL	SUBOPTIMAL	24	36	48	2		0 GRAVEL	PERENNIAL
181		POOR	SUBOPTIMAL	18	24	30	1		5 GRAVEL	INTERMITTENT
184	RE001	OPTIMAL	OPTIMAL	24	30	36	2		6 GRAVEL	PERENNIAL
197	RE001		OPTIMAL	12	24	36	2		8 GRAVEL	INTERMITTENT
200		MARGINAL	SUBOPTIMAL	60	96	144	5		6 GRAVEL	PERENNIAL, CARSINS RUN
206	RE001	MARGINAL	SUBOPTIMAL	36	48	60	3		0 GRAVEL	PERENNIAL
207			MARGINAL	12	18	30	2		6 SILT	PERENNIAL
		MARGINAL	SUBOPTIMAL	18	24	30	1		6 GRAVEL	PERENNIAL
211			rst to hest condition) - Poor Marginal Subontim		24	ا علام	Τ	+	UJUNAVEL	FLINLININIAL

Habitat Assessment Rankings (in order from worst to best condition) - Poor, Marginal, Suboptimal, Optimal

#### **Potential BMP**

REACH	SITE	FIELD DATE PHOTO	ВМР ТҮРЕ	BMP TYPE 2	COMMENTS
002	PB001	2/10/2020 R002_PB001_1.jpg,R002_PB001_2.jpg	STREAM RESTORATION		
013	PB001	2/11/2020 R013_PB001.jpg	POND RETROFIT		
019	PB001	2/11/2020 R019_PB001_1.jpg,R019_PB001_2.jpg	SPSC, OUTFALL STABILIZATION		
022	PB001	2/11/2020 R022_PB001_1.jpg,R022_PB001_2.jpg	STREAM RESTORATION		
034	PB001	2/11/2020 R034_PB001.jpg	POND RETROFIT		
039	PB001	2/13/2020 R039_PB001_1.jpg,R039_PB001_2.jpg	RAIN GARDEN		
043	PB001	2/13/2020 R043_PB001.jpg	TREE PLANTING		
043	PB002	2/13/2020 R043_PB002_1.jpg,R043_PB002_2.jpg	STREAM RESTORATION		
053	PB001	2/14/2020 R053_PB001.jpg	TREE PLANTING		
057	PB001	2/14/2020 R057_PB001.jpg	STREAM RESTORATION/ SPSC		
065	PB001	2/14/2020 R065_PB001.jpg	TREE PLANTING		
065	PB002	2/14/2020 R065_PB002.jpg	TREE PLANTING		
067	PB001	2/17/2020 R067_PB001_1.jpg,R067_PB001_2.jpg,R067_PB001_3.jpg	POND RETROFIT		REPACE GABION WITH RISER, REMOVE CONCRETE, INSTALL OUTFALL CHANNEL
072	PB001	2/17/2020 R072_PB001.jpg	STREAM RESTORATION	NEW STORMWATER BMP	DAYLIGHT PIPED STREAM, PIPED APPROX 700 FEET, ALSO MAY BE ROOM HERE FOR SWM BMP IN OPEN FIELD
075	PB001	2/17/2020 R075_PB001.jpg	TREE PLANTING		
082	PB001	2/17/2020 R082_PB001.jpg	SPSC		
088	PB001	2/17/2020 R088_PB001_1.jpg,R088_PB001_2.jpg	STREAM RESTORATION		
107	PB001	2/18/2020 R107_PB001.jpg	TREE PLANTING		
107	PB002	2/18/2020 R107_PB002_1.jpg,R107_PB002_2.jpg,R107_PB002_3.jpg	STREAM RESTORATION		
108	PB001	2/18/2020 R108_PB001_1.jpg,R108_PB001_2.jpg	TREE PLANTING		
105	PB001	2/18/2020 R105_PB001_1,PB001_2,PB001_3,PB001_4,PB001_5.jpg	STREAM RESTORATION		ES001 AND ES002
123	PB001	2/19/2020 R123_PB001_1.jpg,R123_PB001_2.jpg	STREAM RESTORATION		SHORT REACH US FROM ROAD
125	PB001	2/19/2020 R125_PB001.jpg	TREE PLANTING		
126	PB001	2/19/2020 R126_PB001.jpg	STREAM RESTORATION		
130	PB001	2/20/2020 R130_PB001_1.jpg,R130_PB001_2.jpg	IMPERVIOUS REMOVAL	NEW STORMWATER BMP	
137	PB001	2/20/2020 R137_PB001_1.jpg,R137_PB001_2.jpg	STREAM RESTORATION		FROM HERE UPSTREAM, RESTORE ALL REACHES, INCISED CHANNELS
165	PB001	3/2/2020 R165_PB001_1.jpg,R165_PB001_2.jpg	STREAM RESTORATION		COULD INCLUDE UNMAPPED INCISED EPHEMERAL TRIB, RECEIVES ROAD RUNOFF, WAS STABILIZED WITH CURLEX
146	PB001	3/2/2020 R146_PB001.jpg	TREE PLANTING		TREE PLANTING ON RIGHT BANK, SPARSE CANOPY
173	PB001	3/5/2020 R173_PB001_1.jpg,R173_PB001_2.jpg,R173_PB001_3.jpg	STREAM RESTORATION		

## Pipe Outfall

REACH SITE	FIELD DATE PHOTO	OUTFALL TYPE	PIPE TYPE	LOCATION	DIAMETER (IN)	CHANNEL WIDTH (DISCHARGE	COLOR	ODOR	SEVERITY	CORRECTABILITY	ACCESS	DESCRIPTION	TYPEDE COLORDES
002 PO001	2/10/2020 R002_PO001.jpg	STORMWATER	PVC	LEFT	8	1 YES	CLEAR	NONE	4	3		OLD POND OUTFALL	
002 PO002	2/10/2020 R002_P0002.jpg	STORMWATER	RCP	RIGHT	36	3 TRICKLE	CLEAR	NONE	5	5	2	WET POND OUTFALL	
016 PO001	2/11/2020 R016_PO001.jpg	STORMWATER	RCP	LEFT	36	5 YES	CLEAR	NONE	4	5	1		
033 PO001	2/11/2020 R033_PO001.jpg	STORMWATER	CMP	LEFT	36	2 YES	CLEAR	NONE	4	4	4		
042 PO001	2/13/2020 R042_P0001.jpg	STORMWATER	RCP	LEFT	24	5 NO			5	5	1		
047 PO001	2/13/2020 R047_P0001.jpg	STORMWATER	CMP	RIGHT	24	5 YES	CLEAR	NONE	5	5	(3)		
054 PO001	2/14/2020 R054_P0001.jpg	STORMWATER	PVC	RIGHT	12	3 YES	CLEAR	NO	2	2	2	OUTFALL FOR WET POND, ERODED CHANNEL	
059 PO001	2/14/2020 R059_P0001.jpg	STORMWATER	CMP	LEFT	18	0 YES	CLEAR	NO	3	4	(1)		RUST
059 PO002	2/14/2020 R059_P0002.jpg	STORMWATER	RCP	LEFT	24	4 YES	CLEAR	NONE	4	4	2		
080 PO001	2/17/2020 R080_P0001.jpg	WASTEWATER	CONCRETE	LEFT	0	4 YES	CLEAR	DETERGE	2	4	1	WASTEWATER TREATMENT PLANT DISCHARGE	SOAPY S
082 PO001	2/17/2020 R082_P0001.jpg	STORMWATER	RCP	RIGHT	24	7 YES	CLEAR	NONE	3	3	2		
088 PO001	2/17/2020 R088_P0001.jpg	STORMWATER	RCP	RIGHT	24	3 NO			4	5	2		
092 PO001	2/18/2020 R092_P0001.jpg	STORMWATER	CONCRETE WEIR	RIGHT	3	5 NO			5	5	1		
102 PO001	2/18/2020 R102_PO001.jpg	STORMWATER	RCP	RIGHT	36	3 YES	CLEAR	NONE	4	5	1		
102 PO002	2/18/2020 R102_PO002_1.jpg,R102_PO002_2.jpg,R102_PO002_3.jpg	STORMWATER	CMP	LEFT	36	3 YES	CLEAR	NONE	3	3	2	FIRST 20 FEET OF OUTFALL CHANNEL CHANNELIZED WITH CO	
105 PO001	2/18/2020 R105_P0001.jpg	STORMWATER	RCP	RIGHT	12	0 NO			4	4	2	DOUBLE 12 INCH PIPES, NO OUTFALL CHANNEL, PIPES PARTIA	
108 PO001	2/18/2020 R108_PO001.jpg	STORMWATER	RCP	RIGHT	20	3 NO			5	5	(3)		
111 PO001	2/19/2020 R111_PO001.jpg	STORMWATER	RCP	LEFT	30	4 YES	CLEAR	NO	5	5	2		ALGAE
111 PO002	2/19/2020 R111_PO002.jpg	STORMWATER	RCP	LEFT	12	3 NO			4	4	(1)	MOSTLY SUBMERGED	
111 PO003	2/19/2020 R111_PO003.jpg	STORMWATER	RCP	LEFT	12	4 YES	CLEAR	NONE	4	4			
111 PO004	2/19/2020 R111_PO004_DS.jpg,R111_PO004_US.jpg	STORMWATER	RCP	LEFT	36	5 YES	CLEAR	NONE	4	5	2		ALGAE
111 PO005	2/19/2020 R111_PO005_1.jpg,R111_PO005_2.jpg	STORMWATER	RCP	RIGHT	12	4 YES	CLEAR	NONE	4	5	(3)		
125 PO001	2/19/2020 R125_PO001_DS.jpg,R125_PO001_US.jpg	STORMWATER	CMP	LEFT	24	3 NO			5	5	(3)	OUTFALLS ADJACENT TO SWM BMP	
137 PO001	2/20/2020 R137_PO001.jpg	STORMWATER	RCP	LEFT	36	4 TRICKLE	CLEAR	NONE	5	4	2		ALGAE
146 PO001	3/2/2020 R146_P0001.jpg	STORMWATER	CMP	RIGHT	15	0 NO			4	4	1		
155 PO001	3/2/2020 R155_P0001.jpg	UNKNOWN	TERRA COTTA	LEFT	12	0 NO			4	4	(3)	ENDWALL HAS SEPERATED	
158 PO001	3/2/2020 R158_PO001.jpg	STORMWATER	CMP	RIGHT	30	2 TRICKLE	CLEAR	NONE	4	4	2		
156 PO001	3/2/2020 R156_PO001_DS.jpg,R156_PO001_US.jpg	STORMWATER	SMOOTH METAL	RIGHT	24	1 NO			3	3	(1)	40FT SECTION OF CONCRETE OUTFALL, PERCHED 2 FEET ABOY	
156 PO002	3/2/2020 R156_PO002.jpg	STORMWATER	CONCRETE DITCH	LEFT	0	2 TRICKLE	CLEAR	NONE	4	3	(1)		
146 PO002	3/2/2020 R146_PO002.jpg	STORMWATER	CMP	LEFT	24	3 NO			4	4	2		
146 PO003	3/2/2020 R146_PO003.jpg	STORMWATER	RCP	RIGHT	12	3 NO			5	5	2		
165 PO001	3/2/2020 R165_PO001.jpg	UNKNOWN	CORREGATED PLASTIC	RIGHT	15	1 TRICKLE	CLEAR	NONE	5	5	1		
173 PO001	3/5/2020 R173_PO001_DS.jpg,R173_PO001_US.jpg	STORMWATER	CMP	RIGHT	24	3 TRICKLE	CLEAR	NONE	3	3	2	ERODED OUTFALL CHANNEL AFTER 15 FT OF RIPRAP ENDS	
206 PO001	3/9/2020 R206_PO001_1.jpg,R206_PO001_2.jpg	STORMWATER	RCP	RIGHT	15	3 NO			5	5	2	POND OUTFALL	

### Fish Barrier

REACH	SITE	FIELD DATE	РНОТО	BLOCKAGE	TYPE	REASON	DROP (IN)	DEPTH (IN)	SEVERITY	CORRECTIBILIT	ACCESS	DESCRIPTION
057	FB001	2/14/2020	R057_FB001.jpg	TOTAL	ROAD CROSSING	TOO HIGH	180	C	1	2		2
111	FB001	2/19/2020	R111_FB001.jpg	TOTAL	ROAD CROSSING	TOO HIGH	5	C	4	4		1 ROAD CULVERT CONCRETE SURFACE IS 5 INCHES ABOVE STREAM WATER LEVEL
156	FB001	3/2/2020	R156_FB001.jpg	TOTAL	ROAD CROSSING	TOO HIGH	11	C	3	4		3
184	FB001	3/5/2020	R184_FB001.jpg	TOTAL	CHANNELIZED	TOO HIGH	48	C	2	3		2 CONCRETE CHANNEL

## **Channel Alteration**

REACH	SITE	FIELD DATE PHOTO	TYPE BOTTOM WIDTH	LENGTH (FT)	PERENNIAL	SEDIMENTATIO	VEGETATION IN	ROAD CROSSING	LENGTH ABOVE	LENGTH BELOW	SEVERITY	CORRECTABILI	ACCESS	DESCRIPTION
057	CA001	2/14/2020 R057_CA001_1.jpg,R057_CA001_2.jpg	OLD ROAD CROSSING 5	30	YES	NO	NO	YES	0	0	1	2	2	2
059	CA001	2/14/2020 R059_CA001.jpg	CONCRETE 3	50	YES	NO	NO	NO	0	0	3	3		CONCRETE CHANNELIZATION
071	CA001	2/17/2020 R071_CA001.jpg	CONCRETE 7	100	NO	NO	NO	NO	0	0	2	2	1	1
073	CA001	2/17/2020 R073_CA001_DS.jpg,R073_CA001_US.jpg	RIP RAP UPSTREAM, GABION BASKET DO 3	0	NO	NO	NO	NO	0	0	3	4	:	1
094	CA001		CONCRETE 5	0	YES	YES	YES	NO	0	0	2	4	3	CONCRETE TRAPEZOIDAL CHANNEL
100	CA001	2/18/2020 R100_CA001_1.jpg,R100_CA001_2.jpg	CONCRETE 3	0	NO	YES	YES	NO	0	0	5	4	-	1
101	CA001	2/18/2020 R101_CA001_1.jpg,R101_CA001_2.jpg	CONCRETE 2	. 0	NO	YES	YES	NO	0	0	3	3	2	2
102	CA001	2/18/2020 R102_CA001_1.jpg,R102_CA001_2.jpg	CONCRETE 3	0	YES	YES	NO	NO	0	0	3	4	2	2
102	CA002	2/18/2020 R102_CA002_1.jpg,R102_CA002_2.jpg	CONCRETE APRON 15' PAST POND OUTF 6	0	YES	NO	NO	NO	0	0	5	5	***	RESTORED WITH ROCK CROSS VANES
105	CA001		CONCRETE 3	15	YES	NO	NO	NO	0	0	2	3	2	CONCRETE CHANNELIZED TRAPEZOIDAL CHANNEL
105	CA002	2/18/2020 R105_CA002_1.jpg,R105_CA002_2.jpg,R105_CA002_3.jpg	RIP RAP FOR APPROX 10 FEET AT DS END		YES		NO	NO	0	0	2	3		CONCRETE CHANNELIZATION IMMIEDATELY US, BREAKING UP
106	CA001	2/18/2020 R106_CA001.jpg	RIPRAP 4	. 0	YES	NO	NO	NO	0	0	4	5	-	1 RIP RAP ON RB AT PARKING LOT
														CONCRETE WALL FOR 10' IMMEDIATELY DS OF CULVERT, THEN 20' OF GABION
110	CA001	2/19/2020 R110_CA001.jpg	CONCRETE WALL/GABION 10	30	YES	NO	NO	YES	0	40	3	3		1 BASKET
														RIGHT BANK GABION BASKET ABOVE ROAD CROSSING FOR 30', THEN 50' OF
111	CA001		GABION/RIP RAP 5		YES			YES	30	0	4	4		1 RIP RAP
111	CA002	2/19/2020 R111_CA002.jpg	GABION 5	20	YES	NO	NO	NO	0	0	4	4		1 GABION ON RIGHT BANK
														RIP RAP ON BOTH BANKS ENTIRE LENGTH BETWEEN ROAD CROSSINGS, 50
111	CA003	2/19/2020 R111_CA003_1.jpg,R111_CA003_2.jpg,R111_CA003_3.jpg	RIP RAP AND GABION 5		YES		NO	NO	0	0	4	4	2	2 FEET SECTION OF GABION ON RIGHT BANK
111	CA004	2/19/2020 R111_CA004.jpg	RIP RAP 2	+	YES		NO	NO	0	0	4	4	2	2
125	CA001	2/19/2020 R125_CA001.jpg	RIP RAP 4	. 0	NO	NO	NO	NO	0	0	5	4	-	1 RIP RAP ON THIS SINGLE SEGMENT
146	CA001	3/2/2020 R146_CA001.jpg	RIP RAP AND CONCRETE 15		YES			NO	0	0	3	4		2 RIP RAP ALONG BOTTOM, THEN CONCRETE WALL 10 FT TO STABILIZE ROAD
146	CA002	3/2/2020 R146_CA002.jpg	STONE OLD STONE WALL ON RIGHT BAN 20	60	YES	NO	NO	NO	0	0	5	5		2
														GABION ON LEFT BANK, 30' DS FROM ROAD CROSSING, RIP RAP 150'
156	CA001	3/2/2020 R156_CA001_1.jpg,R156_CA001_2.jpg	GABION AND RIP RAP 10	0	YES	NO	NO	YES	0	0	4	5		2 UPSTREAM ON RIGHT BANK FROM ROAD CROSS

## **Trash Dumping**

REACH	SITE	FIELD DATE	PHOTO	TYPE	TRUCKLOADS	EXTENT	VOLUNTEER	OWNER TYPE	OWNER NAME	SEVERITY	CORRECTIBILIT	ACCESS	STREAM	TYPE DESCRIPTION
039	TD001	2/13/2020	R139_TD001.jpg	RESIDENTIAL	1	SINGLE	YES	PUBLIC	City of Aberdeen Pa	4	1	1		CANS, ALUMINUM, BOTTLES
214	TD001	3/9/2020	R214_TD001.jpg	RESIDENTIAL	3	SINGLE	NO	PRIVATE	Mt Zion UMC	2	4	1		OLD APPLIANCES



WATERSHED: Abedeen	SUBWATERSHED:		UNIQUE SITE	EID: HS1-1
DATE: <u>2/13/20</u>	ASSESSED BY:	CAMERA ID:		PIC#: 472,473,474
MAP GRID:	LAT°'_	" LONG°	_'"	LMK#
A. SITE DATA AND BASIC CLASSIFICATIO				
Name and Address: Travel longe for	Insti	mercial Industrial tutional Municipal sport-Related	Miscellaneous Golf Cours Marina Animal Fac	
SIC code (if available):	Basic Description of	Operation:		
NPDES Status: Regulated Unregulated Unknown	VIOACI			INDEX*
B. VEHICLE OPERATIONS N/A (Skip to	part C)	Commence of the second	Observed	Pollution Source?
B1. Types of vehicles:  Fleet vehicles	School buses Oth	ner:		
B2. Approximate number of vehicles:				<b>4</b>
B3. Vehicle activities (circle all that apply):	Maintained Repaired	Recycled Fueled Wa	shed Stored	0
B4. Are vehicles stored and/or repaired outs				0
Are these vehicles lacking runoff diversion in <b>B5</b> . Is there evidence of spills/leakage from		Can't Tell Can't Tell		0
<b>B6.</b> Are uncovered outdoor fueling areas pro		Can't Tell		0
B7. Are fueling areas directly connected to s				0
<b>B8.</b> Are vehicles washed outdoors? Y		Cantien		- Pro-
Does the area where vehicles are washed dis		Y N Can'	t Tell	0
C. OUTDOOR MATERIALS N/A (Skip to			Observed 1	Pollution Source?
.C1. Are loading/unloading operations presen				0
If yes, are they uncovered and draining towa		Y N Can'		
C2. Are materials stored outside? \( \subseteq \text{Y} \subseteq \) Where are they stored? \( \subseteq \text{grass/dirt area} \)	Can't Tell If yes, a concrete/asphalt be	are they [ ] Liquid [ ] So rmed area	olid Description	n:O
C3. Is the storage area directly or indirectly	connected to storm drain (c	ircle one)? Y N	V Can't Te	ell O
C4. Is staining or discoloration around the an	rea visible? Y N	Can't Tell		0
C5. Does outdoor storage area lack a cover?	☐ Y ☐ N ☐ Can't	Tell		0
C6. Are liquid materials stored without seco	ndary containment? \ \ \ Y	□ N □ Can't Tell		0
C7. Are storage containers missing labels or	in poor condition (rusting)	?□Y □N □ Car	ı't Tell	0
D. WASTE MANAGEMENT N/A (Skip t	o part E)		Observed l	Pollution Source?
D1. Type of waste (check all that apply):	Garbage Constructi	on materials	lous materials	0
<b>D2.</b> Dumpster condition (check all that apprevidence of leakage (stains on ground)		n Damaged/poor co	ndition \BL	eaking or
D3. Is the dumpster located near a storm dra If yes, are runoff diversion methods (ber		n't Tell N Can't Tell		•
E. PHYSICAL PLANT N/A (Skip to part i	F)		Observed I	Pollution Source?
E1. Building: Approximate age: 70	yrs. Condition of surface	es: 🗖 Clean 🗌 Staine	ed Dirty	Damaged O
Evidence that maintenance results in dischar	ge to storm drains (staining	g/discoloration)? TY[	N Don't	know
*Index: O denotes potential po	llution source; de	notes confirmed pollu	ter (evidence	was seen)

ACST 1															600000		
E2. Parking Lot: Approximate age  yrs. Condition: Cle Curface material Paved/Concrete Gravel Permea						Dirt	у Д	Bro	eakin	g up	)					•	
E3. Do downspouts discharge to impervious surface? Y Are downspouts directly connected to storm drains?	N [		on'		ow	   Do										(3)	)
E4. Evidence of poor cleaning practices for construction activities	(stai	ns l	ead	ing	to s	torm	drai	n)?[	☐ Y		N [	ΙС	an't	Tell		0	)
F. TURF/LANDSCAPING AREAS \( \subseteq \ \text{N/A} \) (skip to part G)									Obse	rved	l Po	lluti	on S	Sour	ce?		
F1.% of site with: Forest canopy% Turf grass 80 % L	andso	capi	ng	20	%	Baı	e So	-	_%							0	) =
F2. Rate the turf management status: High Medium	Low									-						0	)
F3. Evidence of permanent irrigation or "non-target" irrigation	] Y [	X I	1 [	С	an't	t Tell										0	)
F4. Do landscaped areas drain to the storm drain system?	ζY		N		Ca	n't T	ell								8	0	,
F5. Do landscape plants accumulate organic matter (leaves, grass clippin	gs) on	adj	acer	nt im	per	vious	surfa	ice?	☐ Y	図	Ν[	Ca	n't 🛚	Γell		0	)
G. STORM WATER INFRASTRUCTURE   N/A (skip to po	art H	7)						1	Obse	rved	l Po	lluti	on S	our	ce?	1	
G1. Are storm water treatment practices present? YXN	Unk	knov	vn	If y	es, j	pleas	e de									0	
G2. Are private storm drains located at the facility? Y N Is trash present in gutters leading to storm drains? If so, o	Uı ompl	nkn lete	owr the	ı inde	ex b	elow	·.									0	
Index Rating	or A	ccur	nula	ation	ı in	Gutt	ers								Tri regal		
Clean									Filth	у_							
Sediment	☐ 3 ☐ 3					∐ 4 □ 4				님	5   5						
Litter	$\frac{1}{3}$					$\Box 4$					5						
G3. Catch basin inspection – Record SSD Unique Site ID here:			С	ond	itio	n: [	] Dir	ty	Cl	ean							
H. INITIAL HOTSPOT STATUS - INDEX RESULTS																	
Not a hotspot (fewer than 5 circles and no boxes checked)																	
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Seve	re h	ots	pot (	(>1:	5 cire	les a	nd/c	or 2 o	r mo	ore b	oxe	s che	ecke	<u>d)</u>		
Follow-up Action:	Н	Ш	_	_	_	4	$\bot$	Ш	_	$\bot$	_	Ш	4	4	4	4	_
Refer for immediate enforcement Suggest follow-up on-site inspection		Ш		$\perp$	_	_	$\perp$		_	$\perp$	1_			4	$\bot$		<u> </u>
Test for illicit discharge	Ш	Ш			_		$\perp$	Ш		$\perp$				$\perp$	$\bot$	1	$\perp$
Include in future education effort	Ш	Ц		$\perp$	4	_	1	Ш		_		Ш	$\perp$	_	_	1	
☐ Check to see if hotspot is an NPDES non-filer ☐ Onsite non-residential retrofit	Ш	Ц						Ш		$\perp$		Ш		$\perp$	$\perp$	$\perp$	
Pervious area restoration; complete PAA sheet and record	Ш	Ш		$\Box$		$\perp$	$\perp$							$\perp$	$\perp$		
Unique Site ID here:	Ш					$\perp$		Ш		┸	$\perp$	Ш		$\perp$	$\perp$		
Schedule a review of storm water pollution prevention plan								Ш		┸		Ш		$\perp$	$\perp$		
Notes:	Ш	Ц						Ш	$\perp$	L		Ш			$\perp$		
OPEN MOWED AREA DOWN	Ш			4	4	$\perp$	_		_	_	_		4	_	$\bot$	$\perp$	
GRADIENT OF PARKING LOT														$\pm$	$\pm$		
GOOD OPP. FOR POND	Ц	$\perp$		$\perp$		$\perp$	$\perp$	Ц	$\perp$	┸	1	Ш		$\perp$	$\perp$	$\perp$	
Clock Cr. Low 100.3	Ш	Ц	_	_	4	4	$\perp$	Ш	_		_	Ш		$\perp$	$\bot$	$\perp$	
RENSIT				_	$\downarrow$	$\perp$	$\perp$	$\sqcup$	$\perp$	_	$\perp$	Ц	$\perp$	$\bot$	$\perp$	_	
100011	Ш			_	_	_	$\bot$	$\sqcup$			_	Ш		$\bot$	$\bot$	_	
				4	$\perp$	_	$\perp$	$\sqcup$	$\perp$	$\bot$	_	Ц	$\perp$	$\bot$	$\bot$	$\perp$	$\vdash$
			- 1		- 1			ΙI								1	

WATERSHED: Abadeen	SUBWATERSHED:		Unique Site II	D: 151-2
DATE: 2/10/20	ASSESSED BY:	CAMERA ID:		PIC#: 885
MAP GRID:	LAT°'	" LONG°		LMK#
A. SITE DATA AND BASIC CLASSIFICATIO				
Name and Address: Aberdeen MUFFler	- ☐ Insti	itutional	Miscellaneous  Golf Course  Marina  Animal Facilit	ty
SIC code (if available):	Basic Description of	Operation:		
NPDES Status: Regulated Unregulated Unknown	anto strab			INDEX*
B. VEHICLE OPERATIONS N/A (Skip to	part C)	Consideration	Observed Po	llution Source?
B1. Types of vehicles:  Fleet vehicles	School buses 🗵 Ot	her: Copac		
B2. Approximate number of vehicles:				
B3. Vehicle activities (circle all that apply):	Maintained Repaired	Recycled Fueled Was	hed Stored	0
B4. Are vehicles stored and/or repaired outs				0
Are these vehicles lacking runoff diversion in B5. Is there evidence of spills/leakage from		Can't Tell Can't Tell		0
				0
<b>B6.</b> Are uncovered outdoor fueling areas pro		Can't Tell		
B7. Are fueling areas directly connected to s B8. Are vehicles washed outdoors?		Can't Tell		0
Does the area where vehicles are washed dis		□Y □N □Can't	Tell	0
C. OUTDOOR MATERIALS N/A (Skip to	part D)		Observed Pol	llution Source?
C1. Are loading/unloading operations presen			="	0
If yes, are they uncovered and draining towa		Y N Can't	20 10000 10000	
C2. Are materials stored outside? ☐ Y ☐ Where are they stored? ☐ grass/dirt area	N ☐ Can't Tell If yes, ☐ concrete/asphalt ☐ be	are they  Liquid  Sol	id Description:	— o
C3. Is the storage area directly or indirectly	connected to storm drain (	circle one)? Y N	Can't Tell	0
C4. Is staining or discoloration around the ar	rea visible? Y N	Can't Tell		0
C5. Does outdoor storage area lack a cover?	☐ Y ☐ N ☐ Can't	Tell	1 ta	0
C6. Are liquid materials stored without secon	ndary containment? Y	N Can't Tell		0
C7. Are storage containers missing labels or	in poor condition (rusting)	)?	t Tell	0
D. WASTE MANAGEMENT N/A (Skip to	o part E)		Observed Pol	llution Source?
D1. Type of waste (check all that apply):	☐ Garbage ☐ Construction	ion materials		•
<b>D2.</b> Dumpster condition (check all that apple evidence of leakage (stains on ground) [		n Damaged/poor con	dition Leal	xing or O
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (ber				•
E. PHYSICAL PLANT \[ \] N/A (Skip to part l	7)		Observed Pol	lution Source?
E1. Building: Approximate age:	yrs. Condition of surface	es: 🔀 Clean 🔲 Stained	l Dirty D	amaged O
Evidence that maintenance results in dischar				
*Index: O denotes potential pol	llution source; de	enotes confirmed pollute	er (evidence wa	s seen)

		No.			1000										
E2. Parking Lot: Approximate age 5 yrs. Condition: 2 Clear Surface material 2 Paved/Concrete Gravel Permeab	le 🔲 🛚	Don'	t kno	w				ng up	K				•		
E3. Do downspouts discharge to impervious surface? Y NATE Are downspouts directly connected to storm drains?		Don	't kn	wo K	N Don	one v t kno	isible w							0	
E4. Evidence of poor cleaning practices for construction activities	(stains	lead	ing t	o st	orm d	rain)	? 🔲 Y	<b>X</b>	N [	] Ca	an't'	Tell		0	
F. TURF/LANDSCAPING AREAS \( \subseteq \text{N/A} \) (skip to part G)							Obs	erved	l Po	lluti	on S	ourc	e? L		0.000
F1. % of site with: Forest canopy% Turf grass% La	ndsca	ping	/α	3%	Bare	Soil	9/	6	200					0	
F2. Rate the turf management status: High Medium				- 176						-				0	
F3. Evidence of permanent irrigation or "non-target" irrigation		N[	C	an't	Tell		3,000							0	
	Y					11								•	
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? X Y N Can't Tell											0				
G. STORM WATER INFRASTRUCTURE \( \subseteq \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \									e?						
G1. Are storm water treatment practices present?  Y N N	Unkn	own	If ye	es, p	lease	desc								•	100
G2. Are private storm drains located at the facility?  Y N		_												$\overline{}$	
Is trash present in gutters leading to storm drains? If so, co	mplet	e the	inde	507										0	
Index Rating fo	or Acc	umul	ation	in (	Gutter	S	TO:1.								_
Clean Sediment 1 2	٦3			Г	٦4		Filt		5						-
Organic material 1 2	$\frac{1}{3}$			ř	$\exists \overline{4}$			H	15						
Litter	$\exists \tilde{3}$			Ì	<b>5</b> 4				5						
G3. Catch basin inspection - Record SSD Unique Site ID here:		(	Cond	itior	ı: 🔲 1	Dirty		Clean							
H. INITIAL HOTSPOT STATUS - INDEX RESULTS															2000
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑															
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Severe	hots	pot (	>15	circle	es an	d/or 2	or mo	ore b	oxe	s che	cked	1)		_
Follow-up Action:			Ш							Ш		$\perp$			- 12
Refer for immediate enforcement															
☐ Suggest follow-up on-site inspection ☐ Test for illicit discharge												Т			
Include in future education effort			П						T	П		$\top$			
Check to see if hotspot is an NPDES non-filer									$\top$	П		十			
Onsite non-residential retrofit Pervious area restoration; complete PAA sheet and record	$\vdash$	T	$\vdash$	十		$\top$	$\top$		1		十	十		$\sqcap$	_
Unique Site ID here:	H	+	$\vdash$	+		$\top$	11		+	П	$\dashv$	+	$\vdash$		_
Schedule a review of storm water pollution prevention plan		$\top$	H	$\top$	1	$\top$	11	$\top$	T	П	$\top$	+			_
Notes:	H	1	H	十	$\top$	$\top$	11	1	1			十			Ī
110165.	H	1	H	$\top$	_	$\top$	$\exists \exists$		+			十	$\Box$		1
	Н	$\top$	$\Box$	$\top$		$\top$	11		T	П	十	$\top$	П		
NO ROOM FOR SWM	$\Box$	$\top$	П			$\top$	11		$\top$	П	十	$\top$	П		
	П	T	$\Box$	十	$\top$	$\top$	$\top$		T		十	$\top$			
	П	1		$\top$	$\neg$	十	$\top$		$\top$	П	$\top$	$\top$	П		7
		1	$\sqcap$		$\top$	十	11			П	十	$\top$	$\square$		
											П		1		
	$\Box$		$\Box$		$\top$	$\top$	11		T	$\sqcap$	$\top$	$\top$	П		٦
	$\Box$					$\top$	$\top$		Τ	П		1	П		1

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE	ID: HS1-3	5 CO (140 PM)
DATE: <u>2/10/20</u>	ASSESSED BY:	CAMERA ID:		PIC#: 397	
MAP GRID:	LAT°	_'" LONG °	_'"	LMK#	
A. SITE DATA AND BASIC CLASSIFICATION					
Name and Address: One thor			Miscellaneous  Golf Course		
Heating + Air conditioning		Fransport-Related	☐ Marina	1	
	_		Animal Facil	lity	
SIC code (if available):	Basic Description	n of Operation:		1000	
NPDES Status: ☐ Regulated ☐ Unknown	HVAAC			P	NDEX*
B. VEHICLE OPERATIONS N/A (Skip to	part C)			n di a	
B1. Types of vehicles:   ☐ Fleet vehicles		Other:	Observed P	ollution Source?	
B2. Approximate number of vehicles:		Other.			
B3. Vehicle activities (circle all that apply):	Maintained Renaire	d Recycled Fueled Wa	shed Stored		0
<b>B4.</b> Are vehicles stored and/or repaired outsi		Can't Tell	siled Stored		
Are these vehicles lacking runoff diversion r				1.0	
B5. Is there evidence of spills/leakage from	vehicles? 🗌 Y 📮 N	Can't Tell			0
<b>B6.</b> Are uncovered outdoor fueling areas pre	sent? Y X N	Can't Tell			0
B7. Are fueling areas directly connected to s	torm drains? 🔲 Y	N Can't Tell		4.5	0
B8. Are vehicles washed outdoors? \( \subseteq \text{Y} \)		· • □ v · □ · · ·	· · · · · · · · · · · · · · · · · · ·		0
Does the area where vehicles are washed disc C. OUTDOOR MATERIALS N/A (Skip to		in? LY LXN L Can'	THE RESERVE OF THE PARTY OF		
C1. Are loading/unloading operations preser		Can't Tell	Observed P	ollution Source?	
If yes, are they uncovered and draining towa			t Tell		0
C2. Are materials stored outside? \( \subseteq \text{ Y } \subseteq	N Can't Tell If y	es, are they \( \subseteq \text{Liquid} \subseteq \text{So}	olid Description		_
Where are they stored?   grass/dirt area	concrete/asphalt	bermed area			0
C3. Is the storage area directly or indirectly of	connected to storm drai	n (circle one)? Y N	V ☐ Can't Tel	ı	0
C4. Is staining or discoloration around the ar	ea visible? X	N Can't Tell			0
C5. Does outdoor storage area lack a cover?	☐ Y ☐ N ☐ Ca	n't Tell			0
C6. Are liquid materials stored without secon	ndary containment?	Y N Can't Tell			0
C7. Are storage containers missing labels or	in poor condition (rust	ing)? Y N Can	't Tell		0
D. WASTE MANAGEMENT N/A (Skip to	part E)		Observed Po	ollution Source?	
D1. Type of waste (check all that apply):	Garbage Constr	uction materials	A STATE OF THE PARTY OF THE PAR		0
D2. Dumpster condition (check all that appl		open Damaged/poor co	ndition  Lea	aking or	0
evidence of leakage (stains on ground)		C 2 m 11			0
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (bern					0
E. PHYSICAL PLANT N/A (Skip to part F			Observed Po	ollution Source?	
E1. Building: Approximate age: 50	vrs. Condition of sur	faces: \(\sigma\) Clean \(\sigma\) Staine			0
Evidence that maintenance results in dischar					0
		1			
*Index: O denotes potential pol	lution source; L	denotes confirmed pollut	er (evidence w	as seen)	

E2. Parking Lot: Approximate age \( \subseteq \omega \) yrs. Condition: \( \subseteq \text{Clean} \subseteq \text{Stained} \subseteq \text{Dirty} \omega \text{Breaking up} \) Surface material \( \subseteq \text{Paved/Concrete} \) \( \subseteq \text{Gravel} \subseteq \text{Permeable} \subseteq \text{Don't know} \)											0			
E3. Do downspouts discharge to impervious surface? Y Y Are downspouts directly connected to storm drains?	ם מ נם	Don	't kno KN	ow [	None on't k	visil now	ole						0	
E4. Evidence of poor cleaning practices for construction activities	(stains	lead	ing t	o stori	n drai	n)? 🗀	] Y [	N		Can'	t Tel	1	0	LONG-
F. TURF/LANDSCAPING AREAS N/A (skip to part G)	77					O	bserv	ed I	Pollu	tion	Sou	rce?		
F1.% of site with: Forest canopy% Turf grass% L	andsca	ping		% B	are So	il	_%						0	NA7:
F2. Rate the turf management status: High Medium	Low					24 (2) (2)							0	
F3. Evidence of permanent irrigation or "non-target" irrigation	] Y 🔲	N [	] Ca	n't Te	:11					0000			0	
<b>F4.</b> Do landscaped areas drain to the storm drain system?	] Y [	N		Can't	Tell							1/2	0	
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?   Y   N   Can't Tell										T.	0			
G. STORM WATER INFRASTRUCTURE   N/A (skip to part H) Observed Pollution Source:									rce?					
G1. Are storm water treatment practices present? ☐ Y ☒ N ☐	Unkn	own	If ye	s, plea	ase de	scribe	:					30	0	
G2. Are private storm drains located at the facility?  Y N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.											0			
Index Rating f	or Acc	umul	ation	in Gu	tters					-				
Clean Filthy														
Sediment	☐ 3 ☐ 3				4				•					
Organic material	$\frac{1}{3}$			H	4			3     5	;					
G3. Catch basin inspection – Record SSD Unique Site ID here:			Condi	tion:	Dir	ty [	Clea	an						_
H. INITIAL HOTSPOT STATUS - INDEX RESULTS														
Not a hotspot (fewer than 5 circles and no boxes checked)														
☐ Confirmed hotspot ( 10 to 15 circles and/or 1 box checked) ☐	Severe	hots	pot (	>15 ci	rcles	and/o	2 or 1	more	e box	es cl	heck	ed)		
Follow-up Action:	Ш			$\perp$	$\perp$	Ш	$\perp$	Ц	_	ļ.,		丄	$\bot \bot$	
Refer for immediate enforcement Suggest follow-up on-site inspection		$\perp$	$\perp$	$\perp$				Ц		$\perp$	Ц		$\perp \downarrow$	
☐ Test for illicit discharge	ш	┸	_	$\perp \perp$		$\sqcup$	$\perp$	Щ		┺	Ц	$\bot$	$\coprod$	
Include in future education effort			$\perp$	$\perp$		$\sqcup$	$\perp$		$\perp$	$\perp$	Ц	$\perp$	$\sqcup$	
☐ Check to see if hotspot is an NPDES non-filer ☐ Onsite non-residential retrofit		_	$\perp$	$\perp \! \! \perp$		$\sqcup$	$\perp$	Ш	$\perp$		Ц		$\perp \perp$	
Pervious area restoration; complete PAA sheet and record	Ш	$\perp$		$\perp$		Ш	$\perp$		$\perp$	$\perp$			$\perp$	
Unique Site ID here:	$\sqcup$	$\perp$	$\perp$	$\bot$		Н	$\perp$			$\perp$	Ц		$\sqcup$	
Schedule a review of storm water pollution prevention plan				$\perp$		Ш							Ш	
Notes:			$\perp$	$\perp$		$\sqcup$					Ш		$\perp$	
NO CURB+GUTTER, GRAVELLOI	$\perp$		$\perp$	$\perp \! \! \perp$		Ш	$\perp$	$\sqcup$	$\perp$		Ц		$\perp \perp$	
	$\perp$			$\perp \perp$			$\perp$		┸	_	Ш		$\downarrow \downarrow$	
NO GOOD ROOM FOR SUI BMP											$\perp \perp$			
	$\perp$	_	_	$\perp$		Ш	$\perp \perp$	$\Box$		┺	Ш		$\perp$	
				$\perp \perp$		Н	$\perp$	$\perp$	$\perp$		Ш	4	$\sqcup$	
	$\coprod$		$\perp$	$\perp \downarrow$		$\sqcup$		$\sqcup$		_	$\sqcup$	$\bot$	$\coprod$	
	$\coprod$	$\perp$	$\perp$	$\bot \bot$	$\perp$	Ш	$\perp \perp$	$\sqcup$				$\bot$	$\coprod$	$\Box$
		$\perp$	$\perp$	44	+	$\sqcup$	+	$\dashv$	_		$\vdash$	+	++	_
Pervious area restoration; complete PAA sheet and record Unique Site ID here:  Schedule a review of storm water pollution prevention plan														

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE	ID: (15) - 4
DATE: <u>2/3/20</u>	ASSESSED BY:	CAMERA ID:		PIC#: 475 4710,477
MAP GRID:	LAT'	" LONG <b>°</b>	' "	LMK#
A. SITE DATA AND BASIC CLASSIFICATIO				
Name and Address: Core+man	Instit	nercial Industrial utional Municipal port-Related	Miscellaneous Golf Course Marina Animal Faci	
SIC code (if available):  NPDES Status:  Regulated Unknown	plumbing sup	1 <del></del>		INDEX*
B. VEHICLE OPERATIONS N/A (Skip to	part C)		Observed P	Collution Source?
B1. Types of vehicles:   Fleet vehicles	School buses Oth	er:		
B2. Approximate number of vehicles:				
B3. Vehicle activities (circle all that apply):	Maintained Repaired I	Recycled Fueled Wa	shed Stored	0
<b>B4.</b> Are vehicles stored and/or repaired outs Are these vehicles lacking runoff diversion in		ı't Tell ] Can't Tell		0
B5. Is there evidence of spills/leakage from		Can't Tell		0
B6. Are uncovered outdoor fueling areas pro	esent? Y N C	an't Tell		0
B7. Are fueling areas directly connected to s	torm drains? Y N	Can't Tell		0
<b>B8.</b> Are vehicles washed outdoors? Y Does the area where vehicles are washed dis		☐Y ☐N ☐ Can	't Tell	0
C. OUTDOOR MATERIALS N/A (Skip to	part D)		Observed P	ollution Source?
C1. Are loading/unloading operations present fyes, are they uncovered and draining towards.		t Tell □Y 🔼N □ Can	't Tell	0
C2. Are materials stored outside? XY Where are they stored? grass/dirt area	N Can't Tell If yes, a	re they Liquid X S		:
C3. Is the storage area directly or indirectly	connected to storm drain (ci	rcle one)? Y	N Can't Tel	1 0
C4. Is staining or discoloration around the an	rea visible? Y X N	Can't Tell		0
C5. Does outdoor storage area lack a cover?	Y N Can't	`ell		0
C6. Are liquid materials stored without second	ndary containment? Y	N Can't Tell		0
C7. Are storage containers missing labels or	in poor condition (rusting)?	Y N Car	n't Tell	0
D. WASTE MANAGEMENT N/A (Skip t	o part E)		Observed P	ollution Source?
D1. Type of waste (check all that apply):	Garbage Construction	n materials	lous materials	0
<b>D2.</b> Dumpster condition (check all that apprevidence of leakage (stains on ground)		Damaged/poor co	ondition Le	aking or
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (ber	in inlet? 🔲 Y 🛛 N 🔲 Car	i't Tell N Can't Tell		0
E. PHYSICAL PLANT N/A (Skip to part I	7)		Observed P	ollution Source?
E1. Building: Approximate age: Evidence that maintenance results in dischar				
*Index: O denotes potential pol		notes confirmed pollu	,	

E2. Parking Lot: Approximate age yrs. Condition: Clean Stained Dirty Breaking up Surface material Paved/Concrete Gravel Permeable Don't know										•		
E3. Do downspouts discharge to impervious surface? XY \(\text{Y}\) Are downspouts directly connected to storm drains?	品				] None on't k		le					•
E4. Evidence of poor cleaning practices for construction activities	(stains	lead	ing t	o stori	n drai	n)? 🔲	YΣ	N	] Car	i't Tel	1	0
F. TURF/LANDSCAPING AREAS   N/A (skip to part G)	mental. Carta					OI	serve	d Pol	llutio	n Soui	rce?	
F1.% of site with: Forest canopy% Turf grass _\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ndsca	ping		% B	are So	il	_%					0
F2. Rate the turf management status: High Medium	Low	40										0
F3. Evidence of permanent irrigation or "non-target" irrigation												0
F4. Do landscaped areas drain to the storm drain system?	Y 🕽	ΧĮΝ		Can't	Tell	_		10.00				0
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?  Y X N Can't Tell										0		
G. STORM WATER INFRASTRUCTURE   N/A (skip to part H) Observed Pollution Source									rce?			
G1. Are storm water treatment practices present?  Y N Unknown If yes, please describe:												
G2. Are private storm drains located at the facility?  Y N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.											0	
Index Rating for	or Acc	umul	ation	in Gu	itters							
Clean Filthy												
Sediment												
Organic material         □ 1         □ 2         □ 3         □ 4         □ 5           Litter         □ 1         □ 2         □ 3         □ 4         □ 5												
G3. Catch basin inspection – Record SSD Unique Site ID here:		(	Condi	tion:	Dir	ty 🗆	Clean					
H. INITIAL HOTSPOT STATUS - INDEX RESULTS												
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☑	Potent	ial ho	tspo	t (5 to	10 ci	rcles b	ut no b	oxes	chec	ked)	-	
Confirmed hotspot (10 to 15 circles and/or 1 box checked)											;d)	
Follow-up Action:												
Refer for immediate enforcement	П						TT		П			
Suggest follow-up on-site inspection Test for illicit discharge							11		Ħ	11	$\top$	
Include in future education effort	$\vdash$	+	_	+				1		11		
Check to see if hotspot is an NPDES non-filer	$\vdash$	+	+	_	+	++		+	$\vdash$	11	+	
Onsite non-residential retrofit	$\vdash$	+	+	+	$\dashv$	$\vdash$	++	+	$\vdash$	++	+	<del>                                     </del>
Pervious area restoration; complete PAA sheet and record	$\vdash$	+	+	+	_	₩	++	+-	$\vdash$	++	+	$\vdash$
Unique Site ID here: Schedule a review of storm water pollution prevention plan	$\vdash$	+	+	-	_	╀	++	+	╀	++	+	$\vdash$
	$\vdash$		-	+	-	$\vdash$	++	-		++	+	
Notes:		+	-	+	-	$\vdash$	++	+	$\vdash$	+	+	
NO ROUM FOR SWM	$\vdash$	+	+	+	-	$\vdash$	++	+	$\vdash$	++	+	+++
La Koo, I i i	$\vdash$	+	+	+	+	$\vdash$	++	+-		$\pm \pm$	_	++
<del>                                      </del>												
	$\vdash$	+-	+	+	+	$\vdash$	++	+	$\vdash$	++	+	HH
	$\vdash$	+	+	+	+	H	++	╁		++	+	HH
	$\vdash$	+	+	$\dashv\dashv$		-	+	+	$\vdash \vdash$	++	+	$\vdash\vdash\vdash$
	$\vdash$	+	+			$\vdash$	++	-		++	+	+++
											++-	

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE	D: HS1-5				
DATE: <u>2/13 / 20</u>	ASSESSED BY:	CAMERA ID:		PIC#: 478				
MAP GRID:	LAT°	'" LONG <b>°</b>	_'"	LMK#				
A. SITE DATA AND BASIC CLASSIFICATIO								
Name and Address: North End Import	Category: 🔼 Co	ommercial Industrial	Miscellaneous					
_Service		stitutional  Municipal  Municipal  Municipal	☐ Golf Course ☐ Marina	<b>?</b>				
	21/ <sub>200</sub>		Animal Faci	lity				
SIC code (if available):	Basic Description	9 <del>70</del> .0		-				
NPDES Status: Regulated Unregulated Unknown	car shap				INDEX*			
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source:								
B1. Types of vehicles:   Fleet vehicles		Other: reparshap	Observed P	ollution Source	· / L			
B2. Approximate number of vehicles:	J School Buses 7	other. Tepoen 31102	-					
B3. Vehicle activities (circle all that apply):	Maintained Repaired	Recycled Fueled Wa	shed Stored		•			
B4. Are vehicles stored and/or repaired outs								
Are these vehicles lacking runoff diversion i	methods? XY N	Can't Tell		3	0			
B5. Is there evidence of spills/leakage from		Can't Tell			0			
<b>B6.</b> Are uncovered outdoor fueling areas pre	esent? Y N 🗆	Can't Tell			0			
B7. Are fueling areas directly connected to s	torm drains? Y	N Can't Tell			0			
B8. Are vehicles washed outdoors? Y			· 77. 11		0			
Does the area where vehicles are washed dis C. OUTDOOR MATERIALS N/A (Skip to		? LY LN LCan						
C1. Are loading/unloading operations presen		on't Tell	Observed P	ollution Source				
If yes, are they uncovered and draining toward		Y N Can'	t Tell		0			
C2. Are materials stored outside? \( \subseteq \text{Y} \subseteq	N Can't Tell If yes	s, are they \( \subseteq \text{Liquid} \( \subseteq \text{So}		:	_			
Where are they stored?   grass/dirt area	concrete/asphalt 🗓 l	bermed area	•		0			
C3. Is the storage area directly or indirectly of	connected to storm drain	(circle one)? Y	N Can't Tel	1	0			
C4. Is staining or discoloration around the ar	ea visible? Y N	Can't Tell			0			
C5. Does outdoor storage area lack a cover?	Y N Can	't Tell			0			
C6. Are liquid materials stored without secon	ndary containment?	Y N Can't Tell			0			
C7. Are storage containers missing labels or	in poor condition (rustin	g)? 🗌 Y 🔲 N 🔲 Car	ı't Tell		0			
D. WASTE MANAGEMENT N/A (Skip to	part E)		Observed Po	ollution Source	?			
D1. Type of waste (check all that apply):	Garbage Construc	ction materials  Hazard	THE RESERVE OF THE PARTY OF THE		0			
D2. Dumpster condition (check all that appl		pen Damaged/poor co	ndition  Lea	aking or	0			
evidence of leakage (stains on ground) [ D3. Is the dumpster located near a storm drain		O24 TD-11			0			
If yes, are runoff diversion methods (bern					0			
E. PHYSICAL PLANT N/A (Skip to part H	7		Observed Po	ollution Source?	,			
E1. Building: Approximate age: 50	vrs. Condition of surfa	ces: X Clean Staine	The second second second second second		0			
Evidence that maintenance results in dischar					0			
				3334				
*Index: O denotes potential pol	lution source; \ (	denotes confirmed pollu	ter (evidence w	as seen)				

