

# ARLINGTON PUBLIC SCHOOLS 2024 PHASE II (SMALL) MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) ANNUAL REPORT



Fiscal Year 2024 Annual Report  
Virginia Stormwater Management Program (VSMP)  
Permit No. VAR040127  
2023 - 2028 Permit Cycle



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Attachment 1: APS Facilities

Attachment 2: BMP Inventory, Efficiencies, and Reductions

## 1 Signed Certification – Part I.D.3.c

As required by 9VAC25-875-940 B, all reports required by state permits, and other information requested by the board shall, be signed by a responsible official or by a duly authorized representative of that person.

A responsible official is:

- 1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for state permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;*
- 2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or*
- 3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.*

A person is a duly authorized representative only if:

- 1. The authorization is made in writing by a person described above;*
- 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and*
- 3. The written authorization is submitted to the department.*

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### CERTIFICATION

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

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Responsible Official Signature

Date

VAR 040127

ARLINGTON PUBLIC SCHOOLS

Permit Number

Small MS4 Name

## 2 General Annual Reporting Requirements

### 2.1 Part I.D.3.a – General Information

Arlington Public Schools' (APS) holds a Phase II (small) Municipal Separate Storm Sewer System (MS4) permit, number VAR040127, issued on November 1, 2023. Attachment 1 of this annual report includes a list of APS facilities and their corresponding HUC6.

### 2.2 Part I.D.3.b – Reporting Period

This report covers the period of July 1, 2023 through June 30, 2024.

### 2.3 Part I.D.3.d – Reporting for MCM No. 1-6

For this reporting period, there are no modifications to any operator's department's roles and responsibilities. In this reporting period, the acreages for various schools have been corrected based on property exchanges with Arlington County regarding right of ways and boundaries. There are no new MS4 outfalls or associated acreage by HUC added, and there were no changes to measurable goals for any minimal control measures. Details for each minimum control measure (MCM) are provided below.

### 2.4 Part I.D.3.e – Evaluation of the MS4 Program Implementation

The reporting elements in this annual report follow the information provided in APS' MS4 Program Plan, which was updated during this reporting period. Each MCM was reviewed for its effectiveness during this reporting period, and no changes are required to the Program Plan at this time. Table 1 identifies a list of agency acronyms used in this report.

*Table 1 – Agency Acronyms*

Agency	Acronym
Arlington County Fire Department	ACFD
Arlington County Government	ACG
Arlington County Police Department	ACPD
Arlington Public Schools	APS
Arlington County Department of Parks and Recreation	DPR
Arlington County Department of Environmental Services	DES
Virginia Department of Environmental Quality	DEQ

### 3 Public Education and Outreach (MCM 1)

#### 3.1 Part I.E.1.g (1) & (2) – High Priority Stormwater Issues and Public Education and Outreach Strategies

Table 2 presents APS' three priority stormwater issues, along with the public outreach strategies used for each.

*Table 2 – High Priority Stormwater Issues and Public Outreach Strategies Used*

High Priority Stormwater Issue	Public Outreach Strategies Used
Keep Water Onsite and/or Reduce Imperviousness	Signage Media Materials Training Materials
Litter Prevention	Signage Media Materials Training Materials
Importance of Native Plants for Preventing Soil Erosion	Signage Media Materials Curriculum Materials

APS continues to conduct public education and outreach activities focused on its three priority stormwater issues: keeping water onsite and/or reducing impervious surfaces, litter prevention, and the importance of native plants for preventing soil erosion.

During the 2024 reporting period, over eight thousand students from Grade 3 to 12 engaged in watershed lessons at the Arlington Outdoor Laboratory. APS continued its Sustainability Liaison program with thirty-eight liaisons supporting 34 schools. APS sustainability liaisons lead school activities centered on, but not limited to, removing invasive species and planting gardens, supporting outdoor classrooms, organizing campus clean-up events, and hosting guest speakers. APS educators continued to provide Meaningful Watershed Education Experiences (MWEE) inside and outside the classroom, partnering with local organizations such as EcoAction Arlington, Earth Force, and the Master Gardeners of Northern Virginia. Lastly, APS continues to utilize the stormwater features at various schools to highlight and educate its students and community members about the importance of stormwater management. An example of these stormwater features is the Campbell Wetlands Learning Lab.

## 4 Public Involvement and Participation (MCM 2)

### 4.1 Part I.E.2.f (1) – Public Input

During various public education and outreach efforts that included staff training and student presentations and discussions on litter prevention, reducing imperviousness, and the importance of native plant species, students and staff proposed strategies to improve stormwater management at their facilities. APS stressed the importance of litter prevention at all APS sites and the importance of erosion control to protect local waterways.

The APS Stormwater Management Program webpage invites the public to pose questions or comments on APS' Stormwater Program to [stormwater@apsva.us](mailto:stormwater@apsva.us). No input was received during this reporting period.

### 4.2 Part I.E.2.f (2) – Webpage

[APS Stormwater Management Program Online Portal](#)<sup>1</sup>

### 4.3 Part I.E.2.f (3) – Public Involvement Activities

#### 4.3.1 NOAA Chesapeake Bay B WET Program: Sustainable Solutions for Urban Stormwater Management through Project Base Learning (MCMs 1 and 2)

The National Oceanic and Atmospheric Administration (NOAA) Bay Watershed Education and Training (B-Wet) program provides local grants to K-12 districts in the Bay Watershed to focus on project-based learning through Meaningful Watershed Educational Experiences (MWEE). The goal of this program is to provide all high school biology students with a comprehensive understanding of how stormwater runoff affects the local watersheds and to assist students in developing solutions through project-based learning. Teachers that run this program have received training and have a comprehensive understanding of stormwater management, watershed stewardship, and human impacts to the environment.



*Figure 1 – High School Stream Study*

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<sup>1</sup> <https://www.apsva.us/aps-goes-green/stormwater-management-program/>

#### 4.3.2 Wetlands Learning Lab (MCMs 1 and 2)

Campbell Elementary School takes advantage of a unique opportunity to expand its hands-on, inquiry-based approach to education by converting a wet and swampy area of their schoolyard into a Wetlands Learning Lab<sup>2</sup>. Overflow from a wetlands spring goes into a dry stream leading to a rain garden and then into a 60x20 foot vegetated bioswale. The bioswale collects ground water from the natural seeps that occur throughout the area. All the students and staff at Campbell are engaged in the wetlands learning lab.



