2025 ANNUAL REPORT

July 1, 2024 - June 30, 2025

General VPDES Permit for Small Municipal Separate Storm Sewer Systems No. VAR040057

General VPDES Permit for
Small Municipal Separate Storm Sewer Systems
Permit No. VAR040057

Year 1 Annual Report
July 1, 2024 – June 30, 2025

In compliance with the "General VPDES Permit for Discharges of Stormwater from Small Municipal Separate
Storm Sewer Systems" VAR040057

City of Alexandria, Virginia

Submitted by
City of Alexandria
Department of Transportation and Environmental Services
2900-B Business Center Drive, Alexandria, VA 22314

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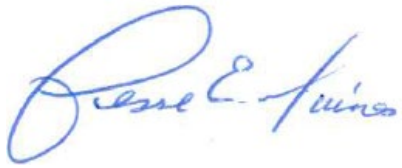
CERTIFICATION

"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."



Jesse E. Maines	Division Chief, Transportation and Environmental Services, Stormwater Management	9/30/2025
Name	Title	Date

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General VPDES Permit for Small Municipal Separate Storm Sewer Systems Permit No. VAR040057

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City of Alexandria, Virginia

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ACRONYMS

AWL – Animal Welfare League
BMP – Best Management Practice
C&I – Construction and Inspection
CSS – Combined Sewer System
CRM – Customer Relations Management
DEQ – Virginia Department of Environmental Quality
E&SC – Erosion and Sediment Control
EIU – Environmental Industrial Unit
EMO – Environmental Management Ordinance
EPC – Environmental Policy Commission
GI – Green Infrastructure
HOA – Home Owners Association
LID – Low Impact Development
MCM – Minimum Control Measure
MS4 – Municipal Separate Storm Sewer System
NMP – Nutrient Management Plans
NVRC – Northern Virginia Regional Commission
OEQ – Office of Environmental Quality
PCB – polychlorinated biphenyls
PSA – Public Service Announcement
PY – Permit Year
RPCA – Department of Recreation, Parks and Cultural Activities
SEAS – School Environmental Action Showcase
SWCB – State Water Control Board
SWM – Stormwater Management Division
SWPPP – Stormwater Pollution Prevention Plan
SWWG – Stormwater Work Group
T&ES – Department of Transportation and Environmental Services
TMDL – Total Maximum Daily Load
VCA – Veterinary Centers of America
VESCL – Virginia Erosion and Sediment Control Law
VESCR –Virginia Erosion and Sediment Control Regulations
VESMP – Virginia Erosion and Stormwater Management Program
VPDES – Virginia Pollutant Discharge Elimination System
VSMP – Virginia Stormwater Management Program

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1 Introduction

This 2024 – 2025 MS4 Annual Report is prepared by the City of Alexandria (City) Department of Transportation and Environmental Services (T&ES) in accordance with the requirements of the General VPDES (Virginia Pollutant Discharge Elimination System) Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (9VAC25-890-40 *et seq.*). The City was originally issued General Permit VAR040057 on July 8, 2003, under the program. DEQ reissued the current five-year permit effective November 1, 2023.

Under the terms of the General Permit, the City has developed a Municipal Separate Storm Sewer System (MS4) Program Plan to implement six minimum control measures aimed at reducing the discharge of pollutants to the "maximum extent practicable." Minimum control measures are:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illegal Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands
6. Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area

The General Permit requires that the City submit annual reports no later than October 1st covering the reporting period of the preceding July 1st through June 30th. This annual report covers the period of July 1, 2024, through June 30, 2025. The 2023-2028 General Permit outlines the requirements for the annual report in Part I E and Part II B. As indicated in the General Permit (Part I.D.6.), the *Chesapeake Bay TMDL Implementation Annual Status Report* is provided as a separate document from this report.

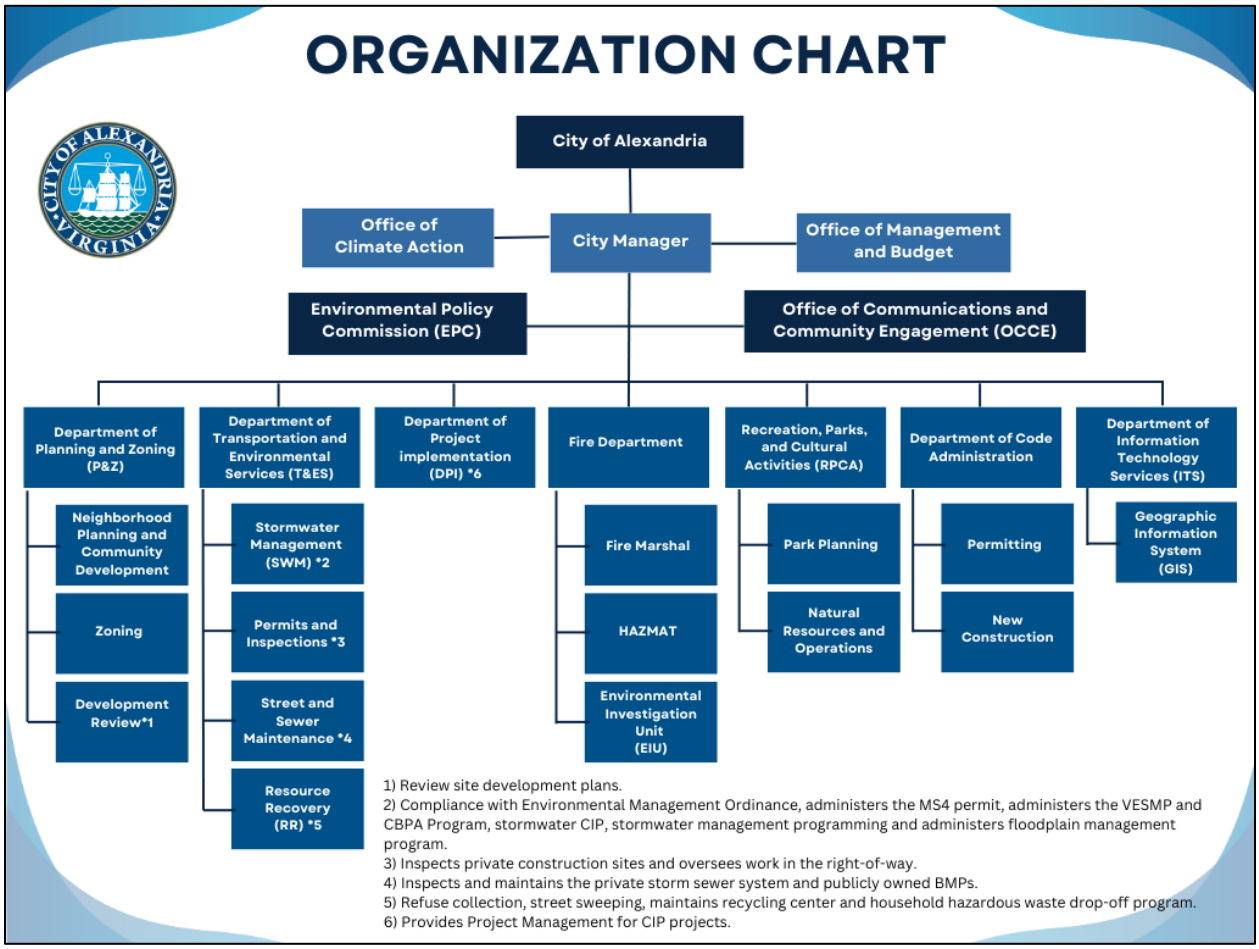
2 General Information

This section provides general information as required in Part I D 2 of the General Permit.

Name of Permittee:	**System Name:**	**Reporting Period:**	**Permit Number:**
City of Alexandria	City of Alexandria MS4	2023-2024	VAR040057
Modifications to Roles and Responsibilities: None.			
6th Order HUC:	**Potomac River (PL28)**	**Cameron Run (PL26)**	**Four Mile Run (PL25)**

The organizational chart outlines major stormwater activities and functions divided among several different departments and divisions. Additional information about each department is found in the MS4 Program Plan. In 2016, The Stormwater Management Division (SWM) in Transportation and Environmental Services has the primary responsibility for coordinating permit compliance, in addition to other duties.

Stormwater Management Organizational Chart – Roles and Responsibilities



3 2024 – 2025 Permit Conditions Compliance Status

The following provides the status of best management practices for each of the six minimum control measures (MCMs) during the 2024 – 2025 reporting period or Permit Year 2 (PY2). The MS4 Program Plan is up to date based on the requirements in the 2023-2028 General Permit and will continue to be revised throughout the permit cycle as applicable. This annual report is organized to reflect the City's current MS4 Program Plan – BMPs under each MCM follow the format for the Program Plan. Each section in this report begins with a summary table describing the task, the implementation year, the measurable goal as described in the City's MS4 Program Plan, and task status. Following the summary table is a more detailed discussion of the implementation status of each task. Additional support materials are found in the appendices.

3.1 Public Education and Outreach (MCM #1)

MCM #1: Public Education and Outreach (Permit Reference: Part I.E.1.g.)

The annual report shall include the following information:
(1) A list of the high-priority stormwater issues the permittee addressed in the public education and outreach program;
(2) A summary of the public education and outreach activities conducted for the report year, including the strategies used to communicate the identified high-priority issues;
(3) A description of any changes in high-priority stormwater issues, including, strategies used to communicate high-priority stormwater issues or target audiences for the public education and outreach plan. The permittee shall provide a rationale for any of these changes; and
(4) A description of public education and outreach activities conducted that included education regarding climate change.

Table 1 summarizes activities associated with Minimum Control Measure #1 and their completion status. Additional details are provided after the table and in Appendix A.

Table 1. Summary of Activities for MCM #1

Strategy	BMP	Measurable Goal	Status
1A – Traditional Written Materials	Distribute pamphlets and other written materials about proper fertilization, pet waste, household hazardous waste, and other water quality topics at outreach events.	Dates and location of outreach events with the approximate number of attendees.	✓ Complete
1B – Alternative Materials	Distribute promotional items (giveaways) at education and outreach events. Include the Eco-City Alexandria Clean Waterways logo on these items, where possible.	Dates and location of outreach events with the approximate number of attendees.	✓ Complete
1C - Signage	Place BMP identification signs at surface structural stormwater BMPs (bioretention, swales, green roofs, etc.)	The total number of BMPs within the City.	✓ Complete
1C - Signage	Installation, maintenance, and re-stocking of pet waste stations with appropriate signage.	Number of existing and new pet waste stations. Number of pet waste bags used and distributed to refill stations.	✓ Complete
1C - Signage	"Poop Fairy" yard signs	Number of "Poop Fairy" yard signs distributed	✓ Complete
1C - Signage	Install storm drain markers.	Number of markers placed.	✓ Complete
1C - Signage	Install and maintain stream crossing signs.	Number of existing signs and number of signs added or replaced.	✓ Complete
1D – Media Materials	Use eNews (City electronic news distribution system), social media (Instagram, Facebook, and/or X)),	The number of individuals signed up to receive the City's eNews.	✓ Complete

Strategy	BMP	Measurable Goal	Status
	television, and/or websites to convey message.	The number of Facebook Page followers and X followers. The number of visits to the Stormwater Management webpage. Clean Water Partners Only Rain Summary Report of Findings.	
1D – Media Materials	Have a reporting mechanism on the City's website so that residents can report potential illicit discharges.	The number of stormwater pollution related complaints received.	✓ Complete
1D – Media Materials	Use social media (Instagram, Facebook, and/or X), website, and/or television including airing the City's stormwater pollution prevention video on the government/community access channel.	The number of individuals signed up to receive the City's eNews and the number of Facebook Page, Instagram, and X followers. The number of visits to the Stormwater Management webpages including the TMDL, MS4, and What You Can Do to Protect Stormwater webpages.	✓ Complete
1E – Speaking Engagements	Present at no less than 2 events per year and include messages about excess nutrients, pet waste, illicit discharges and other stormwater quality issues.	Dates and locations of presentations with the approximate number of attendees.	✓ Complete

*The City uses Alexandria eNews, which is a service that allows users to receive information through email on nearly 100 topics (including stormwater related messages).

Public Education and Outreach Plan Development

The Public Education and Outreach Program identified (1) Chesapeake Bay Nutrients (phosphorus and nitrogen), (2) Pet Waste; and (3) Illicit Discharges, as high-priority water quality issues as part of the update to the Program Plan and created three distinct sets of BMPs to address these issues. A summary of specific strategies chosen from General Permit Table 1 and implemented during this reporting period for each of the high-priority water quality issues is provided at the end of this BMP section. The City also continues to implement BMPs associated with other aspects of water quality and has included these in the updated Public Education and Outreach Plan.

Clean Water Partners

The City continues to participate in the Northern Virginia Regional Commission (NVRC) Clean Water Partners, a regional educational partnership among other MS4 permittees: Fairfax County, Loudoun County, Arlington County, Stafford County, Prince William County, Fairfax Water, Loudoun Water, George Mason University, City of Falls Church, Town of Herndon, City of Manassas, City of Manassas Park, City of Fairfax, Town of Vienna, Town of Leesburg, Town of Dumfries, Doody Calls, Northern

Virginia Regional Commission, Virginia Coastal Zone Management Program, Prince William County Public Schools, and Prince William Water.. For the 2024 – 2025 reporting period, the Clean Water Partners used television, print, internet advertising and the "Only Rain" website (www.onlyrain.org) to distribute messages linked to specific stormwater problems associated with high-priority water quality issues, such as proper pet waste disposal, not bagging lawn clippings, planting native plants, and proper disposal of waste.

For 2025, the Northern Virginia Clean Water Partner's campaign issues were nutrients (phosphorus and nitrogen); bacteria; salt; and illicit discharges (e.g., pesticides, motor oil, etc.), which includes the City's identified issues.

Included in Appendix A and referenced under BMP 1D measure of effectiveness is the annual report on the Clean Water Partners program efforts with information on the effectiveness of the program based on the results of the program's annual survey. Specifically, the program conducted an online poll survey of 506 Northern Virginia residents to determine the effectiveness of on-line efforts and a series of TV, Facebook, and X ads to reveal any changes in behavior, and to aid in directing the future efforts of the campaign. In 2020, the Partners contracted with a digital communications firm to develop and implement a social media campaign on Facebook and X; Instagram came online in 2022. The results so far have shown that these platforms are an effective way to engage with the target audiences. During PY2, the survey instrument used was updated to try and better understand the impact of advertainments. In total, 506 residents were surveyed, with approximately half of them men (50.4%), half women (48.8%), and 0.8% identifying as non-binary or gender non-conforming, and all were 21 years or older, with 13% of the survey respondents from Alexandria. The survey was broken down into three categories: behaviors and behavioral drivers, knowledge, and campaign awareness, perceptions, and impact.

Approximately 53% of Alexandrians responding to the survey recalled seeing the "Only Rain Down the Drain" logo and 34% recalled seeing water pollution reduction campaigns.

The annual survey found that due to seeing the reducing water pollution advertisements:

- 88% of respondents reported they have a greater understanding of pet waste;
- 67% of respondents pick up pet waste more often;
- 75% of respondents have a greater understanding of fertilizer on water quality;
- 88% of respondents have a greater understanding of the impact of motor oil on water quality; and
- 83% of respondents now properly dispose of motor oil.

The survey also documented the following regarding respondent Alexandrians:

- 65% are familiar with the term "watershed";
- 89% always pick up dog waste on walks;
- 78% use a garage or oil change service;
- 46% wash their gar in grass, gravel, or dirt; 63% use eco-friendly detergent; 21% don't use

soap (water only); and 54%) wash their car at a commercial car wash;
- 75% know the term "watershed" and 43% believe stormwater ends up in the Chesapeake Bay or Potomac River watershed;
- 62% know where to drop off household hazardous waste;
- 34% had heard of water quality activities in the past 12-months; and
- 52% said that they participated in a cleanup activity in the last 12-months.

BMP 1A Traditional Written Materials

Traditional written materials are a proven and reliable strategy. The City has created stormwater educational flyers/brochures that are distributed at various outreach events. The brochures are included in Appendix A.

In November 2022, the City updated the Stormwater Utility Fee Credit Program to add mature trees and flood mitigation efforts as new ways to achieve credit reductions. Further, the total amount of fee reductions was increased from 30% to 50%. To help further engage the public with this program, an updated Credit Manual was released and two brochures were developed in October 2023; these brochures are included in Appendix A.

Measure of Effectiveness

Dates and locations of outreach events where these brochures were made available with the approximate number of attendees can be found in the table under BMP 2C. No changes to the MS4 Program Plan were deemed necessary.

BMP 1B Alternative Materials

Promotional items, or alternative materials, such as giveaways that include the City's Eco-City Clean Waterways logo also are distributed at outreach events. T&ES-SWM prioritizes selection of promotional items that are useful and related to stormwater while the logo brings awareness of the City's goal of improved water quality and clean waterways.

Measure of Effectiveness

Dates and locations of outreach events where these promotional items were distributed with the approximate number of attendees can be found in the table under BMP 2C. No changes to the MS4 Program Plan were deemed necessary.

BMP 1C Signage

The City continues to require all new and redevelopment projects to provide signage or labeling to identify new surface structural stormwater BMPs as part of the site plan approval process.

Additionally, the City has installed stream crossing signs at locations where hike and/or bike trails cross major waterways. The City maintains and replaces these signs as needed. No additional signs were installed during this reporting period. The City maintains 20 signs at 18 road crossings and five signs at three trail crossings. The signs promote awareness of Alexandria's surface water resources, water bodies, drainage basins, and location in the Chesapeake Bay Watershed.

The City was one of the first localities in Northern Virginia to implement a storm drain marking program. The City continues to require new development and redevelopment to mark storm drain inlets within the development and located within 50 feet of the project with information on the drainage destination of waters entering the structures. In addition, City staff continue to promote the storm drain marking program at community outreach events and to work with interested residents to implement storm drain marking.

The City created and distributed "Poop Fairy" yard signs to residents to help promote cleaning up after dogs across the City, especially in highly trafficked areas.

Measure of Effectiveness

- BMP signage is required for surface structural stormwater BMPs installed and a photo of the BMP sign and a copy of a final site plan sheet calling for the BMP signage can be found in Appendix A. See Appendix D for a list of all stormwater BMPs installed in this permit cycle.

- The City continues to maintain the stream crossing signs so that they are in good condition. A photo of one of the stream crossing signs can in found in Appendix A.

- Storm drain markers were installed as a requirement of development or redevelopment and a sample plan sheet with this requirement is provided in Appendix A. During FY25, 103 new drain markers have been placed by developers and volunteer efforts.

No changes to the MS4 Program Plan were deemed necessary.

BMP 1D Media Materials

The City continues to host a stormwater quality webpage, located at www.alexandriava.gov/Stormwater. The page includes information about the City's Stormwater Management Program, the Chesapeake Bay Action Plan, the City's Virginia Stormwater Management Program (VSMP), the MS4 Program – to include the Program Plan and annual reports – and provides information for residents to learn how they can protect local streams and rivers. In addition, pages linked to this main page contain external links for the Chesapeake Bay Preservation Act, VSMP requirements, and the Construction General Permit. It also contains information and links to the City's Environmental Management, and Erosion and Sediment Control ordinances. Staff continues to add new content to the site and update existing content.

In addition, the City highlights upcoming events or important information, and posts information on the T&ES Facebook, Instagram, and X accounts. These tools are used to promote water quality events such as volunteer stream cleanups, build your own rain barrel workshops, and pre-made rain barrel sales events, and raise awareness of water quality topics.

The City also uses *Alexandria eNews* to distribute information through email on nearly 100 topics (including stormwater related messages). Users sign up for these email alerts and choose to receive specific informational topics. For example, individuals may choose to receive news with a specific focus on environmental and water quality issues, and/or information on volunteer opportunities, tips, and workshops. T&ES and the Office of Communications & Community Engagement (OCCE) work

closely together to widely distribute eNews messages and other Citywide information. Example eNews distributed during FY2025 is included in Appendix A.

The City maintains its online resident reporting capabilities (See BMP 3A). The City's Alex311 system information is prominent on the City's main page and subordinate pages.

Measure of Effectiveness

See the tables under the High Priority Issues for the following:

- The number of individuals signed up to receive the City's eNews.
- The number of Facebook Page followers, Instagram followers, and X followers.
- The number of visits to the Stormwater Management webpage.

See Appendix A for the following:

- Sample eNews, Facebook posts, Instagram posts, and X posts
- The Clean Water Partners Only Rain Summary Report of Findings

No changes to the MS4 Program Plan were deemed necessary.

BMP 1E Speaking Engagements

T&ES-SWM staff often present at various meetings and events including rain barrel workshops, homeowner association meetings, community events, and stream clean-ups. These activities all create awareness regarding the importance of preventing stormwater pollution. Table 3 provides an overview of Outreach activities including speaking engagements.