E2. Parking Lot: Approximate age \( \bullet \mathcal{O} \) yrs. Condition: \( \Barcoll \text{Clean} \Bigcup \text{Stained} \Bigcup \text{Dirty} \Bigcup \text{Breaking up} \\ Surface material \( \Bigcup \text{Paved/Concrete} \Bigcup \Gravel \Bigcup \text{Permeable} \Bigcup \text{Don't know} \)												•	)	
E3. Do downspouts discharge to impervious surface? Y Are downspouts directly connected to storm drains?		Don Y	't kr	iow	N Don								C	)
E4. Evidence of poor cleaning practices for construction activities	(stain	s lead	ling	to st	orm d	lrain)	? 🔲 🤊	Y 📮	ŃΓ	Ca	n't Te	11	C	)
F. TURF/LANDSCAPING AREAS \( \subseteq \ \mathbb{N}/\text{A} \) (skip to part G)							Obs	erved	l Pol	llutio	n Sou	rce?		
F1.% of site with: Forest canopy% Turf grass % L	andsca	ping		_%	Bare	Soil	9	%					C	)
	Low												C	,
F3. Evidence of permanent irrigation or "non-target" irrigation	Y [	N [		an't	Tell					1650			C	)
F4. Do landscaped areas drain to the storm drain system?	] Y [	ΝK		Ca	n't Te	11							C	)
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? Y N Can't Tell									1	C	)			
G. STORM WATER INFRASTRUCTURE   N/A (skip to part H) Observed Pollution Source									rce?					
G1. Are storm water treatment practices present?  Y N C	Unkn	own	Ify	es, p	olease	desc	ribe: _					12.00	0	
G2. Are private storm drains located at the facility? Y N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.										0				
	- 5					rs								
Index Rating for Accumulation in Gutters  Clean Filthy														
Sediment														
Organic material         □ 1         □ 2         □ 3         □ 4         □ 5           Litter         □ 1         □ 2         □ 3         □ 4         □ 5														
Litter 1 2  G3. Catch basin inspection – Record SSD Unique Site ID here:	<u> </u>		Conc	litio	n: 🔲	Dirty	П	Clean	) )					
H. INITIAL HOTSPOT STATUS - INDEX RESULTS			Jone	itto		Dirty		Cicuii		17000			30	
□ Not a hotspot (fewer than 5 circles and no boxes checked) ☑	Potent	tial h	otsp	ot C	5 to 10	) circ	es bu	t no b	oxes	chec	ked)			5 5 890
Confirmed hotspot (10 to 15 circles and/or 1 box checked)												red)		
Follow-up Action:			ÎП	Ì					Τ	П			T	$\Box$
Refer for immediate enforcement	$\Box$		H	一	$\top$	$\Box$			T	$\Box$	$\top$		1	Т
Suggest follow-up on-site inspection	$\vdash$		H	$\neg$	+	$\vdash$	$\top$			$\vdash$	$\top$		+	$\vdash$
☐ Test for illicit discharge ☐ Include in future education effort	H	+	Н	$\dashv$	+	$\vdash$	+		+	╁	+		+	$\vdash$
Check to see if hotspot is an NPDES non-filer	-	+	$\vdash$	$\dashv$	+-	-	+		+	$\vdash$	+		+	$\vdash$
Onsite non-residential retrofit	$\vdash$	+	Н	$\dashv$	+	$\vdash$	+	-	╁	$\vdash$	+		+	$\vdash$
Pervious area restoration; complete PAA sheet and record	$\vdash$	_	Ш	Ц	$\bot$	Н	$\perp \!\!\! \perp$		_	Ш	$\perp$			
Unique Site ID here:	$\sqcup$	_	Ш	_	$\bot$	Ш	$\perp$			Ш	$\perp$	$\perp$	_	$\perp$
Schedule a review of storm water pollution prevention plan														
Notes:		_				Ц	Ш						$\perp$	
	$\sqcup$	$\bot$	Ш	4	_	Ц.		$\perp$	┺	Ш	44		$\perp$	
NO ROOM FOR SUM	$\coprod$	_	Ш			$\sqcup$	$\bot$		┸	Ш	$\bot$		_	Щ
										$\perp$	Ш			
*														
											$\top$		Т	П
	$\sqcap$		П								$\top$	$\top$	$\top$	П
	$\sqcap$	$\top$	П	1	$\top$	$\Box$	T				$\top$	$\top$	$\top$	П
		$\top$	П	1			$\top$			$\top$	$\top$	$\top$	+	П
										1	$\top$	П		

WATERSHED: Abadean	SUBWATERSHED:	1	UNIQUE SITE II	D: HS1-6
DATE: <u>2/13/20</u>	ASSESSED BY:	CAMERA ID:		PIC#: 480
MAP GRID:	LAT°'	" LONG°'	"	LMK#
A. SITE DATA AND BASIC CLASSIFICATIO				
Name and Address: Chesopeake Bay			iscellaneous Golf Course	
Dental, S.A. Bham, M.D.			Marina	
	- Paria Dannintina a 6.6		Animal Facilit	у
SIC code (if available):	Basic Description of C			
NPDES Status: Regulated Unregulated Unknown	(1001131 1000)			INDEX*
B. VEHICLE OPERATIONS N/A (Skip to	part C)		Observed Po	llution Source?
B1. Types of vehicles:  Fleet vehicles	School buses Othe	r:		
B2. Approximate number of vehicles:				
B3. Vehicle activities (circle all that apply):			ed Stored	0
<b>B4.</b> Are vehicles stored and/or repaired outs: Are these vehicles lacking runoff diversion i		't Tell Can't Tell		0
B5. Is there evidence of spills/leakage from		Can't Tell		0
B6. Are uncovered outdoor fueling areas pre	esent? Y N Ca	n't Tell	- 10 to - 10 t	0
B7. Are fueling areas directly connected to s	torm drains? Y N	Can't Tell		0
<b>B8.</b> Are vehicles washed outdoors? Y Does the area where vehicles are washed disc		JV DN DCon't T	all	0
C. OUTDOOR MATERIALS N/A (Skip to				lution Source?
C1. Are loading/unloading operations preser		Tell	Observed 1 of	
If yes, are they uncovered and draining toward	rds a storm drain inlet?	Y N Can't T	ell	0
C2. Are materials stored outside? \( \subseteq \text{Y} \subseteq \) Where are they stored? \( \subseteq \text{grass/dirt area} \)	N ☐ Can't Tell If yes, ard concrete/asphalt ☐ bern	e they 🔲 Liquid 🔲 Solid ned area	Description:	
C3. Is the storage area directly or indirectly of	connected to storm drain (cir	cle one)? Y N	Can't Tell	0
C4. Is staining or discoloration around the ar	ea visible? Y N	Can't Tell		0
C5. Does outdoor storage area lack a cover?	Y N Can't To	ell		0
C6. Are liquid materials stored without second	ndary containment? \( \subseteq \text{Y} \)	□ N □ Can't Tell		0
C7. Are storage containers missing labels or	in poor condition (rusting)?	Y N Can't	Геll	0
D. WASTE MANAGEMENT N/A (Skip to	o part E)		Observed Pol	lution Source?
<b>D1.</b> Type of waste (check all that apply):	Garbage Construction	materials  Hazardous	s materials	0
<b>D2.</b> Dumpster condition (check all that apple evidence of leakage (stains on ground)	Overflowing	- ·	tion Leak	ing or O
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (bern		t Tell □ N □ Can't Tell		0
E. PHYSICAL PLANT N/A (Skip to part H			Observed Pol	lution Source?
E1. Building: Approximate age: 40	yrs. Condition of surfaces:	Clean Stained	Dirty D	amaged O
Evidence that maintenance results in dischar		,	56 E5 TO TO	
*Index: O denotes potential pol	lution source; den	otes confirmed polluter	(evidence was	s seen)

E2. Parking Lot: Approximate age yrs. Condition: \( \omega \) Clean \( \omega \) Stained \( \omega \) Dirty \( \omega \) Breaking up  Surface material \( \omega \) Paved/Concrete \( \omega \) Gravel \( \omega \) Permeable \( \omega \) Don't know													•	
E3. Do downspouts discharge to impervious surface? Y X Are downspouts directly connected to storm drains?	N [		't kr ] N			one v		e						0
E4. Evidence of poor cleaning practices for construction activities	(stain	s lead	ling	to st	orm d	rain)	? 🔲	y 🛛	N [	Ca	n't T	ell		0
F. TURF/LANDSCAPING AREAS   N/A (skip to part G)				1			Ob	serve	d Po	llutio	n So	urce	?	
F1.% of site with: Forest canopy% Turf grass 100 % L	andsc	aping		_%	Bare	Soil		%						0
F2. Rate the turf management status:  High  Medium														0
F3. Evidence of permanent irrigation or "non-target" irrigation		N	] C	an't	Tell							$\neg$	- 1	0
F4. Do landscaped areas drain to the storm drain system?	] Y [	×Ν		Ca	n't Te	11						$\neg$		0
F5. Do landscape plants accumulate organic matter (leaves, grass clipping	gs) on a	adjace	nt in	perv	ious s	urface	? 🔲	Y K	ΝL	Can	't Te	11		0
G. STORM WATER INFRASTRUCTURE   N/A (skip to part H) Observed Pollution Source:									? [					
G1. Are storm water treatment practices present?									_	0				
G2. Are private storm drains located at the facility? Y N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.											0			
Index Rating f						rs			100				2.12.	
Clean Filthy														
Sediment $\square 1$ $\square 2$ $\square 3$ $\square 4$ $\square 5$														
Organic material 1 2 Litter 1 2	$\frac{1}{3}$				$\frac{4}{4}$			늗	] 5 ] 5					
G3. Catch basin inspection – Record SSD Unique Site ID here:		(	Cond	litio	n: 🗆	Dirty		Clean						
H. INITIAL HOTSPOT STATUS - INDEX RESULTS														
Not a hotspot (fewer than 5 circles and no boxes checked)	Poten	tial h	otsp	ot (:	to 10	) circl	es bı	ıt no b	oxes	chec	ked)			
Confirmed hotspot (10 to 15 circles and/or 1 box checked)														
Follow-up Action:														
Refer for immediate enforcement	П							П					$\neg$	
Suggest follow-up on-site inspection Test for illicit discharge	П		П			П				П		П	$\neg$	
Include in future education effort	П		П								$\top$	П	寸	
Check to see if hotspot is an NPDES non-filer			П				T		T		$\top$	$\Box$	寸	
Onsite non-residential retrofit Pervious area restoration; complete PAA sheet and record	$\Box$	1	П	寸	$\top$		1	$\Box$	1	$\Box$	1	П	$\neg$	
Unique Site ID here:	H		Н	1	$\top$		1		1		1	H		$\top$
Schedule a review of storm water pollution prevention plan	$\Box$		П	$\dashv$							+	Н	寸	
Notes:	H			$\dashv$	$\top$			$\vdash$	1	$\vdash$	$\top$	П	$\dashv$	$\dashv$
Trotes.	H	+	$\Box$	$\dashv$	1		+	$\vdash$	Ħ		十	H	十	
POSSIBLE RAIN CARDEN(S)		T							1		#	Ħ	1	
	$\vdash$	_	$\vdash$	-	+	$\vdash$	_	$\vdash$	+	$\vdash$	+	$\vdash \vdash$	4	
TO TREAT ROOF										$\dashv$				
PARKING LOT SLOPED TO ROAD,											$\pm$			
NO ROOM														
				Т								П	T	П

WATERSHED: Aberdeen	SUBWATERSHED:	Unique Site	ID: HS1-7						
DATE: 2/10/20	Assessed By: Camera ID:		Pic#: 380,381						
MAP GRID:	Lat°'		LMK#						
A. SITE DATA AND BASIC CLASSIFICATION									
Name and Address: <u>Unique (or Wash</u> Scott's Transportation  SIC code (if available):	Category: M. Commercial Industrial Institutional Municipal Transport-Related  Basic Description of Operation:								
NPDES Status: Regulated	car wash		INDEX*						
☐ Unregulated ☐ Unknown			INDEX						
B. VEHICLE OPERATIONS N/A (Skip to part C) Observed Pollution Source?									
B1. Types of vehicles:   Fleet vehicles	School buses Other: Cor Wash	ansportation							
<b>B2.</b> Approximate number of vehicles:									
	Maintained Repaired Recycled Fueled	ashed Stored	0						
<b>B4.</b> Are vehicles stored and/or repaired outsi Are these vehicles lacking runoff diversion r			•						
B5. Is there evidence of spills/leakage from	vehicles? Y N Can't Tell		0						
<b>B6.</b> Are uncovered outdoor fueling areas pre	sent? Y N Can't Tell		0						
B7. Are fueling areas directly connected to s	torm drains? Y N Can't Tell		0						
<b>B8.</b> Are vehicles washed outdoors? Y Does the area where vehicles are washed dis	□ N □ Can't Tell charge to the storm drain? ☑ Y □ N □ Ca	n't Tell	•						
C. OUTDOOR MATERIALS N/A (Skip to	part D)	Observed P	ollution Source?						
C1. Are loading/unloading operations present If yes, are they uncovered <i>and</i> draining toward		n't Tell	0						
	N ☐ Can't Tell If yes, are they ☐ Liquid ☐		· o						
C3. Is the storage area directly or indirectly of	connected to storm drain (circle one)?	N Can't Tel	1 0						
C4. Is staining or discoloration around the ar	ea visible?  Y N Can't Tell		0						
C5. Does outdoor storage area lack a cover?	Y N Can't Tell		0						
C6. Are liquid materials stored without secon	ndary containment? Y N Can't Te	1	0						
C7. Are storage containers missing labels or	in poor condition (rusting)?  Y N C	an't Tell	0						
D. WASTE MANAGEMENT N/A (Skip to	o part E)	Observed P	ollution Source?						
<b>D1.</b> Type of waste (check all that apply):	Garbage Construction materials Haza		0						
<b>D2.</b> Dumpster condition (check all that apple evidence of leakage (stains on ground)	y):  No cover/Lid is open Damaged/poor of Overflowing	condition Le	aking or O						
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (bern	n inlet? Y N Can't Tell	L	0						
E. PHYSICAL PLANT \[ \sum N/A \( \text{(Skip to part } H \)	7	Observed P	ollution Source?						
	yrs. Condition of surfaces: Clean Stair ge to storm drains (staining/discoloration)? Y								
*Index: O denotes potential pol	lution source; denotes confirmed poll	uter (evidence w	ras seen)						

E2. Parking Lot: Approximate age											
E3. Do downspouts discharge to impervious surface? Y Y NATE Are downspouts directly connected to storm drains?	]Y ☑N □ Don't know	0									
<b>E4.</b> Evidence of poor cleaning practices for construction activities	ins leading to storm drain)? 🗌 Y 🔯 N 🔲 Ca	n't Tell O									
F. TURF/LANDSCAPING AREAS N/A (skip to part G)	Observed Pollutio	n Source?									
F1. % of site with: Forest canopy% Turf grass% La	scaping% Bare Soil%	0									
F2. Rate the turf management status: High Medium I	v	0									
F3. Evidence of permanent irrigation or "non-target" irrigation	□ N □ Can't Tell	0									
<b>F4.</b> Do landscaped areas drain to the storm drain system?	□ N □ Can't Tell	0									
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?  Y N Can't Tell											
G. STORM WATER INFRASTRUCTURE N/A (skip to part H)  Observed Pollution Source?											
G1. Are storm water treatment practices present?											
G2. Are private storm drains located at the facility?  Y N Unknown Is trash present in gutters leading to storm drains? If so, complete the index below.											
	Accumulation in Gutters										
Clean         Filthy           Sediment         □ 1         □ 2         □ 3         □ 4         □ 5											
Organic material 1 2	3 4 5										
Litter	3 4 5										
G3. Catch basin inspection – Record SSD Unique Site ID here:	Condition: Dirty Clean										
H. INITIAL HOTSPOT STATUS - INDEX RESULTS											
Not a hotspot (fewer than 5 circles and no boxes checked)											
Confirmed hotspot (10 to 15 circles and/or 1 box checked) 5 Follow-up Action:	ere notspot (>15 circles and/or 2 or more boxes	cnecked)									
Refer for immediate enforcement	+++++++++++++++++++++++++++++++++++++++	++++									
Suggest follow-up on-site inspection	+++++++++++++++++++++++++++++++++++++++	++++									
☐ Test for illicit discharge ☐ Include in future education effort	+++++++++++++++++++++++++++++++++++++++	++++									
Check to see if hotspot is an NPDES non-filer	+++++++++++++++++++++++++++++++++++++++	++++									
Onsite non-residential retrofit	+++++++++++++++++++++++++++++++++++++++	+									
Pervious area restoration; complete PAA sheet and record Unique Site ID here:	+++++++++++++++++++++++++++++++++++++++	++									
Schedule a review of storm water pollution prevention plan	<del>                                     </del>	<del>                                     </del>									
	+++++++++++++++++++++++++++++++++++++++										
Notes:	+++++++++++++++++++++++++++++++++++++++	<del></del>									
REVISIT, POTENTIAL OPEN											
ARCA BEHIND BUILDING FOR											
SU BMP, WOULD ONLY TREAT											
BUILDING, LOW PRIORITY											
PARKING LOTDRAINS TOWARDS											
Garage Lange											

WATERSHED: Aberdeen	SUBWATERSHED:				UNIQUE SITE	ID: HS1-8			
DATE: <u>2/10/20</u>	ASSESSED BY:		CAMER	A ID:		Pic#: 378,379			
MAP GRID:	LAT°_		" Long	°		LMK#			
A. SITE DATA AND BASIC CLASSIFICATION				Guerra Hill					
Name and Address:Mr. Trcc	Category: [  Category: [  Basic Descrip	Institution Transpor			fiscellaneous Golf Course Marina Animal Faci				
NPDES Status: Regulated	tire :	store				INDEX*			
☐ Unregulated ☐ Unknown						INDEX			
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source?									
<b>B1.</b> Types of vehicles:  Fleet vehicles	☐ School buses	Other:	auto seric	<u>e</u>		据年度5			
B2. Approximate number of vehicles:		_							
<b>B3.</b> Vehicle activities (circle all that apply):				ed Wash	ned Stored	<b>©</b>			
<b>B4.</b> Are vehicles stored and/or repaired outs Are these vehicles lacking runoff diversion		☐ Can't 7 ] N ☐ Ca	Tell an't Tell			•			
B5. Is there evidence of spills/leakage from	vehicles? 🗌 Y 🛚 🗓	N Ca	n't Tell			0			
B6. Are uncovered outdoor fueling areas pro	esent? 🗌 Y 💆 N	☐ Can't	Tell	3700		0			
B7. Are fueling areas directly connected to s		DAN [	Can't Tel	1	100	0			
<b>B8.</b> Are vehicles washed outdoors? Y Does the area where vehicles are washed dis		7-2-2-2	Y 🗆 N	☐ Can't	Tell	0			
C. OUTDOOR MATERIALS N/A (Skip to						ollution Source?			
C1. Are loading/unloading operations presen	nt? 🗌 Y 🔲 N	Can't Te	11			100000000000000000000000000000000000000			
If yes, are they uncovered and draining toward				☐ Can't		0			
<b>C2.</b> Are materials stored outside? ☐ Y ☐ Where are they stored? ☐ grass/dirt area				id 🗌 Soli	id Description	· 0			
C3. Is the storage area directly or indirectly	connected to storm	drain (circle	one)?	Y 🗆 N	Can't Tel	1 0			
C4. Is staining or discoloration around the a	rea visible? 🔲 Y	□и□	Can't Tell		120 10 10 10	0			
C5. Does outdoor storage area lack a cover?	□Y □N □	Can't Tell				0			
C6. Are liquid materials stored without second	ndary containment?	□ Y □	N Ca	n't Tell		0			
C7. Are storage containers missing labels or	in poor condition (r	usting)?	Y N	☐ Can't	Tell	0			
D. WASTE MANAGEMENT \( \sum \text{N/A} \) (Skip to	o part E)				Observed P	ollution Source?			
<b>D1.</b> Type of waste (check all that apply):	X Garbage ☐ Cor	nstruction m	aterials	Hazardo	us materials	0			
<b>D2.</b> Dumpster condition ( <i>check all that apperevidence of leakage</i> (stains on ground)	Overflowing	ā		poor cond	dition Le	aking or O			
D3. Is the dumpster located near a storm dra If yes, are runoff diversion methods (ber				ı't Tell		•			
E. PHYSICAL PLANT N/A (Skip to part	<i>F</i> )				Observed P	ollution Source?			
E1. Building: Approximate age: Evidence that maintenance results in discharge.	yrs. Condition of ge to storm drains (								
*Index: O denotes potential po	lution source;	denote	s confirme	d pollute	r (evidence w	vas seen)			

E2. Parking Lot: Approximate age													•			
E3. Do downspouts discharge to impervious surface? Y Are downspouts directly connected to storm drains?	$\square$ X	Υ [	] N		Don	't kno	)W							0		
E4. Evidence of poor cleaning practices for construction activities	(stain	s lead	ding	to st	orm d	rain)'	· 🗆	Y 🔀	N [	Ca	n't 7	Γell		0		
F. TURF/LANDSCAPING AREAS N/A (skip to part G)  Observed Pollution Source											e? [		AND STREET			
F1. % of site with: Forest canopy% Turf grass 6 % L	andsca	aping		<u>%</u>	Bare	Soil	9	<b>%</b>						0		
F2. Rate the turf management status:  High  Medium	Low													0		
F3. Evidence of permanent irrigation or "non-target" irrigation	] Y [	N.N	□С	an't	Tell								4	0		
F4. Do landscaped areas drain to the storm drain system?	<b>(</b> Y [	N		Car	ı't Te	11					-			<b>©</b>		
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface? Y X N Can't Tell											0					
G. STORM WATER INFRASTRUCTURE N/A (skip to part H)  Observed Pollution Source										?						
G1. Are storm water treatment practices present? Y N	Unkı	nown	If y	es, p	lease	desci	ribe:			Villa cve		_				
G2. Are private storm drains located at the facility? X Y N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.												0				
Index Rating for Accumulation in Gutters															_	
Clean Sediment 1 2	П3			Г	74		Fi	lthy	7.5						_	
Organic material         □ 1         □ 2           Litter         □ 1         □ 2	Organic material $\square$ 1 $\square$ 2 $\square$ 3 $\square$ 4 $\square$ 5 $\square$ 1 $\square$ 5 $\square$ 1 $\square$ 5 $\square$ 1 $\square$ 2 $\square$ 3															
G3. Catch basin inspection – Record SSD Unique Site ID here:			Cond	ition	ı: 🔲	Dirty		Clean	l	A SECTION			2010		201	
H. INITIAL HOTSPOT STATUS - INDEX RESULTS	, -			4											Sec. 1969	
Not a hotspot (fewer than 5 circles and no boxes checked)			-													
Confirmed hotspot (10 to 15 circles and/or 1 box checked) Follow-up Action:	Sever	e not	spot	(>13 T	circi	es and	1/or 2	or m	ore t	oxes	chec	ked)				
Refer for immediate enforcement	+		$\vdash$	+			+		+		+	+		+	_	
Suggest follow-up on-site inspection			$\vdash$	-			-	-	+	-	+	+	$\vdash$		_	
Test for illicit discharge	H	+	$\vdash$	+			-	-	-	$\vdash$	+	-	$\vdash$	+	_	
☐ Include in future education effort☐ Check to see if hotspot is an NPDES non-filer	-	-	H	_	+		+	-	-	$\vdash$	-	-	$\vdash$	_	_	
Onsite non-residential retrofit	$\vdash$		$\vdash$	_	+		-		+	$\vdash$	+		$\vdash$	$\perp$	_	
Pervious area restoration; complete PAA sheet and record		_	$\vdash$	_	-		-	-	$\perp$	-	+	-		+	_	
Unique Site ID here: Schedule a review of storm water pollution prevention plan	$\square$	-	$\vdash$	_			-		$\perp$		_	$\perp$	$\vdash \vdash$		_	
Benediate a review of Blothi water political prevention plan		$\perp$		_	_		$\perp$		$\perp$		$\perp$	$\perp$		$\perp$	_	
Notes:			Ш	4	_		$\perp$		$\perp$		_					
			Н	$\perp$				_	-		$\perp$	$\perp$			_	
NO ROUM FOR SW BMP		_		_	-			_	_		_		$\dashv$	$\perp$		
				_										$\perp$		
				$\perp$									$\dashv$	$\perp$		
			Ш				$\perp \! \! \perp \! \! \mid$					Ш		$\perp$		
			Ш											$\perp$		
							$\perp$					$\perp$				

Watershed: Aberdeen	SUBWATERSHED:	ERSHED: UNIQUE SITE ID: H51-9								
DATE: <u>2/10/20</u>	ASSESSED BY:	CAMERA ID:		Pic#: 382, 383						
MAP GRID:	LAT°	_" LONG°	1 11	LMK#						
A. SITE DATA AND BASIC CLASSIFICATION			CENTRAL CONTRACTORS	A CONTRACTOR AND A CONTRACTOR						
Name and Address: Scoop'S  SIC code (if available):	Instituti	onal  Municipal rt-Related	Miscellaneous Golf Course Marina Animal Faci							
NPDES Status: Regulated (estaurant lice arean shop)  Unregulated Unknown										
B. VEHICLE OPERATIONS N/A (Skip to	part C)		Observed P	ollution Source?						
B1. Types of vehicles:										
B2. Approximate number of vehicles:										
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored										
<b>B4.</b> Are vehicles stored and/or repaired outs: Are these vehicles lacking runoff diversion r		Tell Can't Tell		0						
B5. Is there evidence of spills/leakage from	vehicles? 🗌 Y 🔲 N 🔲 C	an't Tell		0						
B6. Are uncovered outdoor fueling areas present?  Y N Can't Tell										
B7. Are fueling areas directly connected to storm drains?										
B8. Are vehicles washed outdoors?  \[ Y \] N \[ Can't Tell \]  Does the area where vehicles are washed discharge to the storm drain?  \[ Y \] N \[ Can't Tell \]										
C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source										
C1. Are loading/unloading operations preser If yes, are they uncovered <i>and</i> draining towards.		ell Y N Can	t Tell	0						
C2. Are materials stored outside? \( \subseteq \text{ Y } \subseteq \) Where are they stored? \( \subseteq \text{ grass/dirt area } \)			olid Description	· o						
C3. Is the storage area directly or indirectly of	connected to storm drain (circle	e one)? Y N	V Can't Tel	0						
C4. Is staining or discoloration around the ar	ea visible?  Y N	Can't Tell		0						
C5. Does outdoor storage area lack a cover?	☐ Y ☐ N ☐ Can't Tel	l	-	0						
C6. Are liquid materials stored without secon	ndary containment? Y	N Can't Tell		0						
C7. Are storage containers missing labels or	in poor condition (rusting)?	Y N Car	i't Tell	0						
D. WASTE MANAGEMENT N/A (Skip to	part E)		Observed Po	ollution Source?						
D1. Type of waste (check all that apply):	Garbage Construction	materials  Hazard	lous materials	•						
<b>D2.</b> Dumpster condition (check all that apple evidence of leakage (stains on ground)	Overflowing	1000 A	ndition	aking or O						
<b>D3.</b> Is the dumpster located near a storm drain If yes, are runoff diversion methods (ber		Tell N ☐ Can't Tell		0						
E. PHYSICAL PLANT N/A (Skip to part I	7)		Observed Pe	ollution Source?						
E1. Building: Approximate age:	yrs. Condition of surfaces: ge to storm drains (staining/di									
*Index: O denotes potential pol	lution source: denot	es confirmed pollu	er (evidence w	ac seen)						

E2. Parking Lot: Approximate age <u>○</u> yrs. Condition: ☐ Clean ☐ Stained ☐ Dirty ☐ Breaking up  Surface material ☐ Paved/Concrete ☐ Gravel ☐ Permeable ☐ Don't know													•			
E3. Do downspouts discharge to impervious surface? Y \ Are downspouts directly connected to storm drains?	1 [	Do	n't k	mov	v 🔲	None on't k	visib	ole					$\exists$	6		
E4. Evidence of poor cleaning practices for construction activities			7					Y	X N	1 🗆	] Car	't T	ell		0	
F. TURF/LANDSCAPING AREAS N/A (skip to part G)							10	bserv	ved	Poll	ution	Soi	orce	2		
F1. % of site with: Forest canopy% Turf grass% La	indsca	apin	g	%	Bai	e Soi		%				- 50	Ī		0	
F2. Rate the turf management status: High Medium		. <del>-</del>											寸		0	
F3. Evidence of permanent irrigation or "non-target" irrigation Y N Can't Tell										313	0					
F4. Do landscaped areas drain to the storm drain system?	Y [	<u> </u>	1 [	] C	an't [	Γell	_							0		
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?  Y N Can't Tell										0						
G. STORM WATER INFRASTRUCTURE N/A (skip to part H)  Observed Pollution Source:									?							
G1. Are storm water treatment practices present?  Y N N	Unkı	now	n If	yes,	plea	se des	cribe	:					П	0		
G2. Are private storm drains located at the facility?  Y  N  Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.									0							
Index Rating for Accumulation in Gutters																
Clean Filthy																
Sediment	☐ 3 ☐ 3									5 5						
Organic material																
G3. Catch basin inspection – Record SSD Unique Site ID here:			Con	ditio	on:	Dir	ty [	Cle	an							
H. INITIAL HOTSPOT STATUS - INDEX RESULTS																
Not a hotspot (fewer than 5 circles and no boxes checked)																
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐	Sever	e ho	tspo	t (>1	5 cir	cles a	nd/or	2 or	mor	re bo	oxes	chec	ked)			
Follow-up Action:	$\vdash$	4	_						L.			_		Ш		
Refer for immediate enforcement Suggest follow-up on-site inspection		_									_		Ш	Ш		
☐ Test for illicit discharge	$\vdash$		_	_								_				
Include in future education effort															$\perp$	
Check to see if hotspot is an NPDES non-filer Onsite non-residential retrofit				_		$\perp$								Ш		
Pervious area restoration; complete PAA sheet and record												1		Ш		
Unique Site ID here:																
Schedule a review of storm water pollution prevention plan											99161 34 85					
Notes:																
AND POWER STAN RMP								1_								
NO ROOM FOR SUI BMP	$\Box$															
	$\perp$		$\perp$						Ш		$\perp$	$\perp$				

WATERSHED: Aberdean	SUBWATERSHED: UNIQUE SITE ID: \(\frac{1}{2}\)	151-10								
DATE: 2/10/20	ASSESSED BY: CAMERA ID: PICE	#:384,385								
MAP GRID:	LAT°'" LONG°'" LM	K#								
A. SITE DATA AND BASIC CLASSIFICATION										
Name and Address: Szechuon Inn  Category: Commercial Industrial Miscellaneous Institutional Municipal Golf Course Transport-Related Marina Animal Facility  SIC code (if available):  Basic Description of Operation:										
NPDES Status: Regulated	restaurant	DIDENT								
☐ Unregulated ☐ Unknown		INDEX*								
B. VEHICLE OPERATIONS X N/A (Skip to	o part C) Observed Polluti	on Source?								
B1. Types of vehicles:										
B2. Approximate number of vehicles:										
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored										
<b>B4.</b> Are vehicles stored and/or repaired outside?  Y N Can't Tell  Are these vehicles lacking runoff diversion methods?  Y N Can't Tell										
B5. Is there evidence of spills/leakage from vehicles? Y N Can't Tell										
B6. Are uncovered outdoor fueling areas present?  Y N Can't Tell										
B7. Are fueling areas directly connected to storm drains?										
B8. Are vehicles washed outdoors?  \[ Y \] N \[ \] Can't Tell  Does the area where vehicles are washed discharge to the storm drain?  \[ Y \] N \[ \] Can't Tell										
C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source										
C1. Are loading/unloading operations present If yes, are they uncovered <i>and</i> draining towards.	nt? N Can't Tell	0								
	N Can't Tell If yes, are they Liquid Solid Description:	- 0								
C3. Is the storage area directly or indirectly	connected to storm drain (circle one)? Y N Can't Tell	0								
C4. Is staining or discoloration around the ar	rea visible? Y N Can't Tell	0								
C5. Does outdoor storage area lack a cover?	☐ Y ☐ N ☐ Can't Tell	0								
C6. Are liquid materials stored without secon	ndary containment?  Y N Can't Tell	0								
C7. Are storage containers missing labels or	in poor condition (rusting)?  Y N Can't Tell	0								
D. WASTE MANAGEMENT N/A (Skip t	o part E) Observed Pollution	on Source?								
D1. Type of waste (check all that apply):	Garbage Construction materials Hazardous materials	•								
<b>D2.</b> Dumpster condition ( <i>check all that apple</i> evidence of leakage (stains on ground)	(y): No cover/Lid is open Damaged/poor condition Leaking Overflowing	or O								
<b>D3.</b> Is the dumpster located near a storm drain If yes, are runoff diversion methods (ber		•								
E. PHYSICAL PLANT N/A (Skip to part i	Observed Pollution	on Source?								
	yrs. Condition of surfaces: Clean Stained Dirty Dama									
*Index: O denotes potential pol	lution source: denotes confirmed polluter (evidence was see	an)								

Surface material Paved/Concrete Gravel Permeable Don't know	0										
E3. Do downspouts discharge to impervious surface? Y N Don't know None visible  Are downspouts directly connected to storm drains? X Y N Don't know Thou the connected to storm drains?											
E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)?   Y  N  Can't Tell	0										
F. TURF/LANDSCAPING AREAS N/A (skip to part G)  Observed Pollution Source?											
F1. % of site with: Forest canopy% Turf grass% Landscaping% Bare Soil%	0										
F2. Rate the turf management status:  High  Medium  Low	0										
F3. Evidence of permanent irrigation or "non-target" irrigation Y N Can't Tell	0										
F4. Do landscaped areas drain to the storm drain system?	0										
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?  Y N Can't Tell											
G. STORM WATER INFRASTRUCTURE N/A (skip to part H)  Observed Pollution Source											
G1. Are storm water treatment practices present?  Y N Unknown If yes, please describe:											
G2. Are private storm drains located at the facility? X Y N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.	0										
Index Rating for Accumulation in Gutters											
Clean Filthy											
Sediment											
Litter											
G3. Catch basin inspection – Record SSD Unique Site ID here: Condition: Dirty Clean											
H. INITIAL HOTSPOT STATUS - INDEX RESULTS											
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)											
☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐ Severe hotspot (>15 circles and/or 2 or more boxes checked)											
Follow-up Action:											
Refer for immediate enforcement Suggest follow-up on-site inspection											
Test for illicit discharge											
☐ Include in future education effort											
Check to see if hotspot is an NPDES non-filer											
Onsite non-residential retrofit Pervious area restoration; complete PAA sheet and record											
Unique Site ID here:											
Schedule a review of storm water pollution prevention plan											
Notes:	+										
Notes:	++-										
	+										
NY DOOM FOR SWM	1 1 1										
NO BOOM EOS EMM	++										
NO BOOM ESS EMM											
NO BOOM EOS EMM											
NO ROOM FOR SMM											
NO BOOM EOS EMM											
NO ROOM FOR SWM											

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE	ID: HS1-11						
DATE: 2/10/20	ASSESSED BY:	CAMERA ID:		Pic#: 386,381,388						
Map Grid:	LAT°'_	" Long°		LMK#						
A. SITE DATA AND BASIC CLASSIFICATION										
Name and Address: Pot 5 P1Z2A  Category: Commercial Industrial Miscellaneous Institutional Municipal Golf Course Transport-Related Marina Animal Facility  SIC code (if available):  Basic Description of Operation:										
NPDES Status: ☐ Regulated ☐ Unregulated ☐ Unknown	restauront			INDEX*						
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source										
<b>B1.</b> Types of vehicles:  Fleet vehicles	☐ School buses ☐ Ot	her:								
B2. Approximate number of vehicles:				1000						
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored										
<b>B4.</b> Are vehicles stored and/or repaired outs Are these vehicles lacking runoff diversion	methods? Y N	Can't Tell		0						
B5. Is there evidence of spills/leakage from vehicles?  Y N Can't Tell										
<b>B6.</b> Are uncovered outdoor fueling areas present?  Y N Can't Tell										
B7. Are fueling areas directly connected to storm drains?  Y N Can't Tell										
B8. Are vehicles washed outdoors?  Y N Can't Tell  Does the area where vehicles are washed discharge to the storm drain?  Y N Can't Tell										
C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source										
C1. Are loading/unloading operations present If yes, are they uncovered <i>and</i> draining towards.		ı't Tell Y N Can	't Tell	0						
C2. Are materials stored outside?  Y  Where are they stored?  grass/dirt area	N ☐ Can't Tell If yes, ☐ concrete/asphalt ☐ be	are they  Liquid  Somed area	olid Description	· o						
C3. Is the storage area directly or indirectly	connected to storm drain (c	rircle one)? Y N	N ☐ Can't Tel	1 0						
C4. Is staining or discoloration around the ar	ea visible? Y N	Can't Tell		0						
C5. Does outdoor storage area lack a cover?	☐ Y ☐ N ☐ Can't	Tell		0						
C6. Are liquid materials stored without second	ndary containment? Y	□ N □ Can't Tell		0						
C7. Are storage containers missing labels or	in poor condition (rusting)	? Y N Car	ı't Tell	0						
D. WASTE MANAGEMENT N/A (Skip to	o part E)		Observed Po	ollution Source?						
D1. Type of waste (check all that apply):	Garbage    Constructi	on materials	lous materials	•						
<b>D2.</b> Dumpster condition ( <i>check all that appl</i> evidence of leakage (stains on ground)	y): No cover/Lid is ope Overflowing	n Damaged/poor co	ndition Le	aking or O						
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (ber				0						
E. PHYSICAL PLANT N/A (Skip to part I	<b>う</b>		Observed Po	ollution Source?						
E1. Building: Approximate age: 5  Evidence that maintenance results in dischar	yrs. Condition of surface									
*Index: O denotes potential pol	lution source; de	notes confirmed pollut	ter (evidence w	as seen)						

E2. Parking Lot: Approximate age yrs. Condition: \( \text{Clean}  \text{Stained}  \text{Dirty}  \text{Breaking up} \\ Surface material \( \text{Paved/Concrete}  \text{Gravel}  \text{Permeable}  \text{Don't know} \\ E3. Do downspouts discharge to impervious surface? \( \text{Y}  \text{N}  \text{Don't know}  \text{None visible} \)													•			
Are downspouts directly connected to storm drains?	Y							ле						•		
<b>E4.</b> Evidence of poor cleaning practices for construction activities	(stains	lead	ling	to s	torm	drain	)? 🗌	ΥĻ	×Ν		Can't	Tell	8	0		
F. TURF/LANDSCAPING AREAS N/A (skip to part G)  Observed Pollution Source											ce?					
F1. % of site with: Forest canopy % Turf grass % L		oing	100	_%	Bar	Soil	L	_%_						0		
F2. Rate the turf management status:  High  Medium														0		
F3. Evidence of permanent irrigation or "non-target" irrigation														0		
F4. Do landscaped areas drain to the storm drain system?																
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?  YN Can't Tell										<u>L</u>	0					
G. STORM WATER INFRASTRUCTURE N/A (skip to part H)  Observed Pollution Source										e?						
G1. Are storm water treatment practices present? Y XN	Unkn	own	Ify	es,	pleas	e des	cribe		121					0		
G2. Are private storm drains located at the facility? Y X N Unknown Is trash present in gutters leading to storm drains? If so, complete the index below.											0					
Index Rating for Accumulation in Gutters  Clean Filthy																
Clean Sediment	□ 3				Π4			пшу	5							
Organic material 1 2	3 4 5															
Litter 1 2	☐ 3		_	••••					<u> </u>					D 1500		
G3. Catch basin inspection – Record SSD Unique Site ID here:	22.2		onc	11t10	n: 🔲	Dirty	у L	Clea	ın							
H. INITIAL HOTSPOT STATUS - INDEX RESULTS  Not a hotspot (fewer than 5 circles and no boxes checked)  Potential hotspot (5 to 10 circles but no boxes checked)																
Confirmed hotspot (10 to 15 circles and/or 1 box checked)			_									-	1)			
Follow-up Action:				Ì		П				T	П		Ť			
Refer for immediate enforcement											П		1			
Suggest follow-up on-site inspection Test for illicit discharge				$\neg$							П	$\top$	1			
☐ Include in future education effort				$\neg$						$\top$			$\top$			
☐ Check to see if hotspot is an NPDES non-filer ☐ Onsite non-residential retrofit																
☐ Pervious area restoration; complete PAA sheet and record													T			
Unique Site ID here:																
Schedule a review of storm water pollution prevention plan						П							T			
Notes:																
NO ROOM FOR SWM, ENTIRE LOT				+			-				-					
DRAINS TO FRONT OF PROP TO				1				$\Box$					†			
INLET																
* Sund *																
											T					

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE	ID: HS1-12						
DATE: 2/10/20	ASSESSED BY:	CAMERA ID:		Pic#: 389, 390						
Map Grid:	LAT°	" Long°		LMK#						
A. SITE DATA AND BASIC CLASSIFICATION										
Name and Address: Docoo's  SIC code (if available):	Ins	mmercial Industrial titutional Municipal insport-Related	Miscellaneous Golf Course Marina Animal Faci							
NPDES Status: Regulated Unregulated Unknown	restauror			INDEX*						
B. VEHICLE OPERATIONS N/A (Skip to	part C)		Observed F	Pollution Source?						
B1. Types of vehicles:										
B2. Approximate number of vehicles:										
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored										
B4. Are vehicles stored and/or repaired outside?  Y N Can't Tell  Are these vehicles lacking runoff diversion methods?  Y N Can't Tell										
B5. Is there evidence of spills/leakage from vehicles?  Y N Can't Tell										
B6. Are uncovered outdoor fueling areas present?  Y N Can't Tell										
B7. Are fueling areas directly connected to storm drains?										
B8. Are vehicles washed outdoors?  Y N Can't Tell  Does the area where vehicles are washed discharge to the storm drain? Y N Can't Tell										
C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source										
C1. Are loading/unloading operations present If yes, are they uncovered <i>and</i> draining towards.		n't Tell N Can	ı't Tell	0						
C2. Are materials stored outside?  Y Where are they stored?  grass/dirt area			olid Description	· o						
C3. Is the storage area directly or indirectly of	connected to storm drain (	(circle one)? Y	N 🔲 Can't Tel	1 0						
C4. Is staining or discoloration around the ar	ea visible? 🗌 Y 🔲 N	Can't Tell		0						
C5. Does outdoor storage area lack a cover?	☐ Y ☐ N ☐ Can'	t Tell		0						
C6. Are liquid materials stored without secon	ndary containment?	Y N Can't Tell		0						
C7. Are storage containers missing labels or	in poor condition (rusting	g)? 🗌 Y 🔲 N 🔲 Ca	n't Tell	0						
D. WASTE MANAGEMENT N/A (Skip to	part E)		Observed P	ollution Source?						
<b>D1.</b> Type of waste (check all that apply):	Garbage Construct	tion materials  Hazar	dous materials	0						
D2. Dumpster condition (check all that apply evidence of leakage (stains on ground)		en Damaged/poor co	ondition Le	aking or O						
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (bern				•						
E. PHYSICAL PLANT \( \sum N/A \) (Skip to part F	7)		Observed Po	ollution Source?						
E1. Building: Approximate age: 50 yrs. Condition of surfaces: Clean Stained Dirty Damaged Evidence that maintenance results in discharge to storm drains (staining/discoloration)? YN Don't know										

E2. Parking Lot: Approximate age												0						
E3. Do downspouts discharge to impervious surface? Y Are downspouts directly connected to storm drains?		D	on'	t kn	ow		lone 't kr		ole							0		
E4. Evidence of poor cleaning practices for construction activities	(stair	ns le	adi	ng t	o sto	rm (	lrain	)? [	] Y ]	ľ	и [	] Ca	ın't ˈ	Γell		0		
F. TURF/LANDSCAPING AREAS N/A (skip to part G)  Observed Pollution Source											e?		0.00					
F1. % of site with: Forest canopy% Turf grass% La	andsc	api	1g _		%	Bare	Soil		_%							0		
F2. Rate the turf management status:  High  Medium	Low															0		
F3. Evidence of permanent irrigation or "non-target" irrigation	Y [	] N	1	Ca	an't	Tell										0		
F4. Do landscaped areas drain to the storm drain system?	] Y		N		Can	't To	211									0		
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?  Y N Can't Tell										0								
G. STORM WATER INFRASTRUCTURE N/A (skip to part H)  Observed Pollution Source									e?									
G1. Are storm water treatment practices present?  Y X N	Unk	cnov	vn ]	If ye	es, p	lease	des	cribe	:							0		
G2. Are private storm drains located at the facility? Y X N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.											0							
Index Rating for Accumulation in Gutters																		
Clean Filthy																		
Sediment 1 2 Organic material 1 2	□3 □4 □5 □3 □4 □5																	
Organic material	$\square$ 3				F	] <del>4</del>				H	5							
G3. Catch basin inspection – Record SSD Unique Site ID here:			Co	ondi	tion		Dirt	у [	Cle	an								
H. INITIAL HOTSPOT STATUS - INDEX RESULTS																		
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐	Poter	ntia	hot	tspo	t (5	to 1	0 cir	cles	but n	o bo	oxes	che	cked	)				
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Sever	re h	otsp	ot (	>15	circ	es ar	nd/or	2 or	mo	re b	oxes	che	cked	)			
Follow-up Action:																		
Refer for immediate enforcement Suggest follow-up on-site inspection																		
Test for illicit discharge					Î													
Include in future education effort							П											
Check to see if hotspot is an NPDES non-filer				$\top$								П	$\top$					
Onsite non-residential retrofit Pervious area restoration; complete PAA sheet and record	$\Box$	$\dashv$	$\top$	_	$\top$		$\Box$	$\dashv$			$\vdash$	$\Box$	+	+	$\vdash$			
Unique Site ID here:	$\vdash$	$\dashv$	+		+	+	$\vdash$	+	+	+	$\vdash$	$\vdash$	+	+-	+			
Schedule a review of storm water pollution prevention plan	$\vdash$		+		+	+				+		$\vdash$	+	+	+			
Nistage	H	-	+		+	+			+			$\vdash$	+	+	+	$\vdash$		
Notes:	H	_	+	-	+	1		$\dashv$					+	+	$\vdash$			
NO ROOM FOR SUM		$\dashv$	+	$^{\dagger}$	+	+	$\vdash$	+				Ħ	+	+	+			
		$\dashv$	$\forall$		_	+		+					+		$\vdash$	H		
		1	+	+	+			+					$\top$		$\vdash$	П		
	$\Box$	1	$\top$		$\top$	+		$\top$	$\top$					+	$\vdash$	П		
			+	$\forall$		$\top$		$\top$		T					$\vdash$	П		
	$\prod$	1	1	$\top$		$\top$	$\Box$	$\top$					$\top$		T	П		
		1	+		+					T		$\top$	$\top$	$\top$	$\vdash$	$\sqcap$		
		$\neg$	$\dashv$	1	+	$\top$	$\Box$	+	+		Н	$\Box$	+	1		$\sqcap$		

WATERSHED: Aberdeen	SUBWATERSHED			U	NIQUE SIT	EID: HS1-13						
DATE: 2/10/20	ASSESSED BY:		CAMERA I			Pic#: 391,392						
Map Grid:	LAT°_		_" LONG°		'" LMK#							
A. SITE DATA AND BASIC CLASSIFICATION												
Name and Address: Astro Car Wash  SIC code (if available):	Category:  [	Institution Transpo	rcial  Indust onal  Munic rt-Related	cipal 🔲	scellaneou Golf Cour Marina Animal Fa	se						
NPDES Status: Regulated	(G( L		573.XACC.XACC.XA			INDE						
Unregulated Unknown												
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source												
B1. Types of vehicles:  Fleet vehicles  School buses  Other: CON WASK												
<b>B2.</b> Approximate number of vehicles:	<u> </u>		- 100									
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored												
B4. Are vehicles stored and/or repaired outside?  \[ Y \] \[ N \] \[ Can't Tell \] Are these vehicles lacking runoff diversion methods?  \[ Y \] \[ N \] \[ Can't Tell \]												
B5. Is there evidence of spills/leakage from	vehicles? 🗌 Y	≬и □с	an't Tell			0						
B6. Are uncovered outdoor fueling areas present?  Y N Can't Tell												
B7. Are fueling areas directly connected to storm drains? Y N Can't Tell												
B8. Are vehicles washed outdoors?  Y  N  Can't Tell  Does the area where vehicles are washed discharge to the storm drain?  Y  N  Can't Tell												
C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source												
C1. Are loading/unloading operations prese					0.0001,00	0						
If yes, are they uncovered and draining tow				Can't To		100						
<b>C2.</b> Are materials stored outside? ☐ Y ☐ Where are they stored? ☐ grass/dirt area				∐ Solid	Description	on:						
C3. Is the storage area directly or indirectly	connected to storm	drain (circl	e one)? 🔲 Y	□ N [	Can't T	ell O						
C4. Is staining or discoloration around the	area visible? X	□ N □	Can't Tell			0						
C5. Does outdoor storage area lack a cover	? 🗆 Y 🗆 N 🗀	Can't Tel		355035		0						
C6. Are liquid materials stored without second	ondary containment?	Y [	N Can't	Tell		0						
C7. Are storage containers missing labels of	r in poor condition (	rusting)?	Y N C	Can't T	`ell	0						
D. WASTE MANAGEMENT N/A (Skip	to part E)				Observed	Pollution Source?						
<b>D1.</b> Type of waste (check all that apply):	Garbage Co	nstruction r	naterials	-		O						
<b>D2.</b> Dumpster condition ( <i>check all that app</i> evidence of leakage (stains on ground)		d is open [	Damaged/po	or condit	tion 🔲	Leaking or O						
D3. Is the dumpster located near a storm drain inlet?  Y N Can't Tell  If yes, are runoff diversion methods (berms, curbs) lacking?  Y N Can't Tell												
E. PHYSICAL PLANT \( \sum N/A\) (Skip to part	<i>F</i> )				Observed	Pollution Source?						
E1. Building: Approximate age: 60	yrs. Condition of	surfaces:	Clean D	Stained [	☐ Dirty ☐	Damaged O						
Evidence that maintenance results in discharge	arge to storm drains	(staining/di	scoloration)?	YX	N ☐ Don't	know						
*Index: O denotes potential po	ollution source:	denote	es confirmed t	olluter (	evidence	was seen)						

E2. Parking Lot: Approximate age 20 yrs. Condition: Clean Stained Dirty Breaking up Surface material Paved/Concrete Gravel Permeable Don't know	•										
E3. Do downspouts discharge to impervious surface?  Y N Don't know None visible  Are downspouts directly connected to storm drains?  Y N Don't know	•										
E4. Evidence of poor cleaning practices for construction activities (stains leading to storm drain)?   Y   N   Can't Tell	0										
F. TURF/LANDSCAPING AREAS N/A (skip to part G)  Observed Pollution Source	?										
F1. % of site with: Forest canopy% Turf grass	0										
F2. Rate the turf management status:  High  Medium  Low	0										
F3. Evidence of permanent irrigation or "non-target" irrigation Y N Can't Tell	0										
F4. Do landscaped areas drain to the storm drain system?	0										
F5. Do landscape plants accumulate organic matter (leaves, grass clippings) on adjacent impervious surface?   Y   N   Can't Tell	0										
G. STORM WATER INFRASTRUCTURE N/A (skip to part H)  Observed Pollution Source	?										
G1. Are storm water treatment practices present?	0										
G2. Are private storm drains located at the facility?  Y  N  Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.	0										
Index Rating for Accumulation in Gutters											
Clean Filthy											
Sediment         1         2         3         4         5           Organic material         1         2         3         4         5											
Litter											
G3. Catch basin inspection – Record SSD Unique Site ID here: Condition: Dirty Clean											
H. INITIAL HOTSPOT STATUS - INDEX RESULTS											
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Potential hotspot (5 to 10 circles but no boxes checked)											
Confirmed hotspot (10 to 15 circles and/or 1 box checked) Severe hotspot (>15 circles and/or 2 or more boxes checked)											
Follow-up Action:  Refer for immediate enforcement											
Suggest follow-up on-site inspection											
Test for illicit discharge											
☐ Include in future education effort ☐ Check to see if hotspot is an NPDES non-filer											
Onsite non-residential retrofit											
Pervious area restoration; complete PAA sheet and record	++-										
Unique Site ID here:  Schedule a review of storm water pollution prevention plan											
Solicitation of Storm water postulation provides plant											
Notes:											
NO ROOM FOR SW BMP											
<del>                                      </del>											
<del>                                      </del>											
<del></del>	+										