*Figure 2 – Campbell Elementary Wetlands Lab Signage*

#### 4.3.3 Outdoor Lab

The Phoebe Hall Knipling Outdoor Laboratory, located in Fauquier County, is a 210-acre property, owned by the Arlington Outdoor Education Association (AOEA) and leased by APS. The Outdoor Lab is made available to APS as an outdoor science laboratory during the academic year and as an environmental education camp for three weeks each summer. APS provides instruction, financial, and staff support to maintain the Outdoor Lab.

Throughout the 2023 - 2024 school year, the Outdoor Lab performed lessons, which included watershed studies, to approximately 6,139 elementary school students, 1,902 middle school students, and 702 high school and other secondary program students. Programs conducted at the laboratory are aligned to grade level science curriculum<sup>3</sup> from grade 3 through grade 12. Students learn how their decisions and behavior affect other living things. As they acquire knowledge and understanding from and about the environment, students develop competence in evaluating alternatives for using and managing resources.

Relevant curriculum for 5<sup>th</sup> grade<sup>4</sup> trips includes a stream study in which students catch aquatic animals and assess water quality. High school curriculum<sup>5</sup> includes field comparison of biotic and abiotic components in aquatic habitats (pond vs. stream) and terrestrial habitats (forest vs. meadow).

During watershed lessons with 4<sup>th</sup> and 6<sup>th</sup> grade classes, staff led students through a discussion of watersheds, the water cycle, and water pollution. Then, students and staff conducted a stream study and used a high-powered microscope to examine macroinvertebrates. Staff led students through a discussion on identification of invertebrates and wrapped up with a conclusion on the health of the stream based on the data collected from the stream study.

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<sup>2</sup> <http://campbellschool.org/campbell-outdoor-classroom/>

<sup>3</sup> <http://www.outdoorlab.org/education>

<sup>4</sup> <http://outdoorlab.org/education/fifth>

<sup>5</sup> <http://outdoorlab.org/education/hs>



*Figure 3 – Students Visit the Outdoor Lab and Check Out the Snake Pit*

#### 4.3.4 Native Habitats and Outdoor Learning Environments

Most of our elementary schools have outdoor gardens or outdoor learning environments that include native plant species as part of their elementary curriculum. One example is Tuckahoe Elementary's Discovery School Yard<sup>6</sup>. Another elementary school, Arlington Traditional, uses curriculum<sup>7</sup> from the Virginia Master Gardener program to teach students about native species and environmental conservation.

Many APS schools have rain gardens and other stormwater facilities that have been incorporated into a school's instruction. Figure 4 shows Tuckahoe Elementary's students working in their garden.



*Figure 4 – Tuckahoe Elementary Students*

<sup>6</sup> <https://tuckahoe.apsva.us/discovery-schoolyard/>

<sup>7</sup> <https://ext.vt.edu/lawn-garden/master-gardener.html>

#### 4.3.5 Sustainability Liaisons

APS launched a sustainability liaison pilot program in 2016-17 on the recommendation of its Superintendent's Advisory Committee on Sustainability (SACS). The sustainability liaisons are school-based stipend positions that support and coordinate sustainability efforts at their respective schools. Liaisons facilitate communication of APS' sustainability efforts, support stormwater initiatives - especially in outreach and education, and coordinate sustainability activities that engage students and the APS community.



The program is in its eighth year and had thirty-eight (38) liaisons supporting thirty-four (34) schools. This program was conducted in after-school clubs. Sustainability projects and outreach efforts this reporting period included:

- Removing invasive species and planting gardens
- Supporting ongoing outdoor classrooms and sustainability curriculum
- Organizing, coordinating, and participating in park clean-up events
- Educating and organizing waste reduction, recycling, and composting programs
- Coordinating guest speakers
- Setting up sustainability challenges

#### 4.3.6 Meaningful Watershed Education Experience

A Meaningful Watershed Education Experience (MWEE) integrates field work in the Chesapeake Bay watershed with multidisciplinary classroom activities and instruction. Students then share their discoveries within their schools and communities, both orally and in writing. MWEEs have an intentional connection to the watershed. Experiences focus not only on the Chesapeake Bay, rivers, and streams, but also on terrestrial issues such as native plant species, erosion control, buffer creation, groundwater protection, and pollution prevention.

APS uses in-house resources and partners with several local and outside organizations to provide support and educational materials to support our MWEE in our middle school curriculum. Our partners include EcoAction Arlington, Bay Backpack, the Chesapeake Bay Program, and Earth Force. They support our teachers to create projects and curriculum for our students to put them in the driver's seat towards creating sustainable solutions.

#### 4.3.7 APS Green Scene

Green Scene<sup>8</sup> is an APS produced media outreach program that highlights sustainability efforts throughout our school division. Many of the videos produced every year focus on projects our students and staff are working on or participating in that emphasize the importance of our watershed, litter

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<sup>8</sup> <https://www.youtube.com/playlist?list=PLFnGrWhzeGGDi6BQu0bmc4Lu-1z-MTRKY>

reduction, and native plant species. Green Scene highlights our students' Meaningful Watershed Education Experience, native outdoor learning environments and gardens, and the Chesapeake Bay. Green Scene is produced by the Arlington Educational Television Department (AETV) in cooperation with APS' Department of School and Community Relations.

#### 4.4 Part I.E.2.f (4) – Report of the Metric for each Activity

APS uses the estimated number of students and staff reached during a reporting period as its metric. Table 3 summarizes by priority issue, the corresponding public involvement activities, the corresponding standards of learning for students, its target audience, the estimated number of students and staff educated or that participated in an education initiative, and the estimated percentage of engagement.