Measure of Effectiveness

The events were virtual, with dates and approximate number of attendees at each speaking engagement can be found in the table under General Stormwater Pollution Prevention Public Education and Outreach. No changes to the MS4 Program Plan were deemed necessary.

High-Priority Issues

#1 – Chesapeake Bay Nutrients

Chesapeake Bay nutrients (nitrogen and phosphorus) have been identified as the as the first high-priority water quality issue. The following strategies were implemented in accordance with the MS4 Program Plan and as described in the BMPs 1A, 1C, 1D, and 1E above. Documentation of each activity is found in Appendix A.

1. Distributed proper fertilization brochures and other written materials at outreach events, where applicable.
2. Used eNews (City electronic news distribution system), social media (Instagram, Facebook, and X), television, and/or websites to convey messages regarding Chesapeake Bay Nutrients. Message addressed seasonally specific stormwater pollution prevention

tactics for nutrients and pointed readers back to the City's website with additional information on the topic.

3. Maintained and updated a "Stormwater Management" webpage at www.alexandriava.gov/Stormwater related to the proper application and use of fertilizers to protect water quality. Also, a link to the NVRC www.onlyrain.org website was included.
4. Placed BMP identification signs at surface structural stormwater BMPs (bioretention, swales, green roofs, etc.) as each BMP is installed.
5. Presented at events and included a message about excess nutrients in stormwater.
6. Continued to participate in the NVRC Clean Water Partners program he partners used television, print, internet advertising and the Only Rain website to distribute messages such as over fertilization of lawns and gardens. The Clean Water Partners 2025 Summary and Survey may be found in Appendix A.

The goal of these strategies is to reach a wide audience with a message regarding the potential impact of nutrients on the Chesapeake Bay as well as specific actions that can be taken to reduce pollution. The table below provides the potential reach of different media used in the City's Public Education and Outreach Plan.

For a list of public education and outreach events, please see the table under BMP 2C. In addition, Appendix A contains examples and supporting materials for these best management practices.

#2 – Pet Waste

The second high-priority water quality issue identified is bacteria from pet waste. The following activities were implemented during this permit cycle in accordance with the MS4 Program Plan to address pet waste.

1. Distributed pet waste pamphlets and other written materials at all appropriate outreach events where applicable. Shared outreach materials with local animal welfare league.
2. Distributed ten "Poop Fairy" yard signs to promote residents to pick up after their pets.
3. Used eNews (City electronic news distribution system), social media (Facebook, Instagram, and X), television, and/or websites to convey message of the importance of picking up after pets and disposing of the waste properly.
4. Continued to maintain City pet waste stations and supply bags for stations. Two thousand six hundred (2,600) pet waste bags were provided during this permit cycle. Additional stations will be installed, as needed, to help make pick-up and disposal more convenient. Also, there are many residential communities in the City that install and maintain their own pet waste stations.
5. Distributed "dog bone" pet waste bag dispensers and refills at outreach events.

6. Continues to participate in the NVRC Clean Water Partners regional efforts, with the survey found in Appendix A.

The goal of these strategies is to reach a wide audience with the pet waste message and specific actions to reduce pollution.

The Clean Water Partners annual survey found that 67% of respondents picked up pet waste more often after seeing the advertisements.

For a list of public education and outreach events, please see the table in Section BMP 2C. In addition, Appendix A contains examples and supporting materials for these best management practices.

#3 – Illicit Discharges

The third high-priority water quality issue identified is illicit discharges. The following activities were implemented in accordance with the MS4 Program Plan during the permit year to address illicit discharges.

1. Used eNews (City electronic news distribution system), social media (Facebook, Instagram, or X), television, and/or websites to convey messages regarding illicit discharges.
2. Maintained the www.alexandriava.gov/Stormwater webpage which includes a page specifically related to illicit discharges for the targeted businesses and the general public, and included a link to the NVRC www.onlyrain.org website.
3. Continued to participate in the NVRC Clean Water Partners regional efforts. During FY2024, the Partners focused on bacteria, pet waste, illicit discharges, and salt. The Northern Virginia Clean Water Partners 2025 Summary and Survey can be found in Appendix A.

The goal of these strategies is to reach a wide audience with an illicit discharge message and specific actions to reduce pollution.

Table 2 provides strategy, potential target reach, and estimated reach information for the high-priority issues.

Table 2. Estimated Reach of High-Priority Issues

Media	Potential Target Reach	Estimated Permit Year Reach
eNews message	Environmental eNews Subscribers – 8,644	100% of Environmental eNews Subscribers
Social Media Message	Instagram, Facebook, and X Followers	T&ES Facebook Page has 2,914 followers. T&ES has 2,738 X followers. Instagram has 1,896 followers.
Stormwater Webpage	2,025 unique page views	100% of unique page views
Clean Water Partners Premium Digital TV Impressions	1,281,822 Impressions	100% of Impressions
Clean Water Partners Social Media Impressions	3,101,179 Impressions	100% of Impressions

General Stormwater Pollution Prevention Public Education and Outreach

The City implemented the following activities during the permit cycle in accordance with the MS4 Program Plan.

1. Distributed other written materials about water quality and stormwater pollution prevention at outreach events. For FY2025, this information was shared during in-person and virtual events; the City continued to update and refine its online stormwater presence, including the Stormwater Quality webpage which includes a link to the City's BMP site tour.
2. Used social media (Facebook, Instagram, and X), webpages, and/or television including airing the City's stormwater pollution prevention video on the government/community access channel.
3. Maintained stream crossing signs to promote awareness of Alexandria's surface water resources, water bodies, and drainage basins.
4. Presented at events to include messages about water quality and stormwater pollution prevention. See Appendix A for the Advancing Stormwater Management presentation slides.

The goal of this BMP is to reach a wide audience with a general pollution prevention message as well as specific actions that can be taken to reduce pollution. The following table summarizes the City's public education and outreach activities and events where information on pollution prevention and water quality were distributed. Appendix A contains examples from the City's general education program.

City staff continued to work to engage with and reach out to diverse economic and ethnic groups in the city. During FY2025, staff participated in "Science Night" in a predominantly non-English speaking, lower income community. Based on this outreach event, the City developed outreach materials (brochures) in Spanish, Amharic languages, and other languages spoken in the City. The City

participated in a variety of outreach events in various locations throughout the City in order to reach different audiences. In-person outreach at local events targets residents who may not have access to a computer or social media or email blasts. The City will continue its efforts to engage all community members to educate them on water quality to help prevent stormwater pollution.

Public Education and Outreach Activities Focused on Climate Change

When discussing stormwater management with the public, the topic of climate change, and flood mitigation and resilience, is at the forefront of all conversations. The City is currently engaging with the Office of Climate Action to help the public understand the impacts of climate change on our community. The City also launched the Flood Action Alexandria effort in FY2021 to help mitigate the impacts of flooding across the community. These topics were discussed with the public as described in Table 3.

Energy and Climate Change Action Plan and Office of Climate Action

The City's Stormwater Management Division supported the development of the Energy and Climate Change Action Plan 2023 in coordination with Department of General Services and the Office of Environmental Quality, with input from the public and the City's Environmental Policy Commission. This Plan focuses on both climate change mitigation and resilience, specifically in the areas of heat island impacts and flooding, which ties into the Flood Action Alexandria initiative described below. During FY2023, the City announced the development of the new Office of Climate Action in the City Manager's Office.

Flood Action Alexandria

During PY2, the City continued implementation of the Flood Action Alexandria program. Launched in early calendar year 2021, Flood Action Alexandria brings together experts from the Department of Transportation and Environmental Services Stormwater Management, Public Works Services, and Sanitary Infrastructure divisions, as well as Code Enforcement, Planning and Zoning, the Department of Project Implementation and the Stormwater Utility and Flood Mitigation Advisory Committee to address stormwater flooding issues across the City. The City has experienced more frequent and severe storms due to climate change and is working through Flood Action Alexandria to accelerate stormwater capital infrastructure improvements, conduct education and outreach, support monitoring and emergency operations, and help improve the City's overall resilience.

As part of this effort, the City added to its "Early Warning" system by installing additional rain gauges throughout the City in May 2021 to increase data gathering capacity, which are tracked by local watershed. Also in 2021, the City launched a new "Locate Your Watershed" built on a ArcGIS platform to help educate residents on which local watershed they live in. A Project Dashboard, also built on an ArcGIS platform, provides details on flood mitigation infrastructure projects. The Advisory Committee participates in frequent meetings to learn and discuss issues pertaining to the City's storm sewer infrastructure, flooding, and the Stormwater Utility fee. The City received funding from the Virginia Department of Conservation and Recreation to enhance hardened infrastructure projects aimed at reducing flood impacts and incorporating green infrastructure.

The Flood Mitigation Grant Program – the first in Virginia – was launched in August 2021 as part of the new Flood Action Alexandria Program as a partnership between the City and property owners to incentivize property owners to implement eligible flood mitigation measures on their property. The grant provides a matching 50/50 reimbursement grant up to $5,000 ($25,000 for common areas) spent

on implementing eligible flood mitigation practices, with cleanup and damage repair not constituting eligible practices. The grant incentivizes property owners to implement these small-scale flood mitigation practices in the near term to protect their property while staff works on Large Scale Capacity and Spot Improvement projects which take longer to deliver.

Staff worked with the City's Legislative Director and a local state Senator to introduce a bill to revise the Code of Virginia effective July 1, 2021, to allow for the use of public funds on private property for the purpose of the grant program. Staff from T&ES worked with the City Attorney's Office, Planning and Zoning, and Code Administration to develop the requirements of the Flood Mitigation Pilot Grant Program and worked with ITS staff for the application process.

Table 3. Summary of Public Education and Outreach Activities

Activity	Date	Topic	Number of Participants (approximate)
Eco-City Pop Up at Yates Corner	8/1/2024	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	20
Friendship Firehouse Festival in Old Town (Eco-City Pop Up)	8/3/2024	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	40
Emergency Preparedness Fair at City Hall	9/20/2024	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	30
Touch-A-Truck Event	9/21/2024	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	150
Imagine a Day Without Water Popup Event at Waterfront Park	10/17/2024	One Water Alexandria hosted an event where materials were distributed to the public who stopped by to learn about water resources in the City in partnership with Virginia American Water and AlexRenew. Educated community about stormwater and updates to the Stormwater Utility Fee Credit Program. Information on Flood Action and climate change also was included. This activity improved water quality	35

Activity	Date	Topic	Number of Participants (approximate)
		directly through education and awareness of pollution prevention activities.	
Meaningful Watershed Educational Experience (MWEE) for ACPS 7th Graders	10/15/2024; 10/16/2024; 10/21/2024; 10/22/2024; 10/24/2024; 10/28/2024	Provided a hands-on demonstration of water quality testing equipment and hosted a watershed walk at Ben Brenman stormwater pond for 7th grade students at ACPS.	1,000+
Stormwater Utility Fee Credit Program Update	1/22/2025	Held a virtual information for community members to learn more about the stormwater utility fee credit program.	18
Eco-City Academy	2/6/2025	Presented on stormwater management and flood mitigation to the 2025 cohort of the City's Eco-City Academy.	25
Ferdinand T. Day Elementary School STEM Night	2/20/2025	Participated in STEM night and provided outreach and education on how to prevent stormwater pollution.	134
Patrick Henry Sustainability Club	1/30/2025	Presented on stormwater management to middle-school students and demonstrated how to protect water quality using the Enviroscape™ model.	10
Advancing Stormwater Management	4/10/2025	Held a virtual presentation, in partnership with the Alexandria Library, to educate and provide outreach to residents on stormwater management and water quality. Information on Flood Action and climate change also was included.	4
Alexandria City Public Schools (ACPS) Spring Break Out of School Time at Patrick Henry Elementary School	4/15/2025	Provided a hands on demonstration of the Enviroscape™ to children participating in ACPS spring break activities. This included an overview of sources of stormwater pollution and ways to protect water quality.	12
Watershed Walk and Water Quality Testing at Ben Brenman Stormwater Pond	4/18/2025	Provided a hands-on demonstration of water quality testing equipment and hosted a watershed walk at Ben Brenman stormwater pond for Alexandria Country Day School 5th Graders. This included an overview of sources of stormwater pollution and ways to protect water quality.	45
Alexandria City Public Schools (ACPS) Spring Break Out of School Time at John Adams Elemntary	4/17/2025	Provided a hands on demonstration of the Enviroscape™ to children participating in ACPS spring break activities. This included an overview of sources of stormwater pollution and ways to protect water quality.	15

Activity	Date	Topic	Number of Participants (approximate)
William Ramsey Elementary School STEM Night	4/23/2025	Participated in STEM night and provided outreach and education on how to prevent stormwater pollution.	240
Earth Day Proclamation and Art Show	4/26/2025	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	75
Del Ray Gardenfest	4/27/2025	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	150
Eco-City Festival	5/10/2025	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	300
Bike To Work Day	5/15/2025	Provided educational information on the Eco-City Alexandria initiative and included information and brochures on water quality and pet waste bag dispensers, tire pressure gauges, and rain gauges. Information on Flood Action and climate change also was included.	40

3.2 Public Involvement/Participation (MCM #2)

MCM #2: Public Involvement and Participation (Permit Reference: Part I.E.2.i.)

The annual report shall include the following information:
(1) A summary of any public comments on the MS4 program received and how the permittee responded;
(2) A summary of stormwater pollution complaints received under the procedures established in Part I E 2 a (1), excluding natural flooding complaints, and how the permittee responded;
(3) A webpage address to the permittee's MS4 program and stormwater website;
(4) Federal and state nontraditional permittees with security policies preventing the MS4 program and stormwater pollution prevention webpage from being publicly accessible utilizing an internal staff accessible website, such as intranet, shall provide evidence of the current internal MS4 program and stormwater pollution prevention webpage; (Not applicable)
(5) A description of the public involvement activities implemented by the permittee, including any efforts to reach out and engage all economic and ethnic groups;
(6) A description of public education and outreach activities conducted that also included education regarding climate change;
(7) A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; and
(8) The name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.

The following table is a summary of activities for Minimum Control Measure #2 and their completion status. Additional detail is provided after the table and in Appendix B.

Table 4. Summary of Activities for MCM #2

BMP	Measurable Goal	Status
2A Public Reports, Input, and Participation Procedures		
Maintain the City's web-based reporting (Alex311) and call center systems.	Provide a hyperlink to Alex311 and phone number for T&ES Stormwater management.	✓ Complete
Post MS4 Program Plan on webpage and document input/feedback.	Document that the program plan has been placed on the webpage and any input received on the plan.	✓ Complete
2B MS4 Program and Stormwater Pollution Prevention Webpage		
Maintain the City's MS4 and Stormwater Pollution Prevention Webpage	Provide the address of the webpage and a hyperlink for the webpage.	✓ Complete
2C Local Activities Public Involvement		
Implement at least two clean-ups per year	Document sponsorship and participation in clean-up events	✓ Complete

BMP	Measurable Goal	Status
	including approximate participation	
Participate in at least two educational events per year	Document sponsorship and participation in educational events, including approximate participation	✓ Complete
Continuously implement the storm drain marker program and maintain City owned pet waste stations.	Document the number of individuals marking storm drains and the maintenance of City owned pet waste stations	✓ Complete

BMP 2A Public Reports, Input, and Participation Procedures

The City implemented the following BMPs during this permit year in accordance with the MS4 Program Plan.

1. Maintained Alex311 web-based problem reporting/service request and call center (311) that can be used by residents and others to report suspected illicit discharges (including improper disposal or spills), complaints (including ones regarding land disturbing issues), and other input. During this reporting period, no public input on the MS4 program was received. Input pertaining to stormwater illicit discharges is included in Section 3 of this report.

2. The MS4 Program Plan for the 2023-2028 MS4 General Permit was posted on April 1, 2024, to the City's Stormwater MS4 Program webpage (https://www.alexandriava.gov/stormwater-management/municipal-separate-storm-sewer-system-ms4-permit). The plan was revised and reposted 7/1/2024, 12/16/2024, 2/12/2025, and, most recently, 5/8/2025. The plan was updated based on revisions to the Construction General Permit and Stormwater Regulations, updates to the organizational chart, updates to the Chesapeake Bay TMDL Action Plan were incorporated, IDDE Policy & Procedures were updated, the outfall/point of discharge table was updated, and the two local TMDL Action Plans were updated. The webpage includes a general email address (MS4ProgramPlan@alexandriava.gov) and the main phone number for T&ES-SWM for the public to use to submit input and feedback on the plan.

Measure of Effectiveness

1. A hyperlink to the Alex311 webpage is provided in Appendix B. Potential illicit discharge complaints, some which were received through Alex311, may be found in Appendix C.

2. The updated MS4 Program Plan was posted April 1, 2024, and most recently updated in May 2025. No comments were received on the plan.

BMP 2B MS4 Program and Stormwater Pollution Prevention Webpage

The City maintains a website dedicated to stormwater pollution prevent, water quality and the MS4 Program at www.alexandriava.gov/Stormwater that has links to other aspects of the stormwater management program. The site provides information about the program, serves as a forum to distribute educational materials, includes information on where to report suspected illegal dumping, and makes documents accessible to the public for review and comment.

In accordance with Part I.E.2.b, the City's MS4 Program and Stormwater Pollution Prevention webpage contains the following:

1. Current MS4 permit and coverage letter;
2. Most current MS4 Program Plan;
3. Annual reports from FY2015 to current;
4. T&ES-SWM main phone number and Alex311 link through "Contact Us" at the top of the page for reporting illicit discharges or other potential stormwater pollution concerns; and
5. Email address (MS4ProgramPlan@alexandriava.gov) for providing input on the MS4 Program Plan and other general inquiries about the program.

Measure of Effectiveness

The address to the City's MS4 Program webpage is https://www.alexandriava.gov/stormwater-management/municipal-separate-storm-sewer-system-ms4-permit. No updates to the MS4 Program Plan were deemed necessary.

BMP 2C Local Activities Public Involvement & Engagement of All Economic and Ethnic Groups

The City sponsors, promotes, and participates in numerous local events to encourage participation of people living and working in Alexandria to learn more about the importance of preventing stormwater pollution. During FY2025, the City held many activities to enable participation in stormwater awareness and water quality including those listed below and those presented in Table 5.

- The City hosted three clean up events during FY2025, as indicated in Table 5.
- The City's Stormwater Management Division consistently attends and engages with the Stormwater Utility & Flood Mitigation Advisory Committee, as well as the Environmental Policy Commission.
- The City hosted two build-your-own rain barrel workshop events.

2025 Launch of Green Team

In 2022, with authorization from the Virginia General Assembly, the City passed a "Plastic Bag Fee". The program is managed by the City's Resource Recovery Division and revenue generated by this fee may be spent on litter campaigns and similar activities. During the program year, the City's Stormwater Management Staff reached out to Resource Recovery to launch a new individual litter cleanup program called "Green Team". The program has attracted close to 80 participants since it launched in May. The program is intended to complement existing litter-removing efforts, including the City's Clean Team, the Department of Recreation, Parks, and Cultural Activities (RPCA) PARKnership Program, and the Adopt-a-Block Program. Because litter can easily flow through storm sewers and into local waterways, the Green Team program is designed to recognize the ongoing efforts of current volunteers and assist new residents in joining the Citywide effort to protect the Potomac River and Chesapeake Bay. All registrants are encouraged to track and log their litter cleanup activities and close to 40-bags of litter have been reported picked up since the program launch.

Measure of Effectiveness

The T&ES-SWM organized, coordinated, and participated in several virtual activities focused on water quality in the City of Alexandria where staff had the opportunity to educate participants about stormwater pollution and prevention and provide online resources focused on education and outreach (see Table 5). These activities all create awareness regarding the importance of preventing stormwater pollution and are all beneficial to pollution prevention and fostering water quality awareness. Specific water quality benefits are included in Table 5 in italics. No updates to the MS4 Program Plan were deemed necessary.

Public Education and Outreach Activities Focused on Climate Change

When discussing stormwater management with the public, the topic of climate change is on the forefront of all conversations. The City is currently engaging with the Office of Climate Action to help the public understand the impacts of climate change on our community. The City also launched the Flood Action Alexandria effort in FY2021 to help mitigate the impacts of flooding in the community. Finally, the City will kicked off the development of a comprehensive Flood Resilience Plan to support future efforts of the Flood Action Alexandria initiative which works to help mitigate flooding across our community. The new plan will include hazard identification, flood mitigation, flood preparedness and response, policies and regulations, funding strategies, and communication and information dissemination. These topics are discussed with the public during public participation events as described in Table 5.