# Hotspot Site Investigation

**HSI** 

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE	ID: HS]-14							
DATE: 2/10/26	ASSESSED BY:	CAMERA ID:		PIC#: 393							
MAP GRID:	LAT°'	" LONG <b>°</b>		LMK#							
A. SITE DATA AND BASIC CLASSIFICATIO											
Name and Address: 1 Elever	☐ Inst	nmercial Industrial itutional Municipal itutional Insport-Related	Miscellaneous  Golf Course  Marina Animal Faci								
SIC code (if available):  NPDES Status:  Regulated	Basic Description of	d Operation:		INDEX*							
Unregulated Unknown  B. VEHICLE OPERATIONS □ N/A (Skip to part C)  Observed Pollution Source											
B. VEHICLE OPERATIONS \( \subseteq \text{N/A} \( (Skip to part C) \)  B1. Types of vehicles: \( \subseteq \text{Fleet vehicles} \) School buses \( \subseteq \text{Other:} \)											
B2. Approximate number of vehicles:											
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored											
<b>B4.</b> Are vehicles stored and/or repaired outs			Siore Store								
Are these vehicles lacking runoff diversion		Can't Tell		0							
B5. Is there evidence of spills/leakage from	vehicles? Y N [	Can't Tell		0							
B6. Are uncovered outdoor fueling areas present?  Y  N  Can't Tell											
B7. Are fueling areas directly connected to storm drains?											
B8. Are vehicles washed outdoors?  Y N Can't Tell  Does the area where vehicles are washed discharge to the storm drain? Y N Can't Tell											
C. OUTDOOR MATERIALS 🔯 N/A (Skip to part D)  Observed Pollution Source											
C1. Are loading/unloading operations present fyes, are they uncovered <i>and</i> draining towards.		n't Tell N Can	't Tell	0							
C2. Are materials stored outside? $\square$ Y $\square$ Where are they stored? $\square$ grass/dirt area	N ☐ Can't Tell If yes, ☐ concrete/asphalt ☐ be	are they  Liquid  Sermed area	olid Description								
C3. Is the storage area directly or indirectly	connected to storm drain (	circle one)? Y 1	N Can't Tel	1 0							
C4. Is staining or discoloration around the an	rea visible? Y N	Can't Tell		0							
C5. Does outdoor storage area lack a cover?	Y N Can't	Tell		0							
C6. Are liquid materials stored without seco	ndary containment?	✓ N Can't Tell		0							
C7. Are storage containers missing labels or	in poor condition (rusting	)? 🗌 Y 🔲 N 🔲 Car	n't Tell	0							
D. WASTE MANAGEMENT N/A (Skip t	o part E)		Observed P	ollution Source?							
D1. Type of waste (check all that apply):	Garbage Construct	ion materials									
<b>D2.</b> Dumpster condition (check all that app evidence of leakage (stains on ground)		en Damaged/poor co	ondition Le	eaking or O							
D3. Is the dumpster located near a storm drain inlet?  Y N Can't Tell  If yes, are runoff diversion methods (berms, curbs) lacking?  Y N Can't Tell											
E. PHYSICAL PLANT   N/A (Skip to part I	F)		Observed P	ollution Source?							
E1. Building: Approximate age:	yrs. Condition of surfac	es: 🖾 Clean 🔲 Stain	ed Dirty D	Damaged O							
Evidence that maintenance results in dischar	rge to storm drains (staining	ng/discoloration)? 🔲 Y	N Don't k	now O							
*Index: O denotes potential po	llution source; d	enotes confirmed pollu	ter (evidence w	/as seen)							

E2. Parking Lot: Approximate age 15 yrs. Condition: Clean Stained Dirty Breaking up Surface material Paved/Concrete Gravel Permeable Don't know													0				
E3. Do downspouts discharge to impervious surface? Y Are downspouts directly connected to storm drains?			Oon <sup>†</sup>		nov [	X Z	Non'	one t kn	visit 10w	le							0
E4. Evidence of poor cleaning practices for construction activities	(stai	ins l	lead	ing	to	stor	m d	rain	)? 🗆	Y	N	1 [	] Ca	an't '	ГеП	19/13	0
F. TURF/LANDSCAPING AREAS   N/A (skip to part G)		14.							o	bser	ved	Po	lluti	on S	ourc	e? [	
F1.% of site with: Forest canopy% Turf grass _50 % L	andso	cap:	ing	5	٥%	В	are	Soil	<u> </u>	_%						1816	0
F2. Rate the turf management status:  High  Medium	Low								C. C.		\$1802//X)			0.000			0
F3. Evidence of permanent irrigation or "non-target" irrigation	Υ [	X	N [	](	Can'	t Te	211										0
F4. Do landscaped areas drain to the storm drain system?	] Y	X	N		] C	an't	Tel	1								1-3	0
F5. Do landscape plants accumulate organic matter (leaves, grass clipping	gs) on	ı adj	acei	nt in	npe	rvio	us su	ırfac	e? 🔽	7 Y [	<u> </u>	1 [	Ca	n't T	ell		6
G. STORM WATER INFRASTRUCTURE   N/A (skip to po	ırt H	()							o	bser	ved	Pol	llutio	on S	ourc	e?L	
G1. Are storm water treatment practices present? Y XN	Unl	kno	wn	Ify	es,	ple	ase	desc	cribe	:							0
G2. Are private storm drains located at the facility? Y N I Is trash present in gutters leading to storm drains? If so, c	Uı ompl	nkn lete	owi the	n ind	lex 1	belo	w.										0
Index Rating for Accumulation in Gutters																	
Clean         Filthy           Sediment         1         2         3         4         5																	
Organic material 1 2	□3 □3					H	4				H	5					
Litter																	
G3. Catch basin inspection – Record SSD Unique Site ID here:			C	one	ditio	on:		Dirty	y [	Cle	an	200 00000					
H. INITIAL HOTSPOT STATUS - INDEX RESULTS																	
Not a hotspot (fewer than 5 circles and no boxes checked)																	
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Seve	re l	ots	pot	(>1	5 c	ircle	s ar	nd/or	2 or	mo	re b	oxes	che	cked	<u>)                                    </u>	
Follow-up Action:  Refer for immediate enforcement								4	$\dashv$	+	┺		Н	$\perp$	$\bot$	╙	
Suggest follow-up on-site inspection	Ш	Ц			_			_		+			Ш		_	oxdot	
Test for illicit discharge	Ш	Ц						_					Ш	$\perp$			
Include in future education effort	Ш					Ш		$\perp$					Ц				
☐ Check to see if hotspot is an NPDES non-filer ☐ Onsite non-residential retrofit																	
Pervious area restoration; complete PAA sheet and record				(2000-1-12)													
Unique Site ID here:																	
Schedule a review of storm water pollution prevention plan					Г			$\neg$		T	П		П				
Notes:													П		$\top$		
	П							寸	1	1			П		$\top$		
	П	П				П		╛	十	$\top$				T	十	П	
								$\neg$	$\top$	$\top$			$\Box$		$\dagger$	П	
	П	П				П	$\Box$	$\top$		T			$\Box$		$\top$	П	
	П					П		寸	T	$\top$	П				+	П	
	$\square$					П				T	П		$\vdash$	1	$\top$	П	
	$\Box$			100.00		П		1	$\top$	$\top$			$\vdash$	+	$\top$	П	
		$\neg$				H		$\dashv$	$\top$	$\top$	П		$\vdash$	$\dashv$	+	Н	
	П	П	$\neg$			Н		$\neg$	$\dashv$	$\top$	П		$\top$	1	+	Н	

# Hotspot Site Investigation

**HSI** 

WATERSHED: Aberdeen	SUBWATERSHED:		UNIQUE SITE I	D: HS1-1S							
DATE: <u>2/16/20</u>	ASSESSED BY:	CAMERA ID:		PIC#: 394,395							
MAP GRID:	LAT°'	" LONG°	_'"	LMK#							
A. SITE DATA AND BASIC CLASSIFICATION											
Name and Address: Maacco Body Shop			Miscellaneous  Golf Course								
		sport-Related	Marina								
	- Pagia Description of	Omeration	Animal Facili	ty							
SIC code (if available): Basic Description of Operation:  NPDES Status: Regulated Basic Description of Operation:											
NPDES Status: Regulated Unknown Chop											
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source											
B1. Types of vehicles:  Fleet vehicles  School buses  Other:											
B2. Approximate number of vehicles:											
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored											
<b>B4.</b> Are vehicles stored and/or repaired outside? Y N Can't Tell  Are these vehicles lacking runoff diversion methods? Y N Can't Tell											
B5. Is there evidence of spills/leakage from		Can't Tell		0							
B6. Are uncovered outdoor fueling areas present? Y N Can't Tell											
B7. Are fueling areas directly connected to storm drains? Y XN Can't Tell											
B8. Are vehicles washed outdoors?  Y N Can't Tell											
Does the area where vehicles are washed discharge to the storm drain? Y N Can't Tell											
C. OUTDOOR MATERIALS N/A (Skip to part D)  C1. Are loading/unloading operations present? Y N Can't Tell											
If yes, are they uncovered and draining towa		Y N Can'	t Tell	0							
C2. Are materials stored outside? Y Where are they stored? grass/dirt area	N ☐ Can't Tell If yes,	are they Liquid So	olid Description:	0							
		***	T C 1/17/11								
C3. Is the storage area directly or indirectly or C4. Is staining or discoloration around the ar			Can't Tell	0							
C5. Does outdoor storage area lack a cover?				0							
C6. Are liquid materials stored without secon				0							
C7. Are storage containers missing labels or		? ☐ Y ☐ N ☐ Can	't Tell	0							
D. WASTE MANAGEMENT N/A (Skip to			THE RESERVE OF THE PARTY OF THE	llution Source?							
<b>D1.</b> Type of waste (check all that apply):				•							
<b>D2.</b> Dumpster condition (check all that apple evidence of leakage (stains on ground)		n Damaged/poor co	ndition  Leal	king or							
D3. Is the dumpster located near a storm drain inlet?  Y X N Can't Tell  If yes, are runoff diversion methods (berms, curbs) lacking?  Y N Can't Tell											
E. PHYSICAL PLANT \ N/A (Skip to part F	) = 4 - 4 - 1 - 1 - 1 - 1		Observed Pol	llution Source?							
E1. Building: Approximate age: 50	yrs. Condition of surface	s: Clean  Staine									
Evidence that maintenance results in dischar		,									
*Index: O denotes potential pollution source; denotes confirmed polluter (evidence was seen)											

E2. Parking Lot: Approximate age  yrs. Condition:  Clean  Stained  Dirty  Breaking up Surface material Paved/Concrete  Gravel  Permeable  Don't know													•	
E3. Do downspouts discharge to impervious surface? X Y Are downspouts directly connected to storm drains?		Y	N V	1 [	Do	ı't kı	now							•
E4. Evidence of poor cleaning practices for construction activities	(stain	s le	ading	g to s	storm	drain	ı)? 🗀	YX	N	$\Box$ C	an't	Tell	1.30	0
F. TURF/LANDSCAPING AREAS   N/A (skip to part G)					-6-		o	bserv	ed Po	ollut	ion :	Sour	e?[	
F1.% of site with: Forest canopy% Turf grass% L	andsc	apin	g	%	Bar	e Soi	1	_%					90 60	0
F2. Rate the turf management status:  High  Medium	Low												100	0
F3. Evidence of permanent irrigation or "non-target" irrigation		N		Can'	t Tell									0
F4. Do landscaped areas drain to the storm drain system?	] Y [	1	1 [	] C	an't T	ell								0
F5. Do landscape plants accumulate organic matter (leaves, grass clipping	gs) on :	adja	ent i	mpe	vious	surfa	ce?	] Y [	] N [	Ca	an't	Tell	149	0
G. STORM WATER INFRASTRUCTURE   N/A (skip to po							T lovest	bserv	or other transfers	0.000	Della Control	Total Control	e?	
G1. Are storm water treatment practices present? Y X N Unknown If yes, please describe:									_	<b>(</b>				
G2. Are private storm drains located at the facility?  Y N Unknown  Is trash present in gutters leading to storm drains? If so, complete the index below.										0				
Index Rating for Accumulation in Gutters														
Clean Filthy														
Sediment 1 2	$\frac{1}{2}$				$H^4$			Į	5					
Organic material					$H_{4}^{4}$			Ţ	$\frac{1}{5}$					
G3. Catch basin inspection – Record SSD Unique Site ID here: Condition: Dirty Clean														
H. INITIAL HOTSPOT STATUS - INDEX RESULTS														
Not a hotspot (fewer than 5 circles and no boxes checked) □	Poten	tial	hotsi	oot	(5 to 1	0 cir	cles	ut no	boxe	s che	ecke	d)		
✓ Confirmed hotspot (10 to 15 circles and/or 1 box checked)													1)	
Follow-up Action:			Ť	Ť			П			1	П		Ť	
Refer for immediate enforcement	$\Box$	$\top$	+	$\vdash$		П	$\vdash$	11	+	$\top$	Н	$\dashv$		
Suggest follow-up on-site inspection	H	+		+	$\vdash$	+	$\vdash$	++	+	+	$\vdash$	$\dashv$	+	
☐ Test for illicit discharge ☐ Include in future education effort	H	+	-	+		+	$\vdash$	+	+	+	$\vdash$	-	+	+
Check to see if hotspot is an NPDES non-filer	$\vdash$	+	+	╁	$\vdash\vdash$	+-		++	+	+	Н	+	┯	_
Onsite non-residential retrofit	$\vdash$	-	+	-	-	+	$\vdash$	+	$\perp$	+	H	_	₩	+
Pervious area restoration; complete PAA sheet and record	$\sqcup$		┛					Ш				$\perp$	$\perp$	
Unique Site ID here:	Ш		$\perp$											
Schedule a review of storm water pollution prevention plan	11													
Notes:														
NO ROOM FOR SWM														
190 KONIN FOIC GOOD														
													П	
	П	T				П		$\top$						
		+	1	1	$\top$	П		$\top$		$\top$	П	十	$\sqcap$	$\neg$
	H	$\top$				H		++	+	П	$\vdash$	$\top$	H	+
	H	+	+	$\vdash$	$\vdash$	$\Box$		+	+	$\forall$	$\vdash$	+	+	$\dashv \dashv$
	H	+	+		$\vdash$	+	$\vdash$	++	+	+	$\vdash$	+	╁┼	$\dashv \dashv$
	H	+	+	Н		$\dagger \exists$	$\vdash$	++	+	+	$\forall$	+	$\dagger \dagger$	+

WATERSHED: Aberden	SUBWATERSHED:			Unique Siti	EID: VQ						
DATE: 2/10/20	ASSESSED BY:		CAMERA ID:		Pic#: 310,371,312						
MAP GRID:	LAT°	LMK#									
A. SITE DATA AND BASIC CLASSIFICATION		9247									
Name and Address: Thompson's Arto Repair Center / Budget Rental	-	Institutional Fransport-Ro		Miscellaneous Golf Cours Marina Animal Fac	e						
SIC code (if available): Basic Description of Operation:  NPDES Status: Regulated CODO (CDO)											
Unregulated Unknown											
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source											
B1. Types of vehicles:  Fleet vehicles  School buses  Other: auto (epair / two krata)											
B2. Approximate number of vehicles: 30											
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored											
<b>B4.</b> Are vehicles stored and/or repaired outsi Are these vehicles lacking runoff diversion r					•						
B5. Is there evidence of spills/leakage from			Tell		0						
B6. Are uncovered outdoor fueling areas present? Y XN Can't Tell											
B7. Are fueling areas directly connected to storm drains? Y X N Can't Tell											
B8. Are vehicles washed outdoors? Y N Can't Tell  Does the area where vehicles are washed discharge to the storm drain? Y N Can't Tell											
C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source											
C1. Are loading/unloading operations presen		Can't Tell		Observed	Carrie Jan						
If yes, are they uncovered and draining towar			□ N □ Can	't Tell	0						
C2. Are materials stored outside? Y Where are they stored? grass/dirt area	N ☐ Can't Tell If y ☐ concrete/asphalt ☐	es, are they bermed are	☐ Liquid ☐ S ea	olid Description	n: O						
C3. Is the storage area directly or indirectly of	onnected to storm drai	in (circle one	e)? 🗌 Y 🔲 1	N 🔲 Can't Te	11 0						
C4. Is staining or discoloration around the ar	ea visible? Y	N 🔲 Can	't Tell		0						
C5. Does outdoor storage area lack a cover?	Y N Ca	n't Tell			0						
C6. Are liquid materials stored without secon	dary containment?	Y N	Can't Tell		0						
C7. Are storage containers missing labels or	in poor condition (rust	ing)? 🔲 Y	□ N □ Car	n't Tell	0						
D. WASTE MANAGEMENT N/A (Skip to	part E)			Observed F	Pollution Source?						
<b>D1.</b> Type of waste (check all that apply):	Garbage Constr	uction mater	rials Hazaro		0						
<b>D2.</b> Dumpster condition ( <i>check all that apply</i> evidence of leakage (stains on ground)		open 🔲 D	amaged/poor co	ondition L	eaking or O						
D3. Is the dumpster located near a storm drain inlet?  YN Can't Tell  If yes, are runoff diversion methods (berms, curbs) lacking? YN Can't Tell											
E. PHYSICAL PLANT N/A (Skip to part F	)			Observed P	Pollution Source?						
E1. Building: Approximate age:	yrs. Condition of sur	faces: 🕅 o	Tlean ☐ Stain								
Evidence that maintenance results in discharge											
*Index: O denotes potential poll	ution source:	denotes co	onfirmed pollu	ter (evidence v							

			07 1000									
E2. Parking Lot: Approximate age	ole 🔲 Do	n't kn	ow				up				<b>©</b>	
E3. Do downspouts discharge to impervious surface? Y Name Are downspouts directly connected to storm drains?	Y   Do	n't kı □ N		□ Noi Don't		ole					0	
E4. Evidence of poor cleaning practices for construction activities	(stains lea	ding	to sto	rm dra	in)? 🗀	] Y [	] N [	☐ Car	ı't Tell		0	
F. TURF/LANDSCAPING AREAS N/A (skip to part G)	A NOTE OF				o	bserv	ed Po	llutio	a Sour	ce?	#5555W	
F1. % of site with: Forest canopy% Turf grass% La	ndscapin	g	<u></u> % ]	Bare S	oil	_%					0	
F2. Rate the turf management status:  High  Medium  I	Low										0	
F3. Evidence of permanent irrigation or "non-target" irrigation	Υ 🗆 N		an't '	Tell							0	
F4. Do landscaped areas drain to the storm drain system?	Y	1 [	] Can	't Tell							0	
F5. Do landscape plants accumulate organic matter (leaves, grass clippings	s) on adjac	ent im	pervi	ous surf	ace?	] Y [	] N [	] Can	't Tell		0	
G. STORM WATER INFRASTRUCTURE N/A (skip to par	rt H)				o	bserv	ed Po	llution	Sour	ce?		
G1. Are storm water treatment practices present?										•		
G2. Are private storm drains located at the facility? Y N I Is trash present in gutters leading to storm drains? If so, co	Unkno	wn ie ind	ex be	low.							0	
Index Rating for Accumulation in Gutters												
Clean Filthy												
Sediment	3 □ 3		F	] 4 ] 4		ı	$\frac{1}{5}$					
Litter	$\frac{1}{3}$		Ē	] 4		į	$\frac{1}{5}$					
G3. Catch basin inspection – Record SSD Unique Site ID here:		Conc	lition:	: 🔲 Di	rty [	Clea	n					
H. INITIAL HOTSPOT STATUS - INDEX RESULTS												
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐												
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Severe ho	tspot	(>15	circles	and/or	2 or r	nore l	oxes	checke	<u>d)</u>	-	
Follow-up Action:  Refer for immediate enforcement		+	$\perp$		++		_	++	++	+		
Suggest follow-up on-site inspection		-	$\perp$	+	++	$\dashv$	_	$\vdash$		+		
Test for illicit discharge		-	-		+		+	1	+	+		
☐ Include in future education effort ☐ Check to see if hotspot is an NPDES non-filer		-	-	++	++				-	+		
Onsite non-residential retrofit		$\perp$	_		+	+	$\perp$	++	-		-	
Pervious area restoration; complete PAA sheet and record		+ 1		+-	++		-	$\vdash$	1	+		
Unique Site ID here: Schedule a review of storm water pollution prevention plan		+	-	+	++	+	+	$\vdash$	+	+		
		+	_	++	+	+	-	$\vdash$	++	$\dashv$	$\dashv$	
Notes:		+	_	++	++	+	+	$\vdash$	++	+	+	
LOW PRIDRITY REVISIT		+			+ +	-	-			+	_	
CONVERT DITCH TO BMP?												
				$\perp \perp$	$\perp \perp$	$\perp$			44	$\perp$		
				$\perp \perp$	$\perp \perp$	$\perp \perp$			$\perp \perp$	$\perp \! \! \perp$		
		$\perp$				11				$\perp \! \! \perp$	$\perp \! \! \perp \! \! \perp \! \! \! \! \! \perp$	
		$\perp$	$\perp$	$\perp \perp$	$\perp \perp$					$\perp \! \! \perp$		
		$\perp$								$\sqcup$		

WATERSHED: Aberden	SUBWATERSHED:			UNIQUE SITE	ID: HS1-17							
DATE: 2/10/26	ASSESSED BY:	CAMER	RA ID:	Pic#: 373								
MAP GRID:	LAT°	LAT°'LONG°'' LMK#										
A. SITE DATA AND BASIC CLASSIFICATION		SERVICE STREET										
Name and Address: SUNOCO	I	Institutional		fiscellaneous  Golf Course  Marina Animal Faci								
SIC code (if available): NPDES Status:  Regulated												
NPDES Status: Regulated gas station Unregulated Unknown												
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source?												
B1. Types of vehicles:  Fleet vehicles  School buses  Other:												
B2. Approximate number of vehicles:												
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored												
B4. Are vehicles stored and/or repaired outside?  Y  N  Can't Tell  Are these vehicles lacking runoff diversion methods?  Y  N  Can't Tell												
B5. Is there evidence of spills/leakage from	vehicles? Y N	Can't Tell		***	17.5	0						
B6. Are uncovered outdoor fueling areas present?  Y N Can't Tell												
B7. Are fueling areas directly connected to storm drains?  Y N Can't Tell												
B8. Are vehicles washed outdoors?  Y N Can't Tell  Does the area where vehicles are washed discharge to the storm drain?  Y N Can't Tell												
C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source												
C1. Are loading/unloading operations presen	nt? 🗌 Y 🔲 N 🔲	Can't Tell				^						
If yes, are they uncovered and draining toward			Can't'		5 1	0						
C2. Are materials stored outside? \( \subseteq \text{Y} \subseteq \) Where are they stored? \( \subseteq \text{grass/dirt area} \)	N ☐ Can't Tell If y ☐ concrete/asphalt ☐	es, are they 🗌 Liqu ] bermed area	iid 🗌 Soli	d Description	·	0						
C3. Is the storage area directly or indirectly	connected to storm drai	n (circle one)?	Y 🔲 N	Can't Tel	l	0						
C4. Is staining or discoloration around the ar	ea visible? Y	N Can't Tell				0						
C5. Does outdoor storage area lack a cover?	Y N Ca	ın't Tell				0						
C6. Are liquid materials stored without secon	ndary containment?	Y N Ca	n't Tell			0						
C7. Are storage containers missing labels or	in poor condition (rust	ing)? 🗌 Y 🔲 N	☐ Can't	Tell		0						
D. WASTE MANAGEMENT N/A (Skip to	o part E)			Observed Pa	ollution Source?							
<b>D1.</b> Type of waste (check all that apply):	☐ Garbage ☐ Constr	uction materials	Hazardou		Source:	0						
<b>D2.</b> Dumpster condition ( <i>check all that appl</i> evidence of leakage (stains on ground)		open Damaged	poor cond	lition Le	aking or	0						
D3. Is the dumpster located near a storm drain inlet? \( \sqrt{Y} \sqrt{N} \sqrt{N} \sqrt{Can't Tell} \)  If yes, are runoff diversion methods (berms, curbs) lacking? \( \sqrt{Y} \sqrt{N} \sqrt{N} \sqrt{Can't Tell} \)												
E. PHYSICAL PLANT \[ \sum N/A \( \text{(Skip to part I)} \)	7)			Observed Po	ollution Source?							
E1. Building: Approximate age: 50	yrs. Condition of sur	faces: 🛛 Clean	Stained	☐ Dirty ☐	Damaged	0						
Evidence that maintenance results in dischar	ge to storm drains (stai	ning/discoloration)?	□ Y 🕽	N Don't k		0						
*Index: O denotes potential pollution source: denotes confirmed polluter (evidence was seen)												

E2. Parking Lot: Approximate age \( \subseteq													•
E3. Do downspouts discharge to impervious surface? Y Y Are downspouts directly connected to storm drains?	□ Y		] N		Don'	t know	7						<b>(a)</b>
<b>E4.</b> Evidence of poor cleaning practices for construction activities	(stains	lead	ing	to sto	rm dr	ain)?[	] Y	Z/V	1 🗆	Can'	t Tell		0
F. TURF/LANDSCAPING AREAS N/A (skip to part G)							Obser	ved	Pollu	tion	Sour	ce?	
F1. % of site with: Forest canopy% Turf grass% La		oing	100	)% ]	Bare !	Soil	%					Name of	0
F2. Rate the turf management status: High Medium												1	0
F3. Evidence of permanent irrigation or "non-target" irrigation	Y 🔯	N [	] C	an't '	Tell								0
<b>F4.</b> Do landscaped areas drain to the storm drain system?	(Y [	N		Can	't Tel	1							0
F5. Do landscape plants accumulate organic matter (leaves, grass clipping	s) on ad	ljacer	t im	pervi	ous su	rface?	Y		1 🗆 C	Can't	Tell		<b>(a)</b>
G. STORM WATER INFRASTRUCTURE X N/A (skip to par							Obser	ved	Pollu	tion :	Sour	ce?	
G1. Are storm water treatment practices present?  Y N Unknown If yes, please describe:										0			
G2. Are private storm drains located at the facility? X Y N I Is trash present in gutters leading to storm drains? If so, co				ex be	low.								0
Index Rating for Accumulation in Gutters													
Clean Filthy Sediment 1 2 3 4 5													
Organic material 1 2	$\frac{1}{3}$			Ė	] 4				5				
Litter													
G3. Catch basin inspection – Record SSD Unique Site ID here: Condition: Dirty Clean												100-100-100-	
H. INITIAL HOTSPOT STATUS - INDEX RESULTS									7				
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐													
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Severe	hots	pot	(>15	circle	s and/o	or 2 or	mor	e box	es ch	ecke	<u>d)</u>	
Follow-up Action:  Refer for immediate enforcement					+	_		+		+	_		
Suggest follow-up on-site inspection		$\vdash$		+	+	-		$\vdash$	-	+	+	+	
Test for illicit discharge		$\vdash$		9 60	++	-		$\vdash$			+	-	
☐ Include in future education effort ☐ Check to see if hotspot is an NPDES non-filer		$\vdash$	-		+	-	-	+	-	+	_	-	
Onsite non-residential retrofit		$\sqcup$	$\dashv$	+	$\perp$	$\perp$	_	$\vdash$		+	_	+	$\vdash$
Pervious area restoration; complete PAA sheet and record				_	1				$\perp$			_	
Unique Site ID here: Schedule a review of storm water pollution prevention plan			_	_	+	$\perp$	_			$\perp$	_	+	
Senedule a review of bloom water posturion prevention plans			_	_	$\perp$					$\perp$	_	$\bot$	
Notes:			$\perp$	_				$\sqcup$		$\perp$		1	
DRAINS TO SAME DITCH AS	$\vdash$		-	+	+	$\dashv$	_	+	-	+	+	+	
HSI- (7), THOMPSON'S AUTO LOW PRIDRITY RENSIT													
LOW PRIDRITY REMAIT				+	+					++	-	+	
Commission to the Commission of a	$\vdash$			+	+	+		+	+	+	+	+	
		$\vdash$	+	+	+		-			+	+	+	
	H		$\dashv$	+	+-		_			+ +		+	
				+	+	$\dashv$		+		$\forall$	_	+-	

WATERSHED: Abudeen	SUBWATERSHED:			Unique Site ID: HS1-18							
DATE: 2/10/20	ASSESSED BY:		CAMERA ID:		Pic#: 316.317						
MAP GRID:	Lat°_	'"	Long°		LMK#						
A. SITE DATA AND BASIC CLASSIFICATION	<u>-</u>										
Name and Address: Aberdeen (Sc.d. Tir	Category:  Basic Descript:	] Institutiona ] Transport-F									
SIC code (if available): NPDES Status:  Regulated	v 1 <del>-</del> 2	-57									
NPDES Status: Regulated Unknown Used thes Sales											
B. VEHICLE OPERATIONS N/A (Skip to part C)  Observed Pollution Source											
B1. Types of vehicles:  Fleet vehicles  School buses  Other: +(\(\ell \) \(\delta \)											
B2. Approximate number of vehicles: 3											
B3. Vehicle activities (circle all that apply): Maintained Repaired Recycled Fueled Washed Stored											
B4. Are vehicles stored and/or repaired outside? Y N Can't Tell  Are these vehicles lacking runoff diversion methods? Y N Can't Tell											
B5. Is there evidence of spills/leakage from	vehicles? 🗌 Y	N Can'	t Tell		0						
B6. Are uncovered outdoor fueling areas present? Y N Can't Tell											
B7. Are fueling areas directly connected to storm drains?  Y X N Can't Tell											
B8. Are vehicles washed outdoors?  Y N Can't Tell											
Does the area where vehicles are washed discharge to the storm drain? Y N Can't Tell  C. OUTDOOR MATERIALS N/A (Skip to part D)  Observed Pollution Source											
C1. Are loading/unloading operations present		Con't Tall		Observed P	Pollution Source?						
If yes, are they uncovered and draining towa	rds a storm drain inle	et? 🔲 Y		n't Tell	0						
<b>C2.</b> Are materials stored outside? ☐ Y ☐ Where are they stored? ☐ grass/dirt area ☐				Solid Description	n: O						
C3. Is the storage area directly or indirectly of	connected to storm di	rain (circle or	ne)? 🗌 Y 📋	N 🔲 Can't Tel	11 0						
C4. Is staining or discoloration around the ar	ea visible? 🗌 Y	]N ∏ Ca	n't Tell		0						
C5. Does outdoor storage area lack a cover?	Y N	Can't Tell			0						
C6. Are liquid materials stored without secon	dary containment?	□Y □N	I ☐ Can't Tel	1	0						
C7. Are storage containers missing labels or	in poor condition (ru	sting)? Y	□ N □ Ca	n't Tell	0						
D. WASTE MANAGEMENT N/A (Skip to	part E)			Observed P	Collution Source?						
<b>D1.</b> Type of waste (check all that apply):	Garbage Cons	struction mate	erials		•						
<b>D2.</b> Dumpster condition (check all that apply evidence of leakage (stains on ground)		is open 🔲 1	Damaged/poor c	ondition Le	eaking or O						
D3. Is the dumpster located near a storm drain inlet? Y N Can't Tell  If yes, are runoff diversion methods (berms, curbs) lacking? Y N Can't Tell											
E. PHYSICAL PLANT \( \sum N/A\) (Skip to part F	7)			Observed P	ollution Source?						
E1. Building: Approximate age:	yrs. Condition of s	urfaces: 🏻	Clean  Stair	ned Dirty D	Damaged O						
Evidence that maintenance results in dischar	ge to storm drains (st	taining/discol	oration)? 🗌 Y	N □ Don't k	gnow O						
*Index: O denotes potential pollution source; denotes confirmed polluter (evidence was seen)											

E2. Parking Lot: Approximate age 20 yrs. Condition: Clean Stained Dirty Breaking up  Surface material Paved/Concrete Gravel Permeable Don't know													
E3. Do downspouts discharge to impervious surface? XY \(\text{Y}\) Are downspouts directly connected to storm drains?	□ Y	$\triangleright$	N		on't k	now		,				0	
<b>E4.</b> Evidence of poor cleaning practices for construction activities	(stains	lead	ing to	storr	n draii	n)? 🔲	ΥX	N [	Can	't Te	11	0	
F. TURF/LANDSCAPING AREAS N/A (skip to part G)						Ob	serve	d Pol	lutior	Sou	rce?		Ormer
F1. % of site with: Forest canopy% Turf grass \_\OO_ % La	ndscap	ing	9	⁄6 В	are So	i1	%					0	
F2. Rate the turf management status: High Medium	Low											0	
F3. Evidence of permanent irrigation or "non-target" irrigation												0	
1 - 1 - 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	ΥÞ	•			(C) / (C) (C) (C)							0	
F5. Do landscape plants accumulate organic matter (leaves, grass clipping	s) on ad	jacen	t impe	erviou	s surfa	ce? 🔲	YX	N□	Can	't Tel	1	0	
G. STORM WATER INFRASTRUCTURE N/A (skip to part							serve	d Pol	lutior	Sou	rce?		
G1. Are storm water treatment practices present? ☐ Y ♣N ☐				s, ple	ase de	scribe:		11 1				0	
G2. Are private storm drains located at the facility? \( \subseteq \text{Y} \subseteq \text{N} \) Is trash present in gutters leading to storm drains? If so, co	omplete	the	index									0	
Index Rating for Accumulation in Gutters													_
Clean         Filthy           Sediment         □ 1         □ 2         □ 3         □ 4         □ 5													_
Litter													
G3. Catch basin inspection – Record SSD Unique Site ID here: Condition: Dirty Clean													(48)
H. INITIAL HOTSPOT STATUS - INDEX RESULTS													
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐											•		
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Severe	hots	pot (>	15 c	rcles a	ind/or 2	2 or m	ore b	oxes o	heck	ed)	$\overline{}$	_
Follow-up Action:  Refer for immediate enforcement	-		+	+			+-	+		-		+	
Suggest follow-up on-site inspection				+-	-		++	+		+	+	-	_
Test for illicit discharge	-		+	$\perp$	_		$\vdash$	+		+	-	+	
☐ Include in future education effort ☐ Check to see if hotspot is an NPDES non-filer				+			+	+		+	+	+	_
Onsite non-residential retrofit	<u> </u>			-	_		$\vdash$	-		+	-	+	_
Pervious area restoration; complete PAA sheet and record				$\perp$			$\vdash$			++	$\dashv$	+	
Unique Site ID here:  Schedule a review of storm water pollution prevention plan	$\vdash$	$\Box$	_	-				+		+	$\perp$	++	_
Benedic a review of bloth, water position prevention print	-						$\vdash$	+		+	$\perp$	-	_
Notes:								4-4		$\perp$	$\perp$	++	
NO ROOM DOWNGRADIENT FOR		$\vdash$		+				$\perp$	_	+	+	$\perp$	_
		$\vdash$	_	-				+		+	+	$\perp$	_
BMP		Н			_		-	+	_	$\perp$	+		
	$\vdash$	$\sqcup$		$\perp$				$\perp$	_	++	+	$\perp$	_
			-		_			+	_	$\perp$		++	
		$\sqcup$						+		$\sqcup$	$\perp$	++	
	<u></u>	$\sqcup$		$\sqcup$	$\perp$		-	$\perp$	_	1		++	
		$\sqcup$	_	$\perp$				$\perp$		$\downarrow \downarrow$	$\perp$	11	_
										$\perp$			

WATERSHED: Aberdeen	SUBWATERSHED:			UNIQUE SITI	E ID:  9
DATE: <u>2/10/20</u>	ASSESSED BY:		Camera ID	:	Pic#: 374.375
Map Grid:	Lat°	_ <u>'</u> " L	ONG°_		LMK#
A. SITE DATA AND BASIC CLASSIFICATION					
Name and Address: Aberden Diner	· · · 🗀	Commercial Institutional Transport-Re	☐ Municip		se
SIC code (if available):		wont	л.		
NPDES Status: ☐ Regulated ☐ Unknown	1+3 101	0.00.			INDEX*
B. VEHICLE OPERATIONS N/A (Skip to	part C)			Observed	Pollution Source?
B1. Types of vehicles:  Fleet vehicles	School buses	Other:		0.000.100	
B2. Approximate number of vehicles:					
<b>B3.</b> Vehicle activities (circle all that apply):	·	ed Recycled	l Fueled	Washed Stored	0
<b>B4.</b> Are vehicles stored and/or repaired outs. Are these vehicles lacking runoff diversion in		_ Can . Ton	Tell		0
B5. Is there evidence of spills/leakage from	vehicles? Y N	I ☐ Can't	Tell		0
B6. Are uncovered outdoor fueling areas pre	sent? Y N	Can't Tel	1		0
B7. Are fueling areas directly connected to s	torm drains? Y	□N □C	an't Tell		0
<b>B8.</b> Are vehicles washed outdoors?  Y Does the area where vehicles are washed dis		ain? 🗌 Y	——— Пи По	Can't Tell	0
C. OUTDOOR MATERIALS N/A (Skip to				Observed	Pollution Source?
C1. Are loading/unloading operations preser	t? 🗆 Y 🔲 N 🗀	Can't Tell			0
If yes, are they uncovered and draining toward				Can't Tell	
C2. Are materials stored outside? \( \subseteq \text{Y} \subseteq \) Where are they stored? \( \subseteq \text{grass/dirt area} \)				Solid Descriptio	n:O
C3. Is the storage area directly or indirectly of	connected to storm dra	in (circle one	;)? 🗌 Y 🏻	N Can't Te	ell O
C4. Is staining or discoloration around the ar	ea visible? X Y	N Can	't Tell		0
C5. Does outdoor storage area lack a cover?	Y N Ca	an't Tell			0
C6. Are liquid materials stored without secon	idary containment?	Y DN	☐ Can't T	`ell	0
C7. Are storage containers missing labels or	in poor condition (rust	ting)? 🔲 Y	□ N □	Can't Tell	0
D. WASTE MANAGEMENT N/A (Skip to	part E)			Observed 1	Pollution Source?
<b>D1.</b> Type of waste (check all that apply):	Garbage Constr	ruction mater	ials Haz		l on a long source.
<b>D2.</b> Dumpster condition (check all that apple evidence of leakage (stains on ground)	y): No cover/Lid is				eaking or O
D3. Is the dumpster located near a storm drai If yes, are runoff diversion methods (ber	n inlet? 🔲 Y 🛛 N 📗		Can't Te	ell	0
E. PHYSICAL PLANT N/A (Skip to part I	<b>ウ</b>				Pollution Source?
E1. Building: Approximate age: 80	vrs. Condition of sur	rfaces: X	lean $\square$ St		and the second s
Evidence that maintenance results in dischar	ge to storm drains (sta	ining/discolo	ration)?	Y X N □ Don't	know
*Index: O denotes potential pol	lution source:	denotes co	onfirmed no	lluter (evidence v	vas seen)

E2. Parking Lot: Approximate age yrs. Condition: 💢 Closurface material 💢 Paved/Concrete 🔲 Gravel 🔲 Permea	ble 🔲	Don	't kn	ow					р				4	•
E3. Do downspouts discharge to impervious surface? X Y Are downspouts directly connected to storm drains?		Υ	] N		Don	't kno	w					I		0
E4. Evidence of poor cleaning practices for construction activities	(stain	s lead	ling	to st	orm d	rain)'	7		N [	Ca	an't I	Γell		0
F. TURF/LANDSCAPING AREAS N/A (skip to part G)							Obs	erve	d Pol	llutio	on Se	ourc	e? [	
F1. % of site with: Forest canopy% Turf grass% L	andsca	aping		_%	Bare	Soil	%	6					1100	0
F2. Rate the turf management status:  High  Medium	Low													0
F3. Evidence of permanent irrigation or "non-target" irrigation	] Y [	N	c	an't	Tell						37.2			0
F4. Do landscaped areas drain to the storm drain system?	] Y	□N		Car	n't Te	11								0
F5. Do landscape plants accumulate organic matter (leaves, grass clipping	gs) on a	adjace	nt im	perv	ious sı	ırface'	. 🗆	Υ	Ν[	] Ca	n't T	ell		0
G. STORM WATER INFRASTRUCTURE N/A (skip to po	ırt H)						Obs	erve	d Pol	llutio	on So	ource		
G1. Are storm water treatment practices present? Y X N	] Unk	nown	If y	es, p	lease	desci	ribe: _					_ ]		0
G2. Are private storm drains located at the facility? \( \subseteq \text{Y} \) \( \subseteq \text{N} \) Is trash present in gutters leading to storm drains? If so, c	omple	ete the	ind											0
Index Rating	or Ac	cumu	latio	n in	Gutte	rs	D'1	.1						
Clean Sediment 1 2	□ 3				٦4		Fil	tny	75					
Organic material 1 2	$\frac{1}{3}$			Ì	<b>=</b> 4			E	5					
Litter	☐ 3			[	4				] 5					
G3. Catch basin inspection – Record SSD Unique Site ID here:			Cond	litior	ı: 🔲	Dirty		Clean	1			mento t	E 7500	Walter Hall
H. INITIAL HOTSPOT STATUS - INDEX RESULTS														
Not a hotspot (fewer than 5 circles and no boxes checked)														
Confirmed hotspot (10 to 15 circles and/or 1 box checked)	Sever	e hot	spot	<u>(&gt;15</u>	circl	es and	d/or 2	or m	ore b	oxes	che	cked)	) 	
Follow-up Action:  Refer for immediate enforcement	-	-		-			-	+	-	$\vdash$	_	+-	$\vdash$	$\vdash$
Suggest follow-up on-site inspection			Н	-	-		-	-		$\vdash$	_	+	$\vdash$	
Test for illicit discharge	-		H	_	-			_		Н	_	+	Ш	
☐ Include in future education effort ☐ Check to see if hotspot is an NPDES non-filer				_				4	+	$\vdash$	_	+		
Onsite non-residential retrofit	$\vdash$			_	-		$\perp$	1		Н	$\perp$	$\bot$	Ш	
Pervious area restoration; complete PAA sheet and record	$\perp$						$\perp$	_			_	$\bot$	Ш	
Unique Site ID here:  Schedule a review of storm water pollution prevention plan	$\vdash$							_		Ш	_	$\bot$	Ш	
Schedule a review of storm water portution prevention plan	$\sqcup$		Ш				$\perp$		-	Ш	_			
Notes:	$\sqcup$	$\perp$		_	_		$\perp$			Ц		_		
	$\sqcup$		Ш	_			11	1	_		$\perp$			
	$\sqcup$			_			$\perp$	_		Ш	_	$\perp$		$\perp$
			Ш	_				_	-	Ш	$\perp$	_	Ш	$\perp$
								_	-	$\sqcup$		_	Ш	
							$\perp$		_		$\perp$	$\perp$	Ш	
													Ш	$\perp$
				$\perp$			$\perp$	_						
					$\perp$									
	1													

WATERSHED: Derdeen	SUBWATERSHED:		UNIQUE SITE	ID: ASI-20
DATE: 2/10/20	ASSESSED BY: SB/AB	CAMERA ID:		Pic#: 361,368.369
MAP GRID:	LAT°'_	" LONG°	1 11	LMK#
A. SITE DATA AND BASIC CLASSIFICATION				
Name and Address: Calber Collision	Instit	mercial Industrial utional Municipal sport-Related	Miscellaneous  Golf Course  Marina Animal Faci	
SIC code (if available):	Basic Description of	•		
NPDES Status: ☐ Regulated ☐ Unknown	auto body	Snop		INDEX*
B. VEHICLE OPERATIONS N/A (Skip to	part C)		Observed I	Pollution Source?
<b>B1.</b> Types of vehicles:   Fleet vehicles		ier: auto body sh	100	
<b>B2.</b> Approximate number of vehicles: $\bigcirc$				
<b>B3.</b> Vehicle activities (circle all that apply):			shed Stored	•
<b>B4.</b> Are vehicles stored and/or repaired outs: Are these vehicles lacking runoff diversion r	ide? 🔼 Y 🔲 N 🔲 Ca nethods? 🔀 Y 🔲 N 📗	n't Tell ] Can't Tell		•
B5. Is there evidence of spills/leakage from	vehicles? 🗌 Y 🛛 N 📋	Can't Tell		0
<b>B6.</b> Are uncovered outdoor fueling areas pre	sent? 🗌 Y 🔯 N 🔲 C	an't Tell		0
<b>B7.</b> Are fueling areas directly connected to s		Can't Tell		0
<b>B8.</b> Are vehicles washed outdoors? Y Does the area where vehicles are washed dis		☐ Y ☐ N ☐ Can	't Tell	0
C. OUTDOOR MATERIALS N/A (Skip to				Pollution Source?
C1. Are loading/unloading operations presen	at? N Can	't Tell	7 000011041	1000
If yes, are they uncovered and draining toward			't Tell	0
<b>C2.</b> Are materials stored outside? $\square$ Y $\square$ Where are they stored? $\square$ grass/dirt area			olid Description	·· 0
C3. Is the storage area directly or indirectly of	connected to storm drain (c	ircle one)? 🗌 Y 🔲 l	N 🔲 Can't Tel	II O
C4. Is staining or discoloration around the ar	ea visible? 🗌 Y 🔲 N	Can't Tell		0
C5. Does outdoor storage area lack a cover?	☐Y ☐N ☐ Can't	Γel1	300	0
C6. Are liquid materials stored without secon	ndary containment? \( \subseteq \text{Y} \)	□ N □ Can't Tell		0
C7. Are storage containers missing labels or	in poor condition (rusting)	?□Y□N□Car	n't Tell	0
D. WASTE MANAGEMENT N/A (Skip to	part E)		Observed P	ollution Source?
<b>D1.</b> Type of waste (check all that apply):	Garbage Construction	on materials	lous materials	•
<b>D2.</b> Dumpster condition (check all that apple evidence of leakage (stains on ground)	y): 🕅 No cover/Lid is oper Overflowing	n Damaged/poor co	ondition Le	eaking or
D3. Is the dumpster located near a storm drain If yes, are runoff diversion methods (bernall)		n't Tell N Can't Tell		0
E. PHYSICAL PLANT \( \sum N/A\) (Skip to part I	7)		Observed P	ollution Source?
E1. Building: Approximate age: 50  Evidence that maintenance results in dischar	yrs. Condition of surface ge to storm drains (staining			
*Index: O denotes potential pol	lution source; der	notes confirmed pollu	ter (evidence w	vas seen)

E2. Parking Lot: Approximate age		ty 🔲 Breaking up	•
E3. Do downspouts discharge to impervious surface? X Y Are downspouts directly connected to storm drains?	□ Y □ N □ Do	on't know	6
E4. Evidence of poor cleaning practices for construction activities	(stains leading to storm	drain)? 🗌 Y 🔯 N 🔲 Can't Tell	0
F. TURF/LANDSCAPING AREAS N/A (skip to part G)		Observed Pollution Source	e?
F1. % of site with: Forest canopy% Turf grass \_\OO_% L	andscaping% Bar	re Soil%	0
F2. Rate the turf management status:  High  Medium	Low		0
F3. Evidence of permanent irrigation or "non-target" irrigation	Y N ☐ Can't Tel	1	0
F4. Do landscaped areas drain to the storm drain system?	Y N Can't 7	Гell	•
F5. Do landscape plants accumulate organic matter (leaves, grass clipping	gs) on adjacent impervious	surface? Y N Can't Tell	0
G. STORM WATER INFRASTRUCTURE N/A (skip to pa		Observed Pollution Sourc	
G1. Are storm water treatment practices present? Y N D		se describe:	•
G2. Are private storm drains located at the facility? \( \subseteq Y \subseteq N \) Is trash present in gutters leading to storm drains? If so, co	omplete the index below		0
Index Rating f	or Accumulation in Gut	ters Filthy	
Sediment 1 2	П3 П4		
Organic material	3 4	=	
Litter	<u>3</u> <u>4</u>		
G3. Catch basin inspection – Record SSD Unique Site ID here:	Condition:	Dirty Clean	
H. INITIAL HOTSPOT STATUS - INDEX RESULTS	D	10 : 1 1 : 1 1 1	
☐ Not a hotspot (fewer than 5 circles and no boxes checked) ☐ Confirmed hotspot (10 to 15 circles and/or 1 box checked) ☐			0
Follow-up Action:		l l l l l l l l l l l l l l l l l l l	$\overline{1}$
Refer for immediate enforcement			
Suggest follow-up on-site inspection			
Test for illicit discharge Include in future education effort			
Check to see if hotspot is an NPDES non-filer			
Onsite non-residential retrofit			
Pervious area restoration; complete PAA sheet and record Unique Site ID here:			
Schedule a review of storm water pollution prevention plan			
Notes:			
Notes.			
LOW PRIORITY REMSIT			
MAY BE ROOM ON EAST SIDE		<del>                                     </del>	++-
OF PARKING LOT FOR BMP		<del></del>	
500000000000000000000000000000000000000			
UTILITIES MAY BE ISSUE		<del></del>	



WATERSHED: Alxideen	SUBWATERSHED:	Unique	SITE ID: NSA-					
DATE: 2/26/20	ASSESSED BY:	CAMERA	IERA ID: PIC#: 905,902					
A. NEIGHBORHOOD CHARACTERI	ZATION							
Neighborhood/Subdivision Name:		N	Neighborhood Area (ac	res)				
If unknown, address (or streets) surveye	d: <sup>v</sup>							
Homeowners Association?  Y XN	Unknown If yes name and o	contact information:						
Residential (circle average single family		contact information.						
☐ Single Family Attached (Duplexes, F	Row Homes) $<^{1}/_{8}$ $^{1}/_{8}$ $^{1}/_{4}$ $^{1}/_{3}$	1/3 acre Multi	ifamily (Apts, Townho	mes. Condos)				
Single Family Detached	<1/4 (1/4) 1/2 1 >	>1 acre  Mobi	le Home Park	, ,				
Estimated Age of Neighborhood:	years Percent of Homes with	Garages: 100% W	7ith Basements <u>∫00</u> %	INDEX*				
Sewer Service? 🔀 Y 🔲 N				0				
Index of Infill, Redevelopment, and Rem	nodeling No Evidence C	5% of units 5-10°	% 🔲 >10%	0				
Record percent observed for each		Percentage	Comments/Notes					
depending on applicability  B. YARD AND LAWN CONDITIONS	and/or site complexity							
B1. % of lot with impervious cover		50						
		50						
B2. % of lot with grass cover	1 11 1			0				
B3. % of lot with landscaping (e.g., mul	ched bed areas)	0		•				
<b>B4.</b> % of lot with bare soil		0		0				
*Note: B1 through B4 must tota	l 100%			Constant Con-				
<b>B5.</b> % of lot with forest canopy		O						
<b>B6.</b> Evidence of permanent irrigation or	"non-target" irrigation	0		0				
		High: 70		•				
<b>B7.</b> Proportion of total neighborhood tur	f lawns with following	Med: <u>2</u> ○						
management status:		Low: 10						
B8. Outdoor swimming pools? Y	Can't Tell Estimated #			0				
	N Can't Tell	_						
C. DRIVEWAYS, SIDEWALKS, AND				0				
C1. % of driveways that are impervious	_							
	□ N/A	100						
C2. Driveway Condition 🗹 Clean 🔲		•		0				
C3. Are sidewalks present? Y N								
	with lawn clippings/leaves F	receiving non-target	ungation	<u> </u>				
What is the distance between the Is pet waste present in this area?				<u> </u>				
	☐ N If yes, check all that app	dv		0				
	or standing water \( \sum_{\text{Long-term}} \)		ment	0				
Organic matter, leaves, lawn	<u></u>	debris Overhead		→ · · · · · · · · · · · · · · · · · · ·				

D. ROOFTOPS														See all
D1. Downspouts are directly connected to storm drains or sanita	ary sewe	er		O								$\Diamond$	C	)
D2. Downspouts are directed to impervious surface				20	>									
D3. Downspouts discharge to pervious area				80	)						2.00			
D4. Downspouts discharge to a cistern, rain barrel, etc.				0	8						1348000			
*Note: C1 through C4 should total 100%			_					0.777.000						-
D5. Lawn area present downgradient of leader for rain garden?	ΣIYI	□N											<b>\Pi</b>	
E. COMMON AREAS														
E1. Storm drain inlets? Y N If yes, are they stenciled?							ın L	] Dir	ty				$\Diamond$	
Catch basins inspected?  Y N If yes, include Unique Site ID from SSD sheet:  E2. Storm water pond?  Y N Is it a wet pond or dry pond? Is it overgrown?  Y N										-	0			
What is the estimated pond area? <pre></pre>	it 1 acre		> 1 a	acre	ergre	)Wn : L	I		IN		2	$\Diamond$		
E3. Open Space? XY N If yes, is pet waste present?						Y	N				100	(	0	
Buffers/floodplain present: 🄀 Y 🗌 N If yes, is encr	oachme	nt evi	ident	t?	] Y	ΖN								
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM	AND DESCRIPTION OF THE PERSON NAMED IN	1112 1012	Company of the Asia											
Based on field observations, this neighborhood has significant in					-	(che	ck all	l that	t app	ly)		(		
Nutrients Oil and Grease Trash/Litter Bacteria			ALC: N									355	59 - 4 A	
Recommended Actions	Descri													
Specific Action	St	aver	ZAL	- 1	AR	LE	W	ET	PO	NT	15			
<ul><li>Onsite retrofit potential?</li><li>Better lawn/landscaping practice?</li></ul>	Miles		Reco	S 1000		To the second				10.00				
Better management of common space?														
Pond retrofit?														
☐ Multi-family Parking Lot Retrofit?														
Other action(s)														
Initial Assessment						$\top$	1							
		+				+	+	$\vdash$				$\dashv$	$\top$	
NSA Pollution Severity Index						$\top$	1					$\Box$	$\top$	
Severe (More than 10 circles checked)						$\top$								
High (5 to 10 circles checked)		+-				+	+	+-					$\dashv$	
✓ Moderate (Fewer than 5 circles checked)	4 1	1 1		$\overline{}$				1 1				$\dashv$	+	$\dashv$
☐ None (No circles checked)				١		1				1	3	- 1		$\dashv$
,														
					+							$\exists$	-	
Neighborhood Restoration Opportunity Index														
High (More than 5 diamonds checked)													+	
☐ High (More than 5 diamonds checked)  ✓ Moderate (3-5 diamonds checked)														
High (More than 5 diamonds checked)														
☐ High (More than 5 diamonds checked)  ✓ Moderate (3-5 diamonds checked)														
☐ High (More than 5 diamonds checked)  ✓ Moderate (3-5 diamonds checked)														
☐ High (More than 5 diamonds checked)  ✓ Moderate (3-5 diamonds checked)														
☐ High (More than 5 diamonds checked)  ✓ Moderate (3-5 diamonds checked)														