Table 3 – Programs and Engagement

Issue	Corresponding Program	Corresponding SOLs	Target Audience	Estimated Number of Students and Staff Reached	Estimated Percentage of Student and Staff Engagement
Reduce Imperviousness / Keep Water on Site	NOAA Chesapeake B-WET Program	K.5b; K.11c; 1.8a-b; 3.6d; 3.9a-e; 4.5f;	Students, Teachers – Year 4	1,665	> 20%
	Wetlands Learning Lab	4.9a; 6.1, 6.5e-f; 6.7a; 6.7f; 6.9a;	Students, Teachers	400	
	Outdoor Lab	6.9c-d; LS.1, LS.6a-c; LS.9, LS.10, LS.11,	Students, Teachers	8,743	
	Meaningful Watershed Education Experience (MWEE) – Middle School	ES.1, ES.2, ES.6, ES8c-e; BIO.1, BIO.2, BIO.6,	Students, Teachers	1,800	
	Green Scene	BIO.7, BIO.8	Students, Staff, Community	1,012	
	Sustainability Liaisons		Students, Staff	3,400	
Litter Prevention	Meaningful Watershed Education Experience (MWEE) – Middle School	1.8b-c; 3.10a-b; 3.10d; 4.5f; 5.7g; 6.7a; 6.9b-c; LS.6a-c;	Students, Teachers	1,800	> 20%
	Green Scene	LS11d-e; ES8d; BIO8d	Students, Staff, Community	1,012	
	Outdoor Lab		Students, Teachers	8,743	
	Sustainability Liaisons		Students, Staff	3,400	

Issue	Corresponding Program	Corresponding SOLs	Target Audience	Estimated Number of Students and Staff Reached	Estimated Percentage of Student and Staff Engagement
Native Plants for Erosion Control	NOAA Chesapeake B-WET Program	K.5b; K.11c; 1.8a-b; 3.6d; 3.9a-e; 4.5f; 4.9a; 6.1, 6.5e-f; 6.7a; 6.7f; 6.9a; 6.9c-d; LS.1, LS.6a-c; LS.9, LS.10, LS.11, ES.1, ES.2, ES.6, ES.8c-e; BIO.1, BIO.2, BIO.6, BIO.7, BIO.8	Students, Teachers – Year 3	1,665	> 20%
	Outdoor Lab		Students, Teachers	8,743	
	Meaningful Watershed Education Experience (MWEE) – Middle School		Students, Teachers	1,800	
	Native Habitats and Outdoor Learning Environments		Students, Teachers	700	
	Wetlands Learning Lab		Students, Teachers	400	
	Sustainability Liaisons		Students, Staff	3,400	
	Green Scene		Students, Staff, Community	1,012	

#### 4.5 Part I.E.2.f (5) – Collaboration with Other MS4 Permit Holders

APS did not collaborate with other MS4 permit holders for public involvement opportunities during this reporting period.

## 5 Illicit Discharge Detection and Elimination, IDDE (MCM 3)

### 5.1 Part I.E.3.e (1) – Map and Information Table

APS collaborated with Arlington County Government (ACG) to update its MS4 map and information table to reflect any changes to its MS4 during this reporting period.

### 5.2 Part I.E.3.e (2) – Outfall Screening

During this reporting period, APS with its consultant, AECOM, conducted dry weather screening of nine (9) outfalls. Flowing water was observed at two (2) of the 9 screened MS4 outfalls located at Campbell Elementary School (Outfall ID 16816) and Randolph Elementary School (Outfall ID 24977). These outfalls were field screened for chlorine, fluoride, ammonia, and surfactants/detergents. All parameters fell within acceptable ranges as identified in the APS IDDE Program Plan. Dry weather flow is typical at Outfall 16816 and Outfall ID 24977 locations and has been observed for the past several years. The sources of the flow appear to be groundwater intrusion from the Campbell Elementary Wetlands Learning Lab and groundwater intrusion into storm pipe at Randolph Elementary. No illicit connections are present. Table 4 presents a summary of the testing results for all 9 outfalls in 2024.

Table 4 – 2024 Dry Weather Screening Results

#	Site	Structure ID	Date Observed	Flow	Total Cl (mg/L)	Fl (mg/L)	NH <sub>3</sub> (mg/L)	Surfactants (mg/L)	pH	Visual Indicators of Illicit Connection <sup>2</sup>	Follow-up	Source Found?
1	Campbell Elementary	16816	3/14/2024	Yes <sup>3</sup>	0.1	0.00	0.1	0.0	7.0	No	None	Yes <sup>3</sup>
2	Campbell Elementary	16825	3/14/2024	No	NA	NA	NA	NA	NA	No	NA	NA
3	Claremont Elementary	25675	3/14/2024	No	NA	NA	NA	NA	NA	No	NA	NA
4	Claremont Elementary	35320	3/14/2024	No	NA	NA	NA	NA	NA	No	NA	NA
5	Claremont Elementary	30945	3/14/2024	No	NA	NA	NA	NA	NA	No	NA	NA
6	Claremont Elementary	25671	3/14/2024	No	NA	NA	NA	NA	NA	No	NA	NA
7	Claremont Elementary	35330	3/14/2024	No	NA	NA	NA	NA	NA	No	NA	NA
8	Randolph Elementary	24977	3/14/2024	Yes <sup>4</sup>	0.1	0.0	0.1	0.0	7.0	No	None	Yes <sup>4</sup>
9	Randolph Elementary	35815	3/14/2024	No	NA	NA	NA	NA	NA	No	NA	NA

Notes:

1. Acceptable ranges of parameters are identified in the APS IDDE Program Plan.
2. Examples of visual indicators of illicit connection include but are not limited to the presence of trash, oily sheen, suds, or staining.
3. The source of the flow from outfall 16816 appears to be the Campbell Elementary Wetlands Learning Lab. This outdoor educational area and wildlife study zone has been designed to maintain continually wet conditions due to a naturally occurring springhead and stormwater retention.
4. The source of the flow from outfall 24977 appears to be groundwater intrusion.
5. NA: Not Applicable

### 5.3 Part I.E.3.e (3) – Illicit Discharge Summary

During this reporting period, there were no illicit discharges to report.

## 6 Construction Site Stormwater Runoff Control (MCM 4)

### 6.1 Part I.E.4.a (5) – Construction Stormwater Implementation Local School Board

APS falls under Part I.E.4.a (5) as a local school board in Arlington County. All APS land disturbing projects occurring during the reporting period have been conducted in accordance with the current ACG approved standards and specifications for erosion and sediment control. ACG is the local jurisdiction having authority for all land disturbing activities for APS. APS had regulated land disturbing activities at seven (7) schools during this reporting period, as highlighted in Table 5.