Table 5. Public Stormwater Involvement/Participation Events during PY2

Activity	Date	Participants	Event Details
Build-Your-Own Rain Barrel Workshop	8/3/2024	30	In partnership with the Northern Virginia Rain barrel Partners program, the City hosted a build-your-own rain barrel workshop at the Beatley Library. Staff presented stormwater management

Activity	Date	Participants	Event Details
			in the City and things they could do to help keep local waterways clean. *This activity improved water quality directly through education and awareness of pollution prevention activities as well as the implementation of a rain barrel to help reduce runoff.*
Build-Your-Own Rain Barrel Workshop	4/12/2025	33	In partnership with the Northern Virginia Rainbarrel Partners program, the City hosted a build-your-own rain barrel workshop at the Beatley Library. Staff presented on stormwater management in the City and things they could do to help keep local waterways clean. *This activity improved water quality directly through education and awareness of pollution prevention activities as well as the implementation of a rain barrel to help reduce runoff.*
Chesapeake Bay Clean Up at the Potomac River	6/8/2024	30	Volunteers came out to pick up litter along the Potomac River at Oronoco Bay. *This activity improved water quality directly through litter cleanup.*
International Coastal Cleanup Stream Cleanup Event	10/12/2024	15	Volunteers came out to pick up litter along local waterways. *This activity improved water quality directly through litter cleanup.*
Stormwater Utility & Flood Mitigation Advisory Committee Meetings	9/18/2024; 11/20/2024; 1/15/2025; 3/19/2025; 5/14/2025	15	Staff discussed updates to the Stormwater Management program with Stormwater Utility & Flood Mitigation Advisory Committee during five meetings. *This activity improved water quality directly through education and awareness of stormwater management in the City.*
Environmental Policy Commission	9/16/2024	15	Discussed updates to the Chesapeake Bay TMDL Phase 3 Action Plan and ways to provide feedback with the City's Environmental Policy Commission. *This activity improved water quality directly through education and awareness of pollution prevention activities.*
Environmental Policy Commission	6/15/2025	15	Discussed the latest updates to the City's Stormwater Management program with the EPC. *This activity improved water quality directly through education and awareness of pollution prevention activities.*
Spring Clean Up	4/12/2025	22	Volunteers came out to pick up litter at Four Mile Run. *This activity improved water quality directly through litter cleanup.*

3.3 Illicit Discharge Detection and Elimination (MCM #3)

MCM #3: Illicit Discharge Detection and Elimination (Permit Reference: Part I.E.3.e.)

The annual report shall include the following information:
(1) A confirmation statement that the MS4 map and outfall information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year;
(2) The total number of outfalls and observation points screened during the reporting period as part of the dry weather screening program; and
(3) A list of illicit discharges to the MS4, including spills reaching the MS4 with information as follows:
(a) The location and source of illicit discharge;
(b) The dates that the discharge was observed, reported, or both;
(c) Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);
(d) How the investigation was resolved;
(e) A description of any follow-up activities; and
(f) The date the investigation was closed.

Table 6 provides a summary of activities for Minimum Control Measure #3 and their completion status. Additional detail is provided after the table and in Appendix C.

Table 6. Summary of Activities for MCM #3

BMP	Measurable Goal	Status
3A Storm Sewer System Outfall Map and Outfall Information Table		
Maintain an up-to-date storm sewer map and outfall information table.	Keep up-to-date storm sewer map and outfall information table available on request.	✓ Complete
Update the storm sewer map and outfall table by October 1st of each year.	Include PDF of updated storm sewer map and information table in the annual report. Provide a summary of updates.	✓ Complete
Provide GIS shapefiles to DEQ no later than 11/01/2025 (24-months after permit-issuance date)	Include documentation of submittal.	Pending
Notify downstream MS4s of any new physical interconnections.	Include copies of previous notifications and list and provide any notifications from the permit year.	✓ Complete

BMP	Measurable Goal	Status
3B Prohibition on Illicit Discharges		
Enforce prohibition on illicit discharges (Chapter 13 of City Code).	Report number of illicit discharges identified and report how they were controlled or eliminated. Review City IDDE Program Manual and corresponding City Code and make recommendations accordingly.	✓ Complete
3C Illicit Discharge Detection and Elimination Written Procedures		
Maintain, implement and enforce the written procedures found in the City's IDDE Program Manual.	Follow procedures and update as necessary.	✓ Complete
Investigate suspected illicit discharges.	Report number of suspected illicit discharges and provide a narrative on how they were controlled or eliminated.	✓ Complete
Screen at least 50 outfalls annually such that no more than 50 are screened in the previous 12-month period.	Include documentation of the outfall screening completed during the permit year to include results, resolution, and investigation closure. Any follow-up actions will also be included.	✓ Complete
3D Alex311		
Maintain Alex311	Include a screen capture of Alex311. Document the number and types of incidents handled.	✓ Complete
3E Household Hazardous Waste (HHW) Program		
Provide HHW collection services to all residents	Provide copies of the program web site and brochures. Document program participants and the number of equivalent barrels of waste accepted.	✓ Complete
3F Identification of Permitted Stormwater Discharges		
Keep up-to-date permitted discharges information and distribute to field crews.	Provide up-to-date map and list of state-permitted stormwater discharges.	✓ Complete

BMP	Measurable Goal	Status
3G Prohibition of Outdoor Cleaning of Restaurant Equipment		
Enforce prohibition on outdoor cleaning of restaurant equipment.	Document example SUP, if one has been done in the permit year.	✓ Complete

BMP 3A Storm Sewer System Outfall Map and Outfall Information Table

The City has previously developed and continues to maintain a storm sewer system map showing all features required in the MS4 permit, including all stormwater outfalls discharging to the waters of the Commonwealth, as well as pipes, catch basins, and inlets. The map provides a valuable tool to fully understand the storm system and aids in investigating and eliminating possible illicit discharges. The data used to develop this map is continuously updated as new systems are installed and needed refinements to the system area discovered. The updated data is used to create the map which is exported for the annual report each permit cycle. Therefore, data shown on the map reflects all changes and updates to the City's documented storm sewer system as the date on the map.

During FY2024, the City added the MS4 map to the City's online ArcGIS Sewer Viewer mapping platform which is publicly available.

The City shall continue to identify physical interconnections with other regulated MS4s and notify in writing any downstream regulated MS4 of any new physical interconnections.

Measure of Effectiveness

The storm sewer system map and corresponding outfall information table have been updated to reflect any changes to the MS4 occurring on or before June 30th of the reporting year. Updates to the storm sewer system map are completed as redevelopment occurs and when refinements to the system are realized. The most current storm sewer system map and associated outfall table has been provided in Appendix C.

On July 30, 2020, the City provided an updated letter of adjacent MS4 jurisdictions where likely interconnections exist however, none have been identified. The letters were shared with National Park Service for George Washington Memorial Parkway, Arlington County, Fairfax County, and Virginia Department of Transportation. Copies of these notifications can be found in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3B Prohibition on Illicit Discharges

The purpose of this BMP is to ensure that the City has the legal tools necessary to effectively prohibit illicit discharges and to conduct necessary enforcement in the case of an illicit discharge. City Council has adopted appropriate measures, including civil and criminal penalties, to prohibit illicit discharges. The City Attorney has reviewed the City Code and has determined that no additional changes are needed at this time. In recent years, the City did recognize the need for civil penalties for offenses that are not categorized as criminal. As a result, the City updated the Environmental Offenses ordinance to include civil penalties for identified illicit discharges.

Measure of Effectiveness

Appendix C provides a summary of illicit discharge complaints and a narrative on how each complaint was handled, including how any actual discharge was controlled or eliminated as appropriate. No pattern of illicit discharges necessitated a review of policies, procedures, or ordinances. No updates to the MS4 Program Plan were deemed necessary.

BMP 3C Illicit Discharge Detection and Elimination Written Procedures

Pursuant to the 2013-2018 General Permit program plan update requirements, the City developed the Illicit Discharge Detection and Elimination Program manual which includes written policies, procedures, and legal authority for the detection, investigation, and elimination of illicit discharges. Outfall field screening is performed in accordance with the IDDE Program manual which includes the requirement outlined in Part I.E.3.c of the 2023-2028 permit. The City's IDDE Program manual was updated to align with the 2023-2028 permit and to ensure current methodology and compliance with the current permit, to include the use of civil penalties. This manual can be found in the City's MS4 Program Plan under Appendix C.

The City continues to maintain, implement, and enforce the written policies and procedures found in the City's IDDE Program manual.

Measure of Effectiveness

A list of illicit discharges to the MS4 including spills reaching the MS4 can be found in Appendix C. In addition, a list of all investigations performed for reported suspected illicit discharges to include results, resolution, and date of investigation closure can also be found in Appendix C.

A total of 52 outfalls were screened during the reporting period as part of the dry weather screening program, with a table summarizing the effort found in Appendix C.

BMP 3D Alex311

Alex311 uses a web-based reporting form, smart phone app, and call center built upon the Salesforce Customer Relationship Management (CRM) system. The Salesforce CRM system is a cloud-based repository for public complaints and service requests. The CRM is integrated with the City's asset management database, Cityworks™, for public submissions requiring asset maintenance or investigation. Illicit discharge and illegal dumping complaints are investigated by T&ES-Stormwater Management Division and the Fire Marshal's Environmental and Industrial Unit (EIU). All public submissions are tracked through the City's CRM database and Cityworks™.

The Alex311 customer service center connects customers to information, services, and solutions using phone (703-746-HELP or 311) and web-based portals to receive and process requests and complaints. Alex311 enables the City to standardize best practices and knowledge base information throughout the City in support of citizen engagement, customer service, service request and case management services. Alex311 provides improved tracking and information updates for customers through the life cycle of the service request, streamlined service request creation and management, and data-driven analytics such as dashboards and maps.

Measure of Effectiveness

The City (through T&ES-Stormwater and EIU reporting mechanisms) handled 26 water quality and illicit discharge related complaints or incidents during this reporting period. Appendix C provides a summary of the complaints and a narrative on how each discharge was controlled or eliminated. The T&ES SWM Division receives complaints directly from Alex311 and/or documents the information received via email, phone, or another source. Reports are also made via 911. The EIU is responsible for entering this information into the EnerGov database. The SWM Division receives and enters data into Alex311 for incidents handled solely by their office. During coordinated responses, the EIU and SWM Division maintain both the EnerGov and Alex311 database. Screen shots of EnerGov, Alex311, and Cityworks™ are provided in Appendix C.

BMP 3E Household Hazardous Waste (HHW) Program

Participation in the household hazardous waste (HHW) program continues to be a popular and effective program with approximately 15,401 participants using the program in this permit year. Materials are calculated based on 55-gallon drums or equivalent (barrels). The number of barrels has been tracked since 2008 when the materials were put into the large barrels or drums. As a result, the City continues to track this number as "equivalent" barrels. The webpage alexandriava.gov/19206 includes information on the types of materials that may be left at the drop-off points and the schedule for drop-offs. The following table provides a snapshot of HHW program statistics.

Table 7. HHW Users and Barrels by Fiscal Year (FY)

Year	Users	Barrels (or Equivalent Barrels) of HHW
FY2009	6,067	754
FY2010	7,059	875
FY2011	7,920	822
FY2012	7,698	702
FY2013	8,424	759
FY2014	9,535	516
FY2015	10,476	504
FY2016	9,976	409
FY2017	10,974	359
FY2018	11,431	309
FY2019	12,278	328
FY2020	11,975	298
FY2021	16,359	385
FY2022	14,528	353
FY2023	14,311	250

Year	Users	Barrels (or Equivalent Barrels) of HHW
FY2024	15,066	356
FY2025	15,401	309

Measure of Effectiveness

Table 7 shows the quantity of material collected. Hyperlinks to the HHW webpage and the most recent program brochure is provided in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3F Identification of Permitted Stormwater Discharges

The City continues to obtain updated information annually on state-permitted stormwater discharges within the City limits and maintains a map of these discharges. The purpose of this BMP is to provide field operations staff with a visual tool for identifying permitted and non-permitted discharges.

Measure of Effectiveness

A current map and table of state-permitted stormwater discharges, current as of June 2025 is in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

BMP 3G Prohibition of Outdoor Cleaning of Restaurant Equipment

The City continues to include in the Special Use Permit (SUP) issued for restaurant facilities a standard condition that states: “Kitchen equipment shall not be cleaned outside, nor shall any cooking residue be washed into the streets, alleys, or storm sewers.”

Measure of Effectiveness

A sample of a Development Special Use Permit (DSUP) reviewed during the reporting period with the appropriate language regarding restaurant equipment is found in Appendix C. No updates to the MS4 Program Plan were deemed necessary.

3.4 Construction Site Stormwater Runoff and Erosion and Sediment Control (MCM #4)

MCM #4: Construction Site Stormwater Runoff and Erosion and Sediment Control (Permit Reference: Part I.E.4.e.)

The annual report shall include the following information:
(1) Total number of erosion and sediment control inspections conducted;
(2) Total number of each type of compliance action and enforcement action implemented; and
(3) For nontraditional permittees:
(a) A confirmation statement that land disturbing projects that occurred during the reporting period have been conducted in accordance with the current department approved annual standards and specifications for erosion and sediment control; and
(b) If any land disturbing projects were conducted without department approved annual standards and specifications, a list of all land disturbing projects that occurred during the reporting period with erosion and sediment control plan approval dates for each project. (Not Applicable)

The following table is a summary of activities for Minimum Control Measure #4 and their completion status. Additional detail is provided in the table below and in Appendix D.

Table 8. Summary of Activities for MCM #4

BMP	Measurable Goal	Status
4A Maintain DEQ Erosion and Sediment Control Program Consistency		
Maintain E&SC program consistency with State regulations.	Document the City program consistency with state law and regulations.	✓ Complete
4B Site Control Implementation		
Ensure that the proper controls are implemented to prevent nonstormwater discharges to the MS4.	Implement City's Policies and Procedures for Construction Site Runoff Control Inspections	✓ Complete
4C Construction General Permit Inspections and Tracking		
Require applicable land-disturbing activities secure coverage under the construction general permit.	Require construction general permits as required in accordance with City ordinance.	✓ Complete
Review and approve SWPPPs and ensure SWPPP implementation.	Review and approve SWPPPs. Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete

BMP	Measurable Goal	Status
Maintain a database log for tracking all land disturbing activities.	Summarize annual land disturbing activities that secured a construction general permit	✓ Complete
Inspect land-disturbing activities in compliance with the E&S ordinance, the EMO and written policies and procedures.	Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete
Ensure inspectors and plan reviewers are certified and keep records on file.	Document certifications held by City staff and ensure they stay up-to-date.	✓ Complete
Utilize legal authority to require compliance with an approved plan or require plan revisions or modifications if the inspection shows an approved plan to be inadequate to control stormwater runoff.	Document total number of inspections; provide a summary of enforcement actions included number and type.	✓ Complete

BMP 4A Maintain Erosion and Sediment Control Program Consistency

The City's construction site stormwater runoff program is implemented in accordance with Part I.E.4.a of the permit.

The City's Erosion and Sediment Control Program continues to be consistent with the Virginia Erosion and Sediment Control Law (VESCL) and attendant regulations. During the 2014 – 2015 permit year, the City reviewed the Erosion and Sediment Control (E&SC) Ordinance for consistency with the Environmental Management Ordinance (EMO) and adopted the appropriate amendments to the E&SC ordinance.

Consistent with the Consolidated Regulations effort at the state level, on April 13, 2024, the City Council adopted the amended Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) in accordance with Text Amendment No. 2024-0003 by authority of §§ 62.1-44.15:24 - 62.1-44.15:50, Code of Virginia. On this date the City Council also adopted the amendments to Title 5, Chapter 4 of the City Code (the Erosion and Sediment Control Ordinance). These consolidated regulations combine both the Virginia Erosion and Sediment Control Program and the Stormwater Management Program into one regulatory chapter: Virginia Erosion and Stormwater Management Program (VESMP), 9VAC25-875, as amended.

Updates to ordinances, policies, and procedures to enact the local VESMP were made effective July 1, 2024.

Measure of Effectiveness

The effectiveness of the City's program is measured by consistency with State regulations as determined by staff from the T&ES-SWM. No consistency issues were identified during this permit year. Following review of the E&SC ordinance in the 2014-2015 permit year, the City amended the language for consistency with the EMO. The City Council adopted the amendments on June 10, 2015. Consistent with the Consolidated Regulations effort by the Commonwealth, Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) and Title 5, Chapter 4 of the City's Code of Ordinances (the Erosion and Sediment Ordinance) were updated. Effective July 1, 2024, the City began administration of the local Virginia Erosion and Stormwater Management Program. Further details will be included in subsequent Annual Report updates.

BMP 4B Site Control Implementation

The City has incorporated language into its plan review checklist, policies and procedures, and Sec. 13-111of the EMO which requires applicable proposed land disturbing activities to secure coverage under the construction general permit prior to commencing land-disturbance. Proper controls are required to be implemented at these sites to prevent nonstormwater discharges to the MS4. These nonstormwater discharges include wastewater, concrete washout, fuels and oils, and other illicit discharges. To ensure that these controls are in place, the City has developed a policies and procedures document entitled *Policies and Procedures for Construction Site Runoff Control Inspections* which can be found in Appendix D of the City's MS4 Program Plan.

Measure of Effectiveness

Continue to implement City's *Policies and Procedures for Construction Site Runoff Control Inspections*.

BMP 4C Construction General Permit Inspections and Tracking

The City received local VSMP authority approval to administer the Construction General Permit effective July 1, 2014. Since this date, applicable construction sites had to submit stormwater pollution prevention plans (SWPPP) to the City for review and approval in order to secure coverage under the General VPDES Permit for Stormwater Discharges Associated with Construction Activities prior to final site plan release. This requirement is found in Sec. 13-111 of the EMO. The City also revised the plan review checklist and plan review standard conditions to reflect this requirement. A copy of the SWPPP template can be found on the City's website at www.alexandriava.gov/50216.

Part I.E.4.d.5. of the permit requires the City to conduct inspections and have written inspection procedures of land-disturbing activities. The City has developed a policies and procedures document entitled *Policies and Procedures for Construction Site Runoff Control Inspections* as described in BMP 4B and found in the City's MS4 Program Plan.

Land disturbing activities are tracked by T&ES-Development and Right-of-Way (DROW) through the plan review process. The information is recorded and logged when final approved plan mylars and grading plans are released. Reports are sent to T&ES-SWM who provides the data quarterly to DEQ.

In accordance with 9VAC25-850-40, inspectors and plan reviewers are required to maintain the appropriate certification of competency from the state.

The City continues to use its legal authority to require compliance with an approved plan or require plan revisions or modifications if the inspection shows and approved plan to be inadequate to control stormwater runoff. Stormwater staff reviewed each plan set the City receives for compliance with the EMO. If changes to the plans are required, the plans will be reviewed again to ensure compliance.

Measure of Effectiveness

Land disturbing projects that occurred during the reporting period have been conducted in accordance with the department approved standards and specifications for erosion and sediment control. No updates to the MS4 Program Plan were deemed necessary.

The following table provides an annual summary of land-disturbing activities data. This data, broken down quarterly, has been provided to DEQ through the construction general permit process. A total of 58 projects were released; with a total of approximately 58 acres disturbed.