WATERSHED: Aberdeen	SUBWATERSHED:	Unique	SITE ID: NGA- 2	
DATE: 2/30/20	ASSESSED BY:	CAMER		PIC#: 902,903,
A. NEIGHBORHOOD CHARACT	ERIZATION			
Neighborhood/Subdivision Name:	The Yords at Fieldside Vill	on C	Neighborhood Area (ac	res)
If unknown, address (or streets) surv	eyed:	G		
Homeowners Association?	N Unknown If yes, name and co	ntact information		
Residential (circle average single fa				
	es, Row Homes) $< \frac{1}{8}  \frac{1}{8}  \frac{1}{4}  \frac{1}{3}  \frac{1}{1}$			mes, Condos)
Single Family Detached Estimated Age of Neighborhood:	<pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre></pre> <pre>Years</pre> <pre>Percent of Homes with Great</pre>		with Basements %	INDEX*
Sewer Service? Y N	1			0
	Remodeling No Evidence <	% of units 5-1	0% 🔲 >10%	0
	each of the following indicators,	Percentage	Comments/Notes	
	lity and/or site complexity	Tercentage	Comments/Notes	9
B. YARD AND LAWN CONDITION	NS			
B1. % of lot with impervious cover		90		
B2. % of lot with grass cover		10	/	0
B3. % of lot with landscaping (e.g.,	mulched bed areas)	6		
B4. % of lot with bare soil		O		0
*Note: B1 through B4 must	total 100%			The Market St.
B5. % of lot with forest canopy		0		
36. Evidence of permanent irrigation	or "non-target" irrigation	0		0
		High: 80		
B7. Proportion of total neighborhood management status:	turf lawns with following	Med: 20		
management status.		Low: O		
38. Outdoor swimming pools? 🔀 Y	N ☐ Can't Tell Estimated #			0
	N ☐ Can't Tell			0
C. DRIVEWAYS, SIDEWALKS, A	ND CURBS			
C1. % of driveways that are impervi				
	☐ Stained ☐ Dirty ☐ Breaking up			0
	N If yes, are they on one side of stre		th sides	
	red with lawn clippings/leaves	<del>-</del>		0
	the sidewalk and street?ft.		<del>.</del>	
Is pet waste present in this a		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	Ŏ
	Y N If yes, check all that apply			
	ng or standing water  Long-term ca			0
Organic matter, leaves, la	awn clippings Trash, litter, or de	bris 🗌 Overhead	d tree canopy	$\Diamond$

<sup>\*</sup> INDEX: O denotes potential pollution source; denotes a neighborhood restoration opportunity

D. ROOFTOPS										( 19-10 ( 19-10 ( 19-10)		
D1. Downspouts are directly connected to storm drains or sanita	ary sewer	r	5	80						•	, (	
D2. Downspouts are directed to impervious surface				D				+		2		
D3. Downspouts discharge to pervious area			1	0								
D4. Downspouts discharge to a cistern, rain barrel, etc.			(	0								
*Note: C1 through C4 should total 100%									$\Box$			
<b>D5.</b> Lawn area present downgradient of leader for rain garden?	□ Y L	ΔN								-1-	$\Diamond$	te .
E. COMMON AREAS												
E1. Storm drain inlets? X Y N If yes, are they stenciled?	£					n 🗌	Dirty				$\Diamond$	
Catch basins inspected? Y N If yes, include U	-					<del></del>	↔,,		-1		0	
E2. Storm water pond? \( \begin{aligned} \begi	dry pon it 1 acre	ıd? □ >	Is it I acr	overgr e	own? L	<b>」</b> Y	Μи				$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?					Y 🔯	N					X	
Buffers/floodplain present: XY N If yes, is encr						•••••						
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM												
Based on field observations, this neighborhood has significant in					: (chec	k all	that a	pply)				
Nutrients Oil and Grease Trash/Litter A Bacteria	_								100			
Recommended Actions	Describ	be Re	ecomi	mende	d Actio	ns:						_
Specific Action	146	27	P	p b	rese	~ H	-					
Onsite retrofit potential?	Λ.4	<b>U</b> 1	10	'() 1	the	100						
Better lawn/landscaping practice?												
Better management of common space?	Î											
Pond retrofit?												
☐ Multi-family Parking Lot Retrofit?												
Other action(s)	<u> </u>											
Initial Assessment	$\sqcup$								333			
NSA Pollution Severity Index	$\vdash$		_			$\sqcup$		_		Щ		
Severe (More than 10 circles checked)	$\sqcup \downarrow \downarrow$		$\perp$								Ш	
High (5 to 10 circles checked)												
Moderate (Fewer than 5 circles checked)												
None (No circles checked)								$\top$				
I Notice (No cheres checked)				$\top$								
Neighborhood Restoration Opportunity Index			$\neg$	11								
High (More than 5 diamonds checked)		$\top$	+	+			+	-				
✓ Moderate (3-5 diamonds checked)	++	-	-	++				+	$\vdash$			_
Low (Fewer than 3 diamonds checked)		+	-	++				-		$\vdash$	$\rightarrow$	
Low (1 ever than 5 thanfolds theoret)	$\vdash$	+	-	++			_		_		$\dashv$	
		_		1 1				_			_	
		$\perp$		$\perp$				$\bot$				
		4										

WATERSHED: Abecdeen	SUBWATERSHED:	Unique S	SITE ID: NSA - 3	
DATE: <u>2 /20/ 20</u>	ASSESSED BY:	CAMERA	ID: P	1c#:901
A. NEIGHBORHOOD CHARACTERIZ				
Neighborhood/Subdivision Name: Res		) N	leighborhood Area (acr	es)
If unknown, address (or streets) surveyed	l:			
Homeowners Association? Y N	Unknown If yes, name and cont	act information:		
Residential (circle average single family				
☐ Single Family Attached (Duplexes, R☐ Single Family Detached	ow Homes) $<^{1}/_{8}$ $^{1}/_{8}$ $^{1}/_{4}$ $^{1}/_{3}$ $^{1}/_{3}$ $^{1}/_{3}$ $<^{1}/_{4}$ $^{1}/_{4}$ $^{1}/_{2}$ $1 > 1$			nes, Condos)
Estimated Age of Neighborhood: \[ \]				INDEX*
Sewer Service? X Y N				0
Index of Infill, Redevelopment, and Rem	odeling ⊠ No Evidence	of units 5-109	<b>√₀</b> □ >10 <b>√₀</b>	0
Record percent observed for each		Percentage	Comments/Notes	
depending on applicability of B. YARD AND LAWN CONDITIONS	and/or site complexity	Zeresitage	Commences 110tes	
B1. % of lot with impervious cover		80		
B2. % of lot with grass cover		80		
B3. % of lot with landscaping (e.g., mulc	shed hed greas)	20		O •
B4. % of lot with bare soil	ened oed areas)	0		0
*Note: B1 through B4 must total	1 1000/		-	U
	1 100%	~		A
B5. % of lot with forest canopy		0	,	•
<b>B6.</b> Evidence of permanent irrigation or '	non-target irrigation	O High: 40		0
<b>B7.</b> Proportion of <i>total neighborhood</i> turn	flawns with following			
management status:	nawns with following	Med: <u>60</u>		
		Low: O		and the second
<b>B8.</b> Outdoor swimming pools? ✓ Y ☐ N	Can't Tell Estimated # 1			0
<b>B9.</b> Junk or trash in yards?	N 🗌 Can't Tell		294-239	0
C. DRIVEWAYS, SIDEWALKS, AND C	CURBS			
C1. % of driveways that are impervious	☑ N/A			
C2. Driveway Condition 🗌 Clean 🔲 S	Stained Dirty Breaking up			0
C3. Are sidewalks present? X Y \( \subseteq N \)				*100 <b>4</b> 3
	with lawn clippings/leaves  Reco	eiving 'non-target	'irrigation	0
What is the distance between the				$\Diamond$
Is pet waste present in this area?				0
C4. Is curb and gutter present? Y	☐ N If yes, check all that apply: r standing water ☐ Long-term car	narking Cadi	ment	
Organic matter, leaves, lawn	·			<u> </u>
Organic matter, icaves, lawn	onppings masii, inter, or debi	15 Overnead t	rec canopy	V

<sup>\*</sup> INDEX: O denotes potential pollution source;  $\diamondsuit$  denotes a neighborhood restoration opportunity

D. ROOFTOPS				13 - Th	190 19									
D1. Downspouts are directly connected to storm drains or sanita	ary sewer		1	00	,			_					1	D
D2. Downspouts are directed to impervious surface														
D3. Downspouts discharge to pervious area				210										
D4. Downspouts discharge to a cistern, rain barrel, etc.												Sales Section		
*Note: C1 through C4 should total 100%		<del></del>												
D5. Lawn area present downgradient of leader for rain garden?	□ Y X	<u></u> N₽										<	$\Diamond$	
E. COMMON AREAS					_									
E1. Storm drain inlets? ☑ Y ☐ N If yes, are they stenciled?  Catch basins inspected? ☑ Y ☐ N If yes, include U							ı [_	Dir	ty				◇	
E2. Storm water pond? XY N Is it a wet pond or What is the estimated pond area? <	dry pone	d?	Is i	it ove	rgrow	/n? [	] Y	Ø	N S JA		-	OWL S	$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?								رده	3	Series Services		7		
Buffers/floodplain present: XY \( \subseteq N \) If yes, is encr													3/	
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM				·										
Based on field observations, this neighborhood has significant in Nutrients Oil and Grease Trash/Litter Bacteria	ndicators	for th	he fo			chec	k all	that	appl	(y)				
Recommended Actions	Describ	oe Re	econ	nmer	ded A	Actio	ns:							
Specific Action	N	W	AP	T										
Donsite retrofit potential?  Better lawn/landscaping practice?  ABUNDANT BMPS														
Better namagement of common space?														
Pond retrofit?														
☐ Multi-family Parking Lot Retrofit?														
Other action(s)								_		_			_	
Initial Assessment			1								_	$\Box$		
NSA Pollution Severity Index	$\sqcup$	_		_						$\dashv$	_	_	$\dashv$	
Severe (More than 10 circles checked)	$\vdash$	+	+	+					$\vdash$	_	_	_	$\dashv$	
High (5 to 10 circles checked)	$\longrightarrow$	+	$\perp$	_					$\vdash$	_	_	_	_	
Moderate (Fewer than 5 circles checked)	$\longrightarrow$	$\perp$	+							_		_		
None (No circles checked)			$\perp$		$\perp$					1				
Neighborhood Restoration Opportunity Index		$\perp$										1		
High (More than 5 diamonds checked)														
Moderate (3-5 diamonds checked)														
Low (Fewer than 3 diamonds checked)												T		
						$\Box$						$\top$	$\top$	
									T			1	T	
		$\top$			1	$\Box$			7	$\top$	$\top$	+	$\top$	
		1	$\top$		1	$\Box$					$\top$	+	$\top$	_
			$\neg$								+	$\top$	$\neg$	

WATERSHED: Aberdeen SUB	WATERSHED:	Unique	SITE ID: NSA-4			
DATE: 2/20/20 Assi	ESSED BY:	CAMERA	ID:	Pic#: 884, 827,		
A. NEIGHBORHOOD CHARACTERIZATIO						
Neighborhood/Subdivision Name: The Color If unknown, address (or streets) surveyed: Color	Sprey Aportments	1	Neighborhood Area (acr	res)		
If unknown, address (or streets) surveyed:	meety kun Apartmen	42				
Homeowners Association? Y N U	nknown If yes, name and co	ontact information:				
Residential (circle average single family lot si						
☐ Single Family Attached (Duplexes, Row H☐ Single Family Detached			ifamily (Apts, Townhor	mes, Condos)		
Estimated Age of Neighborhood: 50 years	<1/4 1/4 1/2 1 >		le Home Park Vith Basements 0 %	INDEX*		
Sewer Service? X Y N	Total of Homes With C	/ / / / / / / / / / / / / / / / / / /	Mi Basements	O		
Index of Infill, Redevelopment, and Remodelir	ıg ⊠ No Evidence □ <5	5% of units \(\sime\) 5-10	% □ >10%	0		
Record percent observed for each of th						
depending on applicability and/o	site complexity	Percentage	Comments/Notes			
B. YARD AND LAWN CONDITIONS		1 / 12				
B1. % of lot with impervious cover		60				
B2. % of lot with grass cover	1	30		0		
B3. % of lot with landscaping (e.g., mulched b	ed areas)	10		•		
84. % of lot with bare soil		0		0		
*Note: B1 through B4 must total 100%	6					
B5. % of lot with forest canopy		0		•		
<b>36.</b> Evidence of permanent irrigation or "non-t	arget" irrigation	0		0		
		High:		0		
B7. Proportion of total neighborhood turf lawn management status:	s with following	Med: <u>60</u>				
,		Low: <u>40</u>				
B8. Outdoor swimming pools? ☒Y ☐N ☐ C	an't Tell Estimated#	_				
39. Junk or trash in yards?	Can't Tell			0		
C. DRIVEWAYS, SIDEWALKS, AND CURB	s in the same of t					
C1. % of driveways that are impervious	N/A					
C2. Driveway Condition 🗌 Clean 🔲 Stained	l Dirty Breaking up	)		0		
C3. Are sidewalks present? 🛮 Y 🔲 N If yes	, are they on one side of str	eet or along both	ı sides 🗌			
Spotless Covered with l		eceiving 'non-targe	t' irrigation	0		
What is the distance between the sidew	<u></u>			$\Diamond$		
Is pet waste present in this area?	<i>7</i> · · ·			0		
C4. Is curb and gutter present?   ☐ Y ☐ N  ☐ Clean and Dry ☐ Flowing or stan		f	mant			
Organic matter, leaves, lawn clippi				<u> </u>		
* INDEX: O denotes potential po				<b>\Q</b>		

D. ROOFTOPS										
D1. Downspouts are directly connected to storm drains or sanitary sewer	$\Diamond$ $\Diamond$									
D2. Downspouts are directed to impervious surface										
D3. Downspouts discharge to pervious area										
D4. Downspouts discharge to a cistern, rain barrel, etc.										
*Note: C1 through C4 should total 100%										
D5. Lawn area present downgradient of leader for rain garden? ★ Y □ N										
E. COMMON AREAS										
E1. Storm drain inlets? X Y N If yes, are they stenciled? Y N Condition: Clean Dirty Law	3 ♦									
Catch basins inspected?  Y N If yes, include Unique Site ID from SSD sheet:	_ 0									
E2. Storm water pond?  Y N Is it a wet pond or dry pond? Is it overgrown? Y N What is the estimated pond area? <	<b>♦</b>									
E3. Open Space? Y N If yes, is pet waste present? Y N dumping? Y N										
Buffers/floodplain present: X Y \( \sum \) N If yes, is encroachment evident? \( \sum \) Y \( \sum \) N										
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS										
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)										
Nutrients Oil and Grease Trash/Litter Bacteria Sediment Other										
Recommended Actions  Describe Recommended Actions:										
Specific Action ROOM BEHIND POOL FOR B	9Mc									
Onsite retrofit potential?										
Better lawn/landscaping practice?										
Better lawn/landscaping practice?  Better management of common space?  Pond retrofit?  Cronbury km:  ROOM AT FARENCE (889)										
Ul Critici Anti										
Door Perla Dance (890)	(a)									
Other action(s)	511)									
Initial Assessment										
NSA Pollution Severity Index										
Severe (More than 10 circles checked)										
High (5 to 10 circles checked)										
Moderate (Fewer than 5 circles checked)										
None (No circles checked)										
Neighborhood Restoration Opportunity Index										
High (More than 5 diamonds checked)										
✓ Moderate (3-5 diamonds checked)										
Low (Fewer than 3 diamonds checked)										

WATERSHED: Aberdler	SUBWATERSHED:	Unique	SITE ID: NSA-S	
DATE: <u>2/20/ 30</u>	ASSESSED BY:	CAMERA	ID:	PIC#: 880,881
A. NEIGHBORHOOD CHARACTERI		a religio accord	ran, raine de sout de sout de	and the reliable
Neighborhood/Subdivision Name: Pro	re Ridge Rental Homes	N	Neighborhood Area (acr	res)
If unknown, address (or streets) surveye	d:			
Homeowners Association?  Y N	Unknown If yes, name and co	ontact information:		
Residential (circle average single famili				
Single Family Attached (Duplexes, l			family (Apts, Townhon	nes, Condos)
Single Family Detached	<1/4 1/4 1/2 1 >		le Home Park	
Estimated Age of Neighborhood: 10	years Percent of Homes with G	arages:% w	ith Basements 0%	INDEX*
Sewer Service? Y N	III MALE II			0
Index of Infill, Redevelopment, and Ren		6% of units <u></u> 5-10°	% <u></u> >10%	0
Record percent observed for each depending on applicability		Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS				
B1. % of lot with impervious cover		40		
B2. % of lot with grass cover		60		
B3. % of lot with landscaping (e.g., mu	ched bed areas)	0		**************************************
B4. % of lot with bare soil		0		0
*Note: B1 through B4 must tota	al 100%			
<b>B5.</b> % of lot with forest canopy		0	-	•
<b>B6.</b> Evidence of permanent irrigation or	"non-target" irrigation	0		0
		High:		0
<b>B7.</b> Proportion of <i>total neighborhood</i> tur	f lawns with following	Med: 26	***	
management status:		Low: 80	2	
<b>B8.</b> Outdoor swimming pools? ☐Y ☒N	I ☐ Can't Tell Estimated #			0
B9. Junk or trash in yards?	N Can't Tell			0
C. DRIVEWAYS, SIDEWALKS, AND	CURBS			winds and
C1. % of driveways that are impervious	N/A			
C2. Driveway Condition Clean	Stained Dirty Breaking up	)		0
C3. Are sidewalks present? Y N				
	with lawn clippings/leaves Re	eceiving 'non-target	' irrigation	0
What is the distance between the				$\Diamond$
Is pet waste present in this area?				0
C4. Is curb and gutter present? Y	N If yes, check all that appler standing water ☐ Long-term ca		 mant	
Organic matter, leaves, lawn				0
	tial pollution source; $\diamondsuit$ denote		10000	

**NSA** 

D. ROOFTOPS								i.		¥ <sup>1</sup>		4381		4
D1. Downspouts are directly connected to storm drains or sanita	ary sewe	er								-	1	<b>\Q</b>	(	)
D2. Downspouts are directed to impervious surface											8			
D3. Downspouts discharge to pervious area				16	00							4,007		) E é
<b>D4.</b> Downspouts discharge to a cistern, rain barrel, etc.												10	PAGE	
*Note: C1 through C4 should total 100%											4.			
D5. Lawn area present downgradient of leader for rain garden?	XY	□N										A lies	•	NAS.
E. COMMON AREAS													200	
E1. Storm drain inlets? XY N If yes, are they stenciled? YN Condition: Clean Dirty													$\Diamond$	
Catch basins inspected?  Y N If yes, include Unique Site ID from SSD sheet:												(	0	
E2. Storm water pond?  Y N Is it a wet pond or dry pond? Is it overgrown? Y N What is the estimated pond area? <											3	•	<b>\rightarrow</b>	V 20
E3. Open Space? Y N If yes, is pet waste present?	] Y 🔲	N d	ump	ing?	☐ Y		1					(	0	
Buffers/floodplain present: Y N If yes, is encr	oachme	nt ev	iden	t? [	] Y [	] N					di di	4.33		
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM		#/	-											
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients  Oil and Grease  Trash/Litter  Bacteria  Sediment  Other											(	•		
Recommended Actions	Descr	ibe R	leco	mm	ended	Actio	ns:		3)					
Specific Action  Onsite retrofit potential?  Better lawn/landscaping practice?  PAIN GARDENIS  RAIN BARRELS														
Onsite retrofit potential?	1	) Y	Cirs	745	300	5								
Better lawn/landscaping practice?	K	ATT	· har	SAL	est.									
☐ Better management of common space? ☐ Pond retrofit?														
☐ Multi-family Parking Lot Retrofit?														
Other action(s)														
Initial Assessment	$\vdash$													
NSA Pollution Severity Index											$\neg$		$\neg$	
Severe (More than 10 circles checked)											$\neg$		$\neg$	
High (5 to 10 circles checked)											1	$\top$		
Moderate (Fewer than 5 circles checked)							$\vdash$				$\dashv$	+	-	
None (No circles checked)						+					$\dashv$	$\top$	$\dashv$	
Neighborhood Restoration Opportunity Index						+				$\neg$		$\top$	$\dashv$	
High (More than 5 diamonds checked)											$\exists$		$\neg$	
Moderate (3-5 diamonds checked)												$\neg$		
Low (Fewer than 3 diamonds checked)						-					$\neg$		7	
					-	+			$\vdash$	$\dashv$		+	$\dashv$	
		-			_	+			$\vdash$	+	+	+	-	
		+				+			$\vdash$	$\dashv$	$\dashv$	+	+	
					-	-		$\vdash$	$\vdash$	$\dashv$	-	+	$\dashv$	_
					$\dashv$	+				+	$\dashv$	+	$\dashv$	

WATERSHED: Aloerdeen	SUBWATERSHED:	Unique	SITE ID: NSA-6	
DATE: <u>2/20/ 20</u>	ASSESSED BY:	CAMERA	ID:	rc#:882,88
A. NEIGHBORHOOD CHARACTERIZ	ATION			
Neighborhood/Subdivision Name:	ide Terrace Apartmer	42 N	Neighborhood Area (acr	es)
If unknown, address (or streets) surveyed	•			
Homeowners Association? \( \sum Y \) \( \sum N \)	Unknown If yes name and co	entact information:		
Residential (circle average single family		muct information.	3350	
Single Family Attached (Duplexes, Ro	ow Homes) $<^{1}/_{8}$ $^{1}/_{8}$ $^{1}/_{4}$ $^{1}/_{3}$ $^{1}$	√3 acre Multi	ifamily (Apts, Townhor	nes, Condos)
Single Family Detached	<1/4 1/4 1/2 1 >1	acre	le Home Park	
Estimated Age of Neighborhood: 20 y	ears Percent of Homes with G	arages:% W	7ith Basements%	INDEX*
Sewer Service? ⊠ Y □ N				0
Index of Infill, Redevelopment, and Remo	odeling No Evidence <a></a> <5	% of units   5-10	% 🔲 >10%	0
Record percent observed for each depending on applicability a		Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS	nwor sue complexity			
B1. % of lot with impervious cover		75		
B2. % of lot with grass cover		25		0
B3. % of lot with landscaping (e.g., mulc	hed bed areas)	0		•
B4. % of lot with bare soil	•	0		0
*Note: B1 through B4 must total	100%	+		
B5. % of lot with forest canopy	10070	0		•
<b>B6.</b> Evidence of permanent irrigation or "h	on target" irrigation			
Bo. Evidence of permanent irrigation of	ion-target irrigation	High:		0
<b>B7.</b> Proportion of total neighborhood turf	lawns with following	Med:		0
management status:				
		Low: 100		
<b>B8.</b> Outdoor swimming pools? □Y ☒N	Can't Tell Estimated #			0
B9. Junk or trash in yards? \(\overline{\text{\text{Z}}} \text{Y} \overline{\text{\text{\text{\text{Y}}}} \end{angle}	I ☐ Can't Tell			0
C. DRIVEWAYS, SIDEWALKS, AND C	URBS			
C1. % of driveways that are impervious	N/A			
C2. Driveway Condition Clean S	tained Dirty Breaking up			0
C3. Are sidewalks present? \( \sum Y \) \( \sum_{N} \)	If yes, are they on one side of stre	eet or along both	sides 🗌	
☐ Spotless ☐ Covered v	vith lawn clippings/leaves 🔲 Re	eceiving 'non-targe	t' irrigation	0
What is the distance between the	sidewalk and street?ft.			$\Diamond$
Is pet waste present in this area?				0
	N If yes, check all that apply			
☐ Clean and Dry ☐ Flowing of				0
Organic matter, leaves, lawn of * INDEX: O denotes potent				$\Diamond$

D. ROOFTOPS												
D1. Downspouts are directly connected to storm drains or sanita	ary sewer	60						0				
D2. Downspouts are directed to impervious surface		0										
D3. Downspouts discharge to pervious area		40					Satur					
D4. Downspouts discharge to a cistern, rain barrel, etc.		0					****					
*Note: C1 through C4 should total 100%												
D5. Lawn area present downgradient of leader for rain garden? Y N												
E. COMMON AREAS												
E1. Storm drain inlets? Y N If yes, are they stenciled?					irty		<					
Catch basins inspected?  Y N If yes, include U					- 1	_	C	)				
E2. Storm water pond?  YN Is it a wet pond or dry pond? Is it overgrown? YN N What is the estimated pond area? <												
E3. Open Space? Y N If yes, is pet waste present?			Y 🗆 N	ſ			>					
Buffers/floodplain present: Y XN If yes, is encr												
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM												
Based on field observations, this neighborhood has significant in				all the	at apply)							
Nutrients Oil and Grease Trash/Litter Bacteria	T						•					
Recommended Actions	Describe R											
Specific Action	ROOM F	OR BMI	PATE	EAST	SIDE	e Or	وسر حب					
Onsite retrofit potential?		ING LOT						37				
Better lawn/landscaping practice?	11 1 2000 3000	HAY LUI	7 11	1 100	) \ \ \ \ \	,	),~u					
Better management of common space?	REU	SIT										
Pond retrofit?	1-5											
☐ Multi-family Parking Lot Retrofit?												
Other action(s)	<u> </u>				<del>, , , , , , , , , , , , , , , , , , , </del>	_	-					
Initial Assessment					$\perp \perp$							
NOTE BUT II OF THE TAIL					1							
NSA Pollution Severity Index												
Severe (More than 10 circles checked)												
High (5 to 10 circles checked)												
Moderate (Fewer than 5 circles checked)					1	1						
☐ None (No circles checked)					+							
Neighborhood Restoration Opportunity Index					<del>                                      </del>							
High (More than 5 diamonds checked)								$\top$				
Moderate (3-5 diamonds checked)					+ -			+				
Low (Fewer than 3 diamonds checked)					++-	+-		-				
				-	++-	-		+				
						-		-				
			-	_	1							
			$\rightarrow$		$\perp$							

WATERSHED: Aberden	SUBWATERSHED:	Unique	SITE ID: NSA-7			
DATE: 2/13/20	ASSESSED BY:	CAMERA	CAMERA ID:			
A. NEIGHBORHOOD CHARACT	ERIZATION					
Neighborhood/Subdivision Name:		1	Neighborhood Area (a	cres)		
If unknown, address (or streets) sur	veyed:		/			
Homeowners Association? Y	N Unknown If yes, name and co	ntact information:				
Residential (circle average single f						
Single Family Attached (Duplex			family (Apts, Townho	omes, Condos)		
Single Family Detached	<\frac{1}{4} \left( \frac{1}{4} \right) \frac{1}{2} \ 1 > 1		le Home Park	INDEX		
Estimated Age of Neighborhood:	10 years Percent of Homes with G	arages: 15 % W	ith Basements <u>90</u> %			
Sewer Service? Y N			-	0		
WV.	Remodeling No Evidence <	% of units $\square$ 5-10	% [XI >10%	0		
	each of the following indicators, ility and/or site complexity	Percentage	Comments/Notes			
B. YARD AND LAWN CONDITIO						
B1. % of lot with impervious cover		50				
B2. % of lot with grass cover		45	A88	0		
B3. % of lot with landscaping (e.g.	, mulched bed areas)	5		•		
B4. % of lot with bare soil						
*Note: B1 through B4 mus		100				
B5. % of lot with forest canopy	3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0		•		
<b>B6.</b> Evidence of permanent irrigation	n or "non-target" irrigation	0		0		
		High:	****	0		
B7. Proportion of total neighborhood	od turf lawns with following	Med: 30				
management status:		Low: 70				
B8. Outdoor swimming pools?	N Can't Tell Estimated #			0		
	Can't Tell			0		
C. DRIVEWAYS, SIDEWALKS, A		30000 Up 1 76 9 94	Charles Charles and Spanish Spanish			
C1. % of driveways that are imperv		100				
	☐ Stained ☐ Dirty ☐ Breaking up		A 15 4800 CD22	0		
	N If yes, are they on one side of stre	1.00	h sides 🗍			
	ered with lawn clippings/leaves Re		20 200 2	0		
	en the sidewalk and street? ft.			\ \otimes \		
Is pet waste present in this			-47.	Ŏ		
	Y N If yes, check all that apply	<b>7:</b>				
☐ Clean and Dry ☐ Flow	ring or standing water 🔲 Long-term ca			0		
Organic matter, leaves,	lawn clippings	bris 🗌 Overhead	tree canopy	$\Diamond$		

**NSA** 

D. ROOFTOPS														
D1. Downspouts are directly connected to storm drains or sanita	ary sewe	er		C	>							<b>\Q</b>	> (	0
D2. Downspouts are directed to impervious surface				2	0		-venga -				1000			
D3. Downspouts discharge to pervious area			T_	8	S S S S S S S S S S S S S S S S S S S									
D4. Downspouts discharge to a cistern, rain barrel, etc.				O			-		_	à				
*Note: C1 through C4 should total 100%			<u> </u>						606		$\exists$			
D5. Lawn area present downgradient of leader for rain garden?	XY	□N												
E. COMMON AREAS  E1. Storm drain inlets?  VM N. If yes, are they stenciled?  VM N. Condition:  Clean  Dirty														
E1. Storm drain inlets? Y N If yes, are they stenciled? Y N Condition: Clean Dirty													$\Diamond$	
Catch basins inspected?  Y N If yes, include Unique Site ID from SSD sheet:													0	N. S.
E2. Storm water pond?  Y N Is it a wet pond or dry pond? Is it overgrown? Y N N What is the estimated pond area? <													<b>♦</b>	
E3. Open Space? Y X N If yes, is pet waste present?	] Y 🔲	N dı	ump	ing?			N						0	
Buffers/floodplain present: XY N If yes, is encre	oachme	nt evi	iden	t? 🗀	Y [	N		_	-					
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM														
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients Oil and Grease Trash/Litter Bacteria Sediment Other														
Recommended Actions	Describe Recommended Actions:													
Specific Action  Onsite retrofit potential?  Better lawn/landscaping practice?  Retter management of common space?														
Onsite retrofit potential?		KAY	N	RAI	UKE	17	ナ							
☐ Better lawn/landscaping practice? ☐ Better management of common space?				CA	RO	En,	2							
Pond retrofit?														
☐ Multi-family Parking Lot Retrofit?	1													
Other action(s)	<u> </u>													
Initial Assessment	$\Box$			Ц										
NSA Pollution Severity Index	$\vdash \vdash$		Щ		4	_		_				$\bigsqcup$	$\bigsqcup$	
Severe (More than 10 circles checked)	$\vdash \vdash$	igspace	$\vdash \vdash$	$\vdash \vdash$	+	-	-	-				$\sqcup$	$\sqcup$	
☐ High (5 to 10 circles checked)	<del></del>	$\vdash$	$\vdash$	$\vdash \vdash$		+	+		_	H	$\vdash$	$\vdash \vdash$		<u> </u>
Moderate (Fewer than 5 circles checked)	$\vdash \vdash$	$\vdash$	$\vdash\vdash$		+	+	+	-		$\vdash$	$\vdash$	$\sqcup$	$\sqcup$	_
☐ None (No circles checked)	$\vdash \vdash$	$\vdash$	$\vdash\vdash$		+		+	_	_		$\vdash$	$\vdash \vdash$	$\vdash\vdash$	_
	$\vdash\vdash$	$\vdash$	$\vdash$	$\vdash$	+	+	+	$\vdash$			$\vdash$	$\vdash\vdash$	$\vdash\vdash$	
Neighborhood Restoration Opportunity Index ☐ High (More than 5 diamonds checked)	$\vdash \vdash$	$\vdash$		$\vdash$	+	+	+	-		$\vdash$		$\vdash\vdash$	$\vdash\vdash$	-
Moderate (3-5 diamonds checked)										H	$\vdash\vdash$	$\vdash\vdash$	$\vdash$	
Low (Fewer than 3 diamonds checked)	$\vdash\vdash$	$\vdash$	$\vdash$	$\vdash$	+	+	+	-				$\vdash$	$\vdash$	
,	$\vdash$	$\vdash$	$\vdash$	$\vdash$			+	$\vdash$	-			$\vdash$	$\vdash$	$\vdash$
		$\vdash$		$\Box$	$\top$	$\top$	+					$\vdash \vdash$		
		$\Box$												
		$\Box$					+						$\Box$	Г
			$\Box$		$\top$	$\top$	1							$\vdash$

A. NEIGHBORHOOD CHARACTERIZATION	c#: 483-6
Neighborhood/Subdivision Name: Chapel Chen Neighborhood Area (acres If unknown, address (or streets) surveyed:	5)
Homeowners Association? Y N Unknown If yes, name and contact information:	
Residential (circle average single family lot size):	
☐ Single Family Attached (Duplexes, Row Homes) < 1/4 acre ☐ Multifamily (Apts, Townhome	s, Condos)
Single Family Detached <¼ (½ 1 >1 acre  Mobile Home Park	
	INDEX*
Sewer Service? X Y N	0
Index of Infill, Redevelopment, and Remodeling  ☐ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%	0
Record percent observed for each of the following indicators, depending on applicability and/or site complexity  Percentage Comments/Notes	
B. YARD AND LAWN CONDITIONS	
B1. % of lot with impervious cover 70	
B2. % of lot with grass cover	0
B2. % of lot with grass cover  B3. % of lot with landscaping (e.g., mulched bed areas)  5	•
B4. % of lot with bare soil	0
*Note: B1 through B4 must total 100%	
B5. % of lot with forest canopy	•
B6. Evidence of permanent irrigation or "non-target" irrigation	0
High: <u>20</u>	0
B7. Proportion of total neighborhood turf lawns with following  Med: 50	
management status:  Low: 30	
B8. Outdoor swimming pools?  Y N Can't Tell Estimated #	0
B9. Junk or trash in yards?	0
	U
C. DRIVEWAYS, SIDEWALKS, AND CURBS	
C1. % of driveways that are impervious N/A	
C2. Driveway Condition Clean Stained Dirty Breaking up	0
C3. Are sidewalks present? Y N If yes, are they on one side of street or along both sides.	
Spotless Covered with lawn clippings/leaves Receiving 'non-target' irrigation  What is the distance between the sidewalk and street? 3 ft.	0
Is pet waste present in this area? \(\sum \forall \sum \backslash \text{N} \sum \backslash \text{N} \sum \backslash \backslash \text{N} \sum \backslash \backslash \backslash \text{N}.	<b>\$</b>
C4. Is curb and gutter present? $\times$ Y $\longrightarrow$ N If yes, check all that apply:	0
Clean and Dry   Flowing or standing water   Long-term car parking   Sediment	0
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy	Ŏ

**NSA** 

D. ROOFTOPS									4				
D1. Downspouts are directly connected to storm drains or sanita	ary sewer		6				responding	VII.U/A	0	$\Diamond$	0		
D2. Downspouts are directed to impervious surface	XI - 62		5 95						200				
D3. Downspouts discharge to pervious area			95				-7-40		9				
D4. Downspouts discharge to a cistern, rain barrel, etc.			$\circ$						Depthol				
*Note: C1 through C4 should total 100%								28	$\Box$				
D5. Lawn area present downgradient of leader for rain garden?	<b>ℤ</b> .Y □	N									•		
E. COMMON AREAS													
E1. Storm drain inlets?  Y N If yes, are they stenciled?  Y N Condition:  Clean Dirty													
Catch basins inspected? Y N If yes, include Unique Site ID from SSD sheet:													
E2. Storm water pond? N Is it a wet pond or dry pond? Is it overgrown? Y N What is the estimated pond area? <a> </a> <a> <a> <a> <a> <a> <a> <a> <a> <a> &lt;</a></a></a></a></a></a></a></a></a>													
E3. Open Space? N If yes, is pet waste present?	N 🔯 Y	dump	ing?	] Y ]	Ŋ					(	0		
Buffers/floodplain present: \( \overline{\sqrt{Y}} \sqrt{Y} \sqrt{N}  If yes, is encre	oachment	eviden	t? 🔲 Y		N								
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM	MENDATI	ONS											
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients Oil and Grease Trash/Litter Bacteria Sediment Other											•		
Recommended Actions	Describ	e Reco	mmen	ded A	ctions	s:			•				
Specific Action	PAIN	DAG	Dari										
Onsite retrofit potential?	MIL	a BATT	SOUN SEDE	7									
Better lawn/landscaping practice?	KAN	JUA	RDE	177									
<ul><li>☐ Better management of common space?</li><li>☐ Pond retrofit?</li></ul>	150	IM P	OND	WE	T PO	Qu							
☐ Multi-family Parking Lot Retrofit?													
Other action(s)													
Initial Assessment													
NSA Pollution Severity Index													
Severe (More than 10 circles checked)													
High (5 to 10 circles checked)							T						
✓ Moderate (Fewer than 5 circles checked)  ☐ None (No circles checked)													
None (No cheles checked)													
Neighborhood Restoration Opportunity Index													
High (More than 5 diamonds checked)													
Moderate (3-5 diamonds checked)									School 1				
Low (Fewer than 3 diamonds checked)													
										T			

WATERSHED: Moerdeen	SUBWATERSHED:	UNIQUE	SITE ID: NSA-9	
DATE: 2/13/20	ASSESSED BY:	CAMERA	A ID: 1	PIC#: 488, 489
A. NEIGHBORHOOD CHARACTERIZ	ATION			THE STATE OF
Neighborhood/Subdivision Name:	-brooke Apertments	1	Neighborhood Area (ac	res)
If unknown, address (or streets) surveyed	:			
Homeowners Association?  Y  N	Unknown If yes, name and co	entact information:		
Residential (circle average single family				
☐ Single Family Attached (Duplexes, R	ow Homes) < ½	acre Multi	family (Apts, Townhor	mes, Condos)
Single Family Detached	<1/4 1/4 1/2 1 >		le Home Park	Tava
Estimated Age of Neighborhood: 30	years Percent of Homes with C	Garages:% V	Vith Basements%	
Sewer Service? Y Y N				0
Index of Infill, Redevelopment, and Rem		% of units	% □ >10%	0
Record percent observed for each depending on applicability of		Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS				
B1. % of lot with impervious cover		90		
B2. % of lot with grass cover		5		0
B3. % of lot with landscaping (e.g., mulc	hed bed areas)	5		•
<b>B4.</b> % of lot with bare soil		0		0
*Note: B1 through B4 must total	100%			
B5. % of lot with forest canopy		0		•
<b>B6.</b> Evidence of permanent irrigation or "	non-target" irrigation	0		0
		High:		0
<b>B7.</b> Proportion of total neighborhood turn	lawns with following	Med: 100		
management status:		Low:		
B8. Outdoor swimming pools? ☐Y ☒N	Can't Tell Estimated #			0
		_		0
C. DRIVEWAYS, SIDEWALKS, AND		the state of the s		
C1. % of driveways that are impervious		100		
C2. Driveway Condition 🛛 Clean 🔲 S	tained Dirty Breaking up	 )	<u> </u>	0
C3. Are sidewalks present? XY N			h sides	
☑ Spotless ☐ Covered	with lawn clippings/leaves R	eceiving 'non-targe	t' irrigation	0
What is the distance between the				$\Diamond$
Is pet waste present in this area?				0
C4. Is curb and gutter present?	N If yes, check all that appl			
Clean and Dry Flowing o			iment	O O
Organic matter, leaves, lawn * INDEX: O denotes potent				$\Diamond$

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D. ROOFTOPS					45											
D1. Downspouts are directly connected to storm drains or sanit	ary se	ewei	r		10	00							100	•	6	)
D2. Downspouts are directed to impervious surface							T									
D3. Downspouts discharge to pervious area																
D4. Downspouts discharge to a cistern, rain barrel, etc.							$\Box$						CORDIN			
*Note: C1 through C4 should total 100%																
D5. Lawn area present downgradient of leader for rain garden?													07.00		$\diamond$	
E. COMMON AREAS																
E1. Storm drain inlets? X Y N If yes, are they stenciled? Y N Condition: Clean Dirty														100	$\diamond$	
Catch basins inspected?  Y N If yes, include U											-116		_	y 1	0	
E2. Storm water pond? \( \bigvee Y \subseteq N \) Is it a \( \bigvee \bigvee \) wet pond or \( \bigvee \) What is the estimated pond area? \( \bigvee < 1 \) acre \( \subseteq \) about						ergi	owr	1? □	] Y	ו 🗌	N		000000000000000000000000000000000000000		<b>♦</b>	
E3. Open Space? X Y N If yes, is pet waste present?	] Y	įΣį,	N di	ımp	ing?		Y	ŃΝ							0	
Buffers/floodplain present: X Y N If yes, is encr	oachi	men	t evi	den	t? 🛚	Y		N								
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOM	MENI	DAT	ION	S												
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients  Oil and Grease  Trash/Litter  Bacteria  Sediment  Other														•		
Recommended Actions	De	scri	be R	leco	mm	ende	ed A	ctio	ns:							
Onsite retrofit potential?  Better lawn/landscaping practice?  Better management of common space?  Pond retrofit?  Multi-family Parking Lot Retrofit?			,,,,	``			7(1	B	****		?₹"	1-1		YET		
Other action(s)  Initial Assessment	Н															_
NSA Pollution Severity Index Severe (More than 10 circles checked) High (5 to 10 circles checked) Moderate (Fewer than 5 circles checked) None (No circles checked)  Neighborhood Restoration Opportunity Index High (More than 5 diamonds checked) Moderate (3-5 diamonds checked) Low (Fewer than 3 diamonds checked)																

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQU	UNIQUE SITE ID: NSA = 10					
DATE: <u>2/3/20</u>	ASSESSED BY:	Саме	RA ID:	PIC#: 481,482				
A. NEIGHBORHOOD CHARACTERI	ZATION							
Neighborhood/Subdivision Name:			Neighborhood Area (ac	cres)				
If unknown, address (or streets) surveye	ed:							
Homeowners Association? Y X N	Unknown If yes, name and	contact information	1:					
Residential (circle average single famile								
Single Family Attached (Duplexes, I	( )		ltifamily (Apts, Townho	mes, Condos)				
Single Family Detached			bile Home Park					
Estimated Age of Neighborhood: 30	years Percent of Homes wit	h Garages:%	With Basements 100%					
Sewer Service? X Y N				0				
Index of Infill, Redevelopment, and Rer		<5% of units 5-	10% 🗌 >10%	0				
Record percent observed for each depending on applicability		Percentage	Comments/Notes					
B. YARD AND LAWN CONDITIONS								
B1. % of lot with impervious cover		60						
B2. % of lot with grass cover		30		0				
B3. % of lot with landscaping (e.g., mu	lched bed areas)	10		•				
B4. % of lot with bare soil		0		0				
*Note: B1 through B4 must tot	al 100%							
B5. % of lot with forest canopy		0		•				
B6. Evidence of permanent irrigation or	"non-target" irrigation	0		0				
		High:		0				
<b>B7.</b> Proportion of <i>total neighborhood</i> tu management status:	rf lawns with following	Med: <u>20</u>						
ge		Low: <u>80</u>						
B8. Outdoor swimming pools? Y	N Can't Tell Estimated #_			0				
B9. Junk or trash in yards?	N Can't Tell			0				
C. DRIVEWAYS, SIDEWALKS, AND	CURBS							
C1. % of driveways that are impervious	N/A							
C2. Driveway Condition 🗌 Clean 🔲	Stained Dirty Breaking	up NO DRIVE	SYAL	0				
C3. Are sidewalks present? X Y \( \subseteq \) N								
	with lawn clippings/leaves		get' irrigation	0				
What is the distance between th		•		$\Diamond$				
Is pet waste present in this area		•		0				
C4. Is curb and gutter present? Y Clean and Dry Flowing	N If yes, check all that a		ediment					
Organic matter, leaves, lawr		r debris Overhea		0				
	ntial pollution source; $\Diamond$ de			A CONTRACTOR OF THE PARTY OF TH				

**NSA** 

D. ROOFTOPS			1											
D1. Downspouts are directly connected to storm drains or sanita	ary sewe	г		0						9	$\Diamond$	0		
D2. Downspouts are directed to impervious surface				10	T									
D3. Downspouts discharge to pervious area		X-00.0-11/	(	90						Total Control				
D4. Downspouts discharge to a cistern, rain barrel, etc.				$\bigcirc$										
*Note: C1 through C4 should total 100%	2													
D5. Lawn area present downgradient of leader for rain garden?	□ Y )	ДN										$\Diamond$		
E. COMMON AREAS	1													
E1. Storm drain inlets? X Y N If yes, are they stenciled?	X Y [	N (	Cond	ition:	Ď C	lean [	] Dir	ty			•			
Catch basins inspected?  Y N If yes, include U	777									_	- Juli	0		
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ dry pond? Is it overgrown? ☐ Y ☐ N  What is the estimated pond area? ☐ <1 acre ☐ about 1 acre ☐ > 1 acre \ BMP HOICO												<b>\</b>		
E3. Open Space? X Y N If yes, is pet waste present? Y N dumping? Y X N												0		
Buffers/floodplain present: XY N If yes, is encroachment evident? Y N														
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM	MENDAI	IONS	3											
Based on field observations, this neighborhood has significant in Nutrients Oil and Grease Trash/Litter Bacteria						heck a	ll tha	t app	oly)			0		
Recommended Actions	Describe Recommended Actions:													
Specific Action  Onsite retrofit potential?  NO ROOM FOR RAN GARDENS OR														
Onsite retrofit potential?	RAIN BARRELS  1 BMP (PILTER) NOTED													
Better lawn/landscaping practice?		KA	twi	BAI	SRE	LS								
☐ Better management of common space? ☐ Pond retrofit?	l 1	Q M	D	(21)	TERZ	1 100	5565	2						
☐ Multi-family Parking Lot Retrofit?	1	Dia	17	Cin	1101	., .								
Other action(s)														
Initial Assessment			Т	Т										
			十	1				1				****		
NSA Pollution Severity Index			$\top$				1							
Severe (More than 10 circles checked)			$\top$	$\top$			1				$\Box$	$\neg$		
High (5 to 10 circles checked)			+			+	1				$\neg$	$\top$		
Moderate (Fewer than 5 circles checked)			$\dashv$	+	$\vdash$		+-	$\vdash$				+		
☐ None (No circles checked)		$\dashv$	+	+	$\vdash$		+-	$\vdash$		$\vdash$	$\dashv$			
Neighborhood Restoration Opportunity Index			$\top$		П	_						1		
☐ High (More than 5 diamonds checked)		$\Box$	十		$\Box$			$\vdash$						
Moderate (3-5 diamonds checked)		$\neg \uparrow$	十	+-	$\Box$	$\neg$	†				$\exists$	十		
Low (Fewer than 3 diamonds checked)		$\vdash \vdash$	$\top$				1			$\Box$	$\dashv$	$\dashv$		
		$\dashv$	+	+	Н	$\dashv$	T	$\vdash$		H	$\dashv$	_		
		$\dashv$	$\top$	$\top$	TT	1					$\dashv$	$\top$		
			$\top$	1		$\neg$	1			$\Box$	$\dashv$	$\top$		
			$\top$								$\neg$			
			$\top$							$\Box$	ヿ	$\top$		

WATERSHED: Mocdeen	SUBWATERSHED:	UNIQUE	SITE ID: NSA- 11	
DATE: 2/13/20	ASSESSED BY:	CAMERA	ID:	PIC#: 976,91
A. NEIGHBORHOOD CHARACT	ERIZATION			
Neighborhood/Subdivision Name:		1	Neighborhood Area (acı	res)
If unknown, address (or streets) surv	veyed:			
Homeowners Association? Y	N Unknown If yes, name and o	contact information:		
Residential (circle average single for		_		
Single Family Attached (Duplex			family (Apts, Townhor	nes, Condos)
Single Family Detached	<\\ \langle \la		le Home Park	
<del></del>	O years Percent of Homes with	Garages: 15 % W	Vith Basements 80%	INDEX*
Sewer Service? X Y N				0
	Remodeling No Evidence	5% of units  5-109	% □ >10%	0
	each of the following indicators, ility and/or site complexity	Percentage	Comments/Notes	
B. YARD AND LAWN CONDITION				
B1. % of lot with impervious cover		50		
B2. % of lot with grass cover		45		0
B3. % of lot with landscaping (e.g.,	mulched bed areas)	5		•
B4. % of lot with bare soil		0		0
*Note: B1 through B4 must	t total 100%			
B5. % of lot with forest canopy		0		•
B6. Evidence of permanent irrigation	n or "non-target" irrigation	0		0
		High:		0
<b>B7.</b> Proportion of <i>total neighborhoo</i> management status:	d turf lawns with following	Med: 40		
management status.		Low: (00	381313	
<b>B8.</b> Outdoor swimming pools? ∑Y	□N □ Can't Tell Estimated # 2			0
	' □ N □ Can't Tell			0
C. DRIVEWAYS, SIDEWALKS, A	ND CURBS			
C1. % of driveways that are imperv	ious N/A	100		
C2. Driveway Condition Clean	Stained Dirty Breaking	ıp	,	0
C3. Are sidewalks present? XY	N If yes, are they on one side of s	treet or along botl	h sides	
	ered with lawn clippings/leaves 🔲 I	Receiving 'non-target	t' irrigation	0
	en the sidewalk and street? 3 ft.			$\Diamond$
Is pet waste present in this a				0
	Y N If yes, check all that app			
Organic matter, leaves, l	ing or standing water  Long-term	debris Overhead	ment	0
	otential pollution source; deno		1 /	ALC: YORK WINDS AND ADDRESS.