Table 5 – Total Land Disturbing Activities in this Reporting Period

School	Address	Acres Disturbed
Cardinal Elementary School	1644 N McKinley Rd, 22205	5.47
Education Center Reuse Project	1426 N Quincy St, 22207	0.21
The Heights (formerly Wilson School)	1601 Wilson Blvd, 22201	2.82
Montessori Public School	1501 N Lincoln St, 22201	0.57
Randolph Elementary School	1306 S Quincy St, 22204	0.34
Campbell Elementary School	737 S Carlin Springs Rd 22204	0.12
Fenwick Building Demolition	816 S Walter Reed Dr, 22204	0.07
Wakefield High School	1325 S Dinwiddie St, 22206	0.06

### 6.2 Part I.E.4.d (2) – Total Number of Inspections Conducted and Part I.E.4.d (3) – Number and Type of Enforcement Actions Implemented

ACG is APS' permitting authority and performs inspections and enforcement actions related to MCM 4. For this reporting period, ACG performed plan reviews, formal inspections, and enforcement actions on the construction projects identified in Table 5. Table 6 summarizes the total number of inspections and enforcement actions conducted by ACG in this permit year.

Table 6 – Inspections and Enforcement Actions

Inspections and Enforcement Actions	
Inspections	42
Notice to Comply	0
Written Notice of Violation	0
Stop Work Order	0

## 7 Post-Construction Stormwater Management (MCM 5)

### 7.1 Part I.E.5.i (2) – Public SMF Inspections

APS conducted 132 stormwater management facility (SMF) inspections during this reporting period.

### 7.2 Part I.E.5.i (3) – Public SMF Significant Maintenance, Repair, Retrofit

During this reporting period, there were no significant maintenance, repair, or retrofit activities on APS owned SMFs.

### 7.3 Part I.E.5.i (4) – Construction Database Submittal Confirmation

SMF information for all APS construction projects requiring coverage under the Construction General Permit (CGP) is submitted through the local VSMP authority, ACG. ACG reports SMF information on the Notices of Termination (NOTs) for each project so that the SMF can be entered into the CGP database for land disturbing activities.

### 7.4 Part I.E.5.i (5) – BMP Warehouse Submittal Confirmation

APS did not install new BMPs during this reporting period and does not intend to report BMPs into the DEQ BMP Warehouse. APS reported SMF inspection dates to the DEQ BMP Warehouse in accordance with Part III.B.5.

## 8 Pollution Prevention / Good Housekeeping for Municipal Operations (MCM 6)

### 8.1 Part I.E.6.q (1) – Operation Procedures Summary

During this reporting period, APS retained existing operation procedures. No procedures were modified or developed.

### 8.2 Part I.E.6.q (2) – New SWPPP Summary

During this reporting period, no new SWPPPs were developed.

### 8.3 Part I.E.6.q (3) – SWPPP Modifications/Removal of High-Priority Facilities

APS' Trades Center is located within ACG's Trades Facility. The SWPPP for this facility was developed by ACG and revised in May 2022. ACG is the lead agency for managing the SWPPP under their VSMP Permit VA0088579. No modifications or removal of high priority facilities occurred during this reporting year.

### 8.4 Part I.E.6.q (4) – NMP Summary

ACG applies nutrients for APS' fields greater than one acre using nutrient management plans (NMPs). A certified turf and landscape nutrient management planner develops these plans, which are then submitted and approved by the Virginia Department of Conservation and Recreation (DCR). All NMPs are monitored and updated by ACG. NMPs for school property are located at DPR, and a copy is held at APS' Department of Facilities and Operations. Figure 5 identifies all APS fields requiring NMPs. NMPs have been developed and implemented for all locations.

APS lands where nutrients are applied to more than one contiguous acre							
Field Name	Address	Zip Code	Acres	Year Plan Developed	Plan Reviewed /Revised Date	Plan End Date	Prepared By
Carver Community Center (Hoffman Boston ES)	1415 S. Queen St.	22204	1.38	2018	7/2024	6/2027	Robert Benyo - 668
Drew School / Center	3500 24th Street South	22206	1.69	2019	12/2022	11/2025	Robert Benyo - 668
Gunston Park - Middle School	2700 S. Lang Street	22206	5.14	2018	7/2024	6/2027	Robert Benyo - 668
H-B Woodlawn Secondary School	4100 N. Vacation Lane	22207	1.74	2018	7/2024	6/2027	Robert Benyo - 668
Jamestown Elementary School	3700 N. Delaware Street	22207	4.17	2018	7/2024	6/2027	Robert Benyo - 668
Kenmore Middle School	200 S. Carlin Springs Dr.	22204	2.66	2018	7/2024	6/2027	Robert Benyo - 668
Thomas Jefferson Middle School	125 South Old Glebe Rd.	22204	3.39	2015	7/2024	6/2027	Robert Benyo - 669
Nottingham #1	5900 Little Falls Rd.	22207	1.39	2016	7/2024	6/2027	Robert Benyo - 668
Swanson Middle School	5800 N. Washington Boulevard	22205	1.53	2018	7/2024	6/2027	Robert Benyo - 668
Washington-Lee HS	1301 N. Stratford St.	22201	5.60	2018	7/2024	6/2027	Robert Benyo - 668
<b>Total acreage of lands where NMP required.</b>			28.69				
<b>Total acreage of lands where NMP implemented.</b>			28.69				

Figure 5 – APS Sites with Nutrient Management Plans and Date of Plan Development and Implementation

### 8.5 Part I.E.6.q (5) – Training Events

APS conducts biennial Stormwater Pollution Prevention training. In collaboration with ACG DES, APS staff are trained on the connection between stormwater pollution and water quality and health of local streams and the Chesapeake Bay. This training includes regulatory requirements and context, authorized discharges, IDDE, good housekeeping practices, spill reporting, and other requirements of the Phase II MS4 permit, and included excellent visual representations of stormwater pollution. During this reporting period approximately 439 staff members received SWPPP training shown in Table 7.