Table 9. Land-Disturbing Activities

Reference #	Address	Disturbed Acres	Release Date
GRD2023-00030	2715 N Rosser Street	0.2534	7.10.2024
GRD2024-00011	4 W Mount Ida Avenue	0.1175	7.15.2024
GRD2021-00032	401 High Street	0.3	7.25.2024
GRD2024-00007	1502 Ruffner Road	0.3003	7.25.2024
GRD2024-00022	2700 Witter Drive	0	8.26.2024
GRD2024-00013	8 Forrest Street	0.3086	9.6.2024
GRD2024-00012	122 Prince Street	0.06	9.9.2024
GRD2024-00021	315 E Howell Avenue	0.1263	9.9.2024
GRD2024-00016	1401 Main Line Blvd	0	9.10.2024
DSUP2021-10030	901 N Pitt Street	2.01	10.15.2024
DSUP2023-10004	5801 Duke Street	3.81	10.16.2024
DSUP2022-10020	999 N Henry Street	2.4174	10.17.2024
DSUP2022-10013	2712 Duke Street	1.695	10.28.2024
CIP2024-00001	5750 Sanger Avenue	0.28	11.22.2024
DSUP2022-10023	6001 Duke Street	11.48	12.3.2024
DSUP2023-10017	820 Gibbon Street	0.6249	12.11.2024
CIP2024-00003	505 S Lee Street	N/A	12.20.2024
GRD2024-00006	1000 Colonial Avenue	0.04	10.29.2024
GRD2024-00019	16 E Masonic View Avenue	0.109	11.1.2024
GRD2024-00023	3507 Saylor Place	0.32	11.1.2024
GRD2024-00027	723 Timber Branch Drive	0.2671	11.15.2024
GRD2024-00026	3107 Circle Hill Road	0.0923	11.15.2024
GRD2022-00049	619 S Lee Street	0.38	12.20.2024

Reference #	Address	Disturbed Acres	Release Date
DSUP2024-10004	125 N West Street	0.64	1.8.2025
DSUP2023-10008	5815 Duke Street	4.1	1.9.2025
DSUP2022-10016	5801 Duke Street	2.41	1.14.2025
DSUP2020-10027	727 N West Street	1.69	1.14.2025
DSUP2022-10015	5801 Duke Street	3.31	1.14.2025
DSP2019-00031	110 Callahan Drive	1.86	1.17.2025
GRD2023-00015	103A Del Ray Avenue	0.055	1.29.2025
GRD2024-00038	604 Crestwood Drive	0.1573	2.18.2025
GRD2024-00017	1233 N Pickett Street	0.956	2.18.2025
GRD2024-00018	206 E Howell Avenue	0.2194	3.5.2025
GRD2024-00039	415 E Nelson Avenue	0.1537	3.10.2025
GRD2024-00037	635 Upland Place	0.2836	3.17.2025
GRD2024-00034	816 Cresent Drive	0.169	3.17.2025
GRD2024-00040	1313 Cleveland Street	0.1209	3.25.2025
CIP2024-00013	4302 Loyola Avenue	0.06	4.7.2025
CIP2024-00001	600 Blk Columbus Street	0.07	4.7.2025
CIP2024-00010	400 Blk Wolfe Street	0.03903	4.7.2025
PRK2025-00001	4301 W Braddock Road	0.56	4.22.2025
CDD2023-00002	5001 Eisenhower Avenue	9.21	6.3.2025
DSUP2023-10018	4898 W Braddock Road	4.36	6.13.2025
GRD2025-00001	405 E Nelson Avenue	0.197	4.9.2025
GRD2024-00025	14 E Monroe Avenue	0.155	4.10.2025
GRD2023-00017	1022 Pendleton Street	0.1202	4.10.2025
GRD2024-00035	41 & 43 E Reed Avenue	0.1476	5.6.2025
GRD2025-00013	14 W Bellefonte Avenue	0.2066	5.19.2025
GRD2024-00039	415 W Nelson Avenue	0.1812	5.19.2025
GRD2025-00009	318 E Howell Avenue	0.198	5.20.2025
GRD2024-00041	915 Beverley drive	0.1653	5.20.2025
GRD2025-00006	2916 King Street	0.4236	5.21.2025
GRD2025-00007	29 E Reed Avenue	0.1484	6.2.2025
GRD2024-00042	132 N Early Street	0.2296	6.3.2025
GRD2025-00012	420 E Windsor Avenue	0.132	6.9.2025
GRD2025-00010	210 E Duncan Avenue	0.1148	6.25.2025
GRD2023-00030	2715 N Rosser Street	0.2534	7.10.2024
GRD2024-00011	4 W Mount Ida Avenue	0.1175	7.15.2024

The City performed a total of 1,688 onsite inspections – 1,098 outside of the MS4 boundary and 590 inside of the MS4. As described in the MS4 Program Plan, T&ES-C&I inspectors perform other duties beyond E&SC inspections. For this reason, inspectors may visit a site up to two times daily. During this time, inspectors may provide verbal direction regarding E&SC and stormwater measures. This verbal direction is considered formal but may not always be documented formally in an inspection report unless a required inspection and report is due, or if a major corrective action is required. Due to this

enhanced oversight, City inspectors provide continual direction which helps keep a site in order. Staff confirmed no enforcement actions and no Stop Work Orders were issued during the permit year.

The applicable City staff have obtained DEQ certifications (Stormwater Management Program Administrator, Plan Reviewer, and/or Inspector) or are in the process of obtaining these certifications. All applicable staff are currently fully certified, provisionally certified, or have the necessary training scheduled.

3.5 Post Construction Stormwater Management for New Development and Development on Prior Developed Lands (MCM #5)

MCM #5: Post Construction Stormwater Management for New Development and Development on Prior Developed Lands (Permit Reference: Part I.E.5.e.)

The annual report shall include the following information:
(1) If the traditional permittee implements a VSMP in accordance with Part I E 5 a (1), (2), or (3):
(a) The number of privately owned stormwater management facility inspections conducted; and
(b) The number of enforcement actions initiated by the permittee to ensure long-term maintenance of privately owned stormwater management facilities including the type of enforcement action;
(2) Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;
(3) A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;
(4) For traditional permittees as specified in Part I E 5 a (1), a confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part III B 1 or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities (9VAC25-880);
(5) A confirmation statement that the permittee electronically reported stormwater management facilities using the DEQ BMP Warehouse in accordance with Part III B 1 and 2; and
(6) A confirmation statement that the permittee electronically reported stormwater management facilities inspected using the DEQ BMP Warehouse in accordance with Part III B 5.

The following table is a summary of activities for Minimum Control Measure #5 and their completion status. Additional detail is provided after the table and in Appendix E.

Table 10. Summary of Activities for MCM #5

BMP/Task	Year	Measurable Goal	Status
5A Stormwater Facility BMP Inventory			
Maintain an updated electronic BMP database for reporting.	All	Provide a table and electronic spreadsheet of all BMPs brought online during the reporting period.	✓ Complete
5B Stormwater Facility BMP Maintenance Agreements and Guidelines			
Require the proper execute and recordation of BMP maintenance agreements.	All	Provide a sample of a properly executed and recorded BMP agreement.	✓ Complete
BMP/Task	**Year**	**Measurable Goal**	**Status**
5C Implement Bay Act and Local VSMP Authority			
Continue to implement the Environmental Management Ordinance.	All	Comply with DEQ Bay Act reporting and review requirements and implement the ordinance.	✓ Complete
5D Stormwater Facility BMP Design Guidelines			
Require adherence to Virginia BMP Clearinghouse and Virginia BMP Handbook.	All	Ensure design is consistent with VSMP regulations and summarize any changes to standards.	✓ Complete
5E Public Stormwater BMP Facility Inspection and Maintenance			
Inspect public BMP facilities for proper operation at least once annually.	All	Document the number of BMPs inspected each year and provide summary information.	✓ Complete
5F Private Stormwater BMP Facility Inspection and Enforcement			
Inspect all BMP facilities for proper operation at least once during the permit period.	All	Document total number of inspections completed, and the number of enforcement actions, when applicable.	✓ Complete

BMP 5A VESMP Implementation

The City amended Article XIII of the Zoning Ordinance - the Environmental Management Ordinance - for consistency with VSMP regulations and maintained consistency with the Chesapeake Bay Act requirements and received provisional approval as a local VSMP authority effective July 1, 2014, and

received full approval in November 2014. The City amended the EMO to reflect the Virginia Erosion and Stormwater Management Program (VESMP) effective July 1, 2024.

The City continues to implement a stormwater management program, including design standards, that are compliant with the Chesapeake Bay Preservation Area Designation and Management Regulations and the VSMP regulations, as incorporated in the EMO. Section 13-109 of the EMO, requires that development and redevelopment projects subject to VSMP Part II.B technical criteria conform to the design specifications of the Virginia BMP Clearinghouse for stormwater facility BMPs, and utilize the Virginia Runoff Reduction Method spreadsheet to demonstrate compliance with water quality and quantity requirements. Grandfathered projects and those meeting the "time limits" associated with coverage under the construction general permit are subject to Part II. C technical criteria and may use stormwater facility BMPs previously approved by the City and adhere to the design guidelines in the Alexandria Supplement to the Northern Virginia BMP Handbook. The City has also adopted a Green Building Policy that includes a requirement for all new private development and redevelopment projects to meet a minimum of 65% of their state phosphorous reductions using green infrastructure, which was first promulgated through a "Use of manufactured/Proprietary Stormwater BMPs" memo to industry. The Green Building Policy require City projects must meet 100% of their state phosphorous reductions through green infrastructure.

Consistent with the Consolidated Regulations effort at the state level, on April 13, 2024, the City Council adopted amendments to Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) in accordance with Text Amendment No. 2024-0003 by authority of §§ 62.1-44.15:24 - 62.1-44.15:50, Code of Virginia. On this date the City Council also adopted the amendments to Title 5, Chapter 4 of the City Code (the Erosion and Sediment Control Ordinance). These consolidated regulations combine both the Virginia Erosion and Sediment Control Program and the Stormwater Management Program into one regulatory chapter: VESMP, 9VAC25-875, as amended.

Measure of Effectiveness

A copy of the approval letter designating the City as a local VSMP authority and a copy of the City's adopted ordinance is provided in Appendix E. Updates to ordinances, policies, and procedures to administer the local VESMP were made effective July 1, 2024, and the MS4 Program Plan was updated accordingly.

Consistent with the Consolidated Regulations effort at the state level, on April 13, 2024, the City Council adopted the amended Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) in accordance with Text Amendment No. 2024-0003 by authority of §§ 62.1-44.15:24 - 62.1-44.15:50, Code of Virginia. On this date the City Council also adopted the amendments to Title 5, Chapter 4 of the City Code (the Erosion and Sediment Control Ordinance). These consolidated regulations combine both the Virginia Erosion and Sediment Control Program and the Stormwater Management Program into one regulatory chapter: VESMP, 9VAC25-875, as amended.

BMP 5B Public Stormwater Facility Inspection and Maintenance

Pursuant to the general permit, the City inspects public facilities at least once every year. The inspections are performed according to the written policies and procedures entitled *Policies and Procedures for Post-Construction BMP Inspection and Maintenance* which can be found in Appendix E of the City's MS4 Program Plan. The City inspected 155 publicly owned and operated stormwater facility BMPs including regional ecosystem restoration facilities. The following describes significant issues found during PY2:

- Access issues (fencing for re-development) prohibited the access and inspection of the Filter Box, at 4609 Seminary Rd. (2012-0103 01). This facility will be re-evaluated for inspection purposes during PY3.

- The Tree Box Filter located at the Route 1 Rapid Bus Transit depot (2014-0101 04) was demolished due to new development and removed from the BMP Warehouse, the Bay TMDL calculations, and reflected in future Chesapeake Bay TMDL Action Plan updates.

Measure of Effectiveness

Stormwater management facilities inspection results have been electronically reported using the DEQ BMP Warehouse in accordance with Part III B 5. No updates to the MS4 Program Plan were deemed necessary.

BMP 5C Private Stormwater Facility Inspection and Enforcement

Pursuant to the general permit, the City inspects privately-owned stormwater facilities at least once every five years. Per Section 13-109 of the EMO, facility owners must perform periodic inspection and required maintenance to ensure the long-term functioning of the facilities as originally designed to protect water quality. The inspections are performed according to the written policies and procedures entitled *Policies and Procedures for Post-Construction BMP Inspection and Maintenance* which can be found in Appendix E of the City's MS4 Program Plan.

Measure of Effectiveness

One-hundred and thirty-three (133) private stormwater facility inspections were completed this permit year, with no actions being sent out this permit year related to these inspections. Please note that additional enforcement actions may be taken in response to these inspections; however, these actions may not take place until the next reporting period since owners have 90 days to complete the maintenance. Stormwater management facilities inspection results have been electronically reported using the DEQ BMP Warehouse in accordance with Part III B 5. No updates to the MS4 Program Plan were deemed necessary.

- During the program year, a Filter Box Flow through Bio located at Charles Barrett Elementary School (2010-0005 04) was removed because a new deck was built over it and it is no longer functioning as designed. This BMP was removed from the BMP Warehouse, the Bay TMDL calculations, and reflected in future Chesapeake Bay TMDL Action Plan updates.

BMP 5D Stormwater Facility Inventory, Database, and Warehouse Reporting

The City submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part III B 1. The City electronically reported stormwater management facilities using the DEQ BMP Warehouse in accordance with Part III B 1 and 2. Further, the City continues to use an internal database (Microsoft Access) to track all stormwater facilities and/or BMPs that were implemented to improve water quality.

Measure of Effectiveness

During this permit year, 42 stormwater management facilities and/or BMPs were installed in the City to improve water quality. These facilities have been included in the DEQ BMP Warehouse and in Appendix E, "Stormwater Management Facilities Installed this Permit Year."

During this reporting period, there were no off-site nutrient credit purchases.

A map of the City's stormwater management facilities and/or BMPs is provided in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

BMP 5E Stormwater Facility Maintenance Agreements

The City continues to require the execution and subsequent recordation of Stormwater BMP Facilities Maintenance / Monitoring Agreement to ensure long term operation and maintenance of new BMPs per the EMO. In addition, staff have also created a BMP maintenance vendor list for use by facility owners and operators.

Measure of Effectiveness

A sample BMP maintenance agreement that was submitted during this permit year and a screen capture that the form may be downloaded from the City's website Appendix E. The City continues the program of mailing educational letters that include maintenance responsibilities to single-family property owners

with on-lot BMPs. An example of the letter and sample maintenance information sent to single-family residential BMP owners during this permit year is also located in Appendix E. No updates to the MS4 Program Plan were deemed necessary.

3.6 Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area (MCM #6)

MCM #6: Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area (Permit Reference: Part I.E.6.y.)

The annual report shall include the following information:
(1) A summary of any written procedures developed or modified in accordance with Part I E 6 a and b during the reporting period;
(2) A confirmation statement that all high-priority facilities were reviewed to determine if SWPPP coverage is needed during the reporting period;
(3) A list of any new SWPPPs developed in accordance Part I E 6 i during the reporting period;
(4) A summary of any SWPPPs modified in accordance with Part I E 6 j, 6 l, or 6 m;
(5) The rationale of any high-priority facilities delisted in accordance with Part I E 6 l or m during the reporting period;
(6) The status of each nutrient management plan as of June 30 of the reporting year (e.g., approved, submitted and pending approval, and expired);
(7) A list of the training activities conducted in accordance with Part I E 6 d, including the following information: (a) The completion date for the training activity;
(b) The number of employees who completed the training activity; and (c) The objectives and good housekeeping procedures covered by the training activity.

For the purposes of this annual report, municipal facilities are those facilities owned or operated by the City.

The following table is a summary of activities for Minimum Control Measure #6 and their completion status. Additional details are provided after the table and in Appendix F.

Table 11. Summary of Activities for MCM #6

BMP	Measurable Goal	Status
6A Written Pollution Prevention and Good Housekeeping Procedures		
Implement Standard Operating Procedures for Daily Operations	Document any updates to SOPs and any new SOPs.	✓ Complete
6B Stormwater Pollution Prevention Plans for High-Priority Facilities		
Implement SWPPPs and annually review and add/remove as necessary	Document any new facilities requiring SWPPPs or any removed. Continue to implement SWPPPs.	✓ Complete

BMP	Measurable Goal	Status
6C Turf and Nutrient Management Plans		
Implement Turf and Nutrient Management Plans and annually review and add/remove as necessary	Document any new areas requiring turf and nutrient management plans or any removed. Continue to implement SWPPs.	✓ Complete
6D Prohibiting Deicing Agents with Urea		
Ensure that the City did not use deicing agents that included urea.	Statement that the City didn't use deicing agents that included urea.	✓ Complete
6E Contractor Controls and Oversight		
Ensure proper procedures and controls are implemented by City contractors.	Document any changes to process or procedures.	✓ Complete
6F Training		
Conduct annual training to applicable employees. Training topics will rotate each year between recognizing illicit discharge and pollution prevention and good housekeeping.	A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.	✓ Complete
6G Street Sweeping and Leaf Collection Programs		
Continue to implement the City's street sweeping and leaf collection programs.	Document lane miles swept and cubic yards of debris collected. Document the amount of leaves collected.	✓ Complete
6H Catch Basin and Inlet Cleaning Program		
Continue the City's catch basin and inlet cleaning program.	Document the number of catch basins and inlets cleaned.	✓ Complete
6I Employee Complaint Reporting Program		
Continue to implement the "Report a Problem" program.	Document ongoing implementation.	✓ Complete

BMP	Measurable Goal	Status
6J Environmental Stakeholder Groups		
Participate in Environmental Stakeholder Groups	Presentation with the City's Environmental Policy Commission	✓ Complete

BMP 6A Written Pollution Prevention and Good Housekeeping Procedures

Part I.E.6.a – b. of the permit requires the maintenance and implementation of written procedures for public facilities for best practices for good housekeeping procedures to prevent stormwater pollution. During the 2013-2018 permit cycle, the City developed standard operating procedures (SOPs) to minimize or prevent pollutant discharge from daily operations such as road, street, and parking lot maintenance; equipment maintenance; and the application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. These SOPs were reviewed during PY2 against the requirements outlined in the 2023-2028 MS4 General Permit.

The City continues to implement these SOPs and are utilized as part of the employee training program in accordance with Permit Part I.E.6.d. These SOPs will be reviewed during this permit cycle to ensure they include up-to-date information and effective procedures. New SOPs will be developed in accordance with the 2023-2028 MS4 General Permit, as required.

Measure of Effectiveness

The SOPs for Daily Operations are included in Appendix F of the City's MS4 Program Plan for those applicable operations. No SOPs required updating during this permit year. No updates to the MS4 Program Plan were deemed necessary.

BMP 6B Stormwater Pollution Prevention Plans for High-Priority Facilities

During the 2013-2018 permit cycle, the City identified its high-priority municipal facilities that may require the development and implementation of a SWPPP. This list was further refined for those high-priority municipal facilities with a high potential for discharging pollutants. Also completed during the previous permit cycle, the City developed an inspection checklist to be used at municipal facilities. The checklist covers good housekeeping practices, material storage and handling, as well as maintenance practices. The checklist is included in the SWPPPs developed for applicable municipal facilities.

The City continues to maintain and implement the SWPPPs for the identified municipal facilities. Facilities implementing SWPPPs keep an updated copy onsite, and SWPPPs have been incorporated into the pollution prevention training given to municipal employees.

During PY2, one new high-priority facility was added to the inventory: Impound Lot – Taylor Drive. The Impound Lot currently located at 3000 Business Center Drive will be going away as this location is in the process of being transferred to DASH ownership as they work to re-develop their facility in help support the electrification of their bus fleet. Once this Impound Lot at 3000 Business Center Drive is taken off-line with the DASH redevelopment, the City will remove it from the list.

Measure of Effectiveness

The following table provides the list of the municipalities with SWPPPs along with other pertinent information. Upon review of the City's municipal facilities, no additional SWPPPs were developed or removed during the permit year. The Site Activity category was updated to reflect the language in 9VAC25-890-1 as reflected in the MS4 Program Plan for these facilities. Periodic inspections continue to be completed and documented in the SWPPPs. The MS4 Program Plan is updated to include the addition of the Impound Lot – Taylor Drive.

Table 12. Summary Public Facilities with SWPPPs

Facility	Facility Location	Site Activity	SWPPP Location
Middle Yard at 3220 Colvin Street ("Sign Shop")	3220 Colvin Street	Long-Term Bulk Materials Storage	3220 Colvin Street
Household Hazardous Waste & Electronics Recycling Center	3224 Colvin Street	Solid Waste handling and Transfer Recycling	2900-B Business Center Dr. – Resource Recovery Office
Equipment and Materials Storage and Vehicle Wash Facility	133 South Quaker Lane	Anti-Icing and Deicing Agent Storage, Handling, and Transfer Equipment Storage, Cleaning, and Maintenance Long-Term Bulk Materials Storage Permittee-Owned or Operated Vehicle Washing	2900-B Business Center Dr. – Operations Office
Material Storage Yard	3130 Business Center Drive	Equipment Storage Long-Term Bulk Materials Storage	2900-B Business Center Dr. – Operations Office
Field Operations Center	2900-A/B Business Center Drive	Anti-Icing and Deicing Agent Storage, Handling, and Transfer Equipment Storage	2900-B Business Center Dr. – Operations Office
Leaf Mulch Facility	4125 Eisenhower Avenue	Composting Equipment Storage Long-Term Builk Materials Storage Recycling	2900-B Business Center Dr. – Operations Office

Facility	Facility Location	Site Activity	SWPPP Location
Transportation Division Impound Lot	5249 Eisenhower Avenue	Vehicle Storage	5249 Eisenhower Avenue
Impound Lot	3000 Business Center Drive	Vehicle Storage	5249 Eisenhower Avenue
Vehicle and Equipment Maintenance Center	3550 Wheeler Avenue	Vehicle Maintenance and Storage Equipment Storage	3550 Wheeler Avenue
Fuel Island	3400 Duke Street	Long-Term bulk Materials Storage	3550 Wheeler Avenue
Impound Lot – Taylor Drive	314 E Taylor Run Pkwy	Vehicle Storage	5249 Eisenhower Avenue

BMP 6C Turf and Nutrient Management

Part I.E.6.p of the permit requires the maintenance and implementation of turf and landscape nutrient management plans (NMPs) that were developed during the permit cycle. These plans were developed for municipal properties where nutrients were applied in acres that exceeded one acre contiguous.