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D. ROOFTOPS	90									100	199					
D1. Downspouts are directly connected to storm drains or sanita	ary s	ewe	ŗ	Τ	C	>	Т						Story	$\Diamond$	, (	5
D2. Downspouts are directed to impervious surface				T	15	5										
D3. Downspouts discharge to pervious area				T	8		T									
D4. Downspouts discharge to a cistern, rain barrel, etc.				T	C	-	$\neg$						1	100		
*Note: C1 through C4 should total 100%		8		_				4	-							
D5. Lawn area present downgradient of leader for rain garden?	囟	Y[	Jи												<b>*</b>	
E. COMMON AREAS																
E1. Storm drain inlets? XY N If yes, are they stenciled?									മ	Dirt	у		100	85 Sept 563	$\Diamond$	
Catch basins inspected?  Y N If yes, include U								0.000		_			_		0	
E2. Storm water pond? YN Is it a wet pond or What is the estimated pond area? < 1 acre about	dry	pon	d? □:	Is > 1 2	it ov	ergi	rowr	ı?	Y		N				$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?							Υ [	□ N						BAN	0	
Buffers/floodplain present: X Y N If yes, is encre																
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOM					138			PALI	7							
Based on field observations, this neighborhood has significant in			V Comment		follo	win	g: (c	checi	k all	thai	t app	ly)				
Nutrients Oil and Grease Trash/Litter Bacteria Sediment Other														9		
Recommended Actions	Describe Recommended Actions:															
Specific Action	RAIN BARRELS															
Onsite retrofit potential?		1	-1 11	10	DI V	e. K.t		2								
☐ Better lawn/landscaping practice? ☐ Better management of common space?																
Pond retrofit?																
☐ Multi-family Parking Lot Retrofit?																
Other action(s)																
Initial Assessment										Π						Г
NSA Pollution Severity Index																
Severe (More than 10 circles checked)					Г											
High (5 to 10 circles checked)					Г							7		П		
Moderate (Fewer than 5 circles checked)	H													П		Т
None (No circles checked)														$\Box$		
Neighborhood Restoration Opportunity Index																
High (More than 5 diamonds checked)																
Moderate (3-5 diamonds checked)																
Low (Fewer than 3 diamonds checked)																
			100													

WATERSHED: Abecdeen	SUBWATERSHED:	Unique	UNIQUE SITE ID: NSA-1Z			
DATE: 21201 20	ASSESSED BY:	CAMERA	ID:	PIC#:892,89		
A. NEIGHBORHOOD CHARACTE	RIZATION					
Neighborhood/Subdivision Name:		1	Neighborhood Area (acr	res)		
If unknown, address (or streets) surve	yed:					
Homeowners Association? Y	N ☐ Unknown If ves. name and	contact information:				
Residential (circle average single fan				-		
Single Family Attached (Duplexes Single Family Detached	, Row Homes) $<^{1}/_{8}$ $\frac{1}{2}/_{8}$ $\frac{1}{4}$ $\frac{1}{3}$	1/3 acre  Mult	ifamily (Apts, Townhor	mes, Condos)		
Estimated Age of Neighborhood:	years   Percent of Homes with	Garages: 20 % W	7ith Basements 80 %	INDEX*		
Sewer Service? XY N	,			0		
Index of Infill, Redevelopment, and R	emodeling No Evidence 🔲	<5% of units   5-10	% □ >10%	0		
Record percent observed for ea depending on applicabili		Percentage	Comments/Notes	note excitated		
B. YARD AND LAWN CONDITIONS						
B1. % of lot with impervious cover		50				
B2. % of lot with grass cover		36		0		
<b>B3.</b> % of lot with landscaping (e.g., m	ulched bed areas)	10		<b>48</b>		
P^ of lot with bare soil		0		0		
*Note: B1 through B4 must to	otal 100%					
<b>B5.</b> % of lot with forest canopy		0		•		
<b>B6.</b> Evidence of permanent irrigation of	or "non-target" irrigation	0		Ŏ		
•	C and a second control of the second control	High: 10		0		
<b>B7.</b> Proportion of total neighborhood t	turf lawns with following	Med: 40				
management status:		Low: 50				
<b>70</b> 0 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		20111 00				
B8. Outdoor swimming pools? Y				0		
· · · · · · · · · · · · · · · · · · ·	N ☐ Can't Tell			0		
C. DRIVEWAYS, SIDEWALKS, AND		10.0				
C1. % of driveways that are imperviou		100				
C2. Driveway Condition Clean		The state of the s	<u> </u>	0		
C3. Are sidewalks present? XY						
	ed with lawn clippings/leaves	Receiving non-targe	rirrigation	Ŏ		
What is the distance between	·			<u> </u>		
Is pet waste present in this are  C4. Is curb and gutter present?		nlv		0		
	g or standing water \( \sum \) Long-term	f-f	iment	0		
Organic matter, leaves, lav		debris Overhead		$\Diamond$		

<sup>\*</sup> INDEX: O denotes potential pollution source;  $\diamondsuit$  denotes a neighborhood restoration opportunity

D. ROOFTOPS	A STATE OF THE STA	7 11				2.65					
D1. Downspouts are directly connected to storm drains or sanita	ary sewer								$\Diamond$	> (	C
D2. Downspouts are directed to impervious surface		2	15								
D3. Downspouts discharge to pervious area		7	5								
D4. Downspouts discharge to a cistern, rain barrel, etc.											
*Note: C1 through C4 should total 100%											
D5. Lawn area present downgradient of leader for rain garden?	\(\begin{array}{c} \begin{array}{c} \be									*	
E. COMMON AREAS	,				1					$\Diamond$	
E1. Storm drain inlets? X Y N If yes, are they stenciled?  Catch basins inspected? Y N If yes, include U	Inique Site ID	from S	SD shee	t:						,	
E2. Storm water pond?  Y N Is it a wet pond or What is the estimated pond area?  <1 acre about	ut 1 acre 🔲 >	> 1 acre				□ N	1			$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?					[ 					0	
Buffers/floodplain present: X Y N If yes, is encr	oachment evi	dent?	] Y 💢	N			5000000 man.	0.000			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM	MENDATION	IS .									
Based on field observations, this neighborhood has significant in Nutrients  Oil and Grease  Trash/Litter  Bacteria				check	all	that	apply	)		0	
Recommended Actions	Describe R	ecomm	ended A	ction	15:						_
Specific Action  Onsite retrofit potential?  Better lawn/landscaping practice?  Better management of common space?  Pond retrofit?  Multi-family Parking Lot Retrofit?  Other action(s)	RAIN BARRELS RAIN CARDENS										
Initial Assessment							10.0				
NSA Pollution Severity Index  ☐ Severe (More than 10 circles checked) ☐ High (5 to 10 circles checked) ☐ Moderate (Fewer than 5 circles checked) ☐ None (No circles checked)											
Neighborhood Restoration Opportunity Index											
High (More than 5 diamonds checked)						_	_				
Moderate (3-5 diamonds checked)						_	_				
Low (Fewer than 3 diamonds checked)					-	$\dashv$	+	_	╀	$\sqcup$	
		+	$\vdash$	$\vdash$		+	+	_	1		_
					-	+	_	-	-	$\vdash$	
		+		$\vdash$	$\dashv$	+	+	-	+	$\vdash$	
				$\vdash$	+	+	-	+	$\vdash$		

WATERSHED: Abardeen	SUBWATERSHED:	Unique	Unique Site ID: NSA-13				
DATE: 2 / 20 / 20	ASSESSED BY: AB, SB	CAMERA		PIC#: 396,87			
A. NEIGHBORHOOD CHARACT							
Neighborhood/Subdivision Name:		ì	Neighborhood Area (ac	eres)			
If unknown, address (or streets) sur	veyed:						
Homeowners Association? Y	N Unknown If yes, name and	contact information:					
Residential (circle average single)							
☐ Single Family Attached (Dupler Single Family Detached	xes, Row Homes) $< \frac{1}{8}$ $\frac{1}{1}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{3}$ $< \frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{2}$ 1	¹/₃ acre ☐ Mult >1 acre ☐ Mobi	ifamily (Apts, Townho	omes, Condos)			
Estimated Age of Neighborhood: _	years Percent of Homes with	Garages: 100 % W	/ith Basements 100 %	INDEX*			
Sewer Service? 🛱 Y 🗌 N			<b>A</b>	0			
Index of Infill, Redevelopment, and	Remodeling No Evidence	<5% of units 5-10	% 🔲 >10%	0			
	each of the following indicators, bility and/or site complexity	Percentage	Comments/Notes				
B. YARD AND LAWN CONDITIO							
B1. % of lot with impervious cover		40		000000000000000000000000000000000000000			
B2. % of lot with grass cover	. 1	50		0			
B3. % of lot with landscaping (e.g.	, mulched bed areas)	10					
B4. % of lot with bare soil		0		0			
*Note: B1 through B4 mus	t total 100%						
B5. % of lot with forest canopy		0		4			
<b>B6.</b> Evidence of permanent irrigation	n or "non-target" irrigation	0		0			
		High: <u>30</u>		•			
B7. Proportion of total neighborhoo management status:	d turf lawns with following	Med: (00		1000000000			
management status.		Low: 16					
B8. Outdoor swimming pools? XY	□N □ Can't Tell Estimated # 2	.0		0			
	Y N □ Can't Tell			0			
C. DRIVEWAYS, SIDEWALKS, A	AND CURBS						
C1. % of driveways that are imperv	rious N/A	100					
C2. Driveway Condition X Clean	☐ Stained ☐ Dirty ☐ Breaking			0			
	N If yes, are they on one side of s						
Spotless Covered with lawn clippings/leaves Receiving 'non-target' irrigation							
	en the sidewalk and street? 3 ft.			$\Diamond$			
Is pet waste present in this	201 TO 18 18 18 18 18 18 18 18 18 18 18 18 18			0			
	Y N If yes, check all that ap	4-4					
	ring or standing water  Long-term			O			
Organic matter, leaves,	lawn clippings  Trash, litter, or rotential pollution source;  den	debris Overhead		$\Diamond$			

			-									_
D. ROOFTOPS												
D1. Downspouts are directly connected to storm drains or sa	nitary sewer		0							$\Diamond$	0	
D2. Downspouts are directed to impervious surface			10									
D3. Downspouts discharge to pervious area			9(	)								
D4. Downspouts discharge to a cistern, rain barrel, etc.			()							mod		N.
*Note: C1 through C4 should total 100%									7		manufal s	
D5. Lawn area present downgradient of leader for rain garde	awn area present downgradient of leader for rain garden? 🔀 Y 🔲 N										•	
E. COMMON AREAS												
E1. Storm drain inlets? N Y N If yes, are they stencile	d? 🗌 Y 💢 1	N Co	nditio	n: 🔲	Clear	1 🛛	Dirty			h i	$\Diamond$	
Catch basins inspected?  Y N If yes, include							-		_		0	
E2. Storm water pond?  Y N Is it a wet pond or What is the estimated pond area? <a> </a> <a> <a> <a> <a> <a> <a> <a> <a> <a> &lt;</a></a></a></a></a></a></a></a></a>	dry pond bout 1 acre	? Is ] > 1	s it ov acre	ergrov	vn? [	] Y	□N				$\diamond$	
E3. Open Space?  Y X N If yes, is pet waste present?	$\square$ Y $\square$ N	dum	oing?	□ Y		1					0	
Buffers/floodplain present: X Y N If yes, is e	ncroachment	evider	t? 🔲	Y [X	N							
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECO		and the latest the lat										
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients Oil and Grease Trash/Litter Bacteria Sediment Other											9	
Recommended Actions  Specific Action  Onsite retrofit potential?  Better lawn/landscaping practice?  Better management of common space?  Pond retrofit?  Multi-family Parking Lot Retrofit?  Other action(s)	Describe Recommended Actions: Ram gardens/ Ram Borrels No open space for treps No coorn for BMPS Remove impervious R130-PBOOI										(89	
Initial Assessment												1
NSA Pollution Severity Index  Severe (More than 10 circles checked)  High (5 to 10 circles checked)  Moderate (Fewer than 5 circles checked)  None (No circles checked)												
Neighborhood Restoration Opportunity Index  High (More than 5 diamonds checked)  Moderate (3-5 diamonds checked)  Low (Fewer than 3 diamonds checked)												-
				+	1	-	_			1		1

WATERSHED: Abyollo	SUBWATERSHED:	Unique S	UNIQUE SITE ID: NSA-14					
DATE: <u>02/20/ 20</u>	ASSESSED BY: 58, AB	CAMERA	ID:	PIC#: 908,90				
A. NEIGHBORHOOD CHARACTERI	ZATION							
Neighborhood/Subdivision Name:		N	leighborhood Area (ac	eres)				
If unknown, address (or streets) surveyed	ed;							
Homeowners Association? Y X N	Unknown If yes, name and c	ontact information:						
Residential (circle average single famile		_						
Single Family Attached (Duplexes, 2) Single Family Detached	Row Homes) $< \frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{3}$ $< \frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{2}$ $1$ $>$		family (Apts, Townhole Home Park	omes, Condos)				
Estimated Age of Neighborhood: \( \frac{1}{2} \)			ith Basements\ <u>00</u> %	INDEX*				
Sewer Service? ✓ Y ☐ N				0				
Index of Infill, Redevelopment, and Remodeling \( \sqrt{N} \) No Evidence \( \sqrt{5}\% \) of units \( \sqrt{5} \cdot 10\% \sqrt{5} > 10\% \)								
Record percent observed for eac depending on applicability		Percentage	Comments/Notes	l Tuesday				
B. YARD AND LAWN CONDITIONS								
B1. % of lot with impervious cover		70						
B2. % of lot with grass cover		30		0				
B3. % of lot with landscaping (e.g., mu	lched bed areas)	0		•				
B4. % of lot with bare soil		0		0				
*Note: B1 through B4 must total	al 100%			1998 191				
B5. % of lot with forest canopy		0						
<b>B6.</b> Evidence of permanent irrigation or	"non-target" irrigation	0		0				
		High: 0		0				
<b>B7.</b> Proportion of total neighborhood turn	rf lawns with following	Med: 30						
management status:		Low: 70						
B8. Outdoor swimming pools? ☐Y ☑1	N Can't Tell Estimated #	_		0				
<b>B9.</b> Junk or trash in yards?   ☑ Y □	N Can't Tell		•	0				
C. DRIVEWAYS, SIDEWALKS, AND	CURBS							
C1. % of driveways that are impervious	☑ N/A							
C2. Driveway Condition Clean	Stained Dirty Breaking u	p		0				
C3. Are sidewalks present? X Y \( \square\) N			<del></del>					
	with lawn clippings/leaves R	eceiving 'non-target	' irrigation	0				
What is the distance between th	<del></del>			$\Diamond$				
Is pet waste present in this area				0				
C4. Is curb and gutter present? Y		<i></i>		ļ				
	or standing water Long-term of			Ŏ				
Organic matter, leaves, lawr	n clippings			$\Diamond$				

D. ROOFTOPS												414
D1. Downspouts are directly connected to storm drains or s	anitary sewer		0						and the second	$\Diamond$	C	)
D2. Downspouts are directed to impervious surface			0									
D3. Downspouts discharge to pervious area		11	00			***************************************			MOON			
D4. Downspouts discharge to a cistern, rain barrel, etc.		(	<u> </u>									è
*Note: C1 through C4 should total 100%												
D5. Lawn area present downgradient of leader for rain gard	den? □Y⊠N								7	<	$\Diamond$	
E. COMMON AREAS												
E1. Storm drain inlets? X Y N If yes, are they stencil	ed? 🗌 Y 🔀 N	Cond	ition: [	☐ C	lean	X Di	rty (	lave	S	<	$\Diamond$	
Catch basins inspected?  Y N If yes, include			500						_	(	0	
E2. Storm water pond?  Y N Is it a wet pond or dry pond? Is it overgrown? Y N What is the estimated pond area? < 1 acre about 1 acre > 1 acre										•	$\Diamond$	
E3. Open Space? Y Y N If yes, is pet waste present? Y N dumping? Y N											0	
Buffers/floodplain present: 🗹 Y 🗌 N If yes, is encroachment evident? 🗌 Y 📜 N												
F. INITIAL NEIGHBORHOOD ASSESSMENT AND REC	Company of the Compan	of tell distributions										8
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients  Oil and Grease  Trash/Litter  Bacteria  Sediment  Other										(	9	
Recommended Actions	Describe I				ctions	s:			- 101			1300
<ul> <li>☐ Better lawn/landscaping practice?</li> <li>☐ Better management of common space?</li> <li>☐ Pond retrofit?</li> <li>☐ Multi-family Parking Lot Retrofit?</li> <li>☐ Other action(s)</li> </ul>	No roc		Y									
Initial Assessment												
NSA Pollution Severity Index												
☐ Severe (More than 10 circles checked) ☐ High (5 to 10 circles checked)												
Moderate (Fewer than 5 circles checked)			$\perp$								_	23
None (No circles checked)			_								_	_
			_		-	-		$\vdash$			$\rightarrow$	_
Neighborhood Restoration Opportunity Index			+	$\vdash$	-	+-	$\vdash$				$\dashv$	_
☐ High (More than 5 diamonds checked) ☐ Moderate (3-5 diamonds checked)			-			-				$\vdash$	$\dashv$	
Low (Fewer than 3 diamonds checked)			+	$\vdash$	$\dashv$	-		$\vdash$		$\dashv$	+	
					+						+	
				$\vdash$	$\dashv$				$\dashv$	_	-	_
				$\vdash$		+				$\dashv$	+	-
			_	$\vdash$	$\rightarrow$	_	_	-			-	

WATERSHED: Aberden	SUBWATERSHED:	Uniqu	UNIQUE SITE ID: NSA - 15					
DATE: 3/2/2020	ASSESSED BY: 58, 50		CAMERA ID: PIG					
A. NEIGHBORHOOD CHARACTERIZ	ZATION							
Neighborhood/Subdivision Name: Bo	urton Monor Apartment	\$	Neighborhood Area (acr	res)				
If unknown, address (or streets) surveyed	i:							
Homeowners Association? Y N	Unknown If yes, name and cont	act information	•					
Residential (circle average single family								
☐ Single Family Attached (Duplexes, R	ow Homes) < ½	acre 🕅 Mu	ltifamily (Apts, Townhor	nes, Condos)				
Single Family Detached	<1/4 1/4 1/2 1 >1		bile Home Park					
Estimated Age of Neighborhood: 30	years Percent of Homes with Gar	ages:%	With Basements%	INDEX*				
Sewer Service? X Y N				0				
Index of Infill, Redevelopment, and Remodeling No Evidence <5% of units 5-10% >10%								
Record percent observed for each depending on applicability		Percentage	Comments/Notes					
B. YARD AND LAWN CONDITIONS								
B1. % of lot with impervious cover		75						
B2. % of lot with grass cover		20		0				
B3. % of lot with landscaping (e.g., mulc	ched bed areas)	5		•				
<b>B4.</b> % of lot with bare soil		0		0				
*Note: B1 through B4 must tota	l 100%							
B5. % of lot with forest canopy		0		•				
B6. Evidence of permanent irrigation or "	'non-target" irrigation	0		0				
		High:		0				
<b>B7.</b> Proportion of <i>total neighborhood</i> turn management status:	f lawns with following	Med: 00						
management status.		Low:						
B8. Outdoor swimming pools? Y N	Can't Tell Estimated #	1.201		0				
B9. Junk or trash in yards?	N Can't Tell			0				
C. DRIVEWAYS, SIDEWALKS, AND	CURBS							
C1. % of driveways that are impervious	Ŋ/A							
C2. Driveway Condition Clean S	tained Dirty Breaking up			0				
C3. Are sidewalks present? X Y N	If yes, are they on one side of stree	or along be	oth sides					
Spotless Covered with lawn clippings/leaves Receiving 'non-target' irrigation								
What is the distance between the				$\Diamond$				
Is pet waste present in this area?				0				
C4. Is curb and gutter present?	N If yes, check all that apply:	=						
	r standing water  Long-term car		diment	0				
Organic matter, leaves, lawn clippings Trash, litter, or debris Overhead tree canopy								

<sup>\*</sup> INDEX: O denotes potential pollution source; denotes a neighborhood restoration opportunity

D. ROOFTOPS											
D1. Downspouts are directly connected to storm drains or sanita	ary sewer	91	5					4		0	
D2. Downspouts are directed to impervious surface											
D3. Downspouts discharge to pervious area		5	)								
D4. Downspouts discharge to a cistern, rain barrel, etc.											
*Note: C1 through C4 should total 100%		<del></del>									
D5. Lawn area present downgradient of leader for rain garden?	D Y 🖾 N								$\Diamond$		
E. COMMON AREAS		¥ 130		N. K.			ICU:			4	
E1. Storm drain inlets? Y \( \sum \) N If yes, are they stenciled?					Dir	ty			$\Diamond$		
Catch basins inspected? Y N If yes, include U					<del></del>	200			0	1	
E2. Storm water pond? Y N Is it a wet pond or What is the estimated pond area? <1 acre about	ldry pond? it 1 acre □>	ls it ov > 1 acre	vergrow	n? ∐ 1	( IXI	N			$\Diamond$		
E3. Open Space? Y N If yes, is pet waste present?			Y	□N	0				0		
Buffers/floodplain present: X Y N If yes, is encroachment evident? Y X N											
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS											
Based on field observations, this neighborhood has significant in			77. I	check a	ll tha	t appl	y)				
Nutrients  Oil and Grease  Trash/Litter  Bacteria  Sediment  Other											
Recommended Actions	Describe R										
Specific Action	REN	777	SITO	•							
Onsite retrofit potential?	1,000	311	0.15	_							
Better hanggement of common space?	RENUTT SITE POND RETROFIT										
☐ Better management of common space? ☐ Pond retrofit?											
☐ Pond retrofit? ☐ Multi-family Parking Lot Retrofit?											
Other action(s)											
Initial Assessment	<del>                                     </del>		П	ТТ	_	П	$\neg$	$\overline{}$	_		
Initial Assessment	HH		<del>                                       </del>	<del>   -</del>	+	$\vdash$	+	+	┼	<del> </del>	
NSA Pollution Severity Index	$\vdash$	-	<del>                                     </del>	1	+	$\vdash$	+	+	$\vdash$	⊢	
Severe (More than 10 circles checked)	$\vdash$	-		++	+-	$\vdash$	+	+-	-	₩	
High (5 to 10 circles checked)	$\vdash$		<del>                                     </del>	+-	$\perp$		+	+	_	Щ	
Moderate (Fewer than 5 circles checked)	$\sqcup \sqcup$		Щ	$\perp \perp$	$\perp$	$\perp$					
☐ None (No circles checked)											
Neighborhood Restoration Opportunity Index											
High (More than 5 diamonds checked)						П		$\top$			
Moderate (3-5 diamonds checked)					1		$\neg$		$\Box$		
Low (Fewer than 3 diamonds checked)							1		$\vdash$		
		$\dashv$		+	T			+			
					$\top$	$\vdash$	$\top$	+			
					+		+		$\vdash$		
		$\dashv$			+		+	+-	$\vdash$		
		$\dashv$			$\Box$		+	+			

WATERSHED:	SUBWATERSHED:	UNIQUE		
DATE: 211 120	ASSESSED BY:	CAMERA	ID:	PIC#: 425,424
A. NEIGHBORHOOD CHARACTER	IZATION		1 to	
Neighborhood/Subdivision Name:		N	Neighborhood Area (ac	res)
If unknown, address (or streets) survey	ed:			
Homeowners Association? Y	Unknown If yes, name and	contact information:		
Residential (circle average single fami	ily lot size):	_		
☐ Single Family Attached (Duplexes,			family (Apts, Townho	mes, Condos)
Single Family Detached  Estimated Age of Neighborhood: 70	<\frac{1}{4} \frac{1}{4} \frac{1}{2} 1	>1 acre  Mobi	le Home Park	I DIDEN.
	years   Percent of Homes with	Garages: () % W	7ith Basements%	
Sewer Service? Y N	111 My 711 0	50/ 0 1 🗍 5 400		0
Index of Infill, Redevelopment, and Re		3% of units ☐ 5-109	% <u></u>   >10%	0
Record percent observed for each depending on applicability		Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS				
B1. % of lot with impervious cover		30		
B2. % of lot with grass cover		60		0
B3. % of lot with landscaping (e.g., m	ulched bed areas)	10		•
B4. % of lot with bare soil		6		0
*Note: B1 through B4 must to	tal 100%			
B5. % of lot with forest canopy	2 10 200	0		•
B6. Evidence of permanent irrigation of	r "non-target" irrigation	0		0
		High:		0
<b>B7.</b> Proportion of <i>total neighborhood</i> to management status:	arf lawns with following	Med: 20		
management status.		Low: 8D		
B8. Outdoor swimming pools?	N Can't Tell Estimated #			0
	N Can't Tell			0
C. DRIVEWAYS, SIDEWALKS, AND	CURBS		Company Comments of the	259800000000
C1. % of driveways that are imperviou	s N/A	100		9492 THE
C2. Driveway Condition 🗵 Clean 🗌	Stained Dirty Breaking	ıp		0
C3. Are sidewalks present? \( \subseteq \text{Y} \)	N If yes, are they on one side of s	treet or along both	n sides 🗌	
☐ Spotless ☐ Covered	d with lawn clippings/leaves	Receiving 'non-target	' irrigation	0
What is the distance between the				$\Diamond$
Is pet waste present in this area				0
C4. Is curb and gutter present? XY				
Organic matter, leaves, law	or standing water  Long-term	debris Overhead	ment tree canony	0
	ential pollution source; $\Diamond$ deno			

**NSA** 

D. ROOFTOPS														
D1. Downspouts are directly connected to storm drains or sanita	ary sewer			0							0.01000	$\Diamond$	• (	<u> </u>
D2. Downspouts are directed to impervious surface				25										
D3. Downspouts discharge to pervious area			-	75										
D4. Downspouts discharge to a cistern, rain barrel, etc.				0							1			
*Note: C1 through C4 should total 100%	_,										ゴ			
D5. Lawn area present downgradient of leader for rain garden?	Y	]N											<b>&gt;</b>	
E. COMMON AREAS			S Van				esta							
E1. Storm drain inlets?  Y N If yes, are they stenciled?	0 0 0				2015			Dirt	у		No.	SHOPLER	$\Diamond$	
Catch basins inspected? Y N If yes, include U											_		0	
E2. Storm water pond? Y N Is it a wet pond or What is the estimated pond area? < 1 acre about					growi	1? □	] Y	□ 1	ν				$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?	Y	l dui	mpin	ng? 🗆	] Y [	$\square$ N							0	
Buffers/floodplain present: Y N If yes, is encre	oachment	evid	lent?	Y		N								
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM	MENDAT	IONS											200	
Based on field observations, this neighborhood has significant in Nutrients  Oil and Grease  Trash/Litter Bacteria						checi	k all	that	арр	ly)			•	
Recommended Actions	Describ	e Re	com	ımend	led A	ctio	ns:							
Specific Action	RA	IN (	GAS	2D6	45									
☐ Onsite retrofit potential? ☐ Better lawn/landscaping practice?				+RRE		2								
Better management of common space?														
Pond retrofit?														
☐ Multi-family Parking Lot Retrofit?														
Other action(s)														
Initial Assessment														
NCA Delludion Consultor Indon		_	4											
NSA Pollution Severity Index  ☐ Severe (More than 10 circles checked)		_	4	_	┺									
High (5 to 10 circles checked)			4		╄							$\square$		
Moderate (Fewer than 5 circles checked)		_	$\perp$											
None (No circles checked)			_	_										
			1		_									
Neighborhood Restoration Opportunity Index		_	_		_							Ш		
High (More than 5 diamonds checked)		$\perp$	_		_									
Moderate (3-5 diamonds checked)		_						Ц						
Low (Fewer than 3 diamonds checked)			$\perp$									Ш		
			4											
			_											
		4												
	$\Box$	$\perp$	$\perp$		_									

WATERSHED: Molicela	SUBWATERSHED:	UNIQUE	SITE ID: NSA-1	7
DATE: 3/2/2026	Assessed By: $SB, SD$	CAMERA	A ID:	PIC#:971,972
A. NEIGHBORHOOD CHARAC	TERIZATION			
Neighborhood/Subdivision Name:		1	Neighborhood Area (a	cres)
If unknown, address (or streets) sur	veyed:			
Homeowners Association? Y	N Unknown If yes, name and c	ontact information:		
Residential (circle average single)		_		
Single Family Attached (Duple:			family (Apts, Townho	omes, Condos)
Single Family Detached			le Home Park	. INDEX
Estimated Age of Neighborhood:		Garages:% W	Vith Basements9	
Sewer Service? X Y N	In the Market D	50/ C :	N 🗖	0
	Remodeling   No Evidence   <	5% of units ☐ 5-10°	% <u>  &gt;10%</u>	0
	each of the following indicators, bility and/or site complexity	Percentage	Comments/Notes	Caraca Ca
B. YARD AND LAWN CONDITIO	NS			
B1. % of lot with impervious cover		46		
B2. % of lot with grass cover		45		0
B3. % of lot with landscaping (e.g.	, mulched bed areas)	10		•
<b>B4.</b> % of lot with bare soil		5		0
*Note: B1 through B4 mus	t total 100%			
<b>B5.</b> % of lot with forest canopy		0		
<b>B6.</b> Evidence of permanent irrigation	on or "non-target" irrigation	0		0
		High:		0
B7. Proportion of total neighborhoo	od turf lawns with following	Med: 30		
management status:		Low: 70		
38. Outdoor swimming pools?	N ☐ Can't Tell Estimated #			0
	Y N Can't Tell	_		0
C. DRIVEWAYS, SIDEWALKS, A		A STATE OF THE STA		
C1. % of driveways that are imperv	rious N/A	100		
C2. Driveway Condition 💆 Clean	☐ Stained ☐ Dirty ☐ Breaking u			0
	N If yes, are they on one side of st		ı sides 🗌	
Spotless Cov	ered with lawn clippings/leaves 🔲 R	leceiving 'non-target	' irrigation	0
	en the sidewalk and street? ft.			$\Diamond$
Is pet waste present in this				0
	Y N If yes, check all that app			
	ring or standing water Long-term			0
Organic matter, leaves,	lawn clippings  Trash, litter, or dotential pollution source;  deno			$\Diamond$

D. ROOFTOPS																930
D1. Downspouts are directly connected to storm drains or sanita	ary sev	ver					T							<b>\Q</b>	> (	0
D2. Downspouts are directed to impervious surface					1	)										
D3. Downspouts discharge to pervious area					9	0										
D4. Downspouts discharge to a cistern, rain barrel, etc.	0320											-00				
*Note: C1 through C4 should total 100%	/															
D5. Lawn area present downgradient of leader for rain garden?	<b>'</b> 囚'		N								-				•	
E. COMMON AREAS			100													
E1. Storm drain inlets? Y N If yes, are they stenciled?										Dir	ty				$\Diamond$	
Catch basins inspected? Y N If yes, include U	100000										/		_		0	
E2. Storm water pond?  Y  N Is it a  wet pond or  What is the estimated pond area?  < 1 acre  about						ergi	rowr	1? L	] Y		N				$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?	Y	N	du	mp	ing?		Υ [	VŃ	I						0	
Buffers/floodplain present: Y N If yes, is encre	oachm	ent	evio	len	t? [	] Y		N								
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOM	MEND	ATI	ON	S												
Based on field observations, this neighborhood has significant in							g: (a	chec	k all	tha	t app	oly)			0	
Nutrients Oil and Grease Trash/Litter Bacteria														1		100
Recommended Actions	Desc															
Specific Action  Onsite retrofit potential?	F	Za	iin	į	bo	111	યા ઉ	1 +	•							
Better lawn/landscaping practice?				1	Q1	0	00	rd	-Pu	A						
Better management of common space?				•			J									
☐ Pond retrofit?																
☐ Multi-family Parking Lot Retrofit?																
Other action(s)																
Initial Assessment																
	$\sqcup \bot$	$\perp$	$\perp$													
NSA Pollution Severity Index																
☐ Severe (More than 10 circles checked) ☐ High (5 to 10 circles checked)																
Moderate (Fewer than 5 circles checked)																
None (No circles checked)			$\Box$													
Trone (No enclos encekea)																
Neighborhood Restoration Opportunity Index																
High (More than 5 diamonds checked)														П		
Moderate (3-5 diamonds checked)																
Low (Fewer than 3 diamonds checked)	П		$\neg$											П		
		$\top$	$\top$											П		
		$\top$	$\top$											П		

**NSA** 

WATERSHED: Docteer	SUBWATERSHED:	Unique	SITE ID: NSA-18	
DATE: 3/2/2000	ASSESSED BY:	CAMERA	A ID:	PIC#973, 97 4
A. NEIGHBORHOOD CHARACTERIZ	ZATION			
Neighborhood/Subdivision Name:		1	Neighborhood Area (a	cres)
If unknown, address (or streets) surveyed	d:			
Homeowners Association? Y X N	Unknown If yes, name and cont	act information:		
Residential (circle average single family				
Single Family Attached (Duplexes, R	1  (Now Homes) < 1  (Now Homes)	acre Multi	family (Apts, Townho	omes, Condos)
Single Family Detached	<1/4 1/4 1/2 1 >1		le Home Park	
Estimated Age of Neighborhood: 50	years Percent of Homes with Gar	ages:% W	Vith Basements	6 INDEX*
Sewer Service? X Y N				0
Index of Infill, Redevelopment, and Rem		of units 5-10	% 🔲 >10%	0
Record percent observed for each depending on applicability		Percentage	Comments/Notes	
B. YARD AND LAWN CONDITIONS	and of site complexity			
B1. % of lot with impervious cover		70		
B2. % of lot with grass cover		30		0
B3. % of lot with landscaping (e.g., mul-	ched bed areas)	0		•
<b>B4.</b> % of lot with bare soil		0		0
*Note: B1 through B4 must tota	al 100%			
<b>B5.</b> % of lot with forest canopy		0		•
<b>B6.</b> Evidence of permanent irrigation or	"non-target" irrigation	0		0
		High:		0
<b>B7.</b> Proportion of total neighborhood tur	f lawns with following	Med: 20		
management status:		Low: SD		
<b>B8.</b> Outdoor swimming pools? □Y ☒N	Can't Tell Estimated #			0
	N Can't Tell			•
C. DRIVEWAYS, SIDEWALKS, AND		Carried with the	Milker Service States	
C1. % of driveways that are impervious			216, 107, 107, 107, 107, 107, 107, 107, 107	
C2. Driveway Condition Clean S				0
C3. Are sidewalks present? Y N		or along bot	h sides 🗍	
	with lawn clippings/leaves Rece		20.00	0
What is the distance between the	e sidewalk and street? ft.			$\Diamond$
Is pet waste present in this area?	□ Y □ N ☒ N/A			0
C4. Is curb and gutter present? XY	N If yes, check all that apply:			
	or standing water    Long-term car		ment	0
Organic matter, leaves, lawn				$\Diamond$
* INDEX: O denotes poten	tial pollution source; 🔷 denotes	a neighborhood	d restoration opportu	inity

D. Rooftops									100							
D1. Downspouts are directly connected to storm drains or sanit	ary	sew	er	T										<	>	0
D2. Downspouts are directed to impervious surface												-211	$\neg$			
D3. Downspouts discharge to pervious area					100	5										
D4. Downspouts discharge to a cistern, rain barrel, etc.		-81-											$\dashv$			
*Note: C1 through C4 should total 100%													$\neg$			
D5. Lawn area present downgradient of leader for rain garden?	, [	] Y	ØΝ												$\Diamond$	
E. COMMON AREAS																1
E1. Storm drain inlets? Y N If yes, are they stenciled?									ı [	Dir	ty				$\Diamond$	
Catch basins inspected? Y X N If yes, include U															0	
E2. Storm water pond? Y N Is it a wet pond or What is the estimated pond area? < 1 acre about	dry ut 1	y po: acre	nd?	Is > 1	it o	verg	row	n? [	] Y		N	25.00			<b>\Q</b>	
E3. Open Space? Y Y N If yes, is pet waste present?	<b>Y</b>		N d	lump	oing	? 🔲	Y		1				$\neg$		0	
Buffers/floodplain present: XY N If yes, is encr	oacl	ımeı	nt ev	iden	ıt? [	] Y	×	N					$\neg$			
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOM	MEN	NDA'	TIO	NS			+416									
Based on field observations, this neighborhood has significant in Nutrients  Oil and Grease  Trash/Litter  Bacteria	ndic	ator Sec	s for lime	the	follo	owin ther	g: (	chec	k al	l tha	t ap	ply)			•	
Recommended Actions	D	escr	ibe l	Reco	mm	end	ed A	ctio	ns:				_			
Specific Action		3 (3	_													
Onsite retrofit potential?		N.	) <	00	M	TU.	2	BM	PS	2						
Better lawn/landscaping practice?																
☐ Better management of common space? ☐ Pond retrofit?																
☐ Multi-family Parking Lot Retrofit?																
Other action(s)																
Initial Assessment	$\vdash$		1				Γ	Г	Г	Π.	Т		$\overline{}$			
	-					$\vdash$	-	-	┢	┢		$\vdash$	┢	$\vdash$		
NSA Pollution Severity Index	┢						_		1	╁	-	$\vdash$	$\vdash$	$\vdash$		
Severe (More than 10 circles checked)	H				<u> </u>	$\vdash$				$\vdash$			$\vdash$			
High (5 to 10 circles checked)	H			$\vdash$							$\vdash$		$\vdash$	$\vdash$		
Moderate (Fewer than 5 circles checked)			-				_			-	$\vdash$	-	$\vdash$	Н	-	
☐ None (No circles checked)						H							┢		H	
Neighborhood Restoration Opportunity Index	-											-	H			
High (More than 5 diamonds checked)			$\vdash$				_						$\vdash$			
☐ Moderate (3-5 diamonds checked)		_		$\vdash$	$\vdash$	H	-							$\vdash$	57	
Low (Fewer than 3 diamonds checked)					<u> </u>								$\vdash$			-
						Н		-								
													$\vdash$		$\dashv$	-
						$\vdash$							$\vdash \vdash$	H	-	$\dashv$
				Н	H							$\vdash$	$\vdash$	$\vdash$	$\dashv$	$\dashv$
														$\Box$		$\neg$

**NSA** 

WATERSHED: Aberdeen	SUBWATERSHED:	UNIQUE	SITE ID: NSA -19	
DATE: 3/9/20	ASSESSED BY: SB, SD	CAMER	A ID:	PIC#: 17617
A. NEIGHBORHOOD CHARACTERIZ	ZATION			
Neighborhood/Subdivision Name:			Neighborhood Area (acr	res)
If unknown, address (or streets) surveyed	i:			
Homeowners Association? Y N	Unknown If yes, name and co	ntact information:		
Residential (circle average single family				
Single Family Attached (Duplexes, R		acre  Mult	ifamily (Apts, Townhor	nes, Condos)
Single Family Detached	<\/4 \\ \1 > 1		ile Home Park	
Estimated Age of Neighborhood: 80	years   Percent of Homes with G	arages: O % \	With Basements _O_%	INDEX*
Sewer Service? XY N				0
Index of Infill, Redevelopment, and Rem		% of units 🗌 5-10	% 🔲 >10%	0
Record percent observed for each depending on applicability		Percentage	Comments/Notes	Something of the second
B. YARD AND LAWN CONDITIONS				
B1. % of lot with impervious cover		40		
B2. % of lot with grass cover		50		•
B3. % of lot with landscaping (e.g., mul-	ched bed areas)	10		•
<b>B4.</b> % of lot with bare soil		0		0
*Note: B1 through B4 must tota	l 100%			
<b>B5.</b> % of lot with forest canopy		0		•
<b>B6.</b> Evidence of permanent irrigation or	'non-target" irrigation	0		0
		High:		0
<b>B7.</b> Proportion of <i>total neighborhood</i> tur management status:	f lawns with following	Med: <u>46</u>	144	
		Low: 60		
<b>B8.</b> Outdoor swimming pools? ☐Y ☒N	Can't Tell Estimated #			0
<b>B9.</b> Junk or trash in yards?	N 🗌 Can't Tell			•
C. Driveways, Sidewalks, and	CURBS			
C1. % of driveways that are impervious	□ N/A	100		
C2. Driveway Condition Clean S	tained Dirty Breaking up			0
C3. Are sidewalks present? $\square$ Y $\bowtie$ N	If yes, are they on one side of stre	eet or along bot	h sides 🗌	
☐ Spotless ☐ Covered	with lawn clippings/leaves Re	ceiving 'non-targe	t' irrigation	0
What is the distance between the	sidewalk and street? ft.	_		$\Diamond$
Is pet waste present in this area?	☐ Y ☐ N ☐ N/A	No. or		0
C4. Is curb and gutter present? XY	☐ N If yes, check all that apply			
	r standing water  Long-term ca		iment	0
Organic matter, leaves, lawn	clippings Trash, litter, or de	bris  Overhead	tree canopy	•

D. ROOFTOPS							5 A					3.0		
D1. Downspouts are directly connected to storm drains or sani	tary sew	er	T	(	$\mathcal{C}$							0	> (	0
D2. Downspouts are directed to impervious surface			T	20	5						$\neg$	XZ		
D3. Downspouts discharge to pervious area				80	)						$\neg$			
D4. Downspouts discharge to a cistern, rain barrel, etc.			$\top$	0										1011
*Note: C1 through C4 should total 100%			_								ゴ			
D5. Lawn area present downgradient of leader for rain garden	? 🔯 Y	□N	$\perp$										•	
E. COMMON AREAS			200											
E1. Storm drain inlets? X Y N If yes, are they stenciled?							ın 🗆	Diı	ty				$\Diamond$	
Catch basins inspected? Y N If yes, include to													0	11-12
E2. Storm water pond? ☐ Y ☒ N Is it a ☐ wet pond or ☐ What is the estimated pond area? ☐ <1 acre ☐ about	dry por	nd?	Is > 1 s	it ov	/ergro	wn? [	ΙY		N				$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?					r	7 1	N	-					0	
Buffers/floodplain present: ☒ Y ☐ N If yes, is enc			_								1			1000
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOM								W.		199				
Based on field observations, this neighborhood has significant						(che	ck al	l tha	t app	oly)				
Nutrients Oil and Grease Trash/Litter Bacteri													0	
Recommended Actions	Descri	ibe R	leco	mm	ended	Acti	ons:							
Specific Action		۱ . ۱	1		3~ -	,								
Onsite retrofit potential?	<7	IIM	Ct	MY	2061 2061	177								
Better lawn/landscaping practice?	121	YIN	13	ASZ	261	.5								
<ul><li>☐ Better management of common space?</li><li>☐ Pond retrofit?</li></ul>	(0	W.C.	~	14	ION	. A:	1.5%	-/A	DA	v.				
☐ Multi-family Parking Lot Retrofit?		NX	<b>火</b> /	17/13	المر	U.		501.	2 4 8 4					
<u></u>														
Other action(s)	<del>├</del>							_	_	_				
Initial Assessment	<u> </u>	$\sqcup$		$\sqcup$	$\vdash \vdash$		$oldsymbol{\perp}$	1	<u> </u>					
NSA Pollution Severity Index	$\vdash$	$\vdash$	$\vdash$	Щ		+	+	-	_					
Severe (More than 10 circles checked)	$\vdash \vdash$	$\vdash$	_	Щ			_	$oldsymbol{ol}}}}}}}}}}}}}}}}}$	_					
☐, High (5 to 10 circles checked)				Ш	$\vdash$			_						
✓ Moderate (Fewer than 5 circles checked)														
None (No circles checked)												- 200		
Trong (and amountary)												$\Box$		
Neighborhood Restoration Opportunity Index						$\top$								
☐ High (More than 5 diamonds checked)			$\neg$			$\top$					$\Box$			
✓ Moderate (3-5 diamonds checked)			$\neg$	$\Box$	$\top$		$\dagger$				$\Box$	$\sqcap$	$\dashv$	
Low (Fewer than 3 diamonds checked)		$\vdash \vdash$	$\neg$	$\Box$	$\neg$		+		Н		$\neg$	$\Box$	_	
			$\dashv$	$\vdash$		+				$\dashv$			$\dashv$	
	$\vdash$	$\vdash$	$\dashv$		+	_				$\dashv$			$\dashv$	-
	$\vdash$	-	$\dashv$		+	+	$\vdash$		$\vdash$	-		$\dashv$	$\dashv$	
	$\vdash$	$\vdash$	$\dashv$	$\rightarrow$	+	+-	₩		$\vdash$			$\rightarrow$	$\dashv$	
							1 1	1						

WATERSHED: Aberden	SUBWATERSHED:		UNIQUE	SITE ID: NSA-20	)
DATE: 3/9/20	ASSESSED BY: SB, SD		CAMERA	ID:	PIC#: 🛞 🕏
A. NEIGHBORHOOD CHARACTERIZ	ATION				
Neighborhood/Subdivision Name:				Neighborhood Area (ac	res)
Homeowners Association? Y N Residential (circle average single family Single Family Attached (Duplexes, R Single Family Detached	ow Homes) <	ontact info acre 1 acre	☐ Multi	family (Apts, Townhor	mes, Condos)
Estimated Age of Neighborhood:				/ith Basements \( \triangle \)%	INDEX*
Sewer Service? XY N					0
Index of Infill, Redevelopment, and Rem	odeling No Evidence <	% of unit	s 🔲 5-109	% □ >10%	0
Record percent observed for each		Pen	centage	Comments/Notes	
B. YARD AND LAWN CONDITIONS	inwor sue complexity				
B1. % of lot with impervious cover		1 (	0		
B2. % of lot with grass cover			30		0
B3. % of lot with landscaping (e.g., mulc	ched bed areas)		0	340 > 2 >	•
<b>B4.</b> % of lot with bare soil		_	5		Ö
*Note: B1 through B4 must total	1 100%				
B5. % of lot with forest canopy	3.000		2		•
B6. Evidence of permanent irrigation or "	non-target" irrigation	C	7		0
		High:	631		0
<b>B7.</b> Proportion of total neighborhood turn	f lawns with following	Med:	80		
management status:		Low:	10		
<b>B8.</b> Outdoor swimming pools? □Y ☒N	Can't Tell Estimated #				0
	N Can't Tell				0
C. DRIVEWAYS, SIDEWALKS, AND C	CURBS	A CONTRACTOR			
C1. % of driveways that are impervious	₩ N/A				
C2. Driveway Condition Clean S	tained Dirty Breaking up	)		78-3 27 ( <del>4</del> 0)	0
C3. Are sidewalks present? XY N	If yes, are they on one side of str	eet or	along both	n side	
Control of the Contro	with lawn clippings/leaves R	eceiving '	non-target	' irrigation	0
What is the distance between the					$\Diamond$
Is pet waste present in this area?					0
C4. Is curb and gutter present? Y	N If yes, check all that appl				
Clean and Dry Flowing o				ment	0
* INDEX: O denotes notent	clippings  Trash, litter, or detail pollution source;  denot				The state of the s

D. ROOFTOPS	N. S. W.				7									
D1. Downspouts are directly connected to storm drains or sanita	ary sewe	r	Τ	0	•							0	> (	0
D2. Downspouts are directed to impervious surface				2	)								8/8	
D3. Downspouts discharge to pervious area				8(	$\overline{}$									
D4. Downspouts discharge to a cistern, rain barrel, etc.				0										
*Note: C1 through C4 should total 100%											$\Box$			
D5. Lawn area present downgradient of leader for rain garden?	×Υ	□N											W	
E. COMMON AREAS		9												
E1. Storm drain inlets? X Y N If yes, are they stenciled?	XY	] N	Con	ditio	n: 🔲 (	Clean	Ø	Dirt	ty			18.1	<b>*</b>	
Catch basins inspected? X Y N If yes, include U								_					0	
E2. Storm water pond? \( \overline{\text{N}} \) Y \( \overline{\text{N}} \) Is it a \( \overline{\text{N}} \) wet pond or \( \overline{\text{W}} \) wet pond or \( \overline{\text{D}} \) about a cre \( \overline{\text{D}} \) about	dry poi	nd? □:>	Is > 1 a	it ov	ergrow	n? [	] Y	<b>X</b>	N				$\Diamond$	
E3. Open Space? Y N If yes, is pet waste present?					☐ Y		ſ						0	
Buffers/floodplain present: XY N If yes, is encre	oachmer	t evi	den	t? 🔲	Y [	N								
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM				10.00					有 if					
Based on field observations, this neighborhood has significant in						chec	k all	that	t app	ly)				
Nutrients Oil and Grease Trash/Litter A Bacteria										_	1		•	
Recommended Actions	Descr	be R	leco	mme	nded A	Actio	ns:							
Specific Action	TRE	ATT	ED	B	4 0	1	NE	TE	NO	DS	١			
Onsite retrofit potential?	(40) 529				2							A.D.e	2 /3	~
Better lawn/landscaping practice?	MC	) Ki	UF.	1	Je. 1	erand the	n Ci	I found	We h	6.16	1 D	310-1	كرزا	<u>پ</u>
<ul><li>☐ Better management of common space?</li><li>☐ Pond retrofit?</li></ul>	ĺ													
☐ Multi-family Parking Lot Retrofit?														
Other action(s)														
Initial Assessment					Т	Т	1							
Initial Assessment	$\vdash\vdash$				+	╁				_	$\vdash$			
NSA Pollution Severity Index	H	-		$\dashv$	+	+		$\vdash$		3				
Severe (More than 10 circles checked)	$\vdash$	Н		-	_	+-	_	-						
☐ High (5 to 10 circles checked)	$\vdash$			$\dashv$	_	+			<u> </u>	-				_
✓ Moderate (Fewer than 5 circles checked)				-	_		_							
☐ None (No circles checked)		$\square$		_		-								
												-		
Neighborhood Restoration Opportunity Index				_		+						$\Box$		
High (More than 5 diamonds checked)		$\sqcup$		_										
✓ Moderate (3-5 diamonds checked)				_				. 3						
Low (Fewer than 3 diamonds checked)														

**NSA** 

WATERSHED: Morder	SUBWATERSHED:	UNIQU	JE SITE ID: NSA-21	S - 5.48 W
DATE: 3/9/20	ASSESSED BY:			PIC#: 178,17
A. NEIGHBORHOOD CHARACTERIZ	CATION			
Neighborhood/Subdivision Name: Th			Neighborhood Area (ac	eres)
If unknown, address (or streets) surveyed	i: <sup>0</sup>			
Homeowners Association? Y N	Unknown If yes, name and con	ntact information	n:	
Residential (circle average single family		7		
Single Family Attached (Duplexes, R	5.52	93 <u>*</u>	ultifamily (Apts, Townho	mes, Condos)
Single Family Detached	<1/4 1/4 1/2 1 >1		obile Home Park	
Estimated Age of Neighborhood: 60	years Percent of Homes with G	arages:%	With Basements	
Sewer Service? X Y N				0
Index of Infill, Redevelopment, and Rem		% of units 🔲 5-	10% 🗌 >10%	0
Record percent observed for each depending on applicability		Percentage	e Comments/Notes	
B. YARD AND LAWN CONDITIONS				
B1. % of lot with impervious cover		70		
B2. % of lot with grass cover		30		0
B3. % of lot with landscaping (e.g., mulc	ched bed areas)	0		•
<b>B4.</b> % of lot with bare soil		0		0
*Note: B1 through B4 must tota	l 100%			
<b>B5.</b> % of lot with forest canopy		0		•
<b>B6.</b> Evidence of permanent irrigation or "	'non-target" irrigation	0		0
		High: 30		
<b>B7.</b> Proportion of <i>total neighborhood</i> turn management status:	f lawns with following	Med: 70	200	
management status.		Low:		
<b>B8.</b> Outdoor swimming pools? \(\sigma\)Y\(\sigma\)N	Can't Tell Estimated #			0
B9. Junk or trash in yards?	N Can't Tell			0
C. DRIVEWAYS, SIDEWALKS, AND	CURBS			
C1. % of driveways that are impervious	Ŋ N/A			
C2. Driveway Condition Clean S	tained Dirty Breaking up	,	•	0
C3. Are sidewalks present? XY N				
	with lawn clippings/leaves Re	eceiving 'non-tar	get' irrigation	0
What is the distance between the				$\Diamond$
Is pet waste present in this area?				0
C4. Is curb and gutter present? Y	N If yes, check all that apply		1	
Organic matter, leaves, lawn	r standing water  Long-term ca clippings  Trash, litter, or de	100000		0
	tial pollution source; $\diamondsuit$ denote			