# Arlington Public Schools Phase II (Small) MS4 2024 Annual Report

Table 7 – APS SWPPP Training during 2023-2024 Reporting Period

Training Date	Employees Attended	Training Objective	Training Description
8/2/2023 & 8/3/2023	241	Training for Custodial Staff	Identifying stormwater pollution prevention strategies, good housekeeping procedures, and the Trades Center SWPPP, as they apply to custodial positions. Training emphasized proper disposal of wash water and chemicals, as well as awareness of storm drains at school sites.
8/22/2023	198	Training for Transportation Staff	Identifying stormwater pollution prevention strategies, good housekeeping procedures, and the Trades Center SWPPP. Training emphasized proper disposal of waste from school buses, awareness of leaks from equipment, and correct reporting procedures when witnessing an illicit discharge.
Total	439		

## 9 Chesapeake Bay TMDL Information

### 9.1 Part II.A.14.d – Chesapeake Bay TMDL Implementation Annual Status Report

APS will submit a Chesapeake Bay TMDL implementation annual status report, in the format provided by DEQ, by October 1, 2025 to report on progress during next report period (July 1, 2024-June 30, 2025). For this reporting period (July 1, 2023-June 30, 2024), APS is submitting the information in this section to meet the requirements of MS4 Permit Part II.A.14.d.

APS did not install BMPs during this reporting period. However, APS maintains a memorandum of agreement (MOA) with Arlington County's Wastewater Treatment Plant to purchase temporary nutrient credits on an annual basis to be applied to APS MS4 Chesapeake Bay TMDL reduction requirements, to meet the 40% reduction requirement of the previous MS4 Permit. APS is currently purchasing annual credits to offset 7 pounds of TP and 7,644 of TSS.

Table 8 summarizes APS' progress towards the required 100% reductions by the end of this permit cycle. Attachment 2 of this annual report includes an inventory of BMPs, design efficiencies, and reductions for total nitrogen and total phosphorus.

Table 8 – APS Progress Toward Required Reductions

Means and Methods Implemented	Total TN Reduction (lbs/yr)	Total TP Reduction (lbs/yr)
100% POC Reduction Requirement by October 31, 2028	325.70	41.60
Increased Loads from Construction 2009-2024	88.13	15.70
<i>Subtotal of Reduction Required</i>	<i>413.83</i>	<i>57.30</i>
BMP Credit from Construction and Retrofits (2009-2024)	-297.03	-26.30
Credit from Historic BMPs (2006-2009)	-11.58	-0.92
Credit Purchase from Arlington Wastewater Treatment Plant	0	-7.00
<i>Subtotal of Credits</i>	<i>-308.61</i>	<i>-34.22</i>
Percent of Total POC Load Reduction (100%)	74.6%	59.7%
Additional POC Load Reduction Required to Meet Third Permit Cycle Reductions (100%)	105.22	23.08

BMPs may be installed as part of construction projects during the next reporting period; however, details on BMP type, treatment, and credits are not yet available. Currently, APS intends to explore opportunities to purchase nitrogen and phosphorus credits to meet 100% of its Chesapeake Bay TMDL reduction requirements by October 31, 2028.

## 10 Local TMDL Information

### 10.1 Part II.B.9 – Summary of Actions

For this reporting period, no local TMDL waste load allocations (WLAs) have been assigned to APS. APS shall continue to monitor updates to Local TMDLs for WLAs.

## 11 Plans to Meet MCM Requirements Next Reporting Period

For our next 12-month reporting period, APS intends to continue its current programs and activities in all six (6) MCM areas. For MCM 1 and MCM 2, we will work with our partners on expanding curriculum to engage the public and meet our three priority areas. We will continue to update our IDDE program based on any new developments or changes and perform annual dry weather screening on our nine identified outfalls (MCM 3). APS will continue working closely with Arlington County in ensuring that construction site stormwater runoff control is managed properly for all construction projects in the next reporting period (MCM 4). BMP inspection and maintenance will continue in the next reporting period as outlined in our program plan. Any new BMPs brought online during this period shall follow the same procedures (MCM 5). APS will continue implementing its good housekeeping policies and practices as well as its training program for all staff in the next permit cycle (MCM 6).

Attachment 1  
APS Facilities

**Arlington Public Schools**  
**School Acreage and HUC Inventory**  
**September 2024**

APS Facility	Address	FY24 APS Acres	HUC6
Nottingham Elementary School	5900 North Little Falls Road Arlington, VA 22207	8.95	PL24, PL25
Tuckahoe Elementary School	6550 North 26th Street Arlington, VA 22213	6.57	PL25
Williamsburg Middle School (includes new Discovery Elementary School)	3600 North Harrison Street Arlington, VA 22207  (5241 North 36th Street Arlington, VA 22207)	24.77	PL24 PL24
Yorktown High School	5200 Yorktown Boulevard Arlington, VA 22207	9.87	PL24
Jamestown Elementary School	3700 North Delaware Street Arlington, VA 22207	10.97	PL24
Taylor Elementary School	2600 North Stuart Street Arlington, VA 22207	9.70	PL24
Dorothy Hamm Middle School	4100 North Vacation Lane Arlington, VA 22207	9.10	PL24
Langston High School Continuation Program	2121 North Culpepper Street Arlington, VA 22207	4.02	PL25
Glebe Elementary School	1770 North Glebe Road Arlington, VA 22207	7.10	PL25
Cardinal Elementary School	1644 North McKinley Road Arlington, VA 22205	10.88	PL25
Swanson Middle School	5800 North Washington Blvd Arlington, VA 22205	6.70	PL25
Arlington Traditional Elementary School	1030 North McKinley Road Arlington, VA 22205	7.70	PL25
Ashlawn Elementary School	5950 North 8th Road Arlington, VA 22205	7.47	PL25
Escuela Key Elementary School	855 North Edison Street Arlington, VA 22205	7.78	PL25
Barrett Elementary School	4401 North Henderson Road Arlington, VA 22203	7.13	PL25
Washington-Lee High School	1301 North Stafford Street Arlington, VA 22201	22.59	PL24
Arlington Science Focus Elementary School	1501 North Lincoln Street Arlington, VA 22201	6.22	PL24
Innovation Elementary School	2300 Key Boulevard Arlington, VA 22201	4.36	PL24
The Heights	1601 Wilson Boulevard Arlington, VA 22201	2.38	PL24
Long Branch Elementary School	33 North Filmore Street Arlington, VA 22201	2.39	PL24
Carlin Springs Elementary School Kenmore Middle School	5995 South 5th Road Arlington, VA 22204  200 South Carlin Springs Road Arlington, VA 22204	32.23	PL25