The list of municipal lands where nutrient management plans are required and have been completed is included in the MS4 Program Plan. This list includes the location and corresponding acreage for each plan and will be updated as needed. Per the requirements in the 2023-2028 MS4 General Permit, the status of these plans is included in this annual report.

Measure of Effectiveness

Table 13 provides the status of the 22 nutrient management plans representing 80.5 acres. All are approved and none are pending or expired.

Table 13. Status of Nutrient Management Plans for More than One-Acre

Facility	Street Address	Status
Angel Park	201 W. Taylor Run Parkway	Approved
Armistead Boothe Park	520 Cameron Station Blvd	Approved
Ben Brenman Park	4800 Ben Brenman Park Dr.	Approved
Braddock Park	1005 Mt. Vernon Ave	Approved
Charles Barrett Elementary School	1115 Martha Custis Drive	Approved
Chinquapin Park	3210 King St.	Approved
Founders Park	351 North Union Street	Approved
Four Mile Run Park	3700 Commonwealth Ave	Approved
George Washington Middle School	1005 Mt. Vernon Ave	Approved

Facility	Street Address	Status
Harborside Park	487 S. Union St	Approved
Hensley Park	4200 Eisenhower Ave	Approved
Luckett Park	3540 Wheeler Ave	Approved
Lyles-Crouch Traditional Academy	530 S St Asaph St.	Approved
Montgomery Park	901 North Royal Street	Approved
Mount Vernon Community Center	2601 Commonwealth Ave.	Approved
Oronoco Park	100 Madison Street	Approved
Polk Elementary School	5000 Polk Ave.	Approved
Potomac Yards Park	2501 Potomac Ave	Approved
Rivergate Park	2 Montgomery Street	Approved
Simpson Park	426 E. Monroe Ave	Approved
West Point	1 Oronoco St.	Approved
Windmill Hill Dog Park	501 South Union Street	Approved

BMP 6D Prohibiting Deicing Agents with Urea

Nutrients, if improperly applied, have the potential to pollute the local waterways, the Potomac River and the Chesapeake Bay. Part I.E.6.1.b. of the permit prohibits the use of deicing agents containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.

Measure of Effectiveness

The City did not apply deicing agents containing urea or other forms of nitrogen or phosphorus to roadways, parking lots, sidewalks, or other paved surfaces during this reporting period, consistent with the SOP. No updates to the MS4 Program Plan were deemed necessary.

BMP 6E Contractor Controls and Oversight

The City continues to ensure that contractors working on behalf of the City follow procedures and employ required control measures to ensure that operations do not contribute to stormwater pollution. SOPs for pesticide and herbicide application place requirements on contractors. City employees charged with oversight of City capital projects receive annual water quality training. City capital improvement projects include pollution prevention language. The City will continue to implement this BMP and report on changes annually.

Measure of Effectiveness

During the permit year, the City continued to implement SOPs (described under BMP 6A), required necessary permits and certifications, had necessary language in contracts, and provided water quality training to City employees charged with oversight of City capital projects. No updates to the MS4 Program Plan were deemed necessary.

BMP 6F Training

Staff whose normal duties require a considerable amount of field work play a valuable role in identifying and addressing illicit discharges. Employees performing applicable duties shall be trained in recognizing and reporting illicit discharges no less than once every 24-months. Training provides the appropriate tools for field staff to recognize, document relevant information and report the incident for follow up by the appropriate staff.

City staff engages in daily activities that have the potential to adversely impact water quality. The likelihood of these impacts occurring may be minimized or avoided by providing staff training on pollution prevention and good housekeeping. Employees performing applicable duties shall be trained in pollution prevention and good housekeeping no less than once every 24-months.

In addition, employees hired by the City who apply pesticides and herbicides shall be trained or certified with the Virginia Pesticide Control Act. Certification by the Virginia Department of Agriculture and Consumer Services (VDACS) Pesticide and Herbicide Applicator program shall constitute compliance with this requirement.

The City's employees and contractors serving as plan reviewers, plan inspectors, program administrators, construction site operators and those implementing the City's stormwater program will obtain and maintain the appropriate certification as required under the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act. The employees whose duties include emergency response will be properly trained in spill reporting which may be satisfied through a larger emergency response training program.

Measure of Effectiveness

The T&ES-SWM continues to provide annual training in compliance with the permit and the City's MS4 Program Plan. This program year's (PY2) training focused on Pollution Prevention & Good Housekeeping; approximately 150 field staff received training. During PY2, training was administered via an in-person format at the Transportation & Environmental Services Field Services Office, Fleet Services, and 3200 Colvin Street. Training also was delivered virtually to General Services. Staff were all trained in Pollution Prevention and Good Housekeeping, and IDDE was touched on, where applicable and when time allowed.

Table 14. Summary of Pollution Prevention & Good Housekeeping Training

Date	Department	Trainees
10/8/24	Transportation & Environmental Services Fleet Services	19
6/16/25	Transportation & Environmental Services Resource Recovery, Refuse Collection	33
5/7/25	Transportation & Environmental Services Traffic Operations C&I (In Person)	17
6/23/25	Transportation & Environmental Services Public Works Service Street and Sewer Maintenance	31
5/16/25	General Services – Facilities Maintenance (MS Teams / Virtual)	9

Date	Department	Trainees
6/26/25	Recreation, Parks & Cultural Activities – Park Operations	22
6/26/25	Resource Recovery - Street Cleaning	18

BMP 6G Street Sweeping and Leaf Collection Programs

The City continues to implement a City-wide street sweeping program to remove possible sources of nutrients, sediment, and impacts to biological and chemical oxygen demand in order to protect local waterways, the Potomac River and the Chesapeake Bay. Additionally, collected leaves are turned to mulch and provided to for use on residential lawns; which decreases the use of fertilizers.

Measure of Effectiveness

The City swept approximately 3,113 lane miles this permit year. The amount of street lane miles swept changes slightly each year depending on weather conditions and other factors. No updates to the MS4 Program Plan were deemed necessary.

The City's Curbside Leaf Collection program performed the following:

1. Distributed approximately 72,000 biodegradable bags to various locations throughout city facilities.
2. Total cubic yards collected: 19,000

BMP 6H Catch Basin and Inlet Cleaning Program

The City has a long-standing program to inspect and clean stormwater catch basins and inlets. The catch basin and inlet cleaning program is meant to both reduce spot flooding and drainage problems as well as to prevent materials, including floatables and vegetative debris captured in inlets, from continuing to local streams. Catch basin cleaning varies year by year depending on the weather.

Measure of Effectiveness

The City inspected 19,100 linear feet of stormwater lines via CCTV, inspected and cleaned 1,375 catch basins, and maintained 53 stormwater inlet structures. No updates to the MS4 Program Plan were deemed necessary.

BMP 6I Employee Complaint Reporting

The City continues to implement the "Report a Problem" program to empower employees to report problems, to include illicit discharges or issues with the functioning of City assets. The program provides a way of reporting problems associated with City infrastructure, including stormwater management.

Measure of Effectiveness

A hyperlink to the Alex311 reporting system is provided in Appendix F. The MS4 Program Plan has been updated to reflect the City's intranet is no longer being used for this function.

BMP 6J Environmental Stakeholder Groups

The City receives input on the stormwater program from several stakeholder groups including the Environmental Policy Commission (EPC), the Stormwater Work Group (SWWG), the Fire Department's Environmental and Industrial Use Unit (EIU), and the Eco-City Steering Committee.

The EPC is appointed by the City Council and makes recommendations on environmental issues, including stormwater management. The City Manager has established two internal stakeholder groups to work on stormwater issues and make policy decisions to ensure regulatory compliance and shape the stormwater program. The Water Quality Steering Committee, transitioned into the Eco-City Alexandria Steering Committee during the final reporting period of the 2013-2018 permit and is comprised of deputy city managers, department heads, and staff from T&ES-IEQ, and is charged with making policy decisions and setting the course for the City's environmental programming under the Eco-City Alexandria initiative, which include Water Resources. The Stormwater Work Group (SWWG) is an internal stakeholder group comprised of interdepartmental City staff with the deputy director of IEQ as the chair, the division chief as alternate, and other supervisory level staff. The SWWG's mission is to develop and coordinate the City's response across various City departments to MS4 permit requirements, including the Chesapeake Bay TMDL. The SWWG is charged with supporting development of policy, programs and plans to administer the local VSMP program and the MS4 general permit. The EIU acts as the lead for coordination of environmental issues, including water quality investigation, enforcement, and documentation.

Measure of Effectiveness

During the program year, staff discussions occurred between the Stormwater Management Division and departments across the City.

3.7 Evaluation of MS4 Program Implementation

In accordance with Part I.D.2.e of the permit, the City undertook a comprehensive review and update of the MS4 Program Plan to align it with the reissued MS4 permit during PY1.

3.8 Chesapeake Bay TMDL

Finalized in December 2010 by the United States Environmental Protection Agency (EPA), the Chesapeake Bay TMDL and the associated Watershed Implementation Plans (WIPs) developed by the Commonwealth of Virginia, set limits on nitrogen, phosphorus and sediment entering the Bay. The 2013 – 2018 MS4 general permit included new special conditions to address the Chesapeake Bay TMDL to achieve 5% of the target reductions captured in the City's Phase 1 Action Plan. The subsequent 2018 – 2023 MS4 general permit contained special conditions requiring the City to meet a total of 40% of the targeted reductions for the Bay that were captured in the City's Phase 2 Action Plan.

Strategies identified in the Phase 1 and 2 Action Plans have been implemented to achieve 70% reductions, above the required total 40% reductions in the 2018 – 2023 MS4 general permit. The City's Chesapeake Bay TMDL Action Plan for 5% Reductions was approved in 2016 and the Phase 2 Action Plan was approved in 2019. It also can be found in Appendix G and incorporated into the MS4 Program Plan.

The Phase 3 Action Plan is developed in accordance with the 2023 – 2028 MS4 general permit was submitted November 1, 2024, and revised March 2025. Figure 2 provides an overview of several BMP retrofit projects that help the City meet the Bay Special Conditions. Specific details for each project is included in the Bay TMDL Action Plan.

Figure 2. BMP Retrofit Projects

Table 15 provides a summary of the required reductions per permit cycle as of the 2018-2023 MS4 General Permit specific to Alexandria, VA, as indicated in the Phase 2 Chesapeake Bay Action Plan. The reduction requirement for TSS was removed from the 2023-2028 MS4 General Permit however, the City continues to track reductions for consistency purposes.

Table 15. Summary of Required Reductions by Permit Cycle

Phase	Permit Cycle	Required Reduction (%)	Nitrogen (TN) (lbs/yr)	Phosphorus (TP) (lbs/yr)	Suspended Solids (TSS) (lbs/yr)
1	2013-2018	5%	380	50	43,097
2	2018-2023	35%	2,659	351	301,678
3	2023-2028	60%	4,558	602	517,162
Total		**100%**	**7,597**	**1,004**	**861,937**

Progress made during this reporting period toward the Chesapeake Bay required pollutant reductions are presented in Table 16. Individual accounting for each BMP included in PY2 progress is included in Appendix E.

Table 16. Progress during PY2 – Individual Facilities/Retrofits (July 1, 2024 – June 30, 2025)

Project	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
Development SWM Facilities	50.87	0.67%	9.04	0.9%	4,256.16	0.49%

The City's overall progress toward meeting the Chesapeake Bay required pollutant reductions from Phase 1 and Phase 2 are presented in Table 17. Table 18 provides a summary of the SMFs no longer functioning as designed and removed during PY2. Table 19 provides an overview of progress towards the Bay TMDL goal through FY2025. The Chesapeake Bay TMDL Action Plan outlines the implementation strategies to achieve 100% compliance.

In October 2024, the City reviewed the full suite of BMPs reported to the Commonwealth of Virginia in compliance with the Chesapeake Bay TMDL. BMPs were reviewed for duplicates and the nutrient removal rates were calculated in accordance with current policy and regulations. This exercise produced more accurate pollution removals associated with Phase 1 which are an essential component of providing an accurate roadmap to 100% compliance by FY2028, as described in the Action Plan.

During the Phase 3 TMDL Action Plan review, DEQ observed that the reductions for the Four Mile Run stream restoration project were calculated using a protocol specifically for non-tidal water bodies. However, this project area is tidally influenced which means the calculations should not have been applied in this case and require adjustment. The City updated the reductions using the Recommendations of the Expert Panel to Define Removal Rates for Shoreline Management Projects. Details of this approach are summarized in the March 18, 2025, *Memorandum – Update to the Phase 3 Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan – Four Mile Run Reductions*, found in Appendix C of the Phase 3 TMDL Action Plan. The updated reductions are incorporated into the calculations reflected in the updated Phase 1 calculations as of March 2025. These updated reductions also are included in the Phase 2 and Phase 3 calculations in this Phase 3 TMDL Action Plan.

Table 17. Cumulative Progress for Phase 1 – 2

Cumulative Progress	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
Phase 1 (2013-2018)	2,609	34%	342	34%	335,469	39%
Phase 2 (2018-2023)	2,675	35%	365	35%	241,332	28%
Cumulative Phase 1 – 2	5,284	70%	707	70%	576,801	67%

During FY2024, one public and one private BMP were found to be no longer operable as discussed in Section 3.5 under BMP 5B and 5C. These are shown in Table 18.

- A Filter Box BMP located at Charles Barrett Elementary School (2010-0005 04) was removed because a new deck was built over it and it is no longer functioning as designed. This BMP was removed from the BMP Warehouse, the Bay TMDL calculations, and reflected in future Chesapeake Bay TMDL Action Plan updates.
- The Tree Box Filter located at the Route 1 Rapid Bus Transit Depot (2014-0101 04) was demolished due to new development and removed from the BMP Warehouse; the Bay TMDL calculations; and reflected in future Chesapeake Bay TMDL Action Plan updates.

Table 18. Removal of Non-Functioning SMFs (PY2)

SMF ID	BMP Type	TN Reductions (lbs/yr)	TP Reductions (lbs/yr)	TSS Reductions (lbs/yr)
2010-0005 04	Filtering Practices *(Installed 7/7/2014)*	0.02	0.02	15.56
2014-0101 04	Bioretention (inc. Urban Bioretention) *(Installed 10/26/2012)*	0.66	0.10	83.11
	Total	**0.68**	**0.12**	**98.67**

Table 19. Cumulative Progress through PY2

Cumulative Progress	TN Reductions (lbs/yr)	Percent of TN 100% Goal	TP Reductions (lbs/yr)	Percent of TP 100% Goal	TSS Reductions (lbs/yr)	Percent of TSS 100% Goal
Cumulative Phase 1 – 2	5,284	70%	707	70%	576,801	67%
FY2024 (PY1)	758.9	10%	276.9	28%	499,169.2	58%
FY2025 (PY2)	50.87	0.67%	9.04	0.9%	4,256.16	0.49%
PY2 SMF Removals	-0.68	--	-0.12	--	-98.67	--
Progress to Date	**6,093.09**	**80%**	**992.82**	**99%**	**1,080,127.69**	**125%**

3.9 Local TMDLs

The City has four existing TMDLs with an approved WLA for the MS4 area, two of which were approved prior to July 2008 and two of which were approved between July 2008 and June 2013.

A TMDL for bacteria related to fecal coliform was approved in 2004 for the non-tidal portion of Four Mile Run, and in 2007 a TMDL for PCBs was approved for the Tidal Potomac watershed. Given that these TMDLs were approved prior to July 2008, TMDL Action Plans were completed by June 30, 2015, and were submitted with the permit year 2015-2016 Annual Report.

In 2010, the SWCB issued approval of bacteria TMDLs for Tidal Four Mile Run, and the Hunting Creek, Cameron Run, and Holmes Run watersheds. In both recent TMDLs, bacterial water quality is based on levels of *E. coli*. Since these TMDLs were approved between July 2008 and June 2013, the corresponding TMDL Action Plans were completed by June 30, 2016, and were submitted with the 2016-2017 annual report. Based on guidance and conversations with DEQ staff, the City developed a comprehensive Bacteria TMDL Action Plan that addresses bacteria impairments for those affected watersheds. Beginning with the Non-Tidal Four Mile Run TMDL Action Plan which was due by June 30, 2015, the City incorporated the successive TMDLs for Hunting Creek, Cameron Run, and Holmes Run to create a comprehensive Bacteria TMDL Action Plan.

In accordance with the permit, these Local TMDL Action Plans were updated prior to May 2020 (18 months after the permit effective date). The permit also has a requirement for plans to be developed for TMDLs approved by EPA between July 1, 2013, and June 30, 2018, that have WLAs no later than May 2021 (30 months after permit effective date); however, the City does not have any new TMDLs that meet this criteria. Part II.B.3 of the permit provides a list of items to be included in each Local TMDL Action Plan. Based on the type of TMDL (bacteria, sediment, phosphorus, nitrogen, or PCBs), there is list of different strategies the City must choose from to address the impairments.

The City of Alexandria's Bacteria TMDL Action Plan was updated in 2020 after a 15-day public comment period (no comments were received). This Action Plan is found in Appendix G. Information pertaining to the updates are found in the PY2 Annual Report. DEQ completed their review and found the Plan acceptable on April 13, 2022. This Action Plan was revised pursuant to the 2023-2028 MS4 General Permit and submitted to the Department on April 30, 2025. To satisfy the public comment

requirement in the current MS4 Permit, the City sent out a notice via eNews on April 1, 2025, inviting the public to comment from April 1 – April 18. No public comments were received.

The City of Alexandria's Tidal Potomac PCB TMDL Action Plan was updated in 2020 after a 15-day public comment period (no comments were received). This Action Plan is found in Appendix G. Information pertaining to the updates are found in the PY2 Annual Report. DEQ completed their review of the updated Action Plan and found it acceptable on April 13, 2022. This Action Plan was revised pursuant to the 2023-2028 MS4 General Permit and submitted to DEQ on April 30, 2025. To satisfy the public comment requirement in the current MS4 Permit, the City sent out an eNews on April 1, 2025, inviting the public to comment from April 1 – April 18. No public comments were received.

Actions taken pursuant to these updated TMDL action plans are in alignment with the education and outreach and public participation sections of the MS4 Program Plan and are included in this Annual Report under MCM #1 and #2 for pet waste (bacteria). In addition, the City developed best management practices regarding BMPs as documented in the June 30, 2015, Tidal Potomac PCB TMDL Action Plan.

The Action Plan is currently being implemented and includes the following BMPs:

1. City will include standard condition language for all site plan (DSP and DSUP) requiring a site characterization for PCBs during the redevelopment of a property where PCBs have been historically used or stored; or during the redevelopment of a property that falls into a DEQ identified high risk category for PCBs. The language was updated in permit year 2015-2016 and was included in all site plan reviews, placing the onus on the developer to perform due diligence; and is reviewed by the City.
2. The PCB brochure updated in PY4. The brochure educates residents and development community about PCBs and may be found on the website. Hyperlinks to the website and the brochure can be found in Appendix A.

4 Results of Information Collected and Analyzed

No information, including monitoring data, was required to be collected or analyzed under the City's permit.

5 MS4 Program Regional Efforts and Agreements

The City continues to participate in the Northern Virginia Regional Commission's Clean Water Partners (in collaboration with other local partners and permit holders) to conduct regional public education and outreach activities, as discussed in Section 3.1. A copy of the Clean Water Partners Agreement can be found in Appendix A of the City's MS4 Program Plan. The City does not rely on other government entities to satisfy permit obligations.

6 Approval Status of Qualifying Local Programs

The City relies on implementation of the Erosion and Sediment Control Ordinance, mandated by the Virginia Erosion and Sediment Control Regulations (VESCR), to help satisfy Minimum Control Measure #4 - Construction Site Stormwater Runoff Control. During permit year 2014-2015, the City's Erosion and Sediment Control (E&SC) Ordinance was reviewed and revised for consistency with amendments to the Virginia Stormwater Management Act and the Virginia Stormwater Management Program (VSMP) Regulations, and the renumbering of these, as well as the Virginia Erosion and Sediment Control Law (VESCL) and VESCR when administration of these programs was shifted from DCR to DEQ. The adoption of amendments to the City's E&SC ordinance during permit year 2014-2015 are discussed in BMP 4A.

In addition, the City relies on implementation of the EMO, mandated by the Virginia Chesapeake Bay Preservation Area Designation and Management Regulations, and the VSMP regulations as incorporated into the EMO, to help satisfy Minimum Control Measure #5 - Post Construction Stormwater Management.