D. ROOFTOPS				4								
D1. Downspouts are directly connected to storm drains or sanita	ary sewer		(	)					11 20 12 20 20 20 20 20 20 20 20 20 20 20 20 20		$\Diamond$	0
D2. Downspouts are directed to impervious surface			Ć	)						1		
D3. Downspouts discharge to pervious area			)(	00							7 7 E	
D4. Downspouts discharge to a cistern, rain barrel, etc.			C	)								
*Note: C1 through C4 should total 100%		$\overline{}$				,						
D5. Lawn area present downgradient of leader for rain garden?	□ Y D	<u>И</u>									$\Diamond$	
E. COMMON AREAS												
E1. Storm drain inlets? Y N If yes, are they stenciled?							Dirt	y			$\Diamond$	
Catch basins inspected?  Y N If yes, include U										_	0	
E2. Storm water pond? Y N Is it a wet pond or What is the estimated pond area? < 1 acre about	dry pond	d? I □ > 1	s it ov	ergrov	vn? L	] Y		٧			$\Diamond$	
E3. Open Space? Y \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				Пү	TI N	J		a		24	0	
Buffers/floodplain present: Y X N If yes, is encre												
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM			III.		J 14						2534	ASSES
Based on field observations, this neighborhood has significant in		100000000000000000000000000000000000000	follo	wing:	(chec	k all	l that	appl	ν)			
Nutrients Oil and Grease Trash/Litter Bacteria					(0	//		wpp.	_		0	
Recommended Actions	Describ	e Rec	omm	ended .	Actio	ns:			illest			
Specific Action	WAT	TER	DE	PINA	es,	(	au	CRE	516	-7	t577a	H
Onsite retrofit potential?	00	na =	~0	SLUE						10 L		`',
Better lawn/landscaping practice?	Ku	10L/20	2/<	JUN	٥							
☐ Better management of common space? ☐ Pond retrofit?												
☐ Pond retrofit? ☐ Multi-family Parking Lot Retrofit?												
Other action(s)												
	<del>                                     </del>		1		Т	Т		$\overline{}$	_	_		_
Initial Assessment	$\vdash\vdash\vdash$	+	+-		+-	-	$\vdash \vdash$	$\dashv$	+	+	+	+
NSA Pollution Severity Index	$H \rightarrow$	+	+		+	-	$\vdash$	-	+	+	+	+
Severe (More than 10 circles checked)	$\vdash \vdash \vdash$	+	+	-	+	-		$\dashv$	+	+	+	$+\!\!-$
High (5 to 10 circles checked)	$\vdash$	+	+		+		$\vdash$	-	+	+	-	+
Moderate (Fewer than 5 circles checked)	$\vdash$		$\bot$				Щ	$\perp$	4	$\dashv$	$\bot$	╀
None (No circles checked)			$\perp$							$\perp$		
Neighborhood Restoration Opportunity Index												
High (More than 5 diamonds checked)							$\Box$		T		$\top$	$\top$
☐ Moderate (3-5 diamonds checked)			$\dagger \Box$					$\neg$	十	$\top$	$\top$	$\top$
Low (Fewer than 3 diamonds checked)		$\top$	$\dagger \dagger$		+		$\Box$		$\top$	$\top$	+	+
		$\dashv$	+	_	+	Н	$\vdash$	-+	十	+	+	+
	<del>                                     </del>	$\dashv$	+		+	Н	$\vdash$	$\dashv$	+	+	+	-
	<del>                                     </del>		+		+-	Н	$\vdash$	+	+	+	+	+-
	$\vdash$	+	+		-		-	+	+	+	+	-
	$\vdash$	+	+	+	+	$\vdash$	$\vdash$	+	+	+	+	+-
	1 1		1 1		1 1	l I	i L				1	1 1

D. ROOFTOPS							
D1. Downspouts are directly connected to storm drains or sa	anitary sewer	0				<	> C
D2. Downspouts are directed to impervious surface		0					
D3. Downspouts discharge to pervious area		100					
D4. Downspouts discharge to a cistern, rain barrel, etc.		6					
*Note: C1 through C4 should total 100%					30.000 (3.000)		
D5. Lawn area present downgradient of leader for rain gard	en? Y N						$\Diamond$
E. COMMON AREAS							
E1. Storm drain inlets? X Y N If yes, are they stencile	ed? □Y⊠N	Condition:	Clea	n 🛛 D	irty		$\Diamond$
Catch basins inspected? Y N If yes, includ	le Unique Site ID	from SSD	sheet:				O
E2. Storm water pond? YN Is it a wet pond of What is the estimated pond area? < 1 acre a	r dry pond?	Is it over	grown?[	] Y [	] N		$\Diamond$
E3. Open Space? Y N If yes, is pet waste present?	Y N du	ımping?	] Y 🔲	N		4.4	0
Buffers/floodplain present: X Y N If yes, is e							
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECO				1000			
Based on field observations, this neighborhood has significant			g: (che	ck all th	at apply)		
Nutrients Oil and Grease Trash/Litter Bact	eria Sedimen	t 🗌 Other	. (che	-	at uppiy)		•
Recommended Actions	Describe Re	ecommend	ed Actio	ons:			
Specific Action		^	( 0	1-0-	.1-1-		
Onsite retrofit potential?	NO 1001	m tar	1911	DON	(015/18	3410	106 CK
☐ Better lawn/landscaping practice?							U
☐ Better management of common space?							
Pond retrofit?							
☐ Multi-family Parking Lot Retrofit?							
Other action(s)							
	_		T				
Initial Assessment							$\perp \perp$
NSA Pollution Severity Index							
Severe (More than 10 circles checked)							
High (5 to 10 circles checked)						ka	
Moderate (Fewer than 5 circles checked)							
None (No circles checked)				1		_	+
Neighborhood Restoration Opportunity Index							
High (More than 5 diamonds checked)						_	++
Moderate (3-5 diamonds checked)	<del>                                      </del>		$\vdash$		+++		++
Low (Fewer than 3 diamonds checked)	1	1 1		1 1			1 1
Tewer man 5 diamonds checked)							+-

WATERSHED: Alledon	SUBWATERSHED:	Unique S	SITE ID: NSA-22					
DATE: 2 /20/20	Assessed By: AB, SB	CAMERA	ID:	Pic#: 916,91				
A. NEIGHBORHOOD CHARACTERI	ZATION							
Neighborhood/Subdivision Name:		N	eighborhood Area (ac	res)				
Homeowners Association? Y N N Residential (circle average single family	y lot size):	_						
☐ Single Family Attached (Duplexes, I☐ Single Family Detached	Row Homes) $<\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{3}$ $<\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{2}$ 1 >1		family (Apts, Townho e Home Park	mes, Condos)				
Estimated Age of Neighborhood: 75			ith Basements <u>O</u> %	INDEX*				
Sewer Service? ⊠ Y □ N				0				
Index of Infill, Redevelopment, and Remodeling ⊠ No Evidence ☐ <5% of units ☐ 5-10% ☐ >10%								
Record percent observed for each of the following indicators, depending on applicability and/or site complexity  Percentage Comments/Notes								
B. YARD AND LAWN CONDITIONS		25						
B1. % of lot with impervious cover		35						
B2. % of lot with grass cover		65		•				
B3. % of lot with landscaping (e.g., mu	iched bed areas)	0		•				
<b>B4.</b> % of lot with bare soil	11000/			0				
*Note: B1 through B4 must total	al 100%	-		Ax				
B5. % of lot with forest canopy		0		•				
<b>B6.</b> Evidence of permanent irrigation or	"non-target" irrigation	U		0				
<b>B7.</b> Proportion of <i>total neighborhood</i> tu	rf lawns with following	High:		0				
management status:	Trawns with following	Med: 20						
		Low: <u>80</u>						
<b>B8.</b> Outdoor swimming pools? \( \sum Y \)	N Can't Tell Estimated #		300000000000000000000000000000000000000	0				
<b>B9.</b> Junk or trash in yards?	N Can't Tell			0				
C. DRIVEWAYS, SIDEWALKS, AND	Curbs							
C1. % of driveways that are impervious	N/A	100						
C2. Driveway Condition 🛱 Clean 🗌	Stained Dirty Breaking up			0				
C3. Are sidewalks present? \( \sum Y \) \( \sum \)								
	l with lawn clippings/leaves Rec	eiving 'non-target	ririgation	, o				
What is the distance between the				<u> </u>				
Is pet waste present in this area  C4. Is curb and gutter present? X Y	<ul><li>?  ☐ Y ☐ N ☐ N/A</li><li>☐ N If yes, check all that apply:</li></ul>			0				
	or standing water \( \sum_{\text{Long-term car}} \)	parking Sedi	ment	0				
Organic matter, leaves, law	<u></u>			**				

\* INDEX: O denotes potential pollution source;  $\diamondsuit$  denotes a neighborhood restoration opportunity

WATERSHED: ALOUGULA	SUBWATERSHED:	UNIQUE	SITE ID: NSA- 23	3				
DATE: 2/20/20	ASSESSED BY: AB, SB	CAMERA		Pic#:9/4,91				
A. NEIGHBORHOOD CHARACTE	CRIZATION							
Neighborhood/Subdivision Name:			Neighborhood Area (acr	res)				
If unknown, address (or streets) surve	eyed:							
Homeowners Association? TY	N Unknown If yes, name and	contact information:						
Residential (circle average single far				<del></del> -				
	s, Row Homes) $< \frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{3}$			nes, Condos)				
Single Family Detached Estimated Age of Neighborhood: 5	<li>&lt;1/4 1/4 1/2 1 :</li> <li>years   Percent of Homes with</li>	Sarages: O % V	ile Home Park	INDEV				
Sewer Service? X Y N	5 years   Tercent of Homes with	Garages	viii Basements <u>0</u> %	INDEX*				
- 100 W W W W W W W W W W W W W W W W W W	Index of Infill, Redevelopment, and Remodeling No Evidence <5% of units 5-10% >10%							
	ach of the following indicators,			0				
depending on applicabil	ity and/or site complexity	Percentage	Comments/Notes	of sales				
B. YARD AND LAWN CONDITION	S							
B1. % of lot with impervious cover		40						
B2. % of lot with grass cover		30		<b>D</b> .				
B3. % of lot with landscaping (e.g., n	nulched bed areas)	0		•				
B4. % of lot with bare soil		0		0				
*Note: B1 through B4 must t	total 100%							
<b>B5.</b> % of lot with forest canopy		0						
<b>B6.</b> Evidence of permanent irrigation	or "non-target" irrigation	0		0				
<b>D</b> D		High: O		0				
<b>B7.</b> Proportion of <i>total neighborhood</i> management status:	turi lawns with following	Med: <u>(40</u>						
		Low: <u>40</u>						
<b>B8.</b> Outdoor swimming pools? \( \subseteq \text{Y} \subseteq	N Can't Tell Estimated #	_		0				
<b>B9.</b> Junk or trash in yards?	N Can't Tell			0				
C. DRIVEWAYS, SIDEWALKS, AN	D CURBS							
C1. % of driveways that are impervio	us 🗖 N/A							
C2. Driveway Condition Clean	Stained Dirty Breaking a	ıp		0				
C3. Are sidewalks present? X Y Spotless Cover	N If yes, are they on one side of st ed with lawn clippings/leaves \[ \square \] I			0				
	the sidewalk and street? _O_ ft.			<b>\Q</b>				
Is pet waste present in this are				Ŏ				
	Y N If yes, check all that app							
	g or standing water Long-term			O				
Organic matter, leaves, la	wn cuppings $\square$ Trash, litter, or o	debris 🗌 Overhead	tree canopy	$\Diamond$				

<sup>\*</sup> INDEX: O denotes potential pollution source;  $\diamondsuit$  denotes a neighborhood restoration opportunity

D. ROOFTOPS		THE STATE OF	print 10										
D1. Downspouts are directly connected to storm drains or sanita	ry sewer		(	<u> </u>					73.6	$\Diamond$	0		
D2. Downspouts are directed to impervious surface			0	)									
D3. Downspouts discharge to pervious area			1(	00									
D4. Downspouts discharge to a cistern, rain barrel, etc.			-	Ö									
*Note: C1 through C4 should total 100%									$\perp$				
<b>D5.</b> Lawn area present downgradient of leader for rain garden?	Ϋ́	N								•	*		
E. COMMON AREAS													
E1. Storm drain inlets? X Y N If yes, are they stenciled?						n 🛛	Dirty			$\Diamond$	>		
Catch basins inspected? Y X N If yes, include U	10.00								_	0	)		
E2. Storm water pond? ☐ Y X N Is it a ☐ wet pond or ☐ What is the estimated pond area? ☐ <1 acre ☐ about	dry pon	d? □ >	Is it 1 acr	overgi re	own?	] Y	□N			$\Diamond$			
E3. Open Space?   ✓ Y   N If yes, is pet waste present?	ΥXI	V du	mpin	g? 🔲	Y 🔯 1	N				0			
Buffers/floodplain present: 🗌 Y 🔀 N If yes, is encroachment evident? 🗌 Y 🔲 N													
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS													
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients Oil and Grease Trash/Litter Bacteria Sediment Other										0	P		
Pacammandad Actions  Describe Pacammandad Actions											2.200-20		
Specific Action	Revision Confi		~	400	tal	206	a(n .	$\sim$	00	0/0			
Onsite retrofit potential?	Revis	DIT	- fr	ושוכ	/ JA	She		ا ۱۰	Y,	· (2)	0-00		
☐ Better lawn/landscaping practice?	Chi	כלי	C	224	1 60	WII	- 4 -	105	Ų	Di a	NAM		
Better management of common space?	2%0	Na		lich	del	L.CY	U						
Pond retrofit?		C	)										
<ul><li>☐ Multi-family Parking Lot Retrofit?</li><li>☐ Other action(s)</li></ul>													
Initial Assessment								1		$\overline{}$	$\neg \dashv$		
Initial Assessment	$\vdash$							+	$\vdash$	_	+		
NSA Pollution Severity Index	-		+	+							+		
Severe (More than 10 circles checked)	$\dashv$	$\dashv$		+	_	$\vdash$		+			-		
High (5 to 10 circles checked)		$\dashv$	+			+	_						
Moderate (Fewer than 5 circles checked)			+	+			_	+-		-	+		
☐ None (No circles checked)		-	_				_			+			
Neighborhood Restoration Opportunity Index		1						+		+	+		
High (More than 5 diamonds checked)										$\top$	$\top$		
✓ Moderate (3-5 diamonds checked)										_	+		
Low (Fewer than 3 diamonds checked)													
				$\Box$									
		1		$\top$					$\top$	$\neg$	$\dagger \dagger$		
											$\top$		
											$\Box$		

WATERSHED: A Decolly Subwatershed:  DATE: 2/20 20  ASSESSED BY: A B S CAMERA ID: PIC#: 9 2  A. NEIGHBORHOOD CHARACTERIZATION  Neighborhood/Subdivision Name: Neighborhood Area (acres)  If unknown, address (or streets) surveyed:  Homeowners Association? Y N Unknown If yes, name and contact information: Residential (circle average single family lot size):  Single Family Attached (Duplexes, Row Homes) 1/3 1/3 acre Mobile Home Park  Estimated Age of Neighborhood: 40 years Percent of Homes with Garages: 0 % With Basements 0 % INDEX  Sewer Service? Y N N  Index of Infill, Redevelopment, and Remodeling No Evidence 55% of units 5-10% >10%  Record percent observed for each of the following indicators, Percentage Comments/Notes
Neighborhood/Subdivision Name:  If unknown, address (or streets) surveyed:  Homeowners Association?  Y N Unknown If yes, name and contact information:  Residential (circle average single family lot size):  Single Family Attached (Duplexes, Row Homes)
If unknown, address (or streets) surveyed:  Homeowners Association?  Y N Unknown If yes, name and contact information:  Residential (circle average single family lot size):  Single Family Attached (Duplexes, Row Homes)
Homeowners Association?  Y N Unknown If yes, name and contact information:  Residential (circle average single family lot size):  Single Family Attached (Duplexes, Row Homes)
Residential (circle average single family lot size):  Single Family Attached (Duplexes, Row Homes) Single Family Detached Single Family Detached  ''\sqrt{1}\s
Single Family Attached (Duplexes, Row Homes) Single Family Detached Single Family Attached (Duplexes, Row Homes) Single Family Attached (Duplexes, Row Homes) Single Family Detached Single Family Attached (Duplexes, Row Homes) Single Family Detached Single
Single Family Detached
Estimated Age of Neighborhood:
Sewer Service?  Y N  Index of Infill, Redevelopment, and Remodeling  No Evidence  5% of units 5-10% >10%  Record percent observed for each of the following indicators,
Index of Infill, Redevelopment, and Remodeling No Evidence <5% of units 5-10% >10%  Record percent observed for each of the following indicators,  Percentage Community (Notes)
Record percent observed for each of the following indicators,  Percentage Comments (Notes
depending on applicability and/or site complexity
B. YARD AND LAWN CONDITIONS
B1. % of lot with impervious cover
B2. % of lot with grass cover
B3. % of lot with landscaping (e.g., mulched bed areas)
B4. % of lot with bare soil
*Note: B1 through B4 must total 100%
B5. % of lot with forest canopy
B6. Evidence of permanent irrigation or "non-target" irrigation
High: O
B7. Proportion of total neighborhood turf lawns with following management status:  Med: 10
Low: 36
B8. Outdoor swimming pools? Y N Can't Tell Estimated #
B9. Junk or trash in yards?
C. DRIVEWAYS, SIDEWALKS, AND CURBS
C1. % of driveways that are impervious 🔀 N/A
C2. Driveway Condition Clean Stained Dirty Breaking up
C3. Are sidewalks present? X Y N If yes, are they on one side of street or along both sides
Spotless Covered with lawn clippings/leaves Receiving 'non-target' irrigation
What is the distance between the sidewalk and street? 4 ft.
Is pet waste present in this area? Y X N N/A
C4. Is curb and gutter present? X Y N If yes, check all that apply:    Clean and Dry   Flowing or standing water   Long-term car parking   Sediment
☐ Organic matter, leaves, lawn clippings ☐ Trash, litter, or debris ☐ Overhead tree canopy

<sup>\*</sup> INDEX: O denotes potential pollution source;  $\diamondsuit$  denotes a neighborhood restoration opportunity

D. ROOFTOPS				ALL			1000 mm							of the second
D1. Downspouts are directly connected to storm drains or sanita	ry sew	er		(	)							$\Diamond$	C	5
D2. Downspouts are directed to impervious surface				O										
D3. Downspouts discharge to pervious area				10	0									
D4. Downspouts discharge to a cistern, rain barrel, etc.				0								2 1950		gie.
*Note: C1 through C4 should total 100%					0					200				
<b>D5.</b> Lawn area present downgradient of leader for rain garden?	☐ Y	Ν									2	<	$\Diamond$	
E. COMMON AREAS														
E1. Storm drain inlets? XY \( \subseteq \) N If yes, are they stenciled?  Catch basins inspected? \( \subseteq \) Y \( \subseteq \) N If yes, include Us	nique S	Site II	) fro	m S	SD sh	eet:							○ C	
E2. Storm water pond? ☐ Y ☐ N Is it a ☐ wet pond or ☐ What is the estimated pond area? ☐ <1 acre ☐ about						own? [		[X]	N		Control of	(	>	
E3. Open Space? X Y N If yes, is pet waste present?	ΥΣ	N d	lump	ing?		Y 🔯	N					(	2	
Buffers/floodplain present:  Y X N If yes, is encroachment evident?  Y N														
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM	1END	ATION	NS											
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)  Nutrients  Oil and Grease  Trash/Litter  Bacteria  Sediment  Other												•	9	
Recommended Actions Specific Action	Desc	ribe F	Reco	mme	ende	l Acti	ons:							$\neg$
<ul> <li>☐ Onsite retrofit potential?</li> <li>☐ Better lawn/landscaping practice?</li> <li>☐ Better management of common space?</li> <li>☐ Pond retrofit?</li> <li>☐ Multi-family Parking Lot Retrofit?</li> <li>☐ Other action(s)</li> </ul>	No	(OC	m	†	O.C	1811	1	Dog	10.	) [ ]	101	1116	Jan	
Initial Assessment														コ
NSA Pollution Severity Index  Severe (More than 10 circles checked) High (5 to 10 circles checked) Moderate (Fewer than 5 circles checked) None (No circles checked)  Neighborhood Restoration Opportunity Index High (More than 5 diamonds checked) Moderate (3-5 diamonds checked) Low (Fewer than 3 diamonds checked)														

WATERSHED: Aleccolor	SUBWATERSHED:	UNIQUE	SITE ID: NSA - 25	5			
DATE: <u>2/20/20</u>	ASSESSED BY: AB, SB	CAMERA		Pic#: 9/0,9/			
A. NEIGHBORHOOD CHARACTERI	ZATION						
Neighborhood/Subdivision Name:		1	Neighborhood Area (acr	res)			
If unknown, address (or streets) surveyed	i:		,	,			
Homeowners Association? Y N	Unknown If yes, name and co	ntact information:					
Residential (circle average single family		-					
Single Family Attached (Duplexes, F	Now Homes) $<\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{1}$	3 acre  Mult	ifamily (Apts, Townhor	nes, Condos)			
Single Family Detached	<1/4 (1/4) 1/2 1 >1	acre  Mobi	le Home Park				
Estimated Age of Neighborhood: 70	years Percent of Homes with Ga	arages:% W	7ith Basements 100%	INDEX*			
Sewer Service? Y Y N				0			
Index of Infill, Redevelopment, and Remodeling No Evidence <5% of units 5-10% >10%							
Record percent observed for each depending on applicability		Percentage	Comments/Notes				
B. YARD AND LAWN CONDITIONS							
B1. % of lot with impervious cover		40					
B2. % of lot with grass cover		(oO		•			
B3. % of lot with landscaping (e.g., mul	ched bed areas)	0		•			
B4. % of lot with bare soil		0		0			
*Note: B1 through B4 must tota	1 100%						
<b>B5.</b> % of lot with forest canopy		0		•			
<b>B6.</b> Evidence of permanent irrigation or	'non-target" irrigation	(2)		0			
		High: 10		0			
<b>B7.</b> Proportion of total neighborhood tur	f lawns with following	Med: <u>45</u>					
management status:		Low: 45					
<b>B8.</b> Outdoor swimming pools? □Y ☒N	Can't Tell Estimated #			0			
	N Can't Tell	-		0			
			To a street street street	0			
<ul><li>C. DRIVEWAYS, SIDEWALKS, AND C</li><li>C1. % of driveways that are impervious</li></ul>	N/A	T					
C2. Driveway Condition Clean S		4 🗆	-, -	0			
C3. Are sidewalks present?   ✓ Y   N  ✓ Spotless   ✓ Covered	with lawn clippings/leaves  Re			0			
What is the distance between the	• • • • • • • • • • • • • • • • • • • •			$\diamond$			
Is pet waste present in this area?				ŏ			
	☐ N If yes, check all that apply						
🔀 Clean and Dry 🗌 Flowing o	r standing water 🗌 Long-term ca	r parking 🔲 Sedi	ment	0			
Organic matter, leaves, lawn	clippings Trash, litter, or del	oris Overhead	tree canopy	$\Diamond$			

D. ROOFTOPS										
D1. Downspouts are directly connected to storm drains or sanita	iry sewer	0				<	> 0			
D2. Downspouts are directed to impervious surface		10								
D3. Downspouts discharge to pervious area		90				950				
D4. Downspouts discharge to a cistern, rain barrel, etc.		0								
*Note: C1 through C4 should total 100%										
D5. Lawn area present downgradient of leader for rain garden?	YN						$\Diamond$			
E. COMMON AREAS										
E1. Storm drain inlets? Y N If yes, are they stenciled?				ı 🗌 Di	rty		$\Diamond$			
Catch basins inspected? \( \sum \) \( \sum \				7 * 7 🖂	<u></u>	-	0			
E2. Storm water pond? \( \sqrt{Y} \sqrt{N} \) Is it a \( \sqrt{W}\) wet pond or \( \sqrt{X} \)  What is the estimated pond area? \( \sqrt{Z} < 1 \) acre \( \sqrt{D} \) about	l dry pond? it 1 acre □ >	ls it over l acre	grown? L	J Y ∟,	N)		$\Diamond$			
E3. Open Space? Y X N If yes, is pet waste present?							0			
Buffers/floodplain present: Y X N If yes, is encre										
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS										
Based on field observations, this neighborhood has significant indicators for the following: (check all that apply)										
Nutrients Oil and Grease Trash/Litter  Bacteria							•			
Recommended Actions	Describe Re	ecommen	led Actio	ns:						
Specific Action	41	- f~	-200	2 23	rdons					
Onsite retrofit potential?	Noroa	MI TOP	1 SIA	1 40	& CUCITO	)				
Better lawn/landscaping practice?	Potanti	al for 1	930	0261	COLS					
Better management of common space?	1010									
Pond retrofit?										
☐ Multi-family Parking Lot Retrofit?										
Other action(s)		<del></del>	1	T			Т			
Initial Assessment		++	+				+			
NSA Pollution Severity Index			++-							
Severe (More than 10 circles checked)			++-	$\vdash$	+++					
High (5 to 10 circles checked)					+		+			
Moderate (Fewer than 5 circles checked)		++			+					
None (No circles checked)										
							$\bot$			
Neighborhood Restoration Opportunity Index										
High (More than 5 diamonds checked)										
Moderate (3-5 diamonds checked)										
☑ Low (Fewer than 3 diamonds checked)										
					+++					
			1		1		_			
					1		<del>                                      </del>			

**NSA** 

WATERSHED: Abardeen	SUBWATERSHED:	UNIQ	UE SITE ID: NSA -20	0				
DATE: 3 9 126	ASSESSED BY:	CAM	ERA ID:	PIC#: 183,184				
A. NEIGHBORHOOD CHARACT	TERIZATION							
Neighborhood/Subdivision Name:			Neighborhood Area (a	cres)				
If unknown, address (or streets) sur	veyed:							
Homeowners Association? Y	☐ N ☐ Unknown If yes, name and	contact information	on:					
Residential (circle average single)								
Single Family Attached (Duple)	~		ultifamily (Apts, Townho	omes, Condos)				
Single Family Detached		>1 acre M	obile Home Park	Walter Townson				
1	20 years Percent of Homes with	Garages: 100 %	With Basements 100%	INDEX*				
Sewer Service? X Y N N  Index of Infill, Redevelopment, and Remodeling X No Evidence <a href="#">No Evidence</a> <a href="#">55% of units</a> <a href="#">5-10%</a> <a href="#">&gt;10%</a>								
		<5% of units \( \square\) 5-	-10% ∐ >10%	0				
	each of the following indicators, bility and/or site complexity	Percentag	e Comments/Notes					
B. YARD AND LAWN CONDITIO	NS			P DEM STREET				
B1. % of lot with impervious cover		70						
B2. % of lot with grass cover		25		0				
B3. % of lot with landscaping (e.g.	, mulched bed areas)	5						
<b>B4.</b> % of lot with bare soil		0		0				
*Note: B1 through B4 mus	t total 100%							
B5. % of lot with forest canopy		0						
B6. Evidence of permanent irrigation	n or "non-target" irrigation	0		0				
		High: 15		0				
<b>B7.</b> Proportion of <i>total neighborhoo</i> management status:	od turf lawns with following	Med: 70						
management status.		Low: 15						
<b>B8.</b> Outdoor swimming pools? □Y	N ☐ Can't Tell Estimated #			0				
	N Can't Tell			0				
C. DRIVEWAYS, SIDEWALKS, A	AND CURBS	Ulary was a						
C1. % of driveways that are imperv	ious N/A	100						
C2. Driveway Condition Clean	☐ Stained ☐ Dirty ☐ Breaking			0				
C3. Are sidewalks present? X Y	N If yes, are they on one side of s	treet or along b	ooth sides					
	ered with lawn clippings/leaves	Receiving 'non-tai	get' irrigation	0				
What is the distance between				$\Diamond$				
Is pet waste present in this	The second secon			0				
	Y N If yes, check all that app							
	ing or standing water Long-term			0				
Organic matter, leaves, l	lawn clippings  Trash, litter, or	debris 🔲 Overhe	ad tree canopy	$\Diamond$				

<sup>\*</sup> INDEX: O denotes potential pollution source; denotes a neighborhood restoration opportunity

D. ROOFTOPS																
D1. Downspouts are directly connected to storm drains or sanita	ary sew	er		C	)								<b>\Q</b>	> (	0	
D2. Downspouts are directed to impervious surface				0												
D3. Downspouts discharge to pervious area				100	)											
D4. Downspouts discharge to a cistern, rain barrel, etc.	100			0						39105	300 9490			No.		
*Note: C1 through C4 should total 100%												$\Box$				
D5. Lawn area present downgradient of leader for rain garden?	XY	□N											•			
E. COMMON AREAS						,										
E1. Storm drain inlets? XY N If yes, are they stenciled?									Dirt	ty			$\Diamond$			
Catch basins inspected? XY N If yes, include U												_	0			
E2. Storm water pond? XY N Is it a wet pond or What is the estimated pond area? < 1 acre about	dry po it 1 acre	ond?	Is > 1 a	it ov	/ergr	own	? 🔲	Y	<b>X</b> 1	N			$\Diamond$			
E3. Open Space? Y N If yes, is pet waste present?	Y [	] N d	lump	ing?		ΥC	□N							0		
Buffers/floodplain present: XY N If yes, is encre	oachme	ent ev	iden	t? 🗌	Y	岗	N									
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMM		(A. W. S. W.	and the last of the last													
Based on field observations, this neighborhood has significant in Nutrients  Oil and Grease  Trash/Litter  acteria						ς: (c	heck	all	thai	t app	oly)			•		
Recommended Actions	Describe Recommended Actions:															
Specific Action	121.11.242.00															
Onsite retrofit potential?  Better lawn/landscaping practice?  RAIN BARRELS  KAIN CARDENS																
Better lawn/landscaping practice?	KA	CM.	GA	RO	EN	2.										
<ul><li>☐ Better management of common space?</li><li>☐ Pond retrofit?</li></ul>	Co	SLAC	ER	W.	DO	1	A	W	720	AT	N	14				
☐ Multi-family Parking Lot Retrofit?	l															
Other action(s)	146	FAG	00	<i>y</i> 6	211	100	200	W )	2							
Initial Assessment		Τ		-7												
	$\Box$	$\top$														
NSA Pollution Severity Index												i.				
Severe (More than 10 circles checked)																
High (5 to 10 circles checked)																
✓ Moderate (Fewer than 5 circles checked)  ☐ None (No circles checked)													200			
None (No encies enceked)									8					12		
Neighborhood Restoration Opportunity Index																
High (More than 5 diamonds checked)																
✓ Moderate (3-5 diamonds checked)																
Low (Fewer than 3 diamonds checked)																
	8															
						$\perp$							$\square$			
				Ш									Ш			

NSA

INSIDE

WATERSHED: Aperdeen	SUBWATERSHED:	UNIQUE	SITE ID: NSA-27	1 total				
DATE: 2/13/20	ASSESSED BY:	CAMERA		PIC#:				
A. NEIGHBORHOOD CHARACTI	ERIZATION			Marie Color				
Neighborhood/Subdivision Name:			Neighborhood Area (acr	res)				
If unknown, address (or streets) surv	reyed:							
Homeowners Association? Y	N Unknown If yes, name and	contact information:						
Residential (circle average single fa								
Single Family Attached (Duplexe	es, Row Homes) <	acre  Mult	ifamily (Apts, Townhor	nes, Condos)				
Single Family Detached			ile Home Park					
Estimated Age of Neighborhood: 4	years   Percent of Homes with	Garages: % V	With Basements 100%	INDEX*				
Sewer Service? X Y N				0				
Index of Infill, Redevelopment, and Remodeling No Evidence < <5% of units 5-10% >10%								
Record percent observed for each of the following indicators, depending on applicability and/or site complexity  Percentage Comments/Notes								
B. YARD AND LAWN CONDITION	the state of the s							
B1. % of lot with impervious cover		70						
B2. % of lot with grass cover		25		0				
B3. % of lot with landscaping (e.g.,	mulched bed areas)	5		•				
<b>B4.</b> % of lot with bare soil		0		0				
*Note: B1 through B4 must	total 100%							
B5. % of lot with forest canopy		0		•				
<b>B6.</b> Evidence of permanent irrigation	or "non-target" irrigation	0		0				
		High:		0				
<b>B7.</b> Proportion of <i>total neighborhood</i> management status:	turf lawns with following	Med: <u>20</u>						
management status.		Low: 80						
B8. Outdoor swimming pools?	N Can't Tell Estimated #			0				
B9. Junk or trash in yards?	□ N □ Can't Tell			0				
C. DRIVEWAYS, SIDEWALKS, AT	ND CURBS							
C1. % of driveways that are impervi	ous 🔯 N/A							
C2. Driveway Condition 🔀 Clean	☐ Stained ☐ Dirty ☐ Breaking	ıp		0				
C3. Are sidewalks present? XY								
Spotless 🗋 Cove	red with lawn clippings/leaves	Receiving 'non-targe	t' irrigation	0				
	the sidewalk and street? 3 ft.			$\Diamond$				
Is pet waste present in this ar				0				
C4. Is curb and gutter present?								
	ng or standing water Long-term		iment	0				
Organic matter, leaves, la	wn clippings	debris 🗌 Overhead	tree canopy	$\Diamond$				

D. ROOFTOPS							200		1 FA				
D1. Downspouts are directly connected to storm drains or sanita	ary sewer		0								$\Diamond$	0	
D2. Downspouts are directed to impervious surface	1000		10						**				
D3. Downspouts discharge to pervious area			90							36.8			
D4. Downspouts discharge to a cistern, rain barrel, etc.			0										
*Note: C1 through C4 should total 100%													
D5. Lawn area present downgradient of leader for rain garden?	□ Y 🔯	N									$\Diamond$		
E. COMMON AREAS				-		Die							
E1. Storm drain inlets? X Y N If yes, are they stenciled?							Dirt	у			$\Diamond$		
Catch basins inspected?  Y N If yes, include U							_			-	0		
E2. Storm water pond? YN Is it a wet pond or What is the estimated pond area? < 1 acre about	it 1 acre	] > 1 a	cre				ו 🗌	4			<b>\Q</b>		
E3. Open Space? Y N If yes, is pet waste present?	Y 🗆 N	dump	ing?	□ Y	□N			S			0		
Buffers/floodplain present: X Y N If yes, is encre	oachment e	viden	t? 🗌	ΥŒ	N								
F. INITIAL NEIGHBORHOOD ASSESSMENT AND RECOMMENDATIONS													
Based on field observations, this neighborhood has significant in Nutrients Oil and Grease Trash/Litter Bacteria					check	k all	that	appl	y)				
Recommended Actions	Describe				ction	ns:							
Specific Action													
Onsite retrofit potential?	MIL	MIL	AL	2.00r	MEC	210							
Better lawn/landscaping practice?			2AII	JRA	205	-15	2						
☐ Better management of common space? ☐ Pond retrofit?			,	· •	C. Beer in	-	_						
☐ Multi-family Parking Lot Retrofit?													
Other action(s)													
Initial Assessment													
NSA Pollution Severity Index													
Severe (More than 10 circles checked)			П								T	T	
High (5 to 10 circles checked)			П										
✓ Moderate (Fewer than 5 circles checked)  ☐ None (No circles checked)											$\top$		
None (No circles checked)											十		
Neighborhood Restoration Opportunity Index								П					
High (More than 5 diamonds checked)			П										
☐ Moderate (3-5 diamonds checked)			П						$\neg$		$\neg$		
Low (Fewer than 3 diamonds checked)											$\top$	1	
					П			$\Box$	7	300			
									十	十	$\top$	T	
									丁	$\top$	$\top$	1	
										$\top$	$\top$		



#### **CITY OF ABERDEEN**

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

# FISCAL YEAR 2021 MS4 GENERAL PERMIT PROGRESS REPORT YEAR 3

#### **ATTACHMENT I-3**

# BEST MANAGEMENT PRACTICES DATABASE TABLES B.1.a, B.1.b, B.1.c

NOTE: Also Provided Electronically as an Email Attachment to this Report.

	uirements											
BMP ID REPORTING YEAR		MD NORTH MD EAST PERMIT NUM 667724.8 1545761 13-IM-5500			BMP CLAS	BMP TYPE		LAST INSP DATE BM				STATUS GEN COMMENTS
AB19BMP000001 AB19BMP000002	2019 2019	679996.6488 1542638.935 13-IM-5500	AB00BMP000041 AB00BMC000150		S S	XDED WSHW	NEWD NEWD	1/21/2020 8/24/2020	Pass Pass	3/1/2020	3/5/2020	Pass after maintenance was performed
AB19BMP000003	2019	670827.5261 1547375.214 13-IM-5500	AB00BMP000030	Auto Zone	s	хотн	NEWD	1/6/2020	Pass			
AB19BMP000004 AB19BMP000005	2019 2019	679681.9999 1540917 13-IM-5500 679464 1541067 13-IM-5500	AB00BMP000151 AB00BMP000152	Ripken Stadium Water Quality Trap #1 Ripken Stadium Water Quality Trap #2	S	WSHW	NEWD NEWD	8/24/2020 8/24/2020	Pass Pass			
AB19BMP000006	2019	680179.9998 1542475 13-IM-5500	AB00BMP000154	Ripken Stadium Water Quality Trap # 5	S	WSHW	NEWD	8/24/2020	Pass			
AB19BMP000007 AB19BMP000008	2019	679322.0235 1541398.549 13-IM-5500	AB00BMP000193 AB00BMP000194	Ripken Stadium Water Quality Trap #3	s	WSHW	NEWD	8/24/2020	Pass			
AB19BMP000008 AB19BMP000009	2019 2019	679882.8223 1542555.32 13-IM-5500 681236 1540735 13-IM-5500	AB00BMP000194 AB01BMP000118	Ripken Stadium Water Quality Trap # 4	S	WSHW XDED	NEWD NEWD	8/24/2020 12/12/2018	Pass Pass			
AB19BMP000010	2019	674304.8489 1550582.146 13-IM-5500	AB01BMP000124	North Deen Park SWM Pond	s	XDED	NEWD	8/17/2020	Pass			
AB19BMP000015 AB19BMP000017	2019 2019	666767.9499 1543693.55 13-IM-5500 665664.335 1543910.22 13-IM-5500	AB02BMP000016 AB03BMP000012	Aberdeen Stack n Store SWM Aberdeen Industrial Center Lot 2c (Borghi USA)	S	XDED	NEWD NEWD	9/10/2020 1/24/2019	Pass			
AB19BMP000017 AB19BMP000018	2019	676601.1799 1541901.106 13-IM-5500	AB03BMP000012 AB03BMP000139		5	XOGS	NEWD NEWD	1/24/2019 2/25/2020	Pass Pass	4/1/2020	4/1/2020	
AB19BMP000019	2019	679057.7026 1555587.398 13-IM-5500	AB03BMP000183	Medline Facility Pond # 2	s	FSND	NEWD	12/11/2018	Fail		4-4	Never constructed as a sand filter. Retrofitted GP #14-06
AB19BMP000020 AB19BMP000021	2019 2019	678474.3694 1555298.336 13-IM-5500 679581.0499 1555574.976 13-IM-5500	AB03BMP000184 AB03BMP000186	Rock Glenn Business Park SWM Facility # 1	S	PMPS MSGW	NEWD NEWD	9/15/2020 12/11/2018	Pass Pass			
AB19BMP000021 AR19BMP000022	2019	679381.0499 1555574.976 13-IM-5500 673304.2101 1541593.89 13-IM-5500	AB03BMP000186 AB04BMP000049	Medline Submerged Gravel Wetland Chanel Glen	5	MSGW XDFD	NEWD NEWD	12/11/2018	Pass Fail			
AB19BMP000023	2019	671635.9999 1551469 13-IM-5500	AB04BMP000052	DPW Maintenance Building	s	WSHW	NEWD	8/17/2020	Pass			
AB19BMP000024 AB19BMP000025	2019 2019	671991.0002 1551540 13-IM-5500 671747 1551654 13-IM-5500	AB04BMP000053 AB04BMP000054	DPW Maintenance Building DPW Maintenance Building	E	XOTH	NEWD NEWD	8/17/2020 8/17/2020	Pass Pass			
AB19BMP000025 AB19BMP000026	2019	671794.9999 1551190 13-IM-5500	AB04BMP000055	DPW Maintenance Building	E	XOTH	NEWD	8/17/2020	Pass			
AB19BMP000027	2019 2019	667235.0001 1540335 13-IM-5500	AB14BMP000082	Frito-Lay Hickory Ridge lot 2 Submerged Gravel Wetlands 1	E	MSGW	NEWD	11/12/2018	Pass			
AB19BMP000028 AB19BMP000029	2019 2019	677229.9998 1543250 13-IM-5500 677229.9998 1543470 13-IM-5500	AB04BMP000109 AB04BMP000110	Home Depot UG Facility #1 Home Depot UG Facility #2	S	ITRN FUND	NEWD NEWD	2/22/2019 2/22/2019	Pass Pass	8/14/2019 8/14/2019	8/15/2020 8/15/2020	
AB19BMP000030	2019	677229.9998 1543760 13-IM-5500	AB04BMP000111	Home Depot UG Facility #3	s	FUND	NEWD	2/22/2019	Pass	8/14/2019	8/15/2020	
AB19BMP000031 AB19BMP000032	2019	672250 1547588 13-IM-5500	AB04BMP000115	Johnson Family Pharmacy 119 W. Bel Air Avenue	E	MSWG	NEWD	1/11/2019	Pass			
B19BMP000032 B19BMP000033	2019 2019	672720 1547757 13-IM-5500 676120.6431 1549113.14 13-IM-5500	AB04BMP000116 AB04BMP000147	Johnson Family Pharmacy 119 W. Bel Air Avenue Ramsey's Crest WQ #1	E	MSWG ODSW	NEWD NEWD	1/11/2019 12/10/2018	Pass Pass			
B19BMP000033	2019	675001.961 1551653.673 13-IM-5500	AB04BMP000200	400 Old Post Road	S	FBIO	NEWD	1/2/2020	Fail			
AB19BMP000035	2019	669175.4221 1546536.488 13-IM-5500	AB05BM0000144	Precision Tune (Pond)/7-11	S	XDED	NEWD	3/17/2020	Pass			
AB19BMP000037 AB19BMP000038	2019 2019	672307.3319 1548237.055 13-IM-5500 664684 1537430 13-IM-5500	AB05BMP000046	Cecil Federal Bank (kna Howard Bank) Gilmer Moving+Storage	A	IMPP XDED	REDE NEWD	2/27/2019	Pass Pass			
B19BMP000039	2019	672034.5391 1548053.195 13-IM-5500	AB05BMP000102	Harford Bank	S	FBIO	NEWD	12/11/2018	Pass	7/23/2019	7/23/2019	
AB19BMP000040	2019	673282 78 1547668 01 13-IM-5500	AB05BMP000135	North Rogers Street Parking Lot	s	FSND	NEWD	10/9/2019	Pass			
B19BMP000041 B19BMP000042	2019	667993.6279 1545150.61 13-IM-5500 676012.85 1544039.118 13-IM-5500	AB05BMP000141 AB05BMP000148	Panther Systems (Donely Construction)	S	XDED	NEWD NEWD	3/5/2019 12/10/2018	Pass Pass			
B19BMP000042 B19BMP000043	2019 2019	676012.85 1544039.118 13-IM-5500 672874.876 1550708.254 13-IM-5500	AB05BMP000148 AB05BMP000167	West Deen Townhouses	S	ODSW PWED	NEWD NEWD	12/10/2018 10/16/2019	Pass Pass			
B19BMP000045	2019 2019	675754 2826 1541254 178 13-IM-5500	AB06BMP000018	Aberdeen Shopping Plaza Maintenance Bldg	s	XDED	NEWD	12/14/2018	Pass	2/1/2019	2/8/2019	Pass after maintenance performed
B19BMP000046 B19BMP000048	2019	665069.9999 1538512 13-IM-5500 677456 1542705 13-IM-5500	AB06BMP000020	Action Electric Lot 8 Applebees Redevelopment Impervious Reduction	S	WQ Basin	NEWD NEWD	1/23/2019 2/27/2019	Pass Pass			
B19BMP000049	2019 2019	678658.58 1542626.38 13-IM-5500	AB06BMP000045	Catholic Charities	S	XDED	NEWD	1/21/2020	Pass			
B19BMP000050	2019	679240.0001 1546790 13-IM-5500	AB06BMP000117	Lauren's Grace	s	XDED	NEWD	3/20/2019	Pass			
B19BMP000051 B19BMP000052	2019 2019	673732.9999 1549418 13-IM-5500 673732.9999 1549418 13-IM-5500	AB06BMP000166 AB06BMP000201	WaWa Parke Street 141#3 ( All Access Fitness)	S	XOTH	NEWD NEWD	4/6/2020 1/6/2020	Pass Pass	8/4/2020	8/6/2020	
B19BMP000055	2019	665069.9999 1538512 13-IM-5500	AB06BMP000201	Action Electric Lot 8 1050 Hardees Drive	S	WQ Swale	NEWD	1/23/2019	Pass			
B19BMP000057	2019	667842.9569 1544767.177 13-IM-5500	AB07BMP000022	Aberdeen Station WQ Under Ground Facility	S	WQ Under *	NEWD	3/5/2019	Pass			
B19BMP000058 B19BMP000059	2019 2019	674611.1629 1540986.247 13-IM-5500 668275.1201 1545209.05 13-IM-5500	AB07BMP000047 AB07BMP000085	Chapel Crossing Pond Golden Corral (Pond)	S	XDED	NEWD NEWD	10/4/2019 3/5/2019	Pass Pass	12/5/2019	12/17/2019	
B19BMP000059	2019	666463.9571 1540353.157 13-IM-5500	AB07BMP000085		S	XDED	NEWD	1/31/2020	Pass			Never converted. Still a sediment basin.
B19BMP000062	2019	677268.7019 1547908.031 13-IM-5500	AB07BMP000106	Hillcrest/Windemere	S	XDED	NEWD	3/27/2020	Fail			Defunct HOA. Never maintained.
AB19BMP000063 AB19BMP000064	2019 2019	677371.9999 1544084 13-IM-5500 667658.8589 1544949.764 13-IM-5500	AB07BMP000121 AB07BMP000163	Middleton Holdings Walmart Pond 2	S	WPWS XDED	NEWD NEWD	1/14/2020 3/17/2020	Pass Pass			
B19BMP000065	2019	667319.102 1545654.065 13-IM-5500	AB07BMP000164	Walmart Pond 3	S	XDED	NEWD	6/18/2020	Pass			
AB19BMP000066	2019	677868.41 1549066.37 13-IM-5500	AB07BMP000170	Windemere Sect 5 Pond A (1.0 acres)	S	XDED	NEWD	8/26/2020	Pass			
AB19BMP000067 AB19BMP000069	2019 2019	679040.4631 1547488.486 13-IM-5500 677410.0001 1542907 13-IM-5500	AB07BMP000171	Windemere Sect 5 Pond B (0.489 acres) Dunkin Donuts Beards Hill Plaza	S	XDED IMPP	NEWD NEWD	8/26/2020 2/27/2019	Pass Pass			
AB19BMP000072	2019	672051.5499 1549511.37 13-IM-5500	AB08BMP000131	North Post Commons SWM Facility #1 Woods at Rock Glenn WQ 2	S	XDED	NEWD	11/6/2019	Pass			
AB19BMP000076	2019	682114.37 1555879.26 13-IM-5500	AB08BMP000177	Woods at Rock Glenn WQ 2	s	XDED	NEWD	8/24/2020	Pass			
AB19BMP000077 AB19BMP000078	2019 2019	681631.16 1555051.54 13-IM-5500 673392.9202 1541845.754 13-IM-5500	AB08BMP000178 AB08BMP000181	Woods at Rock Glenn WQ 3 Woodland Green	S	XDED XDPD	NEWD NEWD	8/24/2020 10/4/2019	Pass Pass			
AB19BMP000079	2019	681519.2541 1541629.082 13-IM-5500	AB08BMP000195	Ripken Center Yankee Stadium WQ	S	ITRN	NEWD	9/15/2020	Pass			
AB19BMP000080	2019	675824 1542823 13-IM-5500	AB09BMP000028	Ashas Hotel	s	XDED	NEWD	2/22/2019	Pass			
AB19BMP000082 AB19BMP000084	2019 2019	671948.9336 1552555.872 13-IM-5500 672638.7774 1552843.025 13-IM-5500	AB10BMP000189	AWWTP Reinforced Turf Area AWWTP Stormwater Bioretention Basin (BRB-1)	S	FBIO FBIO	NEWD NEWD	9/11/2020 9/11/2020	Pass Pass			
AB19BMP000085	2019	672610.4116 1553182.477 13-IM-5500	AB10BMP000191	AWWTP Stormseptor 450i	S	FBIO	NEWD	9/11/2020	Pass			
AB19BMP000086	2019	668096.6999 1544703.925 13-IM-5500		Aberdeen Station (aka Happy Harry's)	S	XDED	NEWD	3/5/2019	Pass			
AB19BMP000087 AB19BMP000088	2019 2019	667386.9998 1543901 13-IM-5500 677976 1544413 13-IM-5500	AB11BMP000061	Edmund Street Booster Station Aberdeen Station (aka Happy Harry's)	S	XDED Swale	NEWD NEWD	8/17/2020 3/5/2019	Pass Pass			
B19BMP000089	2019	670306.0731 1553193.073 13-IM-5500	AB12BMP000129		S	PWED	NEWD	6/30/2020	Pass			AB12BMP000129 changed to AB17BMP000129
B19BMP000090	2019	672443.6 1547604.97 13-IM-5500	AB12BMP000208	Grace United Methodist Church Rain Garden #3	E	MRNG	NEWD	12/11/2018	Pass			
B19BMP000091 B19BMP000092	2019 2019	672315.96 1547546.84 13-IM-5500 667809 1546515 13-IM-5500	AB12BMP000209	Grace United Methodist Church Rain Garden #1 Ferrell Fuel WO Facility #1	E	MRNG FSND	NEWD NEWD	12/11/2018 12/11/2018	Pass Pass			
B19BMP000093	2019	667937.0001 1546543 13-IM-5500	AB13BMP000066	Ferrell Fuel WO Facility #2	S	FSND	NEWD	12/11/2018	Pass			
B19BMP000094	2019	666648.96 1543359.35 13-IM-5500	AB13BMP000112	Home2 (Aberdeen Xchange Lot 4)	s	Recharge *	NEWD	7/27/2020	Pass			
B19BMP000096 B19BMP000097	2019 2019	680322.7699 1558257.13 13-IM-5500 667235.0001 1540335 13-IM-5500	AB14BMP000068	Fields at Rock Glenn Facility #2 Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 1	S	XDED MMRR	NEWD NEWD	2/4/2020 11/2/2018	Pass Pass			
B19BMP000098	2019	667235.0001 1540335 13-IM-5500	AB16BMP000071	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 2	S	MMBR	NEWD	11/2/2018	Pass			
B19BMP000099	2019	667235.0001 1540335 13-IM-5500	AB16BMP000072	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 3	s	MMBR	NEWD	11/2/2018	Pass			
319BMP000100 319BMP000101	2019 2019	667373.889 1541010.695 13-IM-5500 667307.9167 1540962.778 13-IM-5500	AB16BMP000073 AB16BMP000074	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 4 Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 5	S	MMBR MMBR	NEWD NEWD	11/2/2018 11/2/2018	Pass Pass			
B19BMP000102	2019	667260.6947 1540893.333 13-IM-5500	AB16BMP000075	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 6	S	MMBR	NEWD	11/2/2018	Pass Pass			
19BMP000103	2019	667227.3614 1540766.944 13-IM-5500	AB16BMP000076	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 7	S	MMBR	NEWD	11/2/2018	Pass			
319BMP000104 319BMP000105	2019 2019	667246.1113 1540616.25 13-IM-5500 667414.1668 1540541.25 13-IM-5500	AB16BMP000077 AB16BMP000079	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 8 Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 10	S	MMBR MMBR	NEWD NEWD	11/2/2018 11/2/2018	Pass Pass			
B19BMP000106	2019	667235.0001 1540335 13-IM-5500	AB16BMP000080	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 11	S	MMBR	NEWD	11/2/2018	Pass Pass			
B19BMP000107	2019	667235.0001 1540335 13-IM-5500	AB16BMP000081	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 12	s	MMBR	NEWD	11/2/2018	Pass			
319BMP000108 319BMP000109	2019 2019	673752.9999 1556036 13-IM-5500 670735.5581 1550335.194 13-IM-5500	AB14BMP000107 AB14BMP000187	Highland Commons, The Village of Pond 1/Winston's Choice Por Boys \$ Girls Club Baseball Field Micro Bioretention	it S	XDED FBIO	NEWD NEWD	11/6/2019 8/17/2020	Pass Pass	4/28/2020	5/13/2020	
319BMP000110	2019	670768.7943 1550408.627 13-IM-5500	AB14BMP000196	Boys n Girls Club Non rooftop disconnect area	E	NDNR	NEWD	8/17/2020	Pass			
319BMP000111 R19BMP000112	2019 2019	677676.5 1542278.02 13-IM-5500 676031 5505 1541895 244 13-IM-5500	AB14BMP000210	Firestone StormCeptor STC 450i Corner at Beards Hill Bioretention Facility 1	S	XOTH FRIO	NEWD NEWD	12/2/2018	Pass Pass			
B19BMP000112 B19BMP000113	2019 2019	676031.5505 1541895.244 13-IM-5500 676253.3532 1541857.785 13-IM-5500		Corner at Beards Hill Bioretention Facility 1 Corner at Beards Hill Bioretention Facility 1	5	FBIO FBIO	NEWD NEWD	10/30/2018 10/30/2018	Pass Pass			
B19BMP000114	2019	676750 1542250 13-IM-5500	AB15BMP000219	Chic Fil A Micro Bioretention 1	š	MMBR	NEWD	2/22/2019	Pass			
319BMP000115 R19BMP000116	2019	676750 1542250 13-IM-5500 676750 1542250 13-IM-5500	AB15BMP000220	Chic Fil A Pervious Concrete 2 Chic Fill A Micro Bioretention 3	E	APRP MMRR	NEWD NEWD	2/22/2019 2/22/2019	Pass			
319BMP000116 319BMP000117	2019 2019	676750 1542250 13-IM-5500 676750 1542250 13-IM-5500		Chic Fill A Micro Bioretention 3 Chic Fill A Micro Bioretention 4	5	MMBR MMBR	NEWD NEWD	2/22/2019 2/22/2019	Pass Pass			
319BMP000118	2019	677858.97 1542388.56 13-IM-5500	AB16BMP000173	Windy Hill Business Park	S	XDED	NEWD	10/30/2018	Pass			
319BMP000121	2019	677999.9999 1542000 13-IM-5500	AB17BMP000050	Comfort Suites	S	XDED	NEWD	1/21/2020	Pass			Harrist
B19BMP000122 B19BMP000123	2019 2019	665757.4122 1543701.183 13-IM-5500 669579.1543 1552848.686 13-IM-5500	AB17BMP000113	Horne Construction North Gate Business Park Pond 1	S	XDED	NEWD NEWD	8/3/2020 6/30/2020	Pass Pass			Upgrading Still a sediment basin.
B19BMP000125	2019	669725.2153 1552579.556 13-IM-5500	AB17BMP000128	North Gate Business Park Pond 1 UG Recharge Trench	S	FSND	NEWD	6/30/2020	Pass			
B19BMP000126	2019	671503.2898 1552772.42 13-IM-5500	AB17BMP000130	North Gate Business Park Pond 3	s	XDED	NEWD	6/30/2020	Pass			Still a sediment basin.
319BMP000127 319BMP000129	2019 2019	673617.6301 1549735.09 13-IM-5500 683371.6601 1540311.3 13-IM-5500	AB17BMP000174	Winston's Choice Pond 1 Eagles Rest Pond 1	S	MIDW	NEWD NEWD	11/6/2019	Pass			Eagle's Rest Oper Break C New Development. Still Sedin
319BMP000130	2019	684430.3801 1540263.39 13-IM-5500	AB18BMP000058	Eagles Rest Pond 2	S	XDED	NEWD	1/25/2019	Pass			cagle's nest Oper break C New Development. Still Sedin
B19BMP000131	2019	683541.8799 1540129.1 13-IM-5500	AB18BMP000059	Eagles Rest Pond 3	s	XDED	NEWD	1/25/2019	Pass			
B19BMP000132	2019 2019	683736.1299 1538736.73 13-IM-5500 678945.65 1555915.12 13-IM-5500	AB18BMP000060	Eagles Rest Pond 4 Fields at Rock Glenn Facility #1	S	XDED	NEWD NEWD	1/25/2019	Pass Pass			
		678945.65 1555915.12 13-IM-5500 669195.8512 1542004.344 13-IM-5500	AB18BMP000067 AB19BMP000211	Fields at Rock Glenn Facility #1 Frito Lay Lot 2 Submerged Gravel Wetlands 2	S F	MSGW	NEWD NEWD	2/4/2020 11/2/2018	Pass Pass			
	2019											
AB19BMP000134 AB19BMP000135	2019 2019	670834.9998 1545002 13-IM-5500	AB75BMP000142	Parrotta Subdivision lots 1-2 Inlet	s	хотн	NEWD	8/25/2020	Pass			inlet
AB19BMP000133 AB19BMP000134 AB19BMP000135 AB19BMP000136 AB19BMP000137	2019 2019 2019 2019	670834.9998 1545002 13-IM-5500 670836.6489 1543059.948 13-IM-5500 676347.3021 1541673.083 13-IM-5500	AB75BMP000142 AB81BMP000043 AB85BMP000039	Parrotta Subdivision lots 1-2 Inlet Burton Manor	s s	XOTH XDED XDED	NEWD NEWD NEWD	8/25/2020 10/9/2019 10/31/2018				inlet