APS Facility	Address	FY24 APS Acres	HUC6
Vacant Residential Lot	5721 South 4th Street, Arlington VA 22204	0.13	PL25
Campbell Elementary School	737 South Carlin Springs Road Arlington, VA 22204	9.09	PL25
Barcroft Elementary School	625 South Wakefield Street Arlington, VA 22204	5.20	PL25
Jefferson Middle School	125 South Old Glebe Road Arlington, VA 22204	8.62	PL25
Arlington Career Center	816 South Walter Reed Drive Arlington, VA 22204	12.25	PL25
Montessori Public School of Arlington	701 South Highland Street Arlington, VA 22204		PL24, PL25
Randolph Elementary School	1306 South Quincy Street Arlington, VA 22204	7.33	PL25
Claremont Elementary School	4700 South Chesterfield Road Arlington, VA 22206	15.00	PL25
Wakefield High School	1325 South Dinwiddie Street Arlington, VA 22206	37.50	PL25
Trades / Warehouse	2770 South Taylor Street Arlington, VA 22206	5.96	PL25
Abingdon Elementary School	3035 South Abingdon Street Arlington, VA 22206	9.80	PL25
Drew Elementary School	3500 South 23rd Street Arlington, VA 22206	8.02	PL25
Hoffman-Boston Elementary School	1415 South Queen Street Arlington, VA 22204	8.77	PL25
Gunston Middle School	2700 South Lang Street Arlington, VA 22206	20.00	PL25
Oakridge Elementary School	1414 South 24th Street Arlington, VA 22202	8.21	PL25

Attachment 2  
BMP Inventory, Efficiencies, and Reductions

Arlington Public Schools  
Chesapeake Bay TMDL Action Plan Spreadsheet  
Loads for SWMFs Installed 2006 - 2009 (Historical BMP Submission)  
Last Revised: February 2021

Runoff Reduction Practices																								
SWMF Type	Structure ID	Drain To MS4	School	Install. Date	Total drainage area (ac)	Imperv. Area (ac)	Loads (per DCR Potomac River Basin)			Pervious Area (ac)	Loads (per DCR Potomac River Basin)			Total Loads to SWMF (lbs)			Runoff depth treated (in)	Removal Rates			Comments	Total Loads removed (lbs)		
							TP	TN	TSS		TP	TN	TSS	TP	TN	TSS		TP	TN	TSS				
Bioretention #1	02-865A	Yes	GLEBE ELEMENTARY SCHOOL	1/1/2006	0.71	0.59	1.0	9.9	691.1	0.12	0.0	1.2	21.1	1.0	11.2	712.2	0.50	55%	64%	80%	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.	0.55	7.14	569.74
Bioretention #1	04-918B	Yes	NOTTINGHAM ELEMENTARY SCHOOL	3/1/2007	0.41	0.41	0.7	6.9	481.8	0.00	0.0	0.0	0.0	0.7	6.9	481.8	0.50	55%	64%	80%	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.	0.37	4.44	385.41
RR Practice Total																						0.92	11.58	955.15
Grand Total																						0.92	11.58	955.15

- Notes:**
1. APS is claiming credit for two BMPs that meet the Virginia BMP Clearinghouse criteria for Bioretention Level 1. These BMPs were submitted to DEQ with the historical BMP submission, and APS received confirmation from DEQ that these BMPs can claim full mass removal credit for TP and TN. Data for BMPs installed between 06-09 was provided to APS by ACG on October 10, 2017.
  2. All BMPs meet Virginia Stormwater BMP Clearinghouse criteria, unless otherwise specified.
  3. For BMPs that meet the Virginia Stormwater BMP Clearinghouse criteria, BMP Clearinghouse removal rates have been used for TN and TP. For BMPs that do not meet the Virginia Stormwater BMP Clearinghouse criteria, removal rates were determined using either the Chesapeake Bay Program Retrofit Curves credit calculation method or the Chesapeake Bay Program Efficiencies, as specified in the preliminary draft DEQ Guidance Memo No. 20-2003, dated February 6, 2021, Appendix V.A, Appendix V.B, and Appendix V.C.
  4. TP efficiency = VA BMP Clearinghouse; TN efficiency = VA BMP Clearinghouse; TSS Efficiency = Ches Bay Efficiencies
  5. Assumed removal rates based off of manufactured BMP lowest removal.