The City's Erosion and Sediment Control Program has been reviewed and found consistent by the Virginia Soil and Water Conservation Board. In addition, the Chesapeake Bay Local Assistance Board (now superseded by the Virginia Soil and Water Conservation Board) has also found the City's Environmental Management Ordinance to be fully consistent with state regulations.

The City's approved VSMP Local Stormwater Management Program application included amendments to the EMO Ordinance for consistency with the new VSMP regulations and maintained the Chesapeake Bay Act requirements. The City received provisional approval as a local VSMP authority effective July 1, 2014, and received full approval in November 2014. Documentation of approval is included in Appendix E.

Consistent with the Consolidated Regulations effort promulgated by the state level, on April 13, 2024, the City Council adopted amendments to Article XIII of the Alexandria Zoning Ordinance (the Environmental Management Ordinance) in accordance with Text Amendment No. 2024-0003 by authority of §§ 62.1-44.15:24 - 62.1-44.15:50, Code of Virginia. On this date the City Council also adopted the amendments to Title 5, Chapter 4 of the City Code (the Erosion and Sediment Control Ordinance). These consolidated regulations combine both the Virginia Erosion and Sediment Control Program and the Stormwater Management Program into one regulatory chapter: the Virginia Erosion and Stormwater Management Program (VESMP), 9VAC25-875, as amended.

Updates to ordinances, policies, and procedures to administer a local VESMP were made effective July 1, 2024.

7 Contact Information

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8 Appendicies

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 2 Annual Report

July 1, 2024 – June 30, 2025

Appendix A

Minimum Control Measure #1, Public Education and Outreach

1. Best Management Practices for Lawn Care Companies Brochure
2. Best Management Practices for Restaurant and Food Service Brochure
3. Best Management Practice for Automotive Garages and Service Centers Brochure
4. You Can Protect Alexandria Waterways Brochure
5. Pet Waste Brochure
6. Polychlorinated Biphenyls Brochure
7. Household Hazardous Waste & Electronics Recycling Program Pamphlet
8. Stormwater Utility Fee Credit Program for Residential Properties Informational Brochure
9. Stormwater Utility Fee Credit Program for Residential Condominium Associations Brochure
10. BMP Sign Requirement on Plan Set with Storm Drain Marker
11. Sign for Stormwater Management Facilities
12. Photo of Stream Crossing Sign
13. City's Stormwater Management Website
14. City's Stormwater Management Website Metrics, FY2024
15. City's Website with Information about Volunteering for Storm Drain Marking
16. Sample eNews
17. Social Media Examples
18. Northern Virginia Region Commission 2025 Only Rain Survey (Clean Water Partners)
19. Northern Virginia Clean Water Partners 2025 Summary

Stormwater Management Presentation Slides to the Environmental Policy Commission,

BIORETENTION MAINTENANCE SCHEDULE:

Bioretention Area Maintenance Schedule and Guidelines

This document must be recorded as an addendum to the stormwater management/ BMP facilities operation and maintenance agreement

First Year Maintenance Guidelines

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- Initial inspections. For the first 6 months following construction, the bioretention area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- Spot reseeding. Inspect for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- Watering. Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- Remove and replace dead plants.

Routine Maintenance Guidelines

Bioretention areas must be inspected to ensure that they operate in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	Frequency
Remove trash and debris	As needed
Check and repair eroded areas	Annually
Inspect for and remove excess sediment	Annually
Mow grass filter strips and bioretention turf cover	At least four times per year
Weed and rake mulch	Twice during the growing season
Inspect plant composition for consistency with approved plans and correct any deficiencies	Annually
Remulch to maintain a three inch layer	Annually
Prune trees and shrubs	Annually
Inspect for clogging or ponding water in the filter bed	Annually
Remove invasive plants	As needed
Replace dead or damaged plant material	As needed
Repair broken pipes	As needed
Remove sediment in pretreatment cells and inflows	Every 2-3 years
Replace the mulch layer	Every 3 years

BIORETENTION MATERIAL SPECIFICATIONS:

Material	Specification	Notes
Filter Media Composition	Filter Media to contain: • 85%-88% sand • 8%-12% soil fines • 3%-5% organic matter in the form of leaf compost	The volume of filter media based on 110% of the plan volume, to account for settling or compaction.
Filter Media Testing	P-Index range = 10-30, ***OR*** Between 7 and 21 mg/kg of P in the soil media. CECs greater than 10	The media must be procured from approved filter media vendors.
Mulch Layer	Use aged, shredded hardwood bark mulch	Lay a 2 to 3 inch layer on the surface of the filter bed.
Alternative Surface Cover	Use river stone or pea gravel, coir and jute matting, or turf cover.	Lay a 2 to 3 inch layer of to suppress weed growth.
Top Soil For Turf Cover	Loamy sand or sandy loam texture, with less than 5% clay content, pH corrected to between 6 and 7, and an organic matter content of at least 2%.	3 inch surface depth.
Geotextile/Liner	Use a non-woven geotextile fabric with a flow rate of > 110 gal./min./sq. ft. (e.g., Geotex 351 or equivalent)	Apply only to the sides and above the underdrain. For hotspots and certain karst sites only, use an appropriate liner on bottom.
Choking Layer	Lay a 2 to 4 inch layer of sand over a 2 inch layer of choker stone (typically #8 or #89 washed gravel), which is laid over the underdrain stone.	
Stone Jacket for Underdrain and/or Storage Layer	1 inch stone should be double-washed and clean and free of all fines (e.g., VDOT #57 stone).	12 inches for the underdrain; 12 to 18 inches for the stone storage layer, if needed
Underdrains, Cleanouts, and Observation Wells	Use 6 inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center; position each underdrain on a 1% or 2% slope located nor more than 20 feet from the next pipe.	Lay the perforated pipe under the length of the bioretention cell, and install non-perforated pipe as needed to connect with the storm drain system. Install T's and Y's as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the T's and Ys.
Plant Materials	Plant one tree per 250 square feet (15 feet on-center, minimum 1 inch caliper). Shrubs a minimum of 30 inches high planted a minimum of 10 feet on-center. Plant ground cover plugs at 12 to 18 inches on-center; Plant container-grown plants at 18 to 24 inches on-center, depending on the initial plant size and how large it will grow.	Establish plant materials as specified in the landscaping plan and the recommended plant list. In general, plant spacing must be sufficient to ensure the plant material achieves 80% cover in the proposed planting areas within a 3-year period. If seed mixes are used, they should be from a qualified supplier, should be appropriate for stormwater basin applications, and should consist of native species (unless the seeding is to establish maintained turf).

BIORETENTION BMP SIGNAGE

STORMWATER MANAGEMENT FACILITY

This Best Management Practice (BMP) facility helps to maintain the health of our streams, the Potomac River, and the Chesapeake Bay. It also helps to prevent flooding and stream erosion, promotes improved water quality, and protects aquatic life.

You are in the

Potomac River

Watershed

Report Problems to: (703) 746-6499

CITY OF ALEXANDRIA

Department of Transportation & Environmental Services

BIORETENTION AS-BUILT CHECKLIST

Construction Inspection Checklist: Bioretention

Project Name: _____ Address: _____

DSP/DSUP/GRD #: _____ Construction Start Date: _____

Contractor: _____ Telephone: _____

Certifying Professional: _____ Telephone: _____

BMP ID and General Location: _____

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).
-

Preconstruction Meeting

Complete	Photo	Description	Date
☐		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
☐		A pre-construction meeting with the contractor designated to install the bioretention area, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
☐		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation

Complete	Photo	Description	Date
☐		The bioretention area has not been impacted during construction or has been remediated prior to installation.	
☐		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place and stormwater has been diverted around the area.	
☐		Impervious cover draining to the BMP has been constructed and the area is free of equipment, vehicles, and material storage.	
☐	☐	Stormwater is diverted around the bioretention area and perimeter E&S controls to protect the BMP during construction have been installed.	

Excavation

Complete	Photo	Description	Date
☐		The area of bioretention excavation is marked and the size and location conform to the approved plan.	

Excavation (continued)

☐		If the excavation area has been used as a sediment trap, the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	
☐		Excavation bottom is scarified prior to placement of stone.	
☐	☐	Subgrade surface is free of rocks, roots, and large voids. (Voids may be refilled with base aggregate to create a level surface for the placement of aggregates and underdrain.)	
☐		No groundwater seepage or standing water is present. Any standing water is dewatered through an acceptable dewatering device and the design consultant has been notified.	
☐	☐	Excavation of the bioretention area has achieved proper grades and the required geometry. The area has been excavated from the sides to avoid soil compaction. Constructed dimensions: _____	
☐	☐	Sides of the excavation area are covered with geotextile; no tears or holes, or excessive wrinkles are present.	

Pretreatment, Filter Layer, Underdrain and Stone Reservoir Placement

Complete	Photo	Description	Date
☐	☐	Energy dissipaters and pretreatment practices (forebays, gravel diaphragms, etc.) are installed in accordance with the approved plan/design specifications.	
☐	☐	All aggregates (stone, sand, etc., as required) conform to the approved plan/design specifications.	
☐	☐	The impermeable liner (when required) is placed in accordance with manufacturer specifications and the approved plan.	
☐	☐	Filter fabric is installed on the sides only per the approved plan/design specifications.	
☐	☐	#57 stone is placed to achieve the required storage depth per the approved plan/design specifications. Depth of #57 stone: _____ ft.	
☐	☐	Underdrain size and perforations conform to the approved plan/design specifications. (if applicable) Underdrain Diameter: _____ inches Underdrain Material: _____ Underdrain Spacing: _____ ft. Perforation Size & Spacing: _____inches Number of Cleanouts/Observation Wells: _____	
☐		Placement of underdrain(s), cleanouts/observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
☐		Elevations of the underdrain(s) and outlet structure are in accordance with approved plan.	
☐	☐	The filter layer (choker stone/pea gravel/sand) is installed per the approved plan/design specifications. Choker material: _____ Depth of choker material: _____ inches	

Construction Inspection Checklist: Bioretention

Soil Media Placement

Complete	Photo	Description	Date
☐		Soil media is certified by a supplier or contractor as conforming to the approved plan/design specifications.	
☐		Filter media is placed in 12-inch lifts to the top elevation of the bioretention area in accordance with the approved plan/design specifications. The filter media is raked to a level grade after final lift and the elevation has been verified after settlement. No machinery, vehicles, or other heavy equipment have been permitted to travel across the filter media.	
☐	☐	Filter media depth conforms to the approved plan/design specifications. Depth: _____ ft.	
☐		Side slopes of the ponding area are laid back at the required slope (no steeper than 3H:1V) in accordance with the approved plan/design specifications.	

Plant and Outlet Installation

Complete	Photo	Description	Date
☐	☐	Riser, overflow weir, or other outflow structure is set to the elevation in the approved plan/design specifications and functional.	
☐	☐	Mulch composition and depth conform to approved plan/design specifications. Depth of mulch layer: _____ inches	
☐	☐	Ponding depth is in accordance with the approved plan/design specifications after plant and mulch placement. Depth of ponding area: _____inches (above mulch, 12" maximum)	
☐	☐	Signs are installed per the approved plan.	
☐	☐	Plant installation conforms to the approved plan/design specifications and all plants are healthy.	
☐	☐	Final elevations and slopes within the bioretention area after plant and mulch installation match the approved plan elevations.	
☐	☐	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

Construction Inspection Checklist: Bioretention

Comments (continued)	

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

Signature: _____ Date: _____

Certifying Professional's License Number (or Seal): _____

HYDRODYNAMIC AS-BUILT CHECKLIST

Construction Inspection Checklist: Hydrodynamic

Project Name: _____ Address: _____

DSP/DSUP/GRD #: _____ Construction Start Date: _____

Contractor: _____ Telephone: _____

Certifying Professional: _____ Telephone: _____

BMP ID and General Location: _____

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting

Complete	Photo	Description	Date
☐		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
☐		A pre-construction meeting with the contractor designated to install the hydrodynamic device, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
☐		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

Hydrodynamic Device Construction

Complete	Photo	Description	Date
☐	☐	Verify the type of hydrodynamic device installed: MTD Manufacturer: _____ MTD Name / Model: _____	
☐		Inflow pipe: Material: _____ Diameter: _____ in. Invert-in elev. (if accessible) _____ Connection to the BMP structure is in accordance with manufacturer's specification. Type of connection: _____	
☐		Outflow pipe: Material: _____ Diameter: _____ in. Invert-out elev. (if accessible) _____ Connection to the BMP structure is in accordance with manufacturer's specification, Type of connection: _____	

Hydrodynamic Device Construction (continued)

☐		Conveyance/overflow structures are installed per the approved plan/design specifications. Type: _____ Dimensions: _____ Locations: _____	
☐		All sediment, debris, greases and oils removed from the device after final stabilization.	
☐	☐	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

Signature: _____ Date: _____

Certifying Professional's License Number (or Seal): _____

ESI
PEER REVIEW

APPROVED
SPECIAL USE PERMIT NO. 2023-10017

DEPARTMENT OF PLANNING & ZONING

M. Swidrak for K. Moritz — 12.10.24
DIRECTOR — DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. _____

Lalit Sharma — 12/11/2024
DIRECTOR — DATE

CHAIRMAN, PLANNING COMMISSION — 12.10.24
DATE

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ DATE _____

R.C. FIELDS & ASSOCIATES, INC.
ENGINEERING • LAND SURVEYING • PLANNING
700 S. Washington Street, Suite 220
Alexandria, Virginia 22314
www.rcfassoc.com
(703) 549-6422

COMMONWEALTH OF VIRGINIA
VINCENT M. MICHALEK
Lic. No. 0402060162
JULY 26, 2024
PROFESSIONAL ENGINEER

FINAL SITE PLAN
S ALFRED STREET TOWNHOMES
816 & 820 GIBBON ST AND 608 & 614 S ALFRED ST
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

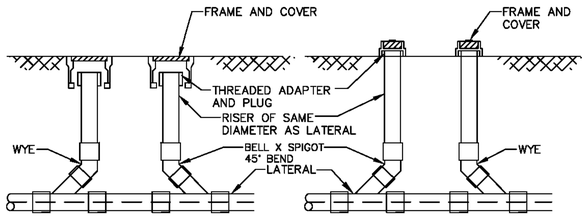
DESIGN: DJM
CHECKED: VMM
SCALE: NO SCALE
DATE: JUL 26, 2024

BMP DETAILS AND AS-BUILT CHECKLISTS

SHEET 24 OF 38

FILE: 23-045

J:\2023\23045\DWG\DELIV\24-BMP AS BUILT CHECKLISTS.dwg
Tue, Aug 06 2024 - 9:22:51pm



WITHIN PAVEMENT NOT IN PAVEMENT

NOTE:
1. TERMINATE TRACER WIRE WITH CLEANOUT THAT IS WITHIN 5' OF BUILDING'S EXTERIOR. TERMINATE TRACER WIRE ABOVE GRADE IN AN ACCESSIBLE LOCATION. WHERE PROJECTED FROM DAMAGE. IF NOT USING IRON FRAME AND COVER.
2. TRACER WIRE TO BE #12 AWG SOLID COPPER WITH 45 MIL POLYETHYLENE INSULATION. AT TEMPORARY TERMINATION OF LATERAL BY UTILITY CONTRACTOR, MAKE SPLICE WITH BUTT CONNECTOR AND SHRINK SLEEVE. NO OTHER SPLICES PERMITTED.
3. EXPOSED CONCRETE TO HAVE CHAMFERED EDGES.

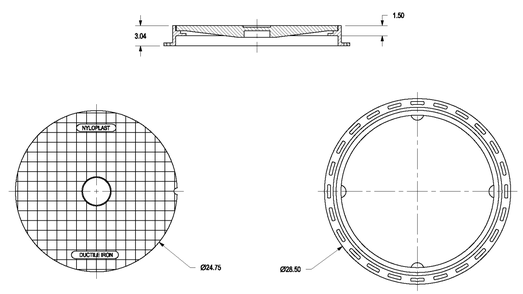
SANITARY SEWER CLEANOUT

06/21/2021
REVISION DATE
CSCO-1
PAGE 25

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

2499CGC

APPROX. WEIGHT WITH FRAME = 138.00 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-025

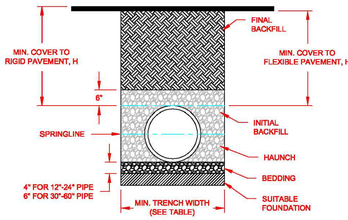
DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	3-9-09		
REVISED BY	EBC	PROJECT NO./NAME	
DATE	3-13-18		
DWG SIZE	A	SCALE 1:10	SHEET 1 OF 1

Nyloplast — 3126 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: 24 IN SOLID COVER ASSEMBLY - TYPE S

DWG NO. 7001-110-218 REV C

HP PIPE INSTALLATION DETAIL



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

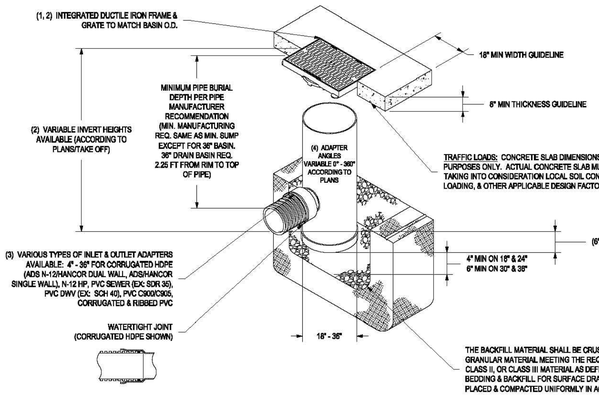
* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

NYLOPLAST 2 FT X 3FT ROAD & HIGHWAY STRUCTURE: 32 _ _ AGR _ _ X



1 - 18" - 30" FRAMES & GRATES SHALL BE DUCTILE IRON PER ASTM A536
2 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
4 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
5 - ROAD & HIGHWAY GRATE SHALL BE BICYCLE SAFE AND MEET AASHTO M306 H-20 LOAD RATING.

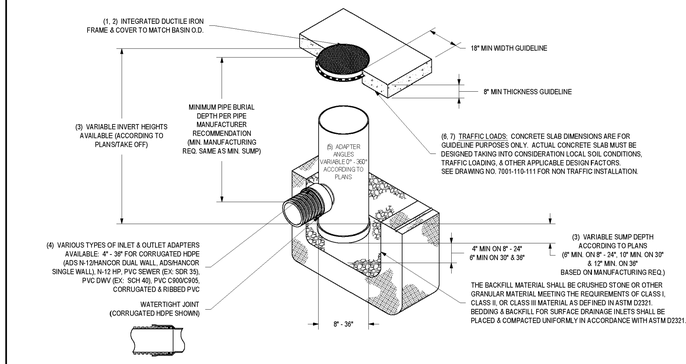
DRAWN BY	EBC	MATERIAL	
DATE	03-23-18		
APPD BY	NMH	PROJECT NO./NAME	
DATE	07-23-18		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

ADS / Nyloplast — 3126 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: DRAIN BASIN WITH 2 FT X 3 FT ROAD & HIGHWAY GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-393 REV E

NYLOPLAST DRAIN BASIN WITH SOLID COVER



1 - 8" - 30" SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
8" & 10" SOLID COVERS FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-045
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" SOLID COVERS SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" SOLID COVERS ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY, NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING

DRAWN BY	EBC	MATERIAL	
DATE	09-14-07		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

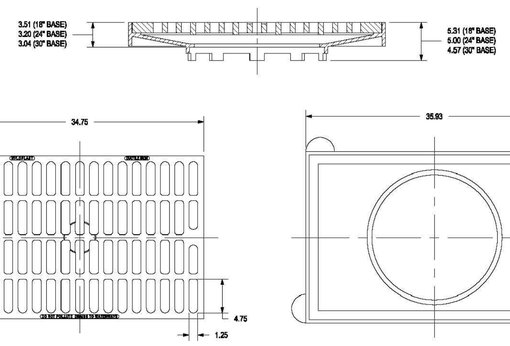
Nyloplast — 3126 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: DRAIN BASIN WITH SOLID COVER QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-298 REV E

3299CGR

APPROX. DRAIN AREA = 386.10 SQ IN
*APPROX. WEIGHT OF GRATE = 153.00 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-25 LOAD RATING
GRATE OPENINGS ARE MEET BICYCLE SAFE REQUIREMENTS
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-186
*WEIGHT DOES NOT INCLUDE GRATE
FRAME WITH 18" BASE: APPROX. 123.50 LBS
FRAME WITH 24" BASE: APPROX. 130.00 LBS
FRAME WITH 30" BASE: APPROX. 115.50 LBS

DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	03-03-08		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	7-28-16		
DWG SIZE	A	SCALE 1:10	SHEET 1 OF 1

ADS / Nyloplast — 3126 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com

TITLE: 2 FT X 3 FT ROAD & HIGHWAY 2 PIECE GRATE ASSEMBLY

DWG NO. 7001-110-228 REV E

CBAY INLET PLACARD
N.T.S.
TO BE PLACED ON ALL INLETS WITHIN 50 FEET OF THE RIGHT-OF-WAY.