	rting Requirements									
REPORTING YE	EAR 2019	MD NORTH MD EAST PERMIT NUM 669575 0001 1547020 13-IM-5500		BMP_NAME Aberdeen Automotive Store (Auto Zone)	BMP CLASS BMP TYPE	CON PURPOSE	LAST INSP DATE BMP	STATUS	MAIN DATE REINSP DATE REINSP STAT	US GEN COMMENTS
000139 000140	2019 2019	669575.0001 1547020 13-IM-5500 671759.1361 1548423.83 13-IM-5500		Aberdeen Automotive Store (Auto Zone) Amtrak/American Investment	S ITRN S ITRN	NEWD NEWD	2/22/2019 1/14/2020	Pass Pass		
000142	2019	676250.0002 1548750 13-IM-5500	AB89BMP000036	Bar-Kess Condos/Apartments	S XDED	NEWD	1/16/2020	PASS		
000143	2019 2019	681740 1547210 13-IM-5500 665590.0002 1539780 13-IM-5500	AB89BMP000063 AB89BMP000091	Evangelical Assembly of GOD Hardee's Ind Pk Lot 1	S XOTH S XDED	NEWD NEWD	1/23/2019 1/23/2019	Pass Pass		
000144	2019	665590.0002 1539780 13-IM-5500 673721 1548898 13-IM-5500		Aberdeen Wash Day Northside Liquors	S ITRN	NEWD	1/15/2020	Pass		
000146	2019	667460.1539 1541973.383 13-IM-5500	AB89BMP000149	Red Roof Inn	S XOTH	NEWD	2/27/2019	Pass		
000147	2019	678290 1549130 13-IM-5500		Windemere Sect 5 WQ	S WQ Basin	NEWD	8/26/2020	Pass		
000148 000149	2019 2019	678450.5076 1548387.152 13-IM-5500 675288.4096 1550650.493 13-IM-5500	AB89BMP000185	Windmere Estates Pond 1 Bay Country Rentals	S XDED E MSWG	NEWD NEWD	10/5/2020 1/16/2020	Fail Pass		Defunct HOA. Never maintained.
000150	2019	664109.9998 1541780 13-IM-5500	AB90BMP000051	Cranberry Run Business Center	S XDED	NEWD	10/18/2018	Pass		
000151	2019	678998.9999 1543189 13-IM-5500	AB90BMP000062	Eighty Four Lumber	S XDED	NEWD	7/26/2018	Pass	2/1/2020 2/21/2020	
000152 000153	2019 2019	674485.0001 1551180 13-IM-5500 676377.2801 1542529.75 13-IM-5500	AB90BMP000125 AB90BMP000158	North Deen Townhouses	S XDED S XDPD	NEWD NEWD	10/16/2019 2/12/2020	Pass Pass		
000153 000154	2019 2019	676377.2801 1542529.75 13-IM-5500 676377.2801 1542529.75 13-IM-5500	AB90BMP000158 AB90BMP000197	Super 8 Motel Mars Shopping Plaza Pond # 2	S XDPD S PWET	NEWD	2/12/2020	Pass	4/4/2019 4/4/2019	
00155	2019	665605.4483 1543888.836 13-IM-5500	AB91BMP000011	Aberdeen Industrial Center Lot 2b (Ryder Truck Rental)	s wq	NEWD	1/10/2019	Pass	4,4,2023	
000156 000157	2019 2019	665161 1538621 13-IM-5500 675430 6399 1541740 653 13-IM-5500	AB91BMP000031	Automotive Machine Screw (Hardees Ind Park Lot 9) Genesis Trucking (aka Over&Sons)	S ITRN S XDED	NEWD NEWD	1/23/2019 8/13/2020	Pass		
0157 0158	2019 2019	675430.6399 1541740.653 13-IM-5500 665280.0001 1538295 13-IM-5500		Genesis Trucking (aka Over&Sons) Hardee's Ind Pk lot 2 (American Equipment)	S XDED S XDED	NEWD NEWD	8/13/2020 1/23/2019	Pass Pass		Replaced with underground pipe storage. City Engineer getting inform
0159	2019	665204.4301 1537759.07 13-IM-5500	AB91BMP000096	Hardee's Ind Pk lot 3+6 Pond	S XDED	NEWD	1/23/2019	Pass		
0160	2019	665419.55 1538383.81 13-IM-5500	AB91BMP000097	Hardee's Ind Pk lot 3+6 Recharge Facility	S Recharge *	NEWD	1/23/2019	Pass		
0162	2019	665069.9999 1537830 13-IM-5500		Hardee's Ind Pk lot 3+ 6	E MSWG	NEWD	1/23/2019	Pass		
164	2019 2019	664121.53 1543232.58 13-IM-5500 665905.9999 1544278 13-IM-5500	AB91BMP000143	Pier One Imports B&D Trucking Lot 1 + VFE	S XDED S ITRN	NEWD NEWD	3/20/2019 1/10/2019	Pass Pass		
167	2019	667033.1774 1540486.91 13-IM-5500	AB92BMP000069	Frito-Lay Hickory Ridge lot 2 Pond	S IBAS	NEWD	11/2/2018	Pass		
0168	2019	667323.1945 1540537.083 13-IM-5500	AB92BMP000078	Frito-Lay Hickory Ridge lot 2 Micro-Bioretention MB 9	S MMBR	NEWD	11/2/2018	Pass		AB92BMP000078 changed to AB14BMP000078
169	2019	678942.4105 1547980.052 13-IM-5500 665660 1538760 13-IM-5500	AB92BMP000180	Windemere Estates WQ	S WQ S XDED	NEWD	10/1/2020	Fail		Defunct HOA. Never maintained.
170 171	2019 2019	665660 1538760 13-IM-5500 676938.5706 1549401.565 13-IM-5500	AB93BMP000092	Hardee's Ind Pk Lot 1 Pond A Meadows at Bar Kess	S XDED S XDED	NEWD NEWD	1/23/2019 1/16/2020	Pass Pass		
171	2019 2019	676938.5706 1549401.565 13-IM-5500 673316.8318 1548489.374 13-IM-5500		Meadows at Bar Kess Aberdeen Senior Center	S XDED S ITRN	NEWD	1/16/2020 8/10/2018	Pass Pass		
0173	2019	665541.8451 1543836.964 13-IM-5500	AB94BMP000013	Aberdeen Industrial Center Lot 3a (B.E.K. Services)	S ITRN	NEWD	1/24/2019	Pass		
1174	2019	665377.9399 1541222.559 13-IM-5500	AB94BMP000044	C&S (Camden Cold Storage)AIC Sect 2	S XDED	NEWD	12/5/2018	Pass		
0175 0176	2019	673596.1321 1542814.22 13-IM-5500	AB94BMP000223 AB94BMP000224	Woodland Green	S XDED	NEWD	10/4/2019	Pass		
76 78	2019 2019	673270.719 1542842.479 13-IM-5500 676574.5061 1543828.263 13-IM-5500		Woodland Green Shell (Texaco aka Crown Station) Aberdeen Market Place	S PWED S WQ Ext Det	NEWD NEWD	10/4/2019 7/26/2018	Pass Pass		
179	2019	666150.1129 1544078.956 13-IM-5500	AB95BMP000161	VFW Old Philadelphia Road (Aberdeen Memorial)	S XDED	NEWD	1/10/2019			
0180	2019	678726.6901 1548931.696 13-IM-5500	AB95BMP000168	Windemere Estates WQ	s wq	NEWD	10/5/2020	Pass Fail		Defunct HOA. Never maintained.
181 182	2019 2019	677891.615 1549415.614 13-IM-5500 666000 3809 1543988 055 13-IM-5500	AB95BMP000169	Windemere Estates WQ	S WQ S ITRN	NEWD NEWD	10/1/2020	Fail		Defunct HOA. Never maintained.
182 183		666000.3809 1543988.055 13-IM-5500 676655.7001 1543656.53 13-IM-5500	AB96BMP000033 AB96BMP000042	B&D Trucking Lot 2	S ITRN S ITRN	NEWD NEWD	1/10/2019 8/6/2018	Pass		
183 184	2019 2019	676655.7001 1543656.53 13-IM-5500 675497.6001 1544330.1 13-IM-5500	AB96BMP000042 AB96BMP000156	Sam's Paving	S ITRN S XDED	NEWD NEWD	8/6/2018 3/17/2020	Pass Pass		
185	2019	671394.3701 1551915.67 13-IM-5500	AB96BMP000165	Water Quality Enhancement (Step Pool)	A SPSC	NEWD	1/7/2019	Pass		
186	2019	667235.0001 1540340 13-IM-5500	AB97BMP000064	Fairbrook Senior Housing	S XDED	NEWD	1/21/2020	Pass		
0187	2019 2019	667529.2341 1541661.081 13-IM-5500 665744 9998 1540697 13-IM-5500	AB97BMP000104	Hickory Ridge lot 1 Pond 1b (SAKS 5th Avenue) Hickory Ridge lot 3	S XPED S XDED	NEWD NEWD	1/25/2019	Pass Pass		
0188 0189	2019 2019	665/44.9998 154069/ 13-IM-5500 669887.922 1547535.232 13-IM-5500	AB97BMP000105 AB97BMP000108		E MSWG	NEWD	2/12/2020	Pass		
1190	2019	676250.0002 1549250 13-IM-5500	AB97BMP000120	Meadows of Bar Kess Townhouses	S ITRN	NEWD	1/16/2020	Pass		
191	2019	676772.6012 1544434.752 13-IM-5500	AB97BMP000159	Target Store SWM (pond and 3 Baysavers)	S XDED	NEWD	2/22/2019	Pass		
0192	2019	668036.5871 1542117.863 13-IM-5500	AB98BMP000103	Hickory Ridge lot 1 Pond 1b (SAKS 5th Avenue)	S XPED	NEWD	1/25/2019	PASS		
0193 0194	2019 2019	676881.5662 1544150.036 13-IM-5500 664725.9999 1541090 13-IM-5500	AB98BMP000155	Royal Farm Store Abpark Owner (Formerly T I P Facility) ( GE Trailer Fleet Services)	S XOTH S XDED	NEWD NEWD	2/22/2019 1/10/2019	Pass Pass		
00195	2019	673360 1548620 13-IM-5500	AB98BMP000176	Woland Dental	S XDED	NEWD	8/13/2018	Pass		
00196	2019	665206.333 1544786.648 13-IM-5500	AB98BMP000204	Aberdeen Industrial Lot 3 (Trap 1)	S XOTH	NEWD	1/24/2019	Pass		
00197	2019	665124.4693 1544446.82 13-IM-5500		Aberdeen Industrial Lot 3 (Trap 2)	S XOTH	NEWD	1/24/2019	Pass		
00198 00199	2019 2019	664847.6152 1544550.735 13-IM-5500 676212.8519 1543626.914 13-IM-5500	AB98BMP000206	Aberdeen Industrial Lot 3 (Trap 3) Harco FCU Aberdeen Marketplace lot 5	S XOTH S WQ Basin	NEWD NEWD	1/24/2019 7/26/2018	Pass Pass		
D199 D200	2019 2019	676212.8519 1543626.914 13-IM-5500 671819.6921 1552581.632 13-IM-5500		Aberdeen WWTP Stormwater Bioretention Basin (BRB-2)	S WQ Basin S FBIO	NEWD	7/26/2018 9/11/2020	Pass		
00201	2019	677486.0932 1542244.679 13-IM-5500	AB09BMP000198	Walgreens Baysayer	S XOTH	NEWD	12/14/2018	Pass		
00202	2019	675781.5139 1542163.589 13-IM-5500	AB93BMP000199	Seven Eleven West Bel Air Avenue	S XOTH	REDE	7/26/2018	Pass		
10001	2020	676634.2133 1541823.978 13-IM-5500		Olive Tree Plaza 2	S XOTH	NEWD	2/12/2020	Pass	4/1/2020 4/1/2020	
00002	2020 2020	682207 1555845 13-IM-5500 670236 1608 1553070 448 13-IM-5500	AB08BMP000270	Woods at Rock Glenn WQ 1 North Gate Stone Recharge Tremch #1	S XDED S FSND	NEWD NEWD	8/24/2020 6/30/2020	Pass Pass		
10003	2020	670236.1608 1553070.448 13-IM-5500 670014.488 1553125.755 13-IM-5500		North Gate Stone Recharge Trench #1 North Gate Stone Recharge Trench #2	S FSND	NEWD	6/30/2020	Pass		
00006	2020	677232.2469 1544056.432 13-IM-5500	AB18BMP000280	Middleton Holdings Starbuck MB1	E MMBR	NEWD	1/29/2021	Pass		NEW
00007	2020	677249.2078 1543977.716 13-IM-5500	AB18BMP000281	Middleton Holdings Starbuck MB2	E MMBR	NEWD	1/29/2021	Pass		NEW
8000	2020	677215.8719 1543919.727 13-IM-5500 679818.9379 1547623.899 13-IM-5500		Middleton Holdings Starbuck MB3	E MMBR	NEWD	1/29/2021	Pass		NEW
0010 0011	2020 2020	680030.1425 1547623.899 13-IM-5500	AB88BMP000272 AB88BMP000273	Windemere Farms Phase 1 WQ Windemere Farms Phase 1 WQ	S WQ S Water Quality	NEWD NEWD	9/30/2020 9/30/2020	FAIL		Defunct HOA. Never maintained. Defunct HOA. Never maintained.
1014	2020	669703.6 1547193.55 MDRCM04DB	AB19BMP000225	Hickory Ridge Lot 3 (UPS)	E MMBR	NEWD	1/10/2020	PASS		NEW
1015	2020	669703.6 1547193.55 MDRCM04DB	AB19BMP000226	Hickory Ridge Lot 3 (UPS)	E MMBR	NEWD	1/10/2020	PASS		NEW
0016 0017	2020	669703.6 1547193.55 MDRCM04DB 669703.6 1547193.55 MDRCM04DB	AB19BMP000227	Hickory Ridge Lot 3 (UPS)	E MMBR E MMBR	NEWD	1/10/2020	PASS		NEW
017 018	2020 2020	669703.6 1547193.55 MDRCM04DB 669703.6 1547193.55 MDRCM04DB	AB19BMP000228	Hickory Ridge Lot 3 (UPS) Hickory Ridge Lot 3 (UPS)	E MMBR E MMBR	NEWD NEWD	1/10/2020 1/10/2020	PASS PASS		NEW NEW
018 019	2020	666500 1543250 MDRCM04DB	AB18BMP000269	Aberdeen Xchange SWM Wet Pond	S WPWS	NEWD	7/22/2020	PASS		****
0020	2020	679132.3481 1544277.541 MDRCM027I	AB18BMP000266	Summerlin SWM Pond 1	S XDPD	NEWD	7/23/2020	Pass		NEW
0021	2020	679198.158 1543737.184 MDRCM027I	AB18BMP000267	Summerlin SWM Pond 2	S XDPD	NEWD	7/23/2020	Pass		NEW
0022 0023	2020 2020	678834.722 1544300.495 MDRCM027I 679226.3354 1544063.83 MDRCM027I	AB18BMP000263 AB18BMP000264	Summerlin SWM Forebay #1 Summerlin SWM Forebay #2	S XOTH S XOTH	NEWD NEWD	7/23/2020 7/23/2020	Pass		NEW NEW
10023	2020 2020	679226.3354 1544063.83 MDRCM027I 679149.5003 1543659.064 MDRCM027I		Summerlin SWM Forebay #2 Summerlin SWM Forebay 3	S XOTH	NEWD	7/23/2020	Pass Pass		NEW NEW
0025	2020	679100 1544050 MDRCM027I	AB18BMP000260	Summerlin Bioretention area 1	S FBIO	NEWD	7/23/2020	Pass		NEW
1026	2020	678700 1544250 MDRCM027I	AB18BMP000261	Summerlin Bioretention area 2	S FBIO	NEWD	7/23/2020	Pass		NEW
027 028	2020 2020	679150 1543400 MDRCM027I 679150 1543750 MDRCM027I	AB18BMP000262	Summerlin Bioretention Area 3 Summerlin Micro Riggetention area 1	S FBIO F MMRR	NEWD NEWD	7/23/2020 7/23/2020	Pass Pass		NEW NEW
0028 0029	2020 2020	679150 1543750 MDRCM027I 678950 1543600 MDRCM027I		Summerlin Micro Bioretention area 1 Summerlin Micro Bioretention area 2	E MMBR E MMBR	NEWD NEWD	7/23/2020 7/23/2020	Pass Pass		NEW NEW
00029 00030	2020 2020	678950 1543600 MDRCM027I 679150 1543500 MDRCM027I	AB18BMP000246	Summerlin Micro Bioretention area 2 Summerlin Micro Bioretention Area 3	E MMBR	NEWD	7/23/2020	Pass		NEW NEW
031	2020	678950 1543600 MDRCM027I	AB18BMP000247	Summerlin Micro Bioretention area 4	E MMBR	NEWD	7/23/2020	Pass		NEW
0032	2020	678950 1543600 MDRCM027I	AB18BMP000248	Summerlin Micro Bioretention area 5	E MMBR	NEWD	7/23/2020	Pass		NEW
10033	2020 2020	678950 1543600 MDRCM027I 678750 1543750 MDRCM027I	AB18BMP000249	Summerlin Micro Bioretention area 6	E MMBR	NEWD NEWD	7/23/2020 7/23/2020	Pass		NEW NEW
1034 1035	2020 2020	678750 1543750 MDRCM027I 678950 1543950 MDRCM027I		Summerlin Landscape Infiltration Area 7 Summerlin Micro Bioretention Area 8	E MILS E MMBR	NEWD NEWD	7/23/2020 7/23/2020	Pass Pass		NEW NEW
0035 0036	2020 2020	678950 1543950 MDRCM027I 678650 1543950 MDRCM027I	AB18BMP000251 AB18BMP000252	Summerlin Micro Bioretention Area 8 Summerlin Micro Bioretention area 9	E MMBR	NEWD	7/23/2020	Pass Pass		NEW NEW
0037	2020	679150 1543750 MDRCM0237I	AB18BMP000253	Summerlin Micro Bioretention area 10	E MMBR	NEWD	7/23/2020	Pass		NEW
1038	2020	678750 1544050 MDRCM027I		Summerlin Micro Bioretention area 11	E MMBR	NEWD	7/23/2020	Pass		NEW
0039	2020	678850 1544300 MDRCM027I 678850 1544300 MDRCM027I	AB18BMP000255 AB18BMP000256	Summerlin Micro Bioretention area 12	E MMBR E MMBR	NEWD	7/23/2020	PASS		NEW NEW
0040 0041	2020 2020	678850 1544300 MDRCM027I 678950 1543600 MDRCM027I		Summerlin Micro Bioretention area 13 Summerlin Micro Bioretention Area 14	E MMBR E MMBR	NEWD NEWD	7/23/2020 7/23/2020	Pass Pass		NEW NEW
0042	2020	679170.4018 1544018.719 MDRCM027I	AB18BMP000258	Summerlin Micro Bioretention Area 14 Summerlin Micro Bioretention area 15	E MMBR	NEWD	7/23/2020	Pass		NEW
0043	2020	679150 1543750 MDRCM0271	AB18BMP000259	Summerlin Micro Bioretention area 16	E MMBR	NEWD	7/23/2020	Pass		NEW
0044	2020	678800 1543900 MDRCM027I	AB18BMP000240	Summerlin Bioswale 1	E MSWB	NEWD	7/23/2020	Pass		NEW
00045	2020	679100 1544000 MDRCM027I		Summerlin Bioswale #2	E MSWB	NEWD	7/23/2020	Pass		NEW
00046 00047	2020 2020	678800 1544000 MDRCM027I 678800 1544000 MDRCM027I		Summerlin Bioswale #3 Summerlin Bioswale #4	E MSWB E MSWB	NEWD NEWD	7/23/2020 7/23/2020	Pass Pass		NEW NEW
0047 0048	2020 2020	678800 1544000 MDRCM027I 667729.4477 1546284.214 MDRCM03BP	AB18BMP000243 AB17BMP000340	Summerlin Bioswale #4 Lidl Grass Swale	E MSWB E MSWG	NEWD NEWD	7/23/2020 12/21/2020	Pass Pass		NEW NEW
0048	2020	668015.83 1545843.022 MDRCM03BP		Lidl Underground Facility #1	S FUND	NEWD	12/21/2020	Pass		NEW NEW
	2020	668231.3672 1546221.346 MDRCM03BP	AB17BMP000339	Lidl Underground Facility #2	S FUND	NEWD	12/21/2020	Pass		NEW
10050	2020	668027.9257 1545784.603 MDRCM038P	AB17BMP000336	Lidl Bioretention #1	S FBIO	NEWD	12/21/2020	Pass		NEW
00050 00051	2020	668236.1638 1546193.416 MDRCM03BP	AB17BMP000337 AB17BMP000331	Lidl Bioretention Facility #2	S FBIO F MMRR	NEWD NEWD	12/21/2020 12/21/2020	Pass		NEW NEW
0051 0052						NEWD	12/21/2020	Pass		
0051 0052 0053	2020	668149.165 1545788.575 MDRCM03BP				NEWD	12/21/2020	Dag-		
0051 0052	2020 2020 2020	668149.165 1545788.575 MDRCM03BP 667937.816 1546150.49 MDRCM03BP 667673.2092 1546208.667 MDRCM03BP	AB17BMP000332 AB17BMP000333	Lidl MB-3	E MMBR E MMBR	NEWD NEWD	12/21/2020 12/21/2020	Pass Pass		NEW NEW
051 052 053 054	2020 2020	667937.816 1546150.49 MDRCM03BP	AB17BMP000332	Lid! MB-3 Lid! MB-4 Lid! MB-5	E MMBR	NEWD NEWD NEWD NEWD	12/21/2020 12/21/2020 12/21/2020 12/21/2020	Pass Pass Pass Pass		NEW

AB208MP000114   2000   67560   1547259 M06CM038R   AB208MP000027   AB208MP00																		
Mathematical   Math	BMP NAME	OCAL BMP IDBN	LOCAL BMP ID	LOCAL BMP ID	LOCAL BMP ID	L BMP IDE	BMP NAME		BMI	CLASS	BMP TYPE	CON F	URPOSE LAST I	NSP DATE BMP	TATUS	MAIN DATE REINSP DATE REINSP STATUS	GEN COMMENTS	_
APPENDENCY   200	Aberdeen Logistics ESD	B17BMP000301 Ab	AB17BMP000301	AB17BMP000301	AB17BMP000301	BMP000301 /	Aberdeen Logistic	ogistics ESD18		E	MMBR	NEWD					NEW	
Manusher																		
Manusher-Composition   1908   1948-100   1																		
Manushand   Manu	Aberdeen Logistics ESD							ogistics ESD21										
Manushand   Manu																		
Machine Microscopy   1900   66644-137   154-1693-22 Microscopy   154-																		
Machaeleneering   1908																		
Marchaeleneer   Marchaelenee																		
AB2080000005   200																		
APPENDENCINGON   200   6671   31487,000   MCANCONN   ATTENMENDED   ATT									3									
ADDISON/CONTON   CONTON   ADDISON/CONTON   ADDISON/CONT																		
ADDITION   CONTROL   CON																		
ADDIAMPONODIS   200   66,611,767   15-603,88 M   MICKADIN   66,656,000   15-603,68 M   MICKADIN   61,000   61																		
### ACCOMMONOTION   200																		
ADDIENT/COURT   COUNTY   COU																		
A2028MP/000025   200																		
A2008M07000000000000000000000000000000000																		
AZDIOMN/PORTION   200																		
A2018MP000007   200   666156.31   545454.21   MORKANDS   A178MP000029   A2018MP000006   200   666710   154734   MORKANDS   A158MP000029   A																		
A2008MP000006   200										E	MMBR							
AB20BMM000019 200 67716.5135 154152.75 M DINCMOSS   AB15MM000026   AB20BMM000010   AB20BMM000010   AB20BMM000011   AB20BMM000001   AB20BMM000001   AB20BMM000001   AB20BMM000001   AB20BMM000001   AB20BMM000001   AB20BMM00001   AB20BMM00001   AB20BMM000001   AB20BM000001   AB20BM0000001   AB20BM000001   AB20BM0000001   AB20BM0000001   AB20BM0000001   AB20BM000001   AB20BM0000001   AB20BM0000001   A	Aberdeen Logistics ESD	B17BMP000294 Ab	AB17BMP000294	AB17BMP000294	AB17BMP000294	BMP000294 /	Aberdeen Logistic	ogistics ESD12		E	MMBR	NEWD					NEW	
A2020MP000101 200 677146.811 3141287.566 MDRCM0511 200 677146.811 3141287.566 MDRCM0511 200 677146.811 314157.627 MDRCM0511 200 677146.811 314157.627 MDRCM0511 200 680137.81 15407.728 1590 MDRCM0510 M	NTB Pervious Concrete	B17BMP000279 N	AB17BMP000279	AB17BMP000279	AB17BMP000279	BMP000279 1	NTB Pervious Con	is Concrete Facility #3		E	APRP	REDE		10/7/2020	Pass		NEW	
A2016MP00011   200   671746.5981   514128.758   MR0K.00151   200   671756.5981   51417.629   MR0K.00151   200   68111.78   154907.859   190   1750	Aberdeen Xchange Lot	B15BMP000268 At	AB15BMP000268	AB15BMP000268	AB15BMP000268	BMP000268 /	Aberdeen Xchang	change Lot 1 UG Filter		S	FUND	NEWD		7/28/2020	Pass			
A2016MP000112   200	Hampton Inn/La Quinta							n/La Quinta Inn Micro Bioretention	ention 1a	E	MMBR	REDE		11/3/2020	Pass		NEW	
A2018M700012   200	Hampton Inn/La Quinta	B14BMP000275 Ha	AB14BMP000275	AB14BMP000275	AB14BMP000275	BMP000275 F	Hampton Inn/La C	n/La Quinta Inn Micro Bioretention	ention 2a	E	MMBR	REDE		11/3/2020	Pass		NEW	
A2018MP000014   200	Hampton Inn/La Quinta							n/La Quinta Inn Bioswale 2b										
A2008M000014   200																	Defunct HOA. Never maintained.	
A2114MP00005   201																		
A2218MP000006   2021														10/7/2020	Pass		NEW	
A2124MP00007 201 MDR.CM301 A174MP000207 2021 MDR.CM301 A174MP000207 2021 MDR.CM301 A174MP000207 A2124 MDR.CM301 A174MP000207 A2124 MDR.CM301 A174MP000207 A2124 MDR.CM301 A174MP000207 A2124 MDR.CM301 A2124MP000207 A2124MP000207 A2124 MDR.CM301 A2124MP000207 A																		
A212MP000005   2021																		
A213MP000015 201 MDR.CM3010 A174MP000211 D 201 MDR.CM3010 A174MP000211 D 201 MDR.CM3010 A174MP000211 D 201 MDR.CM3010 A174MP000211 D 201 MDR.CM3010 A174MP000212 D 201 MDR.CM3010 A174MP000212 D 201 MDR.CM3010 A174MP000213 D 201 MDR.CM3010 A174MP0																		
A213MP000010 2021 MDR.CM03DU A174MP000131 TO A0214 MDR.CM03DU A214MP000131 TO A0214 MDR.CM03DU A214MP000013 TO A0214 MDR.CM03DU A214MP000131 TO A0214 MDR.CM03DU A214MP000013 TO A0214 MDR.CM03DU A214																		
A2128MP000011 201 MDR.CM3DU A178MP000013 201 MDR.CM3DU A2128MP000013 201 MDR.CM3DU A2128MP00013 201																		
A2124MP000011 2021 MDR.CMG3DU A174MP000013 2021 MDR.CMG3DU A2124MP000013 A2124MP000013 A2124MP000014 A2124MP000014 A2124MP000015 A2124MP00015 A2124MP00015 A2124MP00015 A2124MP00015 A2124MP00016 A2124MP00017 A2124M																		
A212MP000012 2021 MDR.CM3DU A178MP000013 2021 MDR.CM3DU A178MP00013 DE SECRET MDR SECR																		
A2214MP000013   2021																		
A2214MP000014   2021   MOR.CM0310   A174MP000015   2021   MOR.CM0310   A174MP000016   A2214MP000016   A2214M																		
A2214MP000015   2021   MORCM0300   A2214MP000016   2021   MORCM0300   A2214MP000017   2021   MORCM0300   A2214MP000017   2021   MORCM0300   A2214MP000017   2021   MORCM0300   A2214MP000018   2021   MORCM0300   A2214MP000018   2021   MORCM0300   A2214MP000018   2021   MORCM0300   A2214MP000018   A2214MP000018   2021   MORCM0300   A2214MP000018   A2214MP00018   A2214MP000018   A2214MP00018   A2214MP000018   A2214MP000018   A2214MP000018   A2214MP00018   A2214MP00018   A2214MP000018   A2214MP00018   A2214MP000																		
A2214MP000015   2021   MDR.CM3010   A175MP000017   A2214MP000017   A2214MP000017   A2214MP000017   A2214MP000017   A2214MP0000017   A2214MP0																		
AB218MP000037   2021   MDR.CM0301   AB178MP0000237   To   49 SCenter MM \										E								
AB218MP000019   2021   MOR.MOIDU   AB217MP0000121   The 1-95 Center M M M   E MMRR   NEVO										E		NEWD						
ABZIBAMPRODUZO 2021 MDR.MODIDU AL JATAMPRODUZO 2021 MDR.MODIDU										E	MMBR	NEWD						
A2218MPR000021 2021 MIRCRA003DU A178MP0000227 C2 2021 MIRCRA003DU A178MP0000227 The 195 Center Mis P P E MMIRR NEVD NEW P P E MMIRR NEV																		
A2214M0700027 2021 M0RC/M3DIU A178M07000275 The 1-95 Center M-P E MMIR NEVO A2214M07000275 The 1-95 Center M-P E MMIR NEVO A2214M07000274 The 1-95 Center M-P E MMIR NEVO A2214M07000274 The 1-95 Center M-P E MMIR NEVO A2214M07000275 The 1-95 CENTER M-P E MMIR N																		
A22134M000022   2021   MDRC/M30DU   A179M0000322   The 1-95 Center MB-Q   E   MMR   NEWD																		
A8218MP000024 2021 MDRC/M3DIU A8178MP0000277 The 195 Center Mo-R E MMIRR NEVO A8218MP000025 20 The 195 Center Mo-R E MMIRR NEVO A8218MP000026 The 195 Center Mo-R E MMIRR NEVO A8218MP000026 A8218MP000026 The 195 Center Mo-R E MMIRR NEVO A8218MP0000026 The 195 CENTER MO-R E MMIRR NEVO A8218MP00000026 The 195 CENTER MO-R E MMIRR NEVO A8218MP0000026 The 195 CENTER MO-R E MMIRR NEVO A8218MP00000026 THE NEVO A8218MP000000026 THE NEVO A8218MP000000000000000000000000000000000000																		
A8218MR/000025         2021         MDRC/M001DU         A8178MR/000028         The 1-95 Center Underground Facility #1         E         MINR         NEWD           A8218MR/000027         2021         MDRC/M001DU         A8178MR/000310         The 1-95 Center Underground Facility #1         S         FUND         NEWD           A8218MR/000027         2021         MDRC/M001DU         A8178MR/000310         The 1-95 Center Underground Facility #2         S         FUND         NEWD																		
AB218M/000026 201 MDR.(MDIDU AB178M/000029 The 1+95 Centert Underground Facility s1 5 FUND NEWD  AB218M/000027 201 MDR.(MDIDU AB178M/000030 The 1+95 Centert Underground Facility s1 5 FUND NEWD  NEWD NEWD NEWD NEWD NEWD NEWD NEWD NEWD																		
AB218MP000027 2021 MDRCM03DU AB178MP000330 The I-95 Center Underground Facility #2 S FUND NEWD																		
												REDE						
AB218MP00029 2021 MIDRCM03DU ABBMP000311 The F95 Center MB-F1 E MMBR NEWD																		
AB218MP000001 2021 677500 1544000 MDRCM04E2 AB39MP0000388 Middelton Road Ex DISC-1 E NDNR NEVD 2/10/2021 Pass																		
AB218MP00002 2021 678000 154000 MDRCMME2 AB198MP000365 Middleton Road Ext. 65-1 E MSWG NEVD 2/10/2021 Pass																		
A8218M/900003 2021 678000 1544259 MRCMMME2 A8198M/9000066 Middleten Reads Eric 65-2 E MSVIG NEWD 2/1/2/021 Pess A8218M/900030 2021 6777250 1544259 MRCMMME2 A8198M/900006 Middleten Reads Eric 65-3 E MSVIG NEWD 2/1/2/021 Pess																		
AB218MP000030 2021 677250 1545750 MDRCM04E2 AB198MP000367 Middleton Road Ext GS-3 E MSWG NEVD 2/10/2021 Pass	minumeton Koad Ext GS-	M / JEUUUYMactor	WETARWLOON3P\	WETARMLOOG3P1	MD13RWL0003P\	DIVIPUUUSD/ I	middleton Koad E	NUBU EAL GS-5		£	INI3WG	NEWD		2/10/2021	rass			

**Table B.1.b. Reporting Requirements for ESD and Structural Practices** 

ASISSAMPRODOCO 1 ACT 36.0 6.81 0.00 8/88/2000 ASISSAMPRODOCO 2 1 ACT 30.8 1/0.00 3/22/2000 ASISSAMPRODOCO 3 1 ACT 0.95 0.78 0.00 3/22/2000 ASISSAMPRODOCO 1 ACT 3.11 0.60 N/A 6/1/2000 ASISSAMPRODOCO 1 ACT 3.11 0.60 N/A 6/1/2000 ASISSAMPRODOCO 1 ACT 4.88 1.54 2.00 6/1/2000 ASISSAMPRODOCO 1 ACT 4.88 1.54 2.00 6/1/2000 ASISSAMPRODOCO 1 ACT 4.88 1.54 2.00 6/1/2000 ASISSAMPRODOCO 1 ACT 4.88 2.72 0.00 1/1/2000 ASISSAMPRODOCO 1 ACT 4.88 2.72 0.00 1/1/2000 ASISSAMPRODOCO 1 ACT 4.88 2.72 0.00 1/1/2000 ASISSAMPRODOCO 1 ACT 5.49 4.33 0.00 6/1/2001 ASISSAMPRODOCO 1 ACT 7.54 4.38 1.00 6/1/2003 ASISSAMPRODOCO 1 ACT 7.34 4.38 1.00 6/1/2003 ASISSAMPRODOCO 1 ACT 7.25 1.39 0.00 1/1/2/2015 Never constructed as a sand filter. Retrolited GP #14-06 ASISSAMPRODOCO 1 ACT 7.25 1.99 0.00 1/1/2/2015 Never constructed as a sand filter. Retrolited GP #14-06 ASISSAMPRODOCO 1 ACT 7.25 1.99 0.00 1/1/2/2015 Never constructed as a sand filter. Retrolited GP #14-06 ASISSAMPRODOCO 1 ACT 7.25 0.00 0.00 7/1/9/2002 ASISSAMPRODOCO 1 ACT 7.25 0.00 0.00 0.00 7/1/9/2004 ASISSAMPRODOCO 1 ACT 7.25 0.00 0.00 0.00 7/1/9/2004 ASISSAMPRODOCO 1 ACT 7.25 0.00 0.00 0.00 7/1/9/2004 ASISSAMPRODOCO 1 ACT 7.25 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	BMP ID	NUM BMPS ON OFF SITE	CONVERTED FROM	BMP STATUS	BMP DRAIN AREA	IMP ACRES	PE ADR APPR DATE	BUILT DATE	GEN COMMENTS
AST	_		CONVENTED_INCOM						0211_001411121113
ASTSMAPD00003 1 ACT 0.95 0.78 0.00 3/21/2000 ASTSMAPD00005 1 ACT 0.448 1.54 2.00 6/1/2000 ASTSMAPD00005 1 ACT 0.478 1.50 0.00 0.00 0.00 0.00 0.00 0.00 0.00									
AST									
ALT   ALT									
AST   ACT   ACT							•		
AB198MP0000008   1					4.40	1.54	2.00		
AB198MP000009   1					3.00	2 55	0.30		
AB198MP000009					5.00	2.55	0.50		
AB198MP000015					46 18	2 72	0.00		
ASISMMP000015									
AB198MP000017									
AB198MP000018   1									
ARISHMPRO0019   1									
AB19BMP000020									Never constructed as a sand filter. Retrofitted GP #14-06
ASISBMPMO00021   1									Never constructed as a same inter. Netronited of #14 00
AB19BMP000022 1 ACT 13.70 5.60 0.00 1/1/2004 AB19BMP000023 1 ACT 5.23 0.52 2.60 7/19/2002 AB19BMP000025 1 ACT 0.72 0.08 0.00 7/19/2002 AB19BMP000026 1 ACT 0.72 0.08 0.00 7/19/2002 AB19BMP000027 1 ACT 2.69 2.30 2.00 9/11/2017 AB19BMP000028 1 ACT 1.53 1.37 0.50 12/14/2004 AB19BMP000030 1 ACT 0.19 0.17 1.00 12/14/2004 AB19BMP000030 1 ACT 0.23 0.21 1.00 12/14/2004 AB19BMP000030 1 ACT 0.31 0.10 1.00 12/14/2004 AB19BMP000031 1 ACT 0.31 0.10 1.00 6/1/2004 AB19BMP000032 1 ACT 0.31 0.10 1.00 6/1/2004 AB19BMP000033 1 ACT 0.31 0.10 1.00 6/1/2004 AB19BMP000033 1 ACT 0.31 0.10 1.00 6/1/2004 AB19BMP000035 1 ACT 0.66 0.55 0.00 6/1/2005 AB19BMP000039 1 ACT 0.00 0.00 1/1/2004 AB19BMP000039 1 ACT 0.00 0.00 1/1/2004 AB19BMP000039 1 ACT 0.00 0.00 1/1/2005 AB19BMP000039 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000045 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000050 1 ACT 0.78 0.15 1.00 6/1/2006							1.00		
AB19BMP000023   1							0.00		
AB19BMP000025 1 ACT 4.73 0.01 0.00 7/19/2002 AB19BMP000026 1 ACT 0.72 0.08 0.00 7/19/2002 AB19BMP000027 1 ACT 0.47 0.00 0.00 7/19/2002 AB19BMP000028 1 ACT 1.53 1.37 0.50 12/14/2004 AB19BMP000030 1 ACT 0.19 0.17 1.00 12/14/2004 AB19BMP000030 1 ACT 0.23 0.21 1.00 12/14/2004 AB19BMP000031 1 ACT 0.23 0.21 1.00 12/14/2004 AB19BMP000032 1 ACT 0.31 0.10 10/12/2004 AB19BMP000033 1 ACT 0.31 0.10 10/12/2004 AB19BMP000034 1 ACT 0.31 0.10 5/1/2004 AB19BMP000035 1 ACT 0.31 0.10 10/12/2004 AB19BMP000035 1 ACT 0.31 0.10 10/12/2004 AB19BMP000036 1 ACT 0.31 0.10 10/12/2004 AB19BMP000039 1 ACT 0.31 0.10 10/12/2005 AB19BMP000039 1 ACT 0.39 5.56 0.00 6/1/2005 AB19BMP000039 1 ACT 0.66 0.55 1.00 10/10/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000050 1 ACT 0.78 0.15 1.24 8/1/2007									
AB19BMP000025         1         ACT         0.72         0.08         0.00         7/19/2002           AB19BMP000026         1         ACT         0.47         0.00         0.00         7/19/2002           AB19BMP000027         1         ACT         0.26         2.30         2.00         9/11/2017           AB19BMP000028         1         ACT         1.53         1.37         0.50         12/14/2004           AB19BMP000030         1         ACT         0.23         0.21         1.00         12/14/2004           AB19BMP000031         1         ACT         0.23         0.21         1.00         12/14/2004           AB19BMP000032         1         ACT         0.23         0.21         1.00         12/14/2004           AB19BMP000033         1         ACT         0.31         0.10         10/12/2004           AB19BMP000034         1         ACT         0.31         0.10         10         6/1/2005           AB19BMP000035         1         ACT         0.66         0.65         1.00         10/12/2004           AB19BMP000039         1         ACT         0.66         0.65         1.00         10/12/2005           AB19BMP000041         <									
AB19BMP000026 1 ACT 0.47 0.00 0.00 7/19/2002 AB19BMP000027 1 ACT 2.69 2.30 2.00 9/11/2017 AB19BMP000028 1 ACT 0.153 1.37 0.50 12/14/2004 AB19BMP000029 1 ACT 0.19 0.17 1.00 12/14/2004 AB19BMP000030 1 ACT 0.19 0.17 1.00 12/14/2004 AB19BMP000031 1 ACT 0.19 0.17 1.00 12/14/2004 AB19BMP000032 1 ACT 0.10 1.00 6/1/2004 AB19BMP000033 1 ACT 0.11 0.10 1.00 6/1/2004 AB19BMP000033 1 ACT 0.10 1.00 6/1/2004 AB19BMP000034 1 ACT 0.11 1.724 0.00 9/2/2004 AB19BMP000035 1 ACT 0.10 1.00 6/1/2005 AB19BMP000039 1 ACT 0.10 1.00 6/1/2005 AB19BMP000039 1 ACT 0.66 0.65 1.00 10/10/2005 AB19BMP000030 1 ACT 0.60 0.00 1/11/2/000 AB19BMP000030 1 ACT 0.60 0.00 0.00 4/13/2000 AB19BMP000030 1 ACT 0.58 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.58 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.58 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2006 AB19BMP000050 1 ACT 0.75/2006 AB19BMP000050 1 ACT 0.75/2006 AB19BMP000050 1 ACT 0.75/2006 AB19BMP000050 1 ACT 0.75/2006 AB19BMP000050 1 ACT 1.24 1.24 9/1/2006 AB19BMP000050 1 ACT 1.24 1.24 8/1/2006 AB19BMP000050 1 ACT 1.24 1.24 8/1/2006 AB19BMP000050 1 ACT 1.24 8/1/2006									
AB19BMP000027   1									
AB19BMP000028									
AB19BMP000030 1 ACT 0.19 0.17 1.00 12/14/2004 AB19BMP000031 1 ACT 0.23 0.21 1.00 12/14/2004 AB19BMP000031 1 ACT 0.23 0.21 1.00 12/14/2004 AB19BMP000032 1 ACT 10/12/2004 AB19BMP000033 1 ACT 0.1 10/12/2004 AB19BMP000034 1 ACT 21.61 17.24 0.00 9/2/2004 AB19BMP000035 1 ACT 0.09 0.49 12/30/2005 AB19BMP000035 1 ACT 0.09 0.09 6/1/2005 AB19BMP000039 1 ACT 0.66 0.65 1.00 10/10/2005 AB19BMP000040 1 ACT 0.00 0.00 1/1/2/2004 AB19BMP000040 1 ACT 0.00 0.00 4/13/2000 AB19BMP000041 1 ACT 0.00 0.00 4/13/2000 AB19BMP000042 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000043 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000045 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000046 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000049 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000040 1 ACT 0.78 0.15 1.00 6/1/2006 AB19BMP000050 1 ACT 0.78 0.15 1.00 6/1/2006 AB19BMP000050 1 ACT 0.78 0.15 1.00 0.00 0.00 0.00 0.00 0.00 0.00									
AB19BMP000030       1       ACT       0.23       0.21       1.00       12/14/2004         AB19BMP000031       1       ACT									
AB19BMP000031       1       ACT       10/12/2004         AB19BMP000032       1       ACT       0.31       0.10       1.00       6/1/2004         AB19BMP000033       1       ACT       0.31       0.10       1.00       6/1/2004         AB19BMP000034       1       ACT       21.61       17.24       0.00       9/2/2004         AB19BMP000035       1       ACT       0.49       12/30/2005         AB19BMP000038       1       ACT       0.66       0.65       1.00       6/1/2005         AB19BMP000039       1       ACT       0.66       0.65       1.00       10/10/2005         AB19BMP000040       1       ACT       0.00       0.00       4/13/2000         AB19BMP000041       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000045       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000050       1       ACT       4CT       4CT       1/26/2006         AB19BMP000051       1       ACT       4CT       4CT       1/2/2006									
AB19BMP000032         1         ACT         0.31         0.10         1.00         6/1/2004           AB19BMP000034         1         ACT         21.61         17.24         0.00         9/2/2004           AB19BMP000035         1         ACT         0.49         12/30/2005           AB19BMP000038         1         ACT         10.39         5.56         0.00         6/1/2005           AB19BMP000039         1         ACT         0.66         0.65         1.00         10/10/2005           AB19BMP000040         1         ACT         0.00         0.00         1/12/2000           AB19BMP000041         1         ACT         0.00         0.00         4/13/2000           AB19BMP000042         1         ACT         0.78         0.15         1.00         6/1/2005           AB19BMP000045         1         ACT         5.38         1.21         1.50         9/6/2001           AB19BMP000045         1         ACT         4.CT         1.7/2/2006         1/23/2006           AB19BMP000050         1         ACT         4.CT         4.CT         9/1/2006           AB19BMP000051         1         ACT         4.CT         1.2.44         8/1/2006 </td <td></td> <td></td> <td></td> <td></td> <td>0.23</td> <td>0.21</td> <td>1.00</td> <td></td> <td></td>					0.23	0.21	1.00		
AB19BMP000033       1       ACT       0.31       0.10       1.00       6/1/2004         AB19BMP000034       1       ACT       21.61       17.24       0.00       9/2/2004         AB19BMP000035       1       ACT       0.49       12/30/2005         AB19BMP000038       1       ACT       10.39       5.56       0.00       6/1/2005         AB19BMP000040       1       ACT       0.66       0.65       1.00       10/10/2005         AB19BMP000041       1       ACT       0.00       0.00       4/13/2000         AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000043       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000045       1       ACT       2.50       1/23/2006         AB19BMP000046       1       ACT       4CT       4.75/2006         AB19BMP000050       1       ACT       4CT       9/1/2006         AB19BMP000051       1       ACT       4CT       1/25/2006         AB19BMP000052       1       ACT       4CT       1/25/2006         AB19BMP000055       1       ACT       4CT <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
AB19BMP000034       1       ACT       21.61       17.24       0.00       9/2/2004         AB19BMP000035       1       ACT       0.49       12/30/2005         AB19BMP000038       1       ACT       10.39       5.56       0.00       6/1/2005         AB19BMP000049       1       ACT       0.06       0.65       1.00       10/10/2005         AB19BMP000041       1       ACT       0.00       0.00       4/13/2000         AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000043       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000045       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000046       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000049       1       ACT       CT       5.75       1.75/2006         AB19BMP000050       1       ACT       CT       9/1/2006         AB19BMP000051       1       ACT       CT       1.2/1/2/2006         AB19BMP000052       1       ACT       CT       1.2/1/2/2006         AB19BMP000057					0.31	0.10	1.00		
AB19BMP000035       1       ACT       0.49       12/30/2005         AB19BMP000038       1       ACT       10.39       5.56       0.00       6/1/2005         AB19BMP000040       1       ACT       0.06       0.65       1.00       10/10/2005         AB19BMP000041       1       ACT       0.00       0.00       4/13/2000         AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000043       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000045       1       ACT       2.50       1/23/2006         AB19BMP000046       1       ACT       2.50       1/26/2006         AB19BMP000050       1       ACT       4CT       9/1/2006         AB19BMP000051       1       ACT       4CT       9/1/2006         AB19BMP000052       1       ACT       4CT       12.44       8/1/2007         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000059       1       ACT       4CT       5/1/2006         AB19BMP000059       1       ACT       5/1/2006       5/1/2006         AB19BMP000059									
AB19BMP000038       1       ACT       10.39       5.56       0.00       6/1/2005         AB19BMP000040       1       ACT       0.66       0.65       1.00       10/10/2005         AB19BMP000041       1       ACT       0.00       0.00       4/13/2000         AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000043       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000045       1       ACT       2.50       1/26/2006         AB19BMP000045       1       ACT       E       E       6/1/2006         AB19BMP000049       1       ACT       E       E       9/1/2006         AB19BMP000050       1       ACT       E       E       9/1/2006         AB19BMP000051       1       ACT       E       E       9/1/2006         AB19BMP000052       1       ACT       E       E       1/2/12/2006         AB19BMP000055       1       ACT       E       E       1/2/12/2006         AB19BMP000057       1       ACT       E       E       5/18/2007         AB19BMP000058       1       ACT					21.01		0.00		
AB19BMP000039 1 ACT 0.66 0.65 1.00 10/10/2005 AB19BMP000040 1 ACT 0.00 0.00 1/12/2000 AB19BMP000041 1 ACT 0.00 0.00 4/13/2000 AB19BMP000042 1 ACT 0.78 0.15 1.00 6/1/2005 AB19BMP000043 1 ACT 0.78 1.50 9/6/2001 AB19BMP000045 1 ACT 2.50 1/23/2006 AB19BMP000046 1 ACT 2.50 1/23/2006 AB19BMP000049 1 ACT 1 1/26/2006 AB19BMP000050 1 ACT 7/5/2006 AB19BMP000051 1 ACT 9 9/1/2006 AB19BMP000052 1 ACT 9/1/2006 AB19BMP000055 1 ACT 1 1/25/2006 AB19BMP000055 1 ACT 1 1/25/2006 AB19BMP000055 1 ACT 5 5/18/2007 AB19BMP000057 1 ACT 5 5/18/2007 AB19BMP000058 1 ACT 5 5/18/2007					10.39		0.00		
AB19BMP000040       1       ACT       0.00       0.00       1/12/2000         AB19BMP000041       1       ACT       0.00       0.00       4/13/2000         AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000043       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000045       1       ACT       2.50       1/23/2006         AB19BMP000046       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000049       1       ACT       4CT       6/1/2006       6/1/2006         AB19BMP000050       1       ACT       4CT       9/1/2006         AB19BMP000051       1       ACT       12/1/2/2006       12/1/2/2006         AB19BMP000052       1       ACT       12/44       8/1/2007         AB19BMP000055       1       ACT       12/44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000041       1       ACT       0.00       0.00       4/13/2000         AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000043       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000045       1       ACT       2.50       1/23/2006         AB19BMP000046       1       ACT       1/26/2006         AB19BMP000050       1       ACT       5/1/2006         AB19BMP000051       1       ACT       5/1/2006         AB19BMP000052       1       ACT       5/1/2006         AB19BMP000055       1       ACT       1/25/2006         AB19BMP000055       1       ACT       1/2.44       8/1/2007         AB19BMP000058       1       ACT       1/2.44       8/1/2007         AB19BMP000059       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007							2.00		
AB19BMP000042       1       ACT       0.78       0.15       1.00       6/1/2005         AB19BMP000043       1       ACT       5.38       1.21       1.50       9/6/2001         AB19BMP000045       1       ACT       2.50       1/23/2006         AB19BMP000046       1       ACT       1/26/2006         AB19BMP000050       1       ACT       5       7/5/2006         AB19BMP000051       1       ACT       9/1/2006         AB19BMP000052       1       ACT       5       1/25/2006         AB19BMP000055       1       ACT       5       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       12.44       8/1/2007         AB19BMP000059       1       ACT       10.44       8/1/2007         AB19BMP000059       1       ACT <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
AB19BMP000043 1 ACT 5.38 1.21 1.50 9/6/2001 AB19BMP00045 1 ACT 2.50 1/23/2006 AB19BMP000046 1 ACT 1/26/2006 AB19BMP000049 1 ACT 1/26/2006 AB19BMP000050 1 ACT 1/26/2006 AB19BMP000051 1 ACT 1/26/2006 AB19BMP000052 1 ACT 1/26/2006 AB19BMP000055 1 ACT 1/26/2006 AB19BMP000055 1 ACT 1/26/2006 AB19BMP000055 1 ACT 1/26/2006 AB19BMP000055 1 ACT 1/26/2006 AB19BMP000057 1 ACT 1/26/2006 AB19BMP000058 1 ACT 1/26/2006 AB19BMP000059 1 ACT 1/26/2006							1.00		
AB19BMP000045       1       ACT       2.50       1/23/2006         AB19BMP000046       1       ACT       1/26/2006         AB19BMP000050       1       ACT       6/1/2006         AB19BMP000051       1       ACT       7/5/2006         AB19BMP000052       1       ACT       9/1/2006         AB19BMP000055       1       ACT       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000046       1       ACT       1/26/2006         AB19BMP000050       1       ACT       6/1/2006         AB19BMP000051       1       ACT       7/5/2006         AB19BMP000052       1       ACT       9/1/2006         AB19BMP000055       1       ACT       12/12/2006         AB19BMP000055       1       ACT       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000049       1       ACT       6/1/2006         AB19BMP000050       1       ACT       7/5/2006         AB19BMP000051       1       ACT       9/1/2006         AB19BMP000052       1       ACT       12/12/2006         AB19BMP000055       1       ACT       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000050       1       ACT       7/5/2006         AB19BMP000051       1       ACT       9/1/2006         AB19BMP000052       1       ACT       12/12/2006         AB19BMP000055       1       ACT       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000051       1       ACT       9/1/2006         AB19BMP000052       1       ACT       12/12/2006         AB19BMP000055       1       ACT       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000052       1       ACT       12/12/2006         AB19BMP000055       1       ACT       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000055       1       ACT       1/25/2006         AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000057       1       ACT       12.44       8/1/2007         AB19BMP000058       1       ACT       5/18/2007         AB19BMP000059       1       ACT       6/1/2007									
AB19BMP000058 1 ACT 5/18/2007 AB19BMP00059 1 ACT 6/1/2007						12.44			
AB19BMP000059 1 ACT 6/1/2007									
• •									
· · · · · · · · · · · · · · · · · · ·									
AB19BMP000062 1 ACT 6/18/2007									
AB19BMP000063 1 ACT 4.58 9/12/2007					4.58				
AB19BMP000064 1 ACT 4.98 12/30/2007						4.98			