Runoff Reduction Practices																										
Structure ID	Drains to MS4	BMP Type per VA SW BMP Clearinghouse <sup>1</sup>	BMP Description	Plan Name/School	Install Date	Treated Area (ac)	Imperv. Area (ac)	Impervious Loads (per DCR Potomac River Basin)			Previous Loads (per DCR Potomac River Basin)	Total Loads to SWMF (lbs)	Chesapeake Bay Program BMP Type <sup>2</sup>	Runoff Depth Treated (in)	BMP Pollutant Removal Rates <sup>3</sup>			Total Loads Removed (lbs)			Notes					
								TN	TP	TSS					TN	TP	TSS	TN	TP	TSS						
13-1668D	Yes	Bioretention, Level 1	Bioretention #1 (8" ponding)	Discovery ES	08/27/2015	2.75	1.38	23.2	22	1610.6	1.38	13.8	0.8	2417	37.0	28	180.3	Bioretention/vegetation	64%	55%	80%	23.7	1.5	1481.6	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.	
13-1668E	Yes	Bioretention, Level 1	Bioretention #2A (8" ponding)	Discovery ES	08/27/2015	1.20	0.90	16.2	15	1054.2	0.90	0.9	0.1	52.7	18.2	16	1106.9	Bioretention/vegetation	64%	55%	80%	11.6	0.9	885.5	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.	
13-1668F	Yes	Bioretention, Level 1	Bioretention #2B (12" ponding)	Discovery ES	08/27/2015	1.34	1.01	169.1	16	1177.2	0.34	0.4	0.1	58.9	20.3	18	1286.1	Bioretention/vegetation	64%	55%	80%	13.0	1.0	986.9	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.	
13-1668C	Yes	Dry Swale, Level 1	Dry Swale	Discovery ES	08/27/2015	0.32	0.32	5.3	0.9	369.6	0.00	0.0	0.0	0.3	0.5	369.6	Weg Open Channel Urban	100	55%	52%	79%	2.9	0.3	259.9	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.	
13-1668A	Yes	Permeable Pavement, Level 1	Permeable Pavers	Discovery ES	09/03/2015	0.09	0.09	1.5	0.1	104.2	0.00	0.0	0.0	0.0	1.5	0.1	104.2	Permeable Pavement	100	59%	59%	79%	0.9	0.1	73.0	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
13-1498B	Yes	Bioretention, Level 1	Bioretention #1 (8" ponding)	Ashawn ES Addition	02/05/2016	2.22	1.01	17.0	16	1183.0	1.21	12.2	0.5	212.7	29.2	21	1305.8	Bioretention/vegetation	58%	50%	72%	16.8	1.1	1004.9	Soil media depth is only 18" instead of 24" as required in the Virginia Stormwater BMP Clearinghouse technical specification. 10% downward modification applied per TMDL Special Condition Guidance for every missing design criteria (Appendix V/D). TP, TN removal rates per VA BMP Clearinghouse (with 10% modification applied). TSS removal rates per Chesapeake Bay Efficiencies (with 10% modification applied).	
10-1125C	Yes	Bioretention, Level 1	Wakeland #2B	Wakeland HS	10/1/2014	1.10	0.95	16.1	15	1118.4	0.15	1.5	0.1	25.5	17.6	15	1143.9	NA	0.5	45%	52%	56%	7.9	0.8	640.8	Does not meet BMP Specification requirements per ACS and unclear from plans, assumed 0.5 inch runoff depth treated, adjuster curves applied.
10-1125B	Yes	Bioretention, Level 1	Wakeland #1 (7" ponding)	Wakeland HS	10/1/2014	0.85	0.74	15.4	12	881.1	0.11	1.1	0.0	19.7	13.5	12	888.8	NA	0.5	45%	52%	56%	6.1	0.8	493.3	Does not meet BMP Specification requirements per ACS and unclear from plans, assumed 0.5 inch runoff depth treated, adjuster curves applied.
10-1125E	No	Bioretention, Level 1	Wakeland #3	Wakeland HS	5/24/2017	0.28	0.20	3.3	0.3	225.8	0.08	0.8	0.0	14.8	4.2	0.4	244.3	NA	0.5	49%	52%	56%	1.9	0.2	136.8	Does not meet BMP Specification requirements per ACS and unclear from plans, assumed 0.5 inch runoff depth treated, adjuster curves applied.
15-2160U	Yes	Bioretention, Level 1	Planter Box	Arlington ES	active	0.07	0.07	1.2	0.1	86.5	0.00	0.0	0.0	0.7	1.2	0.1	81.3	Bioretention/vegetation	100	64%	55%	89%	0.8	0.1	65.0	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160K	Yes	Bioretention, Level 1	Planter Box	Arlington ES	active	0.07	0.07	1.1	0.1	77.2	0.00	0.0	0.0	0.6	1.1	0.1	77.9	Bioretention/vegetation	100	64%	55%	80%	0.7	0.1	62.3	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160L	Yes	Bioretention, Level 1	Planter Box	Arlington ES	active	0.04	0.03	0.6	0.1	40.5	0.01	0.1	0.0	1.0	0.6	0.1	41.4	Bioretention/vegetation	100	64%	55%	80%	0.4	0.0	33.2	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160M	Yes	Bioretention, Level 1	Planter Box	Arlington ES	active	0.12	0.11	1.9	0.2	128.8	0.01	0.1	0.0	1.8	2.0	0.2	130.7	Bioretention/vegetation	100	64%	55%	80%	1.3	0.1	104.8	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160N	Yes	Bioretention, Level 1	Planter Box	Arlington ES	active	0.04	0.04	0.6	0.1	42.2	0.00	0.0	0.0	0.6	0.6	0.1	42.8	Bioretention/vegetation	100	64%	55%	80%	0.4	0.0	34.3	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-1807A	No	Bioretention, Level 1	Bioretention (8" ponding)	McKinley	5/1/2017	0.63	0.11	1.8	0.2	125.8	0.53	0.3	0.2	92.6	7.1	0.4	218.4	Bioretention/vegetation	100	64%	55%	80%	4.6	0.2	174.7	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
14-1662B	Yes	Bioretention, Level 1	Bioretention #2 (8" ponding)	Jefferson MS	9/18/2017	0.12	0.08	1.3	0.1	90.8	0.11	1.1	0.0	19.4	2.4	0.2	110.6	Bioretention/vegetation	100	64%	55%	80%	1.6	0.1	88.4	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
14-1662A	Yes	Bioretention, Level 1	Bioretention #1 (8" ponding)	Jefferson MS	9/18/2017	0.08	0.05	0.8	0.1	58.9	0.03	0.3	0.0	5.2	1.1	0.1	64.1	Bioretention/vegetation	100	64%	55%	80%	0.7	0.1	51.3	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160J	Yes	Bioretention, Level 2	Bioretention	Arlington ES	active	0.56	0.12	2.1	0.2	143.5	0.44	4.5	0.2	77.8	8.5	0.4	221.3	Bioretention/vegetation	125	90%	90%	80%	5.9	0.3	177.8	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160D	Yes	Bioretention, Level 2	Bioretention	Arlington ES	active	0.01	0.00	0.0	0.0	0.2	0.01	0.1	0.0	2.0	0.0	0.0	2.0	Bioretention/vegetation	125	90%	90%	80%	0.1	0.0	1.6	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160F	Yes	Bioretention, Level 2	Bioretention	Arlington ES	active	0.03	0.02	0.3	0.0	21.3	0.01	0.1	0.0	1.3	0.4	0.0	22.5	Bioretention/vegetation	125	90%	90%	80%	0.3	0.0	16.0	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