APPROVED
SPECIAL USE PERMIT NO. 2023-10017

DEPARTMENT OF PLANNING & ZONING
M. Swidrak for K. Moritz — DIRECTOR — 12.10.24 DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN NO. _____
Lalit Sharma — DIRECTOR — 12/11/2024 DATE

CHAIRMAN, PLANNING COMMISSION — 12.10.24 DATE

DATE RECORDED _____

INSTRUMENT NO. _____ DEED BOOK NO. _____ DATE _____

ESI
PEER REVIEW

THIS DRAWING IS A SERVICE DOCUMENT OF R.C. FIELDS & ASSOCIATES, INC. AND MAY NOT BE USED OR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER AND/OR LAND SURVEYOR.

EXISTING UTILITIES SHOWN ON THIS PLAN TAKEN FROM AVAILABLE RECORDS AND/OR FROM FIELD OBSERVATIONS. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-552-7001, 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.

LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL NOT BE THE RESPONSIBILITY OF THIS OFFICE.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.

R.C. FIELDS & ASSOCIATES, INC.
ENGINEERING • LAND SURVEYING • PLANNING
700 S. Washington Street, Suite 220 www.rcfassoc.com
Alexandria, Virginia 22314 (703) 549-6422

COMMONWEALTH OF VIRGINIA
VINCENT M. MICHALEK
Lic. No. 0402060162
JULY 26, 2024
PROFESSIONAL ENGINEER

FINAL SITE PLAN
S ALFRED STREET TOWNHOMES
816 & 820 GIBBON ST AND 608 & 614 S ALFRED ST
CITY OF ALEXANDRIA, VIRGINIA

DATE	REVISION

DESIGN: DJM
CHECKED: VMM
SCALE: 1" = 20'
DATE: JUL 26, 2024

SITE DETAILS

SHEET 36 OF 38
FILE: 23-045

J:\2023\23045\DWG\DELIV\35-SITE DETAILS.dwg
Tue, Aug 06 2024 - 9:33:15pm

Appendix A | FY2025 Sign for Stormwater Management Facilities

Appendix A | FY2025 Photo of Stream Crossing Sign

City of Alexandria PY2 MS4 Annual Report
Stormwater Web Page Analytics

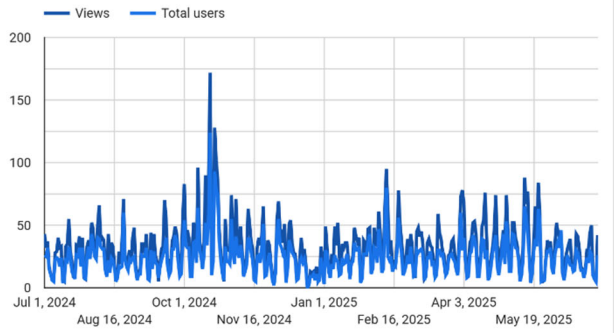
Stormwater Management: 2,025 Unique Page Views

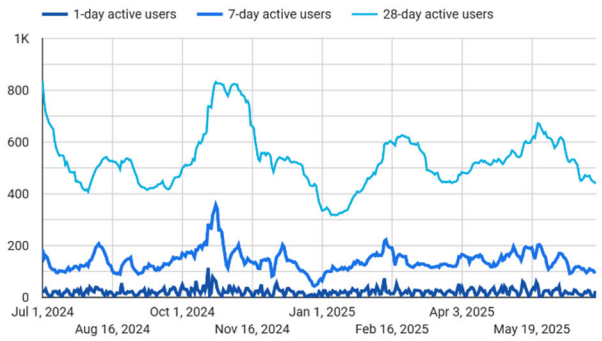
Page path
Starts with /stormwater

NOTE: Just like the Department View dashboard, this report is limited to the top 10 groups by traffic. To change this or request a page report for a page outside of these 10 groups, contact Jackie Cozma

Jul 1, 2024 - Jun 30, 2025

Overview of your user behaviors





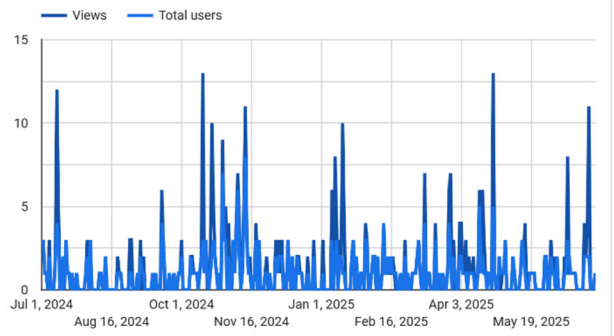
Stormwater Quality: 483 Unique Page Views

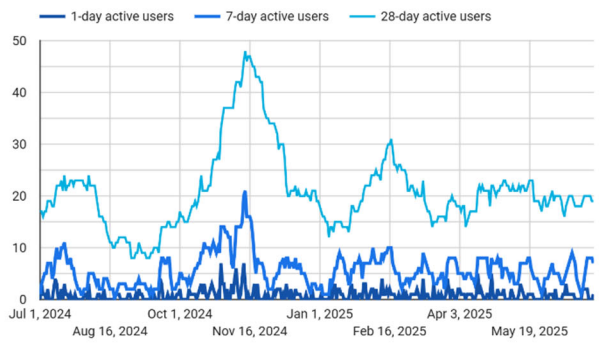
Page path
Equals /stormwater-management/stormwater-quality

NOTE: Just like the Department View dashboard, this report is limited to the top 10 groups by traffic. To change this or request a page report for a page outside of these 10 groups, contact Jackie Cozma

Jul 1, 2024 - Jun 30, 2025

Overview of your user behaviors





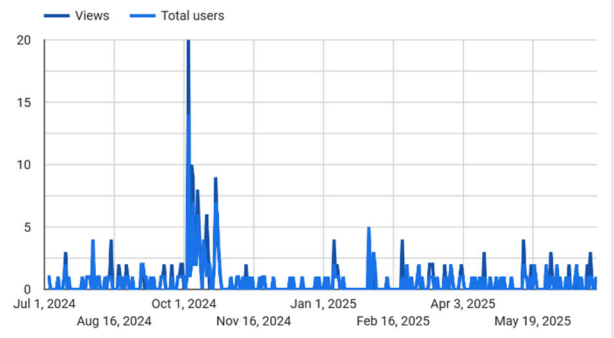
What You Can Do: 256 Unique Page Views

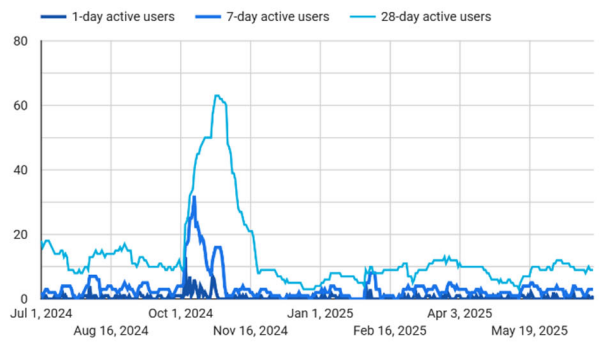
Page path
Equals /stormwater-management/what-you-can-do-to-protect-wat...

NOTE: Just like the Department View dashboard, this report is limited to the top 10 groups by traffic. To change this or request a page report for a page outside of these 10 groups, contact Jackie Cozma

Jul 1, 2024 - Jun 30, 2025

Overview of your user behaviors





Jessica Lassetter

From: Alexandria eNews <noreply@everbridge.net>
Sent: Friday, May 2, 2025 3:50 PM
To: Jessica Lassetter
Subject: City Launches “Green Team” Neighborhood Cleanup Initiative

Categories: MS4 Work

Ver esto en español | ይህንን በአማርኛ ይመልከቱ | عرض هذا باللغة العربية

City Launches “Green Team” Neighborhood Cleanup Initiative

In celebration of Earth Month, the City of Alexandria is proud to launch the Green Team, a new program for individual volunteers to help maintain neighborhoods and keep our waterways clean year-round.

The Green Team Individual Litter Cleanup Program is an initiative of the Department of Transportation & Environmental Services’ Resource Recovery and Stormwater Management Divisions and recognizes community demand for more community cleanup events. The program is intended to complement existing litter-removing efforts, including the City’s Clean Team, the Department of Recreation, Parks, and Cultural Activities (RPCA) PARKnership Program, and the Adopt-a-Block Program.

Because litter can easily flow through storm sewers and into local waterways, the Green Team program is designed to recognize the ongoing efforts of current volunteers and assist new residents in joining the Citywide effort to protect the Potomac River and Chesapeake Bay.

Interested participants may register on the Green Team website. Registrants will receive a cleanup kit, which includes a trash grabber, safety vest, gloves, trash bags, first aid kit, and a satchel to help haul litter.

Kits are available on a first come, first served basis and are limited to one per household.

Learn more about the program on the City website.

For media inquiries only, contact ursula.ramos@alexandriava.gov.

Jessica Lassetter

From: Alexandria eNews <noreply@everbridge.net>
Sent: Tuesday, April 1, 2025 1:30 PM
To: Jessica Lassetter
Subject: Public Comment Opportunity Opens on Two Water Quality Action Plans to Protect Local Waterways

Categories: MS4 Work

Lee este aviso en español ይህንን በአማርኛ ያንብቡት هنا للقراءة باللغة العربية

Public Comment Opportunity Opens on Two Water Quality Action Plans to Protect Local Waterways

The City of Alexandria invites the public to provide comments on two Local Total Maximum Daily Load (TMDL) Action Plans, which outline sources of pollutants and reduction strategies to protect and enhance local waterways.

As part of the City's Municipal Separate Storm Sewer System (MS4) General Permit issued by the Virginia Department of Environmental Quality (VDEQ), the City is required to update two local TMDL action plans developed initially in 2015. Action plans outline strategies to limit the amount of a pollutant entering a waterway. The first is the Bacteria TMDL Action Plan which addresses sources of bacteria for the Hunting Creek, Cameron Run, Holmes Run, and Four Mile Run, and the second is the Tidal Potomac PCB TMDL Action Plan, which addresses legacy PCBs given that they are persistent in the environment and most new sources have been controlled.

The current action plans are publicly available as on the City's TMDL webpage. **The deadline for public comment is Friday, April 18, 2025**.

The public is invited to comment in writing on the updated (1) Bacteria TMDL Action Plan and the (2) Tidal Potomac PCB TMDL Action Plan using an online form available on the TMDL webpage or via email at MS4ProgramPlan@alexandriava.gov. Comments may also be submitted via regular mail to the address below.

Transportation and Environmental Services
Stormwater Management Division
Attn: Local TMDL Action Plans
1800 Limerick St., Ste 500
Alexandria, VA 22314

Comments received will be incorporated as applicable. The action plans will be submitted and approved by VDEQ prior to incorporation into the MS4 Program Plan.

For more information about the City's Stormwater Management Program, visit the City's Stormwater Management webpage.

To request reasonable disability accommodation, contact Jessica.lassetter@alexandriava.gov or call 703.746.6499, Virginia Relay 711

Jessica Lassetter

From: Alexandria eNews <noreply@everbridge.net>
Sent: Tuesday, May 20, 2025 10:45 AM
To: Jessica Lassetter
Subject: City to Observe Chesapeake Bay Awareness Week and Clean the Bay Day

Categories: MS4 Work

Ver esto en español ይህንን በአማርኛ ይመልከቱ عرض هذا باللغة العربية

City to Observe Chesapeake Bay Awareness Week and Clean the Bay Day

The City of Alexandria will recognize the history and importance of the Chesapeake Bay, and the continued efforts to protect it, during Chesapeake Bay Awareness Week, June 7 through June 15, 2025. As part of this commemoration, the City will participate in the Chesapeake Bay Foundation's annual Clean the Bay Day.

Clean the Bay Day, an annual event typically taking place the first week of June, is organized by the Chesapeake Bay Foundation to bring communities together to clean and protect the waters at various locations along the Chesapeake Bay.

At the City Council Legislative Meeting on June 10, 2025, the Chesapeake Bay Awareness Week proclamation will be read affirming the City's commitment to the Chesapeake Bay and its natural resources, and to continue performing maintenance activities, stream cleanups, and implementing capital projects to protect it.

The City's Department of Transportation and Environmental Services invites the community to participate in a stream cleanup event on Saturday, June 7, 2025, at Oronoco Bay Park (100 Madison St.) The cleanup event will take place from 9:00 am to 11:00 am.

For those participating in the Clean the Bay Day event at Oronoco Bay, City staff will provide gloves, trash grabbers, and bags, and will have first aid kits onsite. Participants are encouraged to bring sunscreen, snacks, water, and wear appropriate clothing, including long pants and closed-toe shoes.

Clean the Bay Day is just one way to increase awareness of the importance of the Bay, not only for Awareness Week, but throughout the year. Additional actions to protect the Bay include:

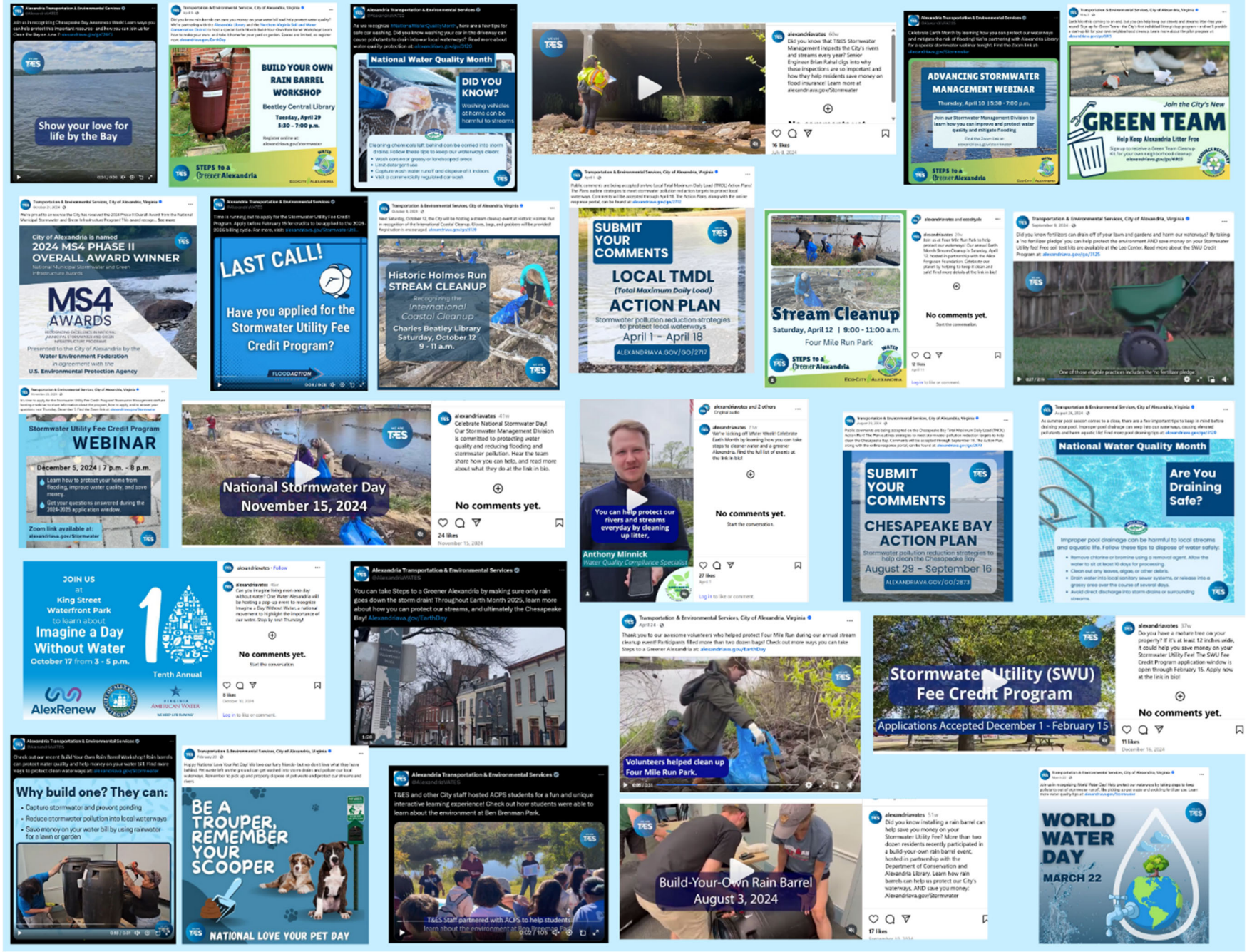
- Keep pet waste out of the City's storm drains by picking up and properly disposing of pet waste in a trash can. Pet waste can cause bacteria contamination in waterways.
- Keep the City litter-free, as waste dropped on streets, sidewalks, or parks ends up in local waterways and the Chesapeake Bay.
- Reduce or eliminate fertilizer use on lawns. Excess fertilizer caused poor water quality. Consider applying for a ten percent Stormwater Utility Fee credit for the no-fertilizer pledge.

If you suspect contamination or an illicit discharge entering the City's waterways, please contact Alex311.

For more information on the City's efforts to protect the Chesapeake Bay and other local waterways, please visit the Stormwater website.

To request reasonable disability accommodation, contact anthony.minnick@alexandriava.gov or call 703.746.4132, Virginia Relay711.

City of Alexandria PY2 MS4 Annual Report – Social Media Post Examples



Northern Virginia Resident Stormwater Knowledge and Behavior Study

2025 Summary Report of Findings

August 12, 2025 Revision

Prepared for:
Northern Virginia Regional Commission

Prepared by:
Keisler Social & Behavioral Research
Authors:
Aysha Keiser, PhD
Meghan Eife

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1 INTRODUCTION AND APPROACH

Keisler Social & Behavioral Research (Keisler Research) was contracted by the Northern Virginia Regional Commission (NVRC) to conduct a survey of northern Virginia residents to capture knowledge, perceptions, beliefs, and behaviors surrounding stormwater and water pollution. The survey also assesses awareness and perceptions of two media campaigns conducted by the Northern Virginia Clean Water Partners (NVCWP) on stormwater drainage and water pollution, as well as awareness perceptions of NVCWP as an organization. The survey instrument is provided in the Appendix.

The survey was administered online in May 2025 on the Alchemer survey platform. Individuals that participate in Alchemer's survey panel, and other partner survey panels, were invited to participate in the survey. Compensation was provided in the form of points on the Alchemer panel system, which can be redeemed for gift cards, prize drawings, and retail deals. To qualify for the survey, respondents must have been 21 years of age or older at the time of participation and reside in of the following cities and counties in northern Virginia: Fairfax County, Loudoun County, Prince William County, Stafford County, Arlington County, and Alexandria.

2 SUMMARY OF 2025 FINDINGS

2.2 Participant Characteristics

The final dataset includes surveys of 506 adults residing in Northern Virginia. Northern Virginia is defined here as the following cities and counties: Fairfax County, Loudoun County, Prince William County, Arlington County, Stafford County and Alexandria. All participants were 21 years of age or older at the time they took the survey.

A demographic summary of survey participants is provided in Table 1. Survey participants were about evenly split between women (48.8%) and men (50.4%), with 0.8% identifying as non-binary or gender non-conforming. All participants were above 21 years of age. The most common age groups were between ages 25 to 34 (27.7%) and ages 35 to 44 (20.4%). Ages 65 to 74 and older were the least common, at 11.3% of participants. White respondents make up over

50% of the sample and African American or Black respondents comprised just over one-fifth of the sample.

The locality with the most survey respondents is Fairfax County (not Fairfax City, Herndon, or Vienna) at 15.6% followed by Alexandria at 13.4% with Manassas Park (1.4%) and Falls Church (2.2%) having the smallest rates in the sample. Household income is fairly evenly split amongst participants, with most participants living in a household with an income between $50,000 and $124,999.

Slightly over half of the sample have lived in their residence between 1 and 9 years, while 15.2% have lived in their current residence for 10 to 19 years and 24.5% have for 20 or more years. A majority of participants (55.9%) own their residence. Most participants also have a lawn or garden in their home (81.2%) and a majority also own or lease a vehicle (86.4%). Slightly less than half of participants (47.8%) own at least one dog.

Almost all participants report that English is their primary language (89.3%); the remaining 10.7% of respondents report a variety of languages as their primary language. The survey was administered in English only, and therefore all respondents are fluent in English.