**Table B.1.b. Reporting Requirements for ESD and Structural Practices** 

DAD ID	NUINA DNADC	ON OFF SITE CONVERTED FROM	DNAD STATUS D	MD DDAIN AREA	IMD ACDES	DE ADD ADD BATE	DILLIT DATE CEN CONANAENTS	
BMP_ID AB19BMP000065	1 1	ON_OFF_SITE CONVERTED_FROM	ACT ACT	MP_DRAIN_AREA	11.62	PE_ADR APPR_DATE	BUILT_DATE GEN_COMMENTS 12/30/2007	
			ACT		11.02		8/10/2007	
AB19BMP000066 AB19BMP000067	1 1		ACT				8/10/2007 8/10/2007	
AB19BMP000072	1		ACT				1/4/2008	
	1							
AB19BMP000076			ACT				1/28/2008	
AB19BMP000077	1 1		ACT				1/28/2008 1/28/2008	
AB19BMP000078	1		ACT ACT				4/3/2008	
AB19BMP000079								
AB19BMP000080	1		ACT				9/28/2009	
AB19BMP000082	1		ACT				5/28/2010	
AB19BMP000084	1		ACT				5/28/2010	
AB19BMP000085	1		ACT		42.44		5/13/2010	
AB19BMP000086	1		ACT		12.44		10/17/2011	
AB19BMP000087	1		ACT				6/1/2011	
AB19BMP000088	1		ACT		12.44		10/16/2011	
AB19BMP000089	1		ACT				1/6/2012	
AB19BMP000090								
AB19BMP000091	4		ACT				4/12/2012	
AB19BMP000092	1		ACT				4/12/2013	
AB19BMP000093	1		ACT				4/12/2013	
AB19BMP000094	1		ACT				8/1/2013	
AB19BMP000096	1		ACT	0.26	0.27	2.40	8/14/2014	
AB19BMP000097	1		ACT	0.36	0.27	2.18	8/14/2014	
AB19BMP000098	1		ACT	0.33	0.27	2.13	8/14/2014	
AB19BMP000099	1		ACT	0.30	0.22	2.16	8/14/2014	
AB19BMP000100	1		ACT	0.55	0.47	2.18	8/14/2014	
AB19BMP000101	1		ACT	0.55	0.44	2.07	8/14/2014	
AB19BMP000102	1		ACT	0.37	0.25	2.21	8/14/2014	
AB19BMP000103	1		ACT	0.37	0.26	2.13	8/14/2014	
AB19BMP000104	1		ACT	0.44	0.36	2.17	8/14/2014	
AB19BMP000105	1		ACT	0.46	0.37	2.40	8/14/2014	
AB19BMP000106	1		ACT	0.45	0.39	2.08	8/14/2014	
AB19BMP000107	1		ACT	0.41	0.37	2.05	8/14/2014	
AB19BMP000108	1		ACT				12/5/2014	
AB19BMP000109	1		ACT				3/19/2014	
AB19BMP000110	1		ACT				3/19/2014	
AB19BMP000111	1		ACT					
AB19BMP000112	1		ACT					
AB19BMP000113	1		ACT		0.16		10/20/2012	
AB19BMP000114	1		ACT		0.16		10/29/2013	
AB19BMP000115	1		ACT		0.15		10/29/2013	
AB19BMP000116	1		ACT		0.05		10/29/2013	
AB19BMP000117	1		ACT	24.00	0.05		10/29/2013	
AB19BMP000118	1		ACT	21.09			12/12/2016	
AB19BMP000121	1		ACT	2.00			7/20/2017	
AB19BMP000122	1		ACT	2.08			4/24/2017	
AB19BMP000123	1		ACT				12/19/2017	
AB19BMP000125	1		ACT		20.00		12/19/2017	
AB19BMP000126	1		ACT		30.08		10/23/2017	
AB19BMP000127	1		ACT				10/13/2017	

**Table B.1.b. Reporting Requirements for ESD and Structural Practices** 

BMP_ID	NUM_BMPS	ON_OFF_SITE CONVERTED_FROM BMP_STATUS BMP_DRAIN	_AREA IMP_ACRES	PE_ADR APPR_DATE	BUILT_DATE GEN_COMMENTS	
AB19BMP000129	1	ACT			1/9/2018	
AB19BMP000130	1	ACT			1/9/2018	
AB19BMP000131	1	ACT			1/9/2018	
AB19BMP000132	1	ACT			1/9/2018	
AB19BMP000133	1	ACT			4/16/2018	
AB19BMP000134	1	ACT			1/11/2019	
AB19BMP000135	1	ACT			1/1/1975	
AB19BMP000136	1	ACT			6/1/1981	
AB19BMP000137	1	ACT			6/1/1985	
AB19BMP000138	1	ACT	9.52		6/1/1986	
AB19BMP000139	1	ACT	0.42		11/1/1987	
AB19BMP000140	1	ACT	1.01		6/1/1989	
AB19BMP000142	1	PASS			6/1/1989	
AB19BMP000143	1	ACT			6/1/1989	
AB19BMP000144	1	ACT	1.60		6/1/1989	
AB19BMP000145	1	ACT			6/12/1989	
AB19BMP000146	1	ACT	2.41		12/30/1989	
AB19BMP000147	1	ACT			6/1/1989	
AB19BMP000148	1	ACT			1/27/1989	
AB19BMP000149	1	PASS			10/5/1990	
AB19BMP000150	1	ACT			2/19/1990	
AB19BMP000151	1	ACT			2/7/1990	
AB19BMP000152	1	ACT			1/6/1997	
AB19BMP000153	1	ACT			10/10/1990	
AB19BMP000154	1	ACT			2/12/1990	
AB19BMP000155	1	ACT	2.40		7/1/1991	
AB19BMP000156	1	ACT			10/2/1991	
AB19BMP000157	1	Replaced with underground pipe storage			2/17/1991	
AB19BMP000158	1	ACT	0.38		6/1/1991	
AB19BMP000159	1	ACT			9/21/1991	
AB19BMP000160	1	ACT			9/21/1991	
AB19BMP000162	1	ACT			9/21/1991	
AB19BMP000164	1	ACT			2/15/1991	
AB19BMP000166	1	ACT			1/10/1992	
AB19BMP000167	1	ACT			9/8/1992	
AB19BMP000168	1	ACT 0.48	8 0.42	2.23	8/14/2014	
AB19BMP000169	1	ACT			4/16/1992	
AB19BMP000170	1	ACT	4.95		3/3/1993	
AB19BMP000171	1	ACT			9/30/1993	
AB19BMP000172	1	ACT			1/19/1993	
AB19BMP000173	1	ACT	5.45		12/30/1994	
AB19BMP000174	1	ACT	13.13		12/30/1994	
AB19BMP000175	1	ACT	1.28		11/3/2003	
AB19BMP000176	1	ACT	0.20		11/3/2003	
AB19BMP000178	1	ACT			12/21/1995	
AB19BMP000179	1	ACT			2/28/1995	
AB19BMP000180	1	ACT			7/31/1995	
AB19BMP000181	1	ACT			7/31/1995	
AB19BMP000182	1	ACT			3/31/1996	
AB19BMP000183	1	ACT			6/6/1996	

**Table B.1.b. Reporting Requirements for ESD and Structural Practices** 

PMP ID	NUM PMPS C	IN OEE SITE	CONVERTED FROM	DNAD STATUS	PMD DRAIN AREA	IMD ACRES	DE ADA	ADDD DATE	DIIIIT DATE	CEN COMMENTS
BMP_ID AB19BMP000184	NUM_BMPS C	N_OFF_SITE	CONVERTED_FROM	ACT	BMP_DRAIN_AREA	IIVIP_ACRES	PE_ADR	APPR_DATE	9/12/1996	GEN_COMMENTS
AB19BMP000186	1			ACT					6/5/1997	
AB19BMP000187	1			ACT					6/6/1997	
AB19BMP000188	1			ACT		0.72			6/6/1997	
AB19BMP000189	1			ACT		0.72			12/30/1997	
AB19BMP000190	1			ACT					5/30/1997	
AB19BMP000191	1			ACT					9/12/1997	
AB19BMP000192	1			ACT					3/19/1998	
AB19BMP000193	1			ACT		0.59			1/16/1998	
AB19BMP000194	1			ACT					12/17/1998	
AB19BMP000195	1			ACT					6/1/1998	
AB19BMP000196	1			ACT					3/19/1998	
AB19BMP000197	1			ACT					3/19/1998	
AB19BMP000198	1			ACT					3/19/1998	
AB19BMP000199	1			ACT		0.72			12/30/1999	
AB19BMP000200	1			ACT					5/28/2010	
AB19BMP000201	1								9/5/2017	
AB19BMP000202	1			PASS					3/30/1993	3
AB20BMP000109	1	ON		ACT	0.66	0.22	1.40	5/7/2015		
AB20BMP000110	1	ON		ACT	0.65	0.27	1.20	5/7/2015		
AB20BMP000111	1	ON		ACT	0.83	0.33	1.01	5/7/2015		
AB20BMP000107	1	ON		ACT		0.04		6/18/2017	7/18/2017	,
AB20BMP000095	1	ON		ACT		24.86		10/19/2018	1/3/2019	)
AB20BMP000096	1	ON		ACT		24.86		10/19/2018	1/3/2019	)
AB20BMP000097	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000098	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000099	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000100	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000101	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000102	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000103	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000104	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000105	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000105	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000084	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000085	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000085	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000087	1	ON		ACT		24.86		10/19/2018	1/3/2019	
AB20BMP000087	1	ON		ACT		24.86		10/19/2018	1/3/2019	
	1	ON		ACT		24.86				
AB20BMP000089					0.27			10/19/2018	1/3/2019	
AB20BMP000060	1	ON		ACT	0.27	0.16		7/11/2018	8/22/2018	
AB20BMP000061	1	ON		ACT	0.46	0.41		7/11/2018	8/22/2018	
AB20BMP000062	1	ON		ACT	0.46	0.35		7/11/2018	8/22/2018	
AB20BMP000063	1	ON		ACT	0.45	0.32		7/11/2018	8/22/2018	
AB20BMP000064	1	ON		ACT	0.46	0.37		7/11/2018	8/22/2018	
AB20BMP000065	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000066	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000067	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000068	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	
AB20BMP000069	1	ON		ACT	0.46	0.36		7/11/2018	8/22/2018	3

**Table B.1.b. Reporting Requirements for ESD and Structural Practices** 

More   No.   Subs   Once   Site   CONVERTIO FROM   SATUS BMP   RANK   ASEA   May AGES   Fabb   APPR   DATE   BUILT DATE   GRI COMMENS	BMP ID	NUM BMPS	ON OFF SITE	CONVERTED FROM	BMP STATUS	BMP_DRAIN_AREA	IMP ACRES	PF ADR	APPR DATE	BUILT DATE	GEN COMMENTS
ADDIS MPCONDOT   1	_			CONVENTED_FINOINI				<u>-</u>	_		GEN_COMMENTS
ADDIA MPCONDOTO   1											
AZUBMMPRODOTS											
ARZOBMPOCOOTS   1						0.45			7,11,2010	0,22,2010	
ABJOBMPRO00076							0.52				
ABCOBMMODOOFS   1						0.19	0.11		7/11/2018	8/22/2018	
ARZBEMMPOODO78											
AR20BMP000078											
ABZOBMPODOOO9											
ABZOBMPRODO080											
ABZOBMPO00081											
ARZDBMP000082											
ARZOBMPOROOSS 1 ON ACT 0.52 0.26 7/11/2018 8/22/2018 ARZOBMPOROOSS 1 ON ACT 0.50 0.33 2.00 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.54 0.13 2.60 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.54 0.22 2.60 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.54 0.22 2.60 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.54 0.22 2.60 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.54 0.22 2.60 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.55 0.23 2.40 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.50 0.11 0.30 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.50 0.11 0.30 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.50 0.11 0.30 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.50 0.11 0.30 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.50 0.11 0.30 3/30/2018 5/4/2018 ARZOBMPOROOSS 1 ON ACT 0.29 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.29 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.28 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.28 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.28 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.07 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.07 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.07 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.03 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.03 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.03 2/11/2016 12/16/2018 ARZOBMPOROOSS 1 ON ACT 0.04 2/11/2											
ABZOBMPODO053         1         ON         ACT         0.50         0.33         2.00         3/30/2018         5/4/2018           ABZOBMPOD0055         1         ON         ACT         0.54         0.13         2.60         3/30/2018         5/4/2018           ABZOBMPOD0055         1         ON         ACT         0.54         0.13         2.60         3/30/2018         5/4/2018           ABZOBMPOD0057         1         ON         ACT         0.54         0.13         2.60         3/30/2018         5/4/2018           ABZOBMPOD0045         1         ON         ACT         0.50         0.11         0.30         3/30/2018         5/4/2018           ABZOBMPOD0045         1         ON         ACT         0.27         2/11/2016         1/16/2018           ABZOBMPOD0045         1         ON         ACT         0.13         2/11/2016         1/16/2018           ABZOBMPOD0047         1         ON         ACT         0.15         2/11/2016         1/16/2018           ABZOBMPOD0031         1         ON         ACT         0.02         2/11/2016         1/16/2018           ABZOBMPOD0033         1         ON         ACT         0.03         2/11/2016											
ABZOBMPODO055         1         ON         ACT         0.86         0.19         1.80         3/30/2018         5/4/2018           ABZOBMPOD0056         1         ON         ACT         0.86         0.19         1.80         3/30/2018         5/4/2018           ABZOBMPOD0057         1         ON         ACT         0.54         0.22         2.60         3/30/2018         5/4/2018           ABZOBMPOD0044         1         ON         ACT         0.60         0.11         0.30         3/30/2018         5/4/2018           ABZOBMPOD0045         1         ON         ACT         0.60         0.11         0.30         3/30/2018         5/4/2018           ABZOBMPOD0046         1         ON         ACT         0.13         2/11/2016         12/16/2018           ABZOBMPOD0047         1         ON         ACT         0.15         2/11/2016         12/16/2018           ABZOBMPOD0028         1         ON         ACT         0.28         2/11/2016         12/16/2018           ABZOBMPOD0031         1         ON         ACT         0.24         2/11/2016         12/16/2018           ABZOBMPOD0032         1         ON         ACT         0.03         2/11/2016								2.00			
ABZOBMPO00055   1											
ABZOBMPO00056											
ABZOBMPODOOS7											
ABZOBMPO00044   1											
ABZOBMP000044         1         ON         ACT         0.27         2/11/2016         12/16/2018           ABZOBMP000045         1         ON         ACT         0.13         2/11/2016         12/16/2018           ABZOBMP000047         1         ON         ACT         0.15         2/11/2016         12/16/2018           ABZOBMP000028         1         ON         ACT         0.28         2/11/2016         12/16/2018           ABZOBMP000029         1         ON         ACT         0.24         2/11/2016         12/16/2018           ABZOBMP000030         1         ON         ACT         0.07         2/11/2016         12/16/2018           ABZOBMP000031         1         ON         ACT         0.07         2/11/2016         12/16/2018           ABZOBMP00032         1         ON         ACT         0.07         2/11/2016         12/16/2018           ABZOBMP00033         1         ON         ACT         0.03         2/11/2016         12/16/2018           ABZOBMP00034         1         ON         ACT         0.14         2/11/2016         12/16/2018           ABZOBMP00035         1         ON         ACT         0.14         2/11/2016         12/16/2018											
ABZOBMPO00045         1         ON         ACT         0.13         2/11/2016         12/16/2018           ABZOBMPO00047         1         ON         ACT         0.15         2/11/2016         12/16/2018           ABZOBMPO00028         1         ON         ACT         0.28         2/11/2016         12/16/2018           ABZOBMPO0039         1         ON         ACT         0.24         2/11/2016         12/16/2018           ABZOBMPO0031         1         ON         ACT         0.07         2/11/2016         12/16/2018           ABZOBMPO0032         1         ON         ACT         0.07         2/11/2016         12/16/2018           ABZOBMPO0033         1         ON         ACT         0.03         2/11/2016         12/16/2018           ABZOBMPO0033         1         ON         ACT         0.03         2/11/2016         12/16/2018           ABZOBMPO0034         1         ON         ACT         0.14         2/11/2016         12/16/2018           ABZOBMPO0035         1         ON         ACT         0.59         2/11/2016         12/16/2018           ABZOBMPO0036         1         ON         ACT         0.14         2/11/2016         12/16/2018											
ABZOBMPO00046         1         ON         ACT         0.29         2/11/2016         12/16/2018           ABZOBMPO00027         1         ON         ACT         0.15         2/11/2016         12/16/2018           ABZOBMPO00028         1         ON         ACT         0.24         2/11/2016         12/16/2018           ABZOBMPO00030         1         ON         ACT         0.07         2/11/2016         12/16/2018           ABZOBMPO00031         1         ON         ACT         0.07         2/11/2016         12/16/2018           ABZOBMPO00032         1         ON         ACT         0.03         2/11/2016         12/16/2018           ABZOBMPO00033         1         ON         ACT         0.03         2/11/2016         12/16/2018           ABZOBMPO00034         1         ON         ACT         0.14         2/11/2016         12/16/2018           ABZOBMPO00035         1         ON         ACT         0.14         2/11/2016         12/16/2018           ABZOBMPO00037         1         ON         ACT         0.14         2/11/2016         12/16/2018           ABZOBMPO00038         1         ON         ACT         0.14         2/11/2016         12/16/2018 <td></td>											
AB20BMP000047         1         ON         ACT         0.15         2/11/2016         12/16/2018           AB20BMP000029         1         ON         ACT         0.24         2/11/2016         12/16/2018           AB20BMP000030         1         ON         ACT         0.07         2/11/2016         12/16/2018           AB20BMP000031         1         ON         ACT         0.07         2/11/2016         12/16/2018           AB20BMP000032         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP00033         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP00034         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP00035         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP00035         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP00037         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP00038         1         ON         ACT         0.14         2/11/2016         12/16/2018											
AB20BMP000028         1         ON         ACT         0.28         2/11/2016         12/16/2018           AB20BMP000030         1         ON         ACT         0.24         2/11/2016         12/16/2018           AB20BMP00031         1         ON         ACT         0.07         2/11/2016         12/16/2018           AB20BMP00032         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP00033         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP00034         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP00035         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP00036         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP00037         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP00038         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000040         1         ON         ACT         0.11         2/11/2016         12/16/2018     <											
AB20BMP000029         1         ON         ACT         0.24         2/11/2016         12/16/2018           AB20BMP000030         1         ON         ACT         0.07         2/11/2016         12/16/2018           AB20BMP000031         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP000032         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP000033         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP000035         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000036         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000037         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000038         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000039         1         ON         ACT         0.11         2/11/2016         12/16/2018           AB20BMP000041         1         ON         ACT         0.11         2/11/2016         12/16/2018 <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		1									
AB20BMP000030         1         ON         ACT         0.07         2/11/2016         12/16/2018           AB20BMP000031         1         ON         ACT         0.07         2/11/2016         12/16/2018           AB20BMP000032         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP000033         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP000034         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000035         1         ON         ACT         0.59         2/11/2016         12/16/2018           AB20BMP000036         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000037         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000038         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000040         1         ON         ACT         0.11         2/11/2016         12/16/2018           AB20BMP000042         1         ON         ACT         0.14         2/11/2016         12/16/2018 <td></td>											
AB20BMP000031         1         ON         ACT         0.07         2/11/2016         12/16/2018           AB20BMP000032         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP000034         1         ON         ACT         0.03         2/11/2016         12/16/2018           AB20BMP000035         1         ON         ACT         0.59         2/11/2016         12/16/2018           AB20BMP000036         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000037         1         ON         ACT         0.28         2/11/2016         12/16/2018           AB20BMP000038         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000039         1         ON         ACT         0.14         2/11/2016         12/16/2018           AB20BMP000040         1         ON         ACT         0.11         2/11/2016         12/16/2018           AB20BMP000041         1         ON         ACT         0.15         2/11/2016         12/16/2018           AB20BMP000043         1         ON         ACT         0.14         2/11/2016         12/16/2018 <td></td>											
AB20BMP000032 1 ON ACT 0.03 2/11/2016 12/16/2018 AB20BMP000033 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000034 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000035 1 ON ACT 0.59 2/11/2016 12/16/2018 AB20BMP000036 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000037 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000038 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000038 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000039 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000040 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000040 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000041 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000042 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000040 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000004 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000006 1 ON ACT 0.24 2/11/2016 12/16/2018 AB20BMP000006 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP000007 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000006 1 ON ACT 0.14 8/15/2018 9/18/2018											
AB20BMP000033       1       ON       ACT       0.03       2/11/2016       12/16/2018         AB20BMP000034       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP000035       1       ON       ACT       0.59       2/11/2016       12/16/2018         AB20BMP000036       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP000037       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP00038       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP000049       1       ON       ACT       0.11       2/11/2016       12/16/2018         AB20BMP000041       1       ON       ACT       0.15       2/11/2016       12/16/2018         AB20BMP000042       1       ON       ACT       0.15       2/11/2016       12/16/2018         AB20BMP000043       1       ON       ACT       0.24       2/11/2016       12/16/2018         AB20BMP000006       1       ON       ACT       0.32       8/15/2018       9/18/2018         AB20BMP000007       1       ON       ACT       0.14       8/15/2018 </td <td>AB20BMP000032</td> <td>1</td> <td>ON</td> <td></td> <td></td> <td></td> <td>0.03</td> <td></td> <td></td> <td></td> <td></td>	AB20BMP000032	1	ON				0.03				
AB20BMP000035       1       ON       ACT       0.59       2/11/2016       12/16/2018         AB20BMP000036       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP000037       1       ON       ACT       0.28       2/11/2016       12/16/2018         AB20BMP000038       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP000040       1       ON       ACT       0.11       2/11/2016       12/16/2018         AB20BMP000041       1       ON       ACT       0.15       2/11/2016       12/16/2018         AB20BMP000042       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP000043       1       ON       ACT       0.14       2/11/2016       12/16/2018         AB20BMP000006       1       ON       ACT       0.24       2/11/2016       12/16/2018         AB20BMP000007       1       ON       ACT       0.16       8/15/2018       9/18/2018         AB20BMP000008       1       ON       ACT       0.16       8/15/2018       9/18/2018         AB20BMP000015       1       ON       ACT       0.14       8/15/2019 </td <td></td>											
AB20BMP000036 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000037 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000038 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000039 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000040 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000041 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000042 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000061 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000061 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000061 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP000006 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP0000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019	AB20BMP000034	1	ON		ACT		0.14		2/11/2016	12/16/2018	
AB20BMP000037 1 ON ACT 0.28 2/11/2016 12/16/2018 AB20BMP000038 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000039 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000040 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000041 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000042 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000006 1 ON ACT 0.24 2/11/2016 12/16/2018 AB20BMP000007 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP000007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019	AB20BMP000035	1	ON		ACT		0.59		2/11/2016	12/16/2018	
AB20BMP000037 1 0N ACT 0.28 2/11/2016 12/16/2018 AB20BMP000038 1 0N ACT 0.14 2/11/2016 12/16/2018 AB20BMP000039 1 0N ACT 0.11 2/11/2016 12/16/2018 AB20BMP000040 1 0N ACT 0.11 2/11/2016 12/16/2018 AB20BMP000041 1 0N ACT 0.15 2/11/2016 12/16/2018 AB20BMP000042 1 0N ACT 0.15 2/11/2016 12/16/2018 AB20BMP000043 1 0N ACT 0.14 2/11/2016 12/16/2018 AB20BMP000043 1 0N ACT 0.24 2/11/2016 12/16/2018 AB20BMP000006 1 0N ACT 0.24 2/11/2016 12/16/2018 AB20BMP000007 1 0N ACT 0.32 8/15/2018 9/18/2018 AB20BMP000007 1 0N ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 0N ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 0N PASS 0.33 1.95 3/15/2019 4/18/2019	AB20BMP000036	1									
AB20BMP000039 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000040 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000041 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000042 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.24 2/11/2016 12/16/2018 AB20BMP00006 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP00007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000008 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000037	1	ON		ACT		0.28		2/11/2016	12/16/2018	
AB20BMP000040 1 ON ACT 0.11 2/11/2016 12/16/2018 AB20BMP000041 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000042 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.24 2/11/2016 12/16/2018 AB20BMP00006 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP00007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000038	1	ON		ACT		0.14		2/11/2016	12/16/2018	
AB20BMP000041 1 ON ACT 0.15 2/11/2016 12/16/2018 AB20BMP000042 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.24 2/11/2016 12/16/2018 AB20BMP00006 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP00007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000039	1	ON		ACT		0.11		2/11/2016	12/16/2018	
AB20BMP000042 1 ON ACT 0.14 2/11/2016 12/16/2018 AB20BMP000043 1 ON ACT 0.24 2/11/2016 12/16/2018 AB20BMP00006 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP00007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000040	1	ON		ACT		0.11		2/11/2016	12/16/2018	
AB20BMP000043 1 ON ACT 0.24 2/11/2016 12/16/2018 AB20BMP00006 1 ON ACT 0.32 8/15/2018 9/18/2018 AB20BMP00007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP00008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000041	1	ON		ACT		0.15		2/11/2016	12/16/2018	
AB20BMP000006       1       ON       ACT       0.32       8/15/2018       9/18/2018         AB20BMP000007       1       ON       ACT       0.16       8/15/2018       9/18/2018         AB20BMP000008       1       ON       ACT       0.14       8/15/2018       9/18/2018         AB20BMP000014       1       ON       PASS       0.33       1.95       3/15/2019       4/18/2019         AB20BMP000015       1       ON       PASS       0.07       2.10       3/15/2019       4/18/2019	AB20BMP000042	1	ON		ACT		0.14		2/11/2016	12/16/2018	
AB20BMP000007 1 ON ACT 0.16 8/15/2018 9/18/2018 AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000043	1	ON		ACT		0.24		2/11/2016	12/16/2018	
AB20BMP000008 1 ON ACT 0.14 8/15/2018 9/18/2018 AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000006	1	ON		ACT		0.32		8/15/2018	9/18/2018	
AB20BMP000014 1 ON PASS 0.33 1.95 3/15/2019 4/18/2019 AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000007	1	ON		ACT		0.16		8/15/2018	9/18/2018	
AB20BMP000015 1 ON PASS 0.07 2.10 3/15/2019 4/18/2019	AB20BMP000008	1	ON		ACT		0.14		8/15/2018	9/18/2018	
	AB20BMP000014	1	ON		PASS		0.33	1.95	3/15/2019	4/18/2019	
AB20BMP000016 1 ON PASS 0.32 2.20 3/15/2019 4/18/2019	AB20BMP000015	1	ON		PASS		0.07	2.10	3/15/2019	4/18/2019	
	AB20BMP000016	1	ON		PASS		0.32	2.20	3/15/2019	4/18/2019	
AB20BMP000017 1 ON PASS 0.39 2.36 3/15/2019 4/18/2019	AB20BMP000017	1	ON		PASS		0.39	2.36	3/15/2019	4/18/2019	
AB20BMP000018 1 ON PASS 0.40 2.01 3/15/2019 4/18/2019	AB20BMP000018	1	ON		PASS		0.40	2.01	3/15/2019	4/18/2019	
AB20BMP000001 1 ON ACT	AB20BMP000001	1	ON		ACT						
AB20BMP000002 1 ON ACT 1/27/2008	AB20BMP000002	1	ON		ACT					1/27/2008	

**Table B.1.b. Reporting Requirements for ESD and Structural Practices** 

BMM-PRIORED   1											
SAMPRODOZO	BMP_ID			_	_	BMP_DRAIN_AREA		PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMENTS
SAMPORODIN				2017			5.52		2/44/2046	40/46/0040	
SMM-PRODOCS									2/11/2016	12/16/2018	
SMMPRODOCO							0.55		2/44/2046	40/46/0040	
SMMPOROUSY   1											
SMMP000059											
Dem							0.47		2/11/2016	12/16/2018	
Demploon									- / /	- / - /	
Demploon   1	AB20BMP000050										
BMMP0000909											
Demploon						2.01		1.80			
BMMP000092	AB20BMP000090										
DAMPOD0093   1	AB20BMP000091										
Dempono	AB20BMP000092										
BMMP000113	AB20BMP000093										
BMMP000112	AB20BMP000094	1	ON		ACT		24.86		10/19/2018	1/3/2019	
DRMP000113	AB20BMP000108	1	ON								
DRMP00003   1	AB20BMP000112	1	ON		ACT	14.50				4/25/1990	
DBMP000003	AB20BMP000113	1	ON		ACT		0.23		6/18/2017	7/18/2017	
DBMP000010	AB20BMP000114	1	ON		ACT		0.02		6/18/2017	7/18/2017	
DBMP000011	AB20BMP000003										
DBMP000012   1	AB20BMP000004										
DBMP000022   1	AB20BMP000010	1			ACT						
DBMP000023	B20BMP000011	1			ACT						
DBMP000023	AB20BMP000022	1			ACT				2/11/2016	12/16/2018	
18MP000004	AB20BMP000023	1							2/11/2016		
18MP000004	AB20BMP000024	1									
1BMP000005       1       ACT       0.46       0.41       7/11/2018       8/22/2018         1BMP000006       1       ACT       0.46       0.35       7/11/2018       8/22/2018         1BMP000007       1       ACT       0.46       0.35       7/11/2018       8/22/2018         1BMP000008       1       ACT       0.46       0.37       7/11/2018       8/22/2018         1BMP000010       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000011       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000012       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000013       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000014       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000015       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000015       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000017       1       ACT       0.49       0.11       7/11/2018       8/22/20	AB21BMP000004					0.27	0.16				
18MP00006       1       ACT       0.46       0.35       7/11/2018       8/22/2018         18MP00007       1       ACT       0.45       0.32       7/11/2018       8/22/2018         18MP00009       1       ACT       0.46       0.37       7/11/2018       8/22/2018         18MP00001       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP00001       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP00011       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP00012       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP00013       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP00014       1       ACT       0.45       0.36       7/11/2018       8/22/2018         18MP00015       1       ACT       0.41       0.36       7/11/2018       8/22/2018         18MP00016       1       ACT       0.43       0.37       7/11/2018       8/22/2018         18MP00017       1       ACT       0.45       0.35       7/11/2018       8/22/2018	AB21BMP000005										
1BMP00007       1       ACT       0.45       0.32       7/11/2018       8/22/2018         1BMP00008       1       ACT       0.46       0.37       7/11/2018       8/22/2018         1BMP000010       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000011       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000012       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00013       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00014       1       ACT       0.45       0.36       7/11/2018       8/22/2018         1BMP00015       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00016       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00017       1       ACT       0.43       0.37       7/11/2018       8/22/2018         1BMP00018       1       ACT       0.49       0.31       7/11/2018       8/22/2018         1BMP00019       1       ACT       0.44       0.37       7/11/2018       8/22/2018	AB21BMP000006										
18MP00008       1       ACT       0.46       0.37       7/11/2018       8/22/2018         18MP00009       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP000010       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP000011       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP000012       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP000013       1       ACT       0.45       0.36       7/11/2018       8/22/2018         18MP000014       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP00015       1       ACT       0.46       0.36       7/11/2018       8/22/2018         18MP00016       1       ACT       0.43       0.37       7/11/2018       8/22/2018         18MP00017       1       ACT       0.45       0.35       7/11/2018       8/22/2018         18MP00019       1       ACT       0.45       0.35       7/11/2018       8/22/2018         18MP000020       1       ACT       0.44       0.37       7/11/2018       8/22/2018 <td>AB21BMP000007</td> <td></td>	AB21BMP000007										
1BMP00009       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00010       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000011       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000012       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00013       1       ACT       0.45       0.36       7/11/2018       8/22/2018         1BMP00014       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00015       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00016       1       ACT       0.43       0.37       7/11/2018       8/22/2018         1BMP00017       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP00018       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP000020       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP000021       1       ACT       0.44       0.29       7/11/2018       8/22/2018											
1BMP000010       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000011       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000013       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000014       1       ACT       0.45       0.36       7/11/2018       8/22/2018         1BMP00015       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00016       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00017       1       ACT       0.49       0.11       7/11/2018       8/22/2018         1BMP00019       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP00019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP000021       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP000022       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018 <td></td>											
1BMP000011       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000012       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000013       1       ACT       0.45       0.36       7/11/2018       8/22/2018         1BMP000014       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00015       1       ACT       0.43       0.37       7/11/2018       8/22/2018         1BMP00016       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP00017       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP00018       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP000019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP000020       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018 </td <td></td>											
1BMP000012       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000013       1       ACT       0.45       0.36       7/11/2018       8/22/2018         1BMP000014       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00015       1       ACT       0.43       0.37       7/11/2018       8/22/2018         1BMP00016       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP00017       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP00018       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP00019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP00020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP00021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP00022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP00023       1       ACT       0.38       0.25       7/11/2018       8/22/2018											
1BMP000013       1       ACT       0.45       0.36       7/11/2018       8/22/2018         1BMP000014       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP00015       1       ACT       0.43       0.37       7/11/2018       8/22/2018         1BMP000016       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP00017       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP00018       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP00019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP00020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP00021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP00022       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP00023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP00024       1       ACT       0.38       0.25       7/11/2018       8/22/2018											
1BMP000014       1       ACT       0.46       0.36       7/11/2018       8/22/2018         1BMP000015       1       ACT       0.43       0.37       7/11/2018       8/22/2018         1BMP000016       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP00017       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP00018       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP00019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP00020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP00021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP00022       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP00023       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP00025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP00026       1       ACT       0.32       0.26       7/11/2018       8/22/2018											
1BMP000015       1       ACT       0.43       0.37       7/11/2018       8/22/2018         1BMP000016       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP00018       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP00019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP00020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP00021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP00022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP00023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP00024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP00025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP00026       1       ACT       0.32       0.26       7/11/2018       8/22/2018											
1BMP000016       1       ACT       0.32         1BMP000017       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP000018       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP000019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP000020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP000021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       0.32       0.26       7/11/2018       8/22/2018											
1BMP000017       1       ACT       0.19       0.11       7/11/2018       8/22/2018         1BMP000018       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP000019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP00020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP00021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP00022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP00023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP00024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP00025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP00026       1       ACT       0.32       0.26       7/11/2018       8/22/2018						0.43			//11/2018	0/22/2018	
1BMP000018       1       ACT       0.45       0.35       7/11/2018       8/22/2018         1BMP000019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP000020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP000021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       0.32       0.26       7/11/2018       8/22/2018						0.10			7/11/2010	0/22/2010	
1BMP000019       1       ACT       0.44       0.37       7/11/2018       8/22/2018         1BMP000020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP000021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       0.32       0.26       7/11/2018       8/22/2018											
1BMP000020       1       ACT       0.42       0.37       7/11/2018       8/22/2018         1BMP000021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       7/11/2018       8/22/2018											
1BMP000021       1       ACT       0.44       0.29       7/11/2018       8/22/2018         1BMP000022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       CT       7/11/2018       8/22/2018											
1BMP000022       1       ACT       0.37       0.23       7/11/2018       8/22/2018         1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       CT       7/11/2018       8/22/2018											
1BMP000023       1       ACT       0.40       0.16       7/11/2018       8/22/2018         1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       ACT       7/11/2018       8/22/2018											
1BMP000024       1       ACT       0.38       0.25       7/11/2018       8/22/2018         1BMP000025       1       ACT       0.32       0.26       7/11/2018       8/22/2018         1BMP000026       1       ACT       7/11/2018       8/22/2018											
1BMP00025 1 ACT 0.32 0.26 7/11/2018 8/22/2018 1BMP00026 1 ACT 7/11/2018 8/22/2018	B21BMP000023										
1BMP000026 1 ACT 7/11/2018 8/22/2018	B21BMP000024										
	B21BMP000025					0.32	0.26				
1BMP000027 1 ACT 7/11/2018 8/22/2018	B21BMP000026										
	AB21BMP000027	1			ACT				7/11/2018	8/22/2018	

# **Table B.1.b. Reporting Requirements for ESD and Structural Practices**

BMP_ID	NUM_BMPS ON_OFF	F_SITE	CONVERTED_FROM	BMP_STATUS	BMP_DRAIN_AREA	IMP_ACRES	PE_ADR	APPR_DATE	BUILT_DATE	GEN_COMMEN
AB21BMP000028	1				0.09	0.08		2/28/2020		
AB21BMP000029	1			ACT	0.46	0.36		7/11/2018	8/22/2018	}
AB21BMP000001	1			ACT			1.00	3/1/2019	4/16/2019	1
AB21BMP000002	1			ACT	0.80	0.54	1.01	3/1/2019	4/16/2019	1
AB21BMP000003	1			ACT	0.92	0.26	2.56	3/1/2019	4/16/2019	)
AB21BMP000030	1			ACT	0.00	0.15	1.00	3/1/2019	4/16/2019	)

# Table B.1.c Reporting Requirements for Alternative BMPs

BMP_ID	PROJECT_DESC	PROJECT_LENGTH	ACRES_SWEPT	TIMES_SWEPT	ACRES_PLANTED	IMP_ACR_ELIM	EQU_IMP_ACR	INSTALL_DATE	IMPL_COMP_YR	GEN_COMMENTS
AB19BMP000037						0.09				
AB19BMP000048						0.22				
AB19BMP000069						0.04				
AB19BMP000185										



## **CITY OF ABERDEEN**

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2021
MS4 GENERAL PERMIT PROGRESS REPORT
YEAR 3

# **ATTACHMENT I-4**

# PHASE II MS4 RESTORATION ACTIVITY SCHEDULE

NOTE: Also Provided Electronically as an Email Attachment to this Report.

		Pha	ase II M	S4 Rest	oration	Activity	Sched	dule		
	Total Acre	age (988	3.51); Imperv	vious Acre B	aseline (969	.05); 20% Rest	oration Ta	arget (193.81 acres)		
Type of Restoration Project	BMP Code <sup>1</sup>		MP ID ptional)	Cost (\$K) <sup>2</sup>	Imperv Acres Treated	Imperv Acre Target and Balance	Project Status <sup>3</sup>	Year Complete or Projected Implementation Year (by 2025)		oordinates g/Easting)
Stream Restoration	STRE	SR_1	(Planning ID)	TBD	10.6	183.21	Р	2025	670514.76	1543273.78
Stream Restoration	STRE	SR_2	(Planning ID)	TBD	147.1	36.11	Р	2025	679229.12	1543386.49
Stream Restoration	STRE	SR_9	(Planning ID)	TBD	46.5	-10.39	Р	2025	672947.24	1552896.19

<sup>1</sup> See Appendix B, Tables B.1.a,b, and c, Urban BMP Database. BMP codes are identified under "MDE BMP Classification"

<sup>2</sup> Provide cost at project completion
 <sup>3</sup> Project Status: Enter P for planning and design, UC for under construction, and C for complete

Enter Impervious Acreage Baseline	969.05
20% Impervious Acre Target Calulated	193.81



### **CITY OF ABERDEEN**

National Pollutant Discharge Elimination System General Permit For Discharges From Small Municipal Separate Storm Sewer Systems

General Discharge Permit No. 13-IM-5500 / General NPDES No. MDR055500 Effective Date: October 31, 2018 / Expiration Date: October 30, 2023

FISCAL YEAR 2021
MS4 GENERAL PERMIT PROGRESS REPORT
YEAR 3

# **ATTACHMENT I-5**

SR-1, SR-2, SR-9

STREAM SITE ASSESSMENT AND CONCEPT DESIGNS MEMORANDUM



## **PROJECT MEMORANDUM (Revised)**

TO: Parley Hess

City of Aberdeen Department of Public Works

Engineering Division 60 North Parke

Aberdeen, Maryland 21001

FROM: Bruce Thompson

KCI Technologies, Inc.

**Water Resources** 

DATE: September 30, 2021

SUBJECT: Chesapeake Bay Restoration Requirement

Stream Site Assessment and Concept Designs

SR-1, SR-2, and SR-9

KCI Job Number: 17158575G

#### Work Completed Under This Task:

KCI Technologies, Inc. (KCI) has completed the site assessment, data collection, and concept development for three potential restoration sites for the City of Aberdeen. Additionally, potential grant funds were evaluated. The Watershed Assistance Grant Program (WAGP) administered through the Chesapeake Bay Trust (CBT) appears to be the most applicable grant. Site visits were conducted to SR-2 and SR-9 with the DNR grant point of contacts. The attached reports are formatted in part to prepare for the WAGP grant applications slated for late 2021.

Table 1. Summary of Work Completed

Description	SR1	SR2	SR9
Budget Estimates	٧	٧	٧
Trilogy Letters	٧	٧	٧
USGS Streamstats Hydrology	٧	٧	٧
Visual Assessments	٧	٧	٧
Wetland Delineations	٧	٧	7
Forest Stand Delineations	٧	٧	7
Invasive Baseline Assessment	٧	٧	٧
BANCS or P5 Data Collection	٧	٧	٧
Sediment Sampling	٧	٧	7
Geomorphic Survey	٧		٧
Upland BMP Site ID	٧	NA	٧
Assessment, concept design, NRI Report	٧	٧	7
P1/P5 Credit Comps	٧	٧	٧
Concept Design and NRI Mapping	٧	٧	٧
Grant Field Walk		٧	٧

### **Needed Property Owner Coordination:**

SR-1, SR-2, and SR-9 all require additional coordination with private property owners to obtain permission for access, construction, and monitoring and maintenance. Having strong partnerships and support letters is critical for successful grant applications. The table below summarizes the property owners and potential coordination required for each of the restoration sites.

Table 2. Property Owner Coordination

Table 2. Property Owner Coordination							
Property Owner	Outstanding Coordination						
SR-1 Elementary School							
Board of Education	Access was allowed on the property for site assessment. The City needs to ensure they will allow access and construction on site and offer partnership for the school for outreach and education. The City needs to know if there are any additional restrictions with working on school property, such as time of year restrictions.						
Holly Circle Townhouses LLC	In order to resolve the issues at this site, the erosion issues at the property line need to be addressed. The fence would need to be reset and the headcuts at the fence line would need to be stabilized, thus this property owner would need to give the City permission for access and construction. They did not respond to the initial field assessment request. Partnership with this property owner is required to proceed. A support letter is recommended. Additionally there is potential for adding a Bioretention cell in this property, which would also alleviate downstream flow issues. If the restoration BMP is pursued, long term maintenance by the City with access agreements from the land owner, or maintenance by the land owner would be required.						
SR-2 Summerlin							
NMR LLC	This owner owns the land that includes approximately 1,925LF of the upstream extent of this project in addition to the additional tributaries. They did not respond to the initial field assessment request. Permission for access and construction is required to proceed with the upstream half of the proposed project. A support letter from the land owner is recommended.						
Summerlin Development LLC	The site would likely be accessed through this property and coordination with the property owner would be necessary. Construction will also occur along the northern edge of the property. Opportunities for signage and outreach may be beneficial for grant funding with a support letter from the community.						
Aberdeen Senior Housing Inc.	If the restoration includes stabilization of the pond outfall, coordination with this owner would be necessary.						
MDOT SHA	Construction will begin at the culvert running under I-95, which outfalls onto SHA property. Access would need to be coordinated so the stabilization could begin directly at the outfall.						
Joseph and Paul Hardy (84 Lumber Yard)	A small portion of bank stabilization is required on the tributary on the western side of the property. If this bank stabilization is included, coordination with this owner would be necessary.						
SR-9 Wastewater	Treatment Plant						
Spring Valley MHC LLC	Access was allowed on the property for site assessment. Permission for access and construction is required. Easements or access agreements for post construction monitoring and maintenance would be required as well. Opportunities for signage and outreach may be beneficial for grant funding with a support letter from the community.						
Old Post Holdings LLC	The proposed bioretention cells upstream in this property, provide additional EIA credits and offer outreach and education to a diverse and underserved socio-disadvantaged community. Permission from the land owner for access and construction is required. Opportunities for signage and outreach will be beneficial for grant funding with a support letter from the community. Long term maintenance by the City with access agreements from the land owner, or maintenance by the land owner would be required.						
Aberdeen Town	While this is City owned property, the roads are frequently utilized by City employees. Notification of						
Commissioners	construction and roadway constraints should be coordinated.						
Utilities	There are utilities near the Post Road proposed bioretention cell. Miss Utility should be called to locate them prior to survey. Further coordination with utilities may be required.						

#### Equivalent Impervious Acre (EIA) Credits:

MDE guidance for determining EIA Credit for stream restoration projects has evolved over the last seven years. Under the 2018 Phase II MS4 permit, permittees may use either the planning rate method or the more recent site-specific method to compute EIA credits, whichever is most advantageous.

The *planning rate* method in accordance with MDE's memorandum from April 30, 2019, provides EIA credit for stream restoration at a rate of 0.02 ac/ LF if the project is within the Coastal Plain physiographic region and 0.03 ac/LF if the project is within the Piedmont physiographic region.

The most recent guidance, MDE's 2020 'Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated', requires *site specific* information including site specific sediment sampling and site assessments for the prevented sediment protocols (Protocols 1 and 5). The computed EIA credits apply a 50% efficiency per the 2020 'Consensus Recommendations for Improving the Application of the Prevented Sediment Protocol for Urban Stream Restoration Projects Built for Pollutant Removal Credit.' Post construction monitoring may result in additional credits by justifying a greater than 50% efficiency (some report 65-85% efficiency for restoration projects). Note, Protocols 2, 3, and 4 may also generate credits in addition to those presented below.

Table 3 below summaries the estimated credit potential for the three restoration sites based on the planning rate and site-specific methods for stream restoration and selects the optimal of the two. Upland BMP credits for SR-1 and SR-9 are based on restoration BMP credit calculated following the 2020 Accounting Guidance.

Table 3. Equivalent Impervious Acre Credit Potential

Site	Approximate LF of Restoration	Physiographic Region	Site Specific Credit (ac)	Planning Rate Credit (ac)	Selected Project Credit (ac)
SR-1	400	Coastal Plain	4.6	8.0	8.0
SR-1 Upland BMP*	N/A	Coastal Plain	2.6	N/A	2.6
SR-2	3856	Piedmont	23.5	115.7	115.7
SR-2 Pond Trib	72	Piedmont	0.6	2.2	2.2
SR-2 Wetland Swale	28	Piedmont	3.2	0.8	3.2
SR-2 Upstream Trib	577	Piedmont	26.0	17.3	26.0
SR-9	1635	Coastal Plain	38.7	32.7	38.7
SR-9 Upland BMP*	N/A	Coastal Plain	7.8	N/A	7.8
TOTAL	6568		107	187.1	204.1

#### **Next Steps:**

To bring these projects to fruition and be most competitive for the identified grant funding, the sites require the following in preparation for a Fall 2021 grant application to seek design and permitting funds: preapplication meetings with the agencies, property permission and support letters, refined cost estimates for design and construction, and preparation of grant applications. If successful, grant funds would be awarded in Spring 2022 and allow for topographic survey and detailed design and drafting to be completed by Spring or Fall 2023. Following the permit phase, grant applications for construction implementation can be pursued.

If you should have any questions regarding this memo feel free to contact me at (410) 382-9567 or shannon.lucas@kci.com.

## **Enclosure:**

- SR-1 Assessment and Concept Design Report and Mapping
- SR-1 Natural Resource Inventory Letter Report and Mapping
- SR-2 Assessment and Concept Design Memo
- SR-2 Natural Resource Inventory Letter Report and Mapping
- SR-9 Assessment and Concept Design Memo
- SR-9 Natural Resource Inventory Letter Report and Mapping