15-2160C	Yes	Bioretention, Level 2	Bioretention	Arlington ES	active	0.62	0.10	1.7	0.2	120.1	0.53	5.3	0.2	92.2	7.1	0.4	219.3	Bioretention/vegetation	125	90%	90%	80%	6.4	0.3	170.6	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
01-786B	Yes	Infiltration, Level 2	perforated CMP for infiltration - uses Grassfilters for inlet pre-treatment	Clement ES	1/1/2015	4.05	1.4	23.6	23	1639.9	2.64	26.8	1.1	464.1	50.2	34	2194.0	Permeable Pavement	100	92%	90%	75%	46.2	3.1	1576.1	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
13-1568J	Yes	Permeable Pavement, Level 1	Synthetic Turf Pavers	Discovery ES	2/19/2016	3.40	3.49	58.9	56	4083.7	0.00	0.0	0.0	58.9	56	4083.7	Permeable Pavement	0.50	92%	93%	70%	54.1	5.3	2858.6	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.	
15-2160A	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.12	0.11	1.9	0.2	130.7	0.00	0.0	0.0	0.8	1.9	0.2	131.5	Permeable Pavement	100	59%	59%	75%	1.1	0.1	96.5	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
15-2160B	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.20	0.20	3.4	0.3	234.5	0.00	0.0	0.0	3.4	3.3	235.3	Permeable Pavement	100	59%	59%	75%	2.0	0.2	176.3	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.	
15-2160C	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.29	0.27	4.6	0.4	321.4	0.02	0.2	0.0	3.7	4.8	0.5	325.0	Permeable Pavement	100	59%	59%	75%	2.9	0.3	243.5	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
15-2160D	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.04	0.04	0.6	0.1	41.4	0.00	0.0	0.0	0.6	0.6	0.1	41.9	Permeable Pavement	100	59%	59%	75%	0.4	0.0	31.4	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
15-2160E	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.14	0.14	2.4	0.2	165.9	0.00	0.0	0.0	2.4	2.4	0.2	166.9	Permeable Pavement	100	59%	59%	75%	1.4	0.1	124.3	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
15-2160F	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.17	0.10	1.7	0.2	130.7	0.07	0.7	0.0	12.3	2.4	0.2	133.0	Permeable Pavement	100	59%	59%	75%	1.4	0.1	99.6	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
15-2160G	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.15	0.11	1.8	0.2	138.4	0.04	0.4	0.0	6.7	2.2	0.2	136.1	Permeable Pavement	100	59%	59%	75%	1.3	0.1	101.2	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
15-2160H	Yes	Permeable Pavement, Level 1	Permeable Pavers	Arlington ES	active	0.32	0.21	3.5	0.3	246.9	0.10	1.0	0.0	18.0	4.6	0.4	264.0	Permeable Pavement	100	59%	59%	75%	2.7	0.2	197.7	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
13-1668B	Yes	Permeable Pavement, Level 1	Permeable Pavers	Discovery ES	8/27/2015	0.15	0.15	2.6	0.2	177.5	0.00	0.0	0.0	2.6	0.2	0.2	177.5	Permeable Pavement	100	59%	59%	75%	1.5	0.1	132.8	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
05-6E1D	Yes	Vegetated Roof, Level 1	Vegetated Roof (-2.5' soil media layer with drainage mats)	Washington Lee HS	9/1/2009	0.23	0.23	3.9	0.4	269.4	0.00	0.0	0.0	3.9	0.4	0.4	269.4	NA	0.50	41%	41%	50%	1.6	0.2	135.8	Soil media is 30% organic matter (per plan specs), which does not meet the VA SW BMP Clearinghouse technical specification of no more than 20% organic material for a Vegetated Roof Level 1. 10% downward modification applied per TMDL Special Condition Guidance for every missing design criteria (Appendix V/D). TP, TN removal rates per VA BMP Clearinghouse (with 10% modification applied). TSS removal rates per Perforitt Curve equation.
17-0558A	Yes	Vegetated Roof, Level 2	Vegetated Roof	Wilson	active	0.43	0.43	7.2	0.7	500.8	0.00	0.0	0.0	7.2	0.7	0.7	500.8	NA	1.10	60%	60%	69%	4.3	0.4	345.9	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equation.
07-1032F	Yes	Vegetated Roof, Level 1	Green Roof	Yorktown	3/22/2010	0.01	0.01	0.2	0.0	11.7	0.00	0.0	0.0	0.2	0.0	0.0	11.7	NA	0.50	41%	41%	50%	0.1	0.0	5.9	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equation.
18-0158A	Yes	Permeable Pavement, Level 1	Turf Inlet	Adriatic Science Park School	10/2/2020	0.33	0.33	5.6	0.5	386.5	0.00	0.0	0.0	5.6	0.5	0.5	386.5	NA	1.10	81%	81%	77%	4.5	0.4	296.8	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
18-0154A	Yes	Permeable Pavement, Level 2	Synthetic Turf Pavers	Ranney ES	10/2/2020	0.23	0.23	3.9	0.4	267.9	0.00	0.0	0.0	3.9	0.4	0.4	267.9	NA	1.10	81%	81%	77%	3.1	0.3	205.7	TP, TN removal rates for synthetic turf are equivalent to Permeable Pavement Level 2 per VA BMP Clearinghouse. TSS removal rates per Perforitt Curve equations.
17-0137D	Yes	Bioretention, Level 1	Planter Box #4 (8 inch ponding)	Dorothy Hamm MS, formerly Stafford MS	6/26/2023	0.04	0.04	0.7	0.1	46.9	0.00	0.0	0.0	0.7	0.1	0.1	46.9	Bioretention/vegetation	100	64%	55%	80%	0.4	0.0	37.5	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
17-0137B	Yes	Bioretention, Level 1	Planter Box #3 (8 inch ponding)	Dorothy Hamm MS, formerly Stafford MS	6/26/2023	0.03	0.03	0.6	0.0	35.1	0.00	0.0	0.0	0.6	0.0	0.0	35.1	Bioretention/vegetation	100	64%	55%	80%	0.3	0.0	28.1	TP, TN removal rates per VA BMP Clearinghouse. TSS removal rates per Chesapeake Bay Efficiencies.
17-0137E	Yes	Bioretention, Level 2	Bioretention #5 (8 inch ponding)	Dorothy Hamm MS, formerly Stafford MS	6/26/2023	0.22	0.19	3.2	0.3	222.8	0.03	0.3	0.0	5.3	1.5	0.3	227.8	Bioretention/vegetation	125	90%	90					