Respondents report working in a wide variety of occupations, though the largest occupation category reported is “retired”.

Table 1. Survey participant demographic characteristics.

Demographic	Subcategory	Percentage
Gender	Female	48.8%
	Male	50.4%
	Non-binary/non-conforming	0.8%
Age	21 to 24	9.9%
	25 to 34	27.7%
	35 to 44	20.4%
	45 to 54	12.6%
	55 to 64	11.3%
	65 to 74	11.7%
	75 or older	6.5%
Residence Type	Military housing	0.8%
	Other - Please specify:	1.8%
	Owned	55.9%
	Rented	40.5%
	Transitional housing	1.0%

Demographic	Subcategory	Percentage
Locality	Alexandria	13.4%
	Arlington	10.1%
	Fairfax County, but not one of the cities/towns listed	15.6%
	Fairfax County: Fairfax City	10.1%
	Fairfax County: Herndon	3.6%
	Fairfax County: Vienna	3.4%
	Falls Church	2.2%
	Loudoun County, but not Leesburg	9.7%
	Loudoun County: Leesburg	4.2%
	Prince William County, but not one of the cities/towns listed	7.3%
	Prince William County: Dumfries	5.3%
	Prince William County: Manassas	5.1%
	Prince William County: Manassas Park	1.4%
	Stafford County	7.5%
Occupation	Accommodation/hospitality and food services	1.4%
	Administrative	5.9%
	Agriculture, forestry, fishing and hunting, and mining	1.4%
	Arts, entertainment, and recreation	1.0%
	Construction	3.0%
	Currently unemployed	10.9%
	Educational services	5.1%
	Finance and insurance	4.9%
	Health care and/or social assistance	5.5%
	Information or information technology	10.5%
	Manufacturing	2.6%
	Other - Write In (Required)	6.5%
	Other services	4.7%
	Professional and/or scientific	3.2%
	Public administration	1.8%
	Real estate and/or rental and leasing	0.6%
	Retail trade	7.7%
	Retired	16.2%
	Student only (no other occupation)	4.0%
	Transportation and warehousing	1.8%
	Waste management services	0.2%
	Wholesale trade	0.4%
Income	Less than $35,000	13.0%
	$35,000 to $49,999	11.5%
	$50,000 to $74,999	14.6%
	$75,000 to $99,999	19.4%
	$100,000 to $124,999	11.9%

Demographic	Subcategory	Percentage
	$125,000 to $149,999	8.7%
	$150,000 to $174,999	6.3%
	$175,000 to $199,999	5.3%
	$200,000 or greater	9.3%
Race	African American/Black	21.5%
	American Indian/Native Alaskan	2.0%
	Asian	14.4%
	Hispanic/Latino	11.5%
	Native Hawaiian/Pacific Islander	3.6%
	White/Caucasian	51.4%
	Other - Write In	2.2%
Language	Arabic	1.0%
	Chinese	1.2%
	English	89.3%
	Korean	0.8%
	Other - Write In (Required)	1.0%
	Spanish	4.5%
	Urdu	1.0%
	Vietnamese	1.2%
Residence Years	Less than 1 year	6.9%
	1 to 3 years	23.5%
	4 to 9 years	29.8%
	10 to 19 years	15.2%
	20 or more years	24.5%
Lawn or Garden at Residence	Yes	81.2%
	No	18.8%
Own or Lease a Vehicle	Yes	86.4%
	No	13.6%
Dog Ownership	Yes	47.8%
	No	52.2%

2.3 Behaviors and Behavioral Drivers

2.3.3 Lawn/Garden Fertilization

Respondents were asked about their behavior regarding lawns or gardens and if their residence has a lawn or garden of any size. Results are summarized in Table 2 and displayed in Figure 1. Most of those surveyed (80.2%) report having a lawn or garden, no matter how small. Almost all respondents (92.2%) are familiar with how their lawn is cared. Of those with a lawn or garden who know how their lawn is cared for, 82.4% report using a lawn care service at least

once per year. Respondents with lawns were asked how often their lawns were fertilized, regardless of whether fertilization was done by someone in the household or an outside service. The response options were "1 time a year", "2 times a year", "3 times a year", "4+ times a year", "Only if/when a soil test indicates the grass needs fertilizer", "Never", or "Not sure". Far fewer (7.8%) fertilize only when a soil test indicates the grass needs fertilizer, and 12.0% never fertilize their lawn or garden.

Men reported higher rates of being familiar with how their lawn/garden is cared for (95.7% compared to 88.6%) while women reported higher rates of never fertilizing their lawn (23.1% compared to 12.0%). Respondents aged 55 to 64 reported the highest rates of never fertilizing their lawn (39.5%) while respondents aged 25 to 34 reported the lowest rates (9.7%). Non-Hispanic/Latino residents reported higher rates of never fertilizing their lawn, at 19.2% compared to 5.3% of Hispanic/Latino respondents. Generally, those who have lived in their residence for a long time reported being more familiar with how their lawn or garden is cared for, as did home owners.

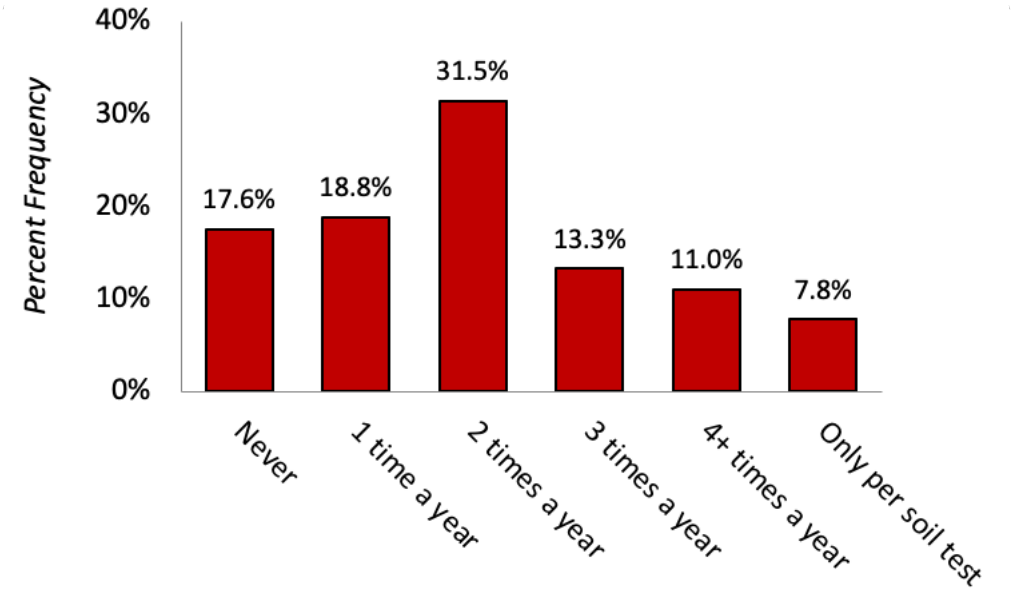
Table 2. Lawn and garden fertilization behaviors by demographic group.

Demographic	Subcategory	Familiar with Lawn/Garden Care	Frequency of Lawn Fertilization					
		Yes	1x per year	2x per year	3x per year	4x per year	Only per soil test	Never
	All Respondents	**92.2%**	**18.8%**	**31.5%**	**13.3%**	**11.0%**	**7.8%**	**17.6%**
Gender	Male	95.7%	20.2%	33.3%	14.8%	13.7%	6.0%	12.0%
	Female	88.6%	17.5%	29.4%	11.9%	8.1%	10.0%	23.1%
Age	21 to 24	95.0%	8.6%	34.3%	14.3%	17.1%	11.4%	14.3%
	25 to 34	91.2%	16.1%	36.6%	19.4%	9.7%	8.6%	9.7%
	35 to 44	92.5%	18.6%	37.1%	18.6%	10.0%	5.7%	10.0%
	45 to 54	100.0%	31.1%	22.2%	8.9%	8.9%	6.7%	22.2%
	55 to 64	87.5%	10.5%	26.3%	2.6%	18.4%	2.6%	39.5%
	65 to 74	96.1%	24.4%	24.4%	6.7%	6.7%	8.9%	28.9%
	75 or older	80.0%	25.0%	30.0%	10.0%	10.0%	15.0%	10.0%
Locality	Alexandria	86.0%	23.1%	23.1%	23.1%	7.7%	5.1%	17.9%

Demographic	Subcategory	Familiar with Lawn/Garden Care	Frequency of Lawn Fertilization					
		Yes	1x per year	2x per year	3x per year	4x per year	Only per soil test	Never
	Arlington	88.9%	12.9%	45.2%	9.7%	12.9%	6.5%	12.9%
	Fairfax Co.	96.0%	18.2%	32.6%	9.8%	14.4%	6.8%	18.2%
	Prince William & Stafford Co.	91.3%	19.8%	33.0%	9.9%	7.7%	11.0%	18.7%
	Loudon Co.	91.5%	18.9%	24.5%	22.6%	9.4%	7.5%	17.0%
Ethnicity	Not Hispanic/Latino	92.5%	18.5%	30.2%	13.6%	11.4%	7.1%	19.2%
	Hispanic/Latino	89.8%	21.1%	42.1%	10.5%	7.9%	13.2%	5.3%
Residence Years	Less than 1 year	94.7%	50.0%	14.3%	14.3%	0.0%	14.3%	7.1%
	1 to 3 years	84.7%	11.3%	50.0%	8.1%	8.1%	3.2%	19.4%
	4 to 9 years	90.8%	19.8%	33.7%	13.9%	8.9%	14.9%	8.9%
	10 to 19 years	95.8%	23.1%	23.1%	16.9%	15.4%	1.5%	20.0%
	20 or more years	96.6%	15.4%	26.0%	13.5%	13.5%	6.7%	25.0%
Home Ownership	Owned	96.2%	21.6%	30.5%	12.3%	12.3%	6.8%	16.5%
	Rented	85.5%	14.4%	30.9%	17.5%	9.3%	9.3%	18.6%
Income	Less than $35,000	76.1%	30.0%	30.0%	10.0%	10.0%	0.0%	20.0%
	$35,000 to $49,999	93.3%	20.6%	38.2%	5.9%	8.8%	8.8%	17.6%
	$50,000 to $74,999	90.7%	21.7%	32.6%	6.5%	6.5%	10.9%	21.7%
	$75,000 to $99,999	91.3%	20.6%	30.9%	10.3%	22.1%	5.9%	10.3%
	$100,000 to $124,999	96.3%	6.5%	32.6%	21.7%	6.5%	8.7%	23.9%
	$125,000 to $149,999	94.9%	13.9%	27.8%	25.0%	8.3%	11.1%	13.9%

** Red font indicates significant differences within a demographic subgroup.*

Figure 1. Frequency of lawn fertilization.



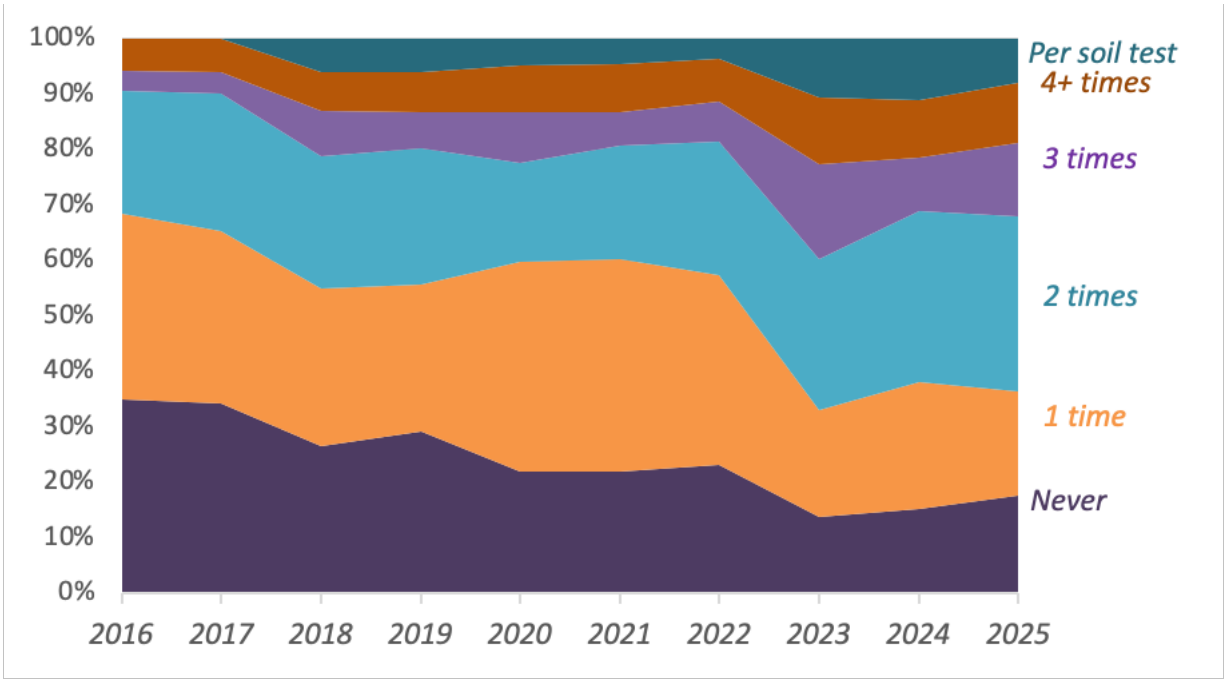
Reported frequency of lawn fertilization from 2016-2024 can be seen in Table 3. Fewer respondents report fertilizing infrequently (1-2 times per year) in previous years compared to 2025; fewer respondents also report never fertilizing compared to 2016, 2017 and 2018. More respondents fertilize 3 times per year compared to 2016 and 2017. Overall, these results suggest a slight increase the frequency of fertilization over the survey years.

Table 3. Lawn fertilization frequency across years.

	Year of Survey									
Frequency of Lawn Fertilization	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Never	35.0%	34.3%	26.5%	29.2%	22.1%	22.1%	23.1%	13.8%	15.2%	17.6%
1 time	33.6%	31.0%	28.4%	26.4%	37.8%	38.3%	34.3%	19.3%	22.9%	18.8%
2 times	22.0%	24.8%	23.9%	24.8%	17.7%	20.3%	24.1%	27.1%	30.8%	31.5%
3 times	3.6%	3.8%	8.3%	6.4%	9.2%	6.2%	7.3%	17.3%	9.7%	13.3%
4+ times	5.8%	6.2%	6.8%	7.2%	8.4%	8.6%	7.7%	12.0%	10.3%	11.0%
Per soil test	*	*	6.1%	6.0%	4.8%	4.5%	3.5%	10.5%	11.1%	7.8%

** Red font indicates that the value significantly differs from the current 2025 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 2. Lawn fertilization frequency across years.



2.3.4 Grass Clipping Disposal

Respondents that reported having a lawn or garden were asked how they dispose of their grass clippings. The provided response options were "Bagged and put in the regular trash", "Bagged and put in compost/recycling bags for pick up", "Left on the lawn/garden", "Put in a compost pile/bin", "Not sure", "Other", and "Not applicable/don't have grass clippings". As shown in Table 4 and Figure 3, the most common response is bagging the grass and putting it in compost or recycling for pickup, with 38.0% providing this response. The next most common response (31.8%) is leaving the grass on their lawn/garden, while 19.2% of respondents bag it and put it in the regular trash. Finally, 11.0% report putting their grass in a compost pile or bin.

Generally, older respondents reported leaving their grass clippings on their lawn at higher rates than younger respondents. Additionally, 37.0% of respondents aged 25 to 34 reported bagging grass clippings and putting them in the trash while only 8.8% of those aged 35 to 44 reported doing so. Hispanic/Latino respondents reported higher rates than non-Hispanic/Latino respondents of bagging and putting grass clippings in the trash (35.7% compared to 16.9%) as well as lower rates of leaving grass clippings on their lawn or garden (14.3% compared to 34.2%). Generally, respondents who have lived in their residence for longer periods of time

reported higher rates of leaving them on the lawn. Finally, 13.8% of home owners reported putting grass clippings in a compost pile while only 4.9% of renters did.

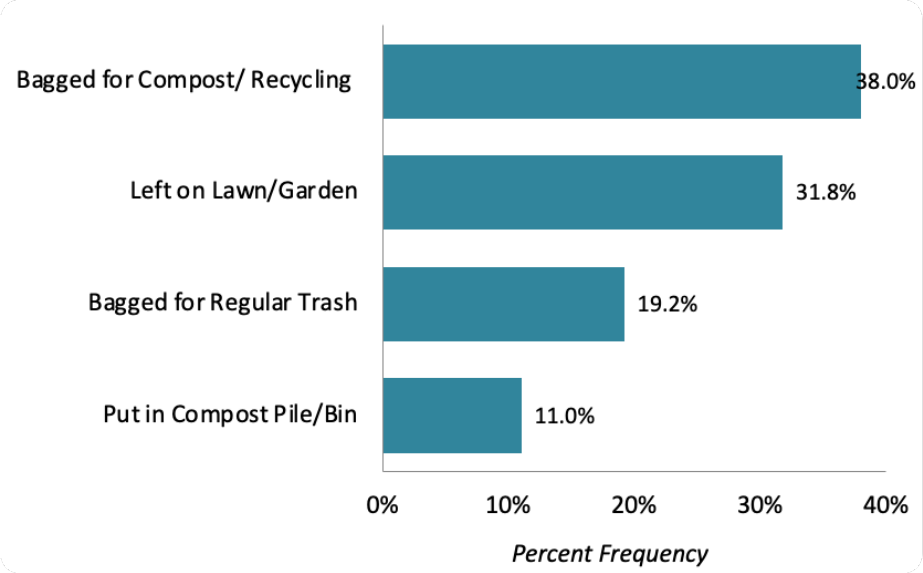
Table 4. Disposal of grass clippings by demographic group.

Demographic	Subcategory	Grass Clippings Handling			
		Bagged and put in the regular trash	Bagged and put in compost/recycling bags for pick up	Left on the lawn/garden	Put in a compost pile/bin
	All Respondents	**19.2%**	**38.0%**	**31.8%**	**11.0%**
Gender	Male	18.5%	37.0%	31.2%	13.2%
	Female	20.2%	39.9%	31.3%	8.6%
Age	21 to 24	11.1%	50.0%	22.2%	16.7%
	25 to 34	37.0%	37.0%	18.0%	8.0%
	35 to 44	8.8%	47.1%	29.4%	14.7%
	45 to 54	20.8%	25.0%	37.5%	16.7%
	55 to 64	10.3%	30.8%	46.2%	12.8%
	65 to 74	9.5%	38.1%	50.0%	2.4%
	75 or older	13.6%	36.4%	45.5%	4.5%
Locality	Alexandria	15.0%	35.0%	32.5%	17.5%
	Arlington	25.0%	32.1%	21.4%	21.4%
	Fairfax Co.	18.4%	41.2%	30.1%	10.3%
	Prince William & Stafford Co.	22.2%	32.3%	39.4%	6.1%
	Loudon Co.	15.4%	46.2%	26.9%	11.5%
Ethnicity	Not Hispanic/Latino	16.9%	38.0%	34.2%	10.9%
	Hispanic/Latino	35.7%	38.1%	14.3%	11.9%
Residence Years	Less than 1 year	35.7%	50.0%	14.3%	0.0%
	1 to 3 years	27.5%	44.9%	21.7%	5.8%
	4 to 9 years	21.8%	32.7%	31.7%	13.9%
	10 to 19 years	15.2%	37.9%	28.8%	18.2%
	20 or more years	11.4%	37.1%	42.9%	8.6%
Residence Type	Owned	18.0%	35.1%	33.1%	13.8%
	Rented	21.4%	44.7%	29.1%	4.9%
Income	Less than $35,000	21.2%	33.3%	36.4%	9.1%
	$35,000 to $49,999	23.7%	47.4%	26.3%	2.6%
	$50,000 to $74,999	17.4%	41.3%	30.4%	10.9%
	$75,000 to $99,999	21.7%	46.4%	21.7%	10.1%
	$100,000 to $124,999	12.2%	38.8%	38.8%	10.2%
	$125,000 to	23.5%	29.4%	29.4%	17.6%

Demographic	Subcategory	Grass Clippings Handling			
		Bagged and put in the regular trash	Bagged and put in compost/recycling bags for pick up	Left on the lawn/garden	Put in a compost pile/bin
	$149,999				
	$150,000 to $174,999	16.7%	25.0%	41.7%	16.7%
	$175,000 to $199,999	17.4%	43.5%	13.0%	26.1%
	$200,000 or greater	17.9%	25.6%	51.3%	5.1%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 3. Disposal of grass clippings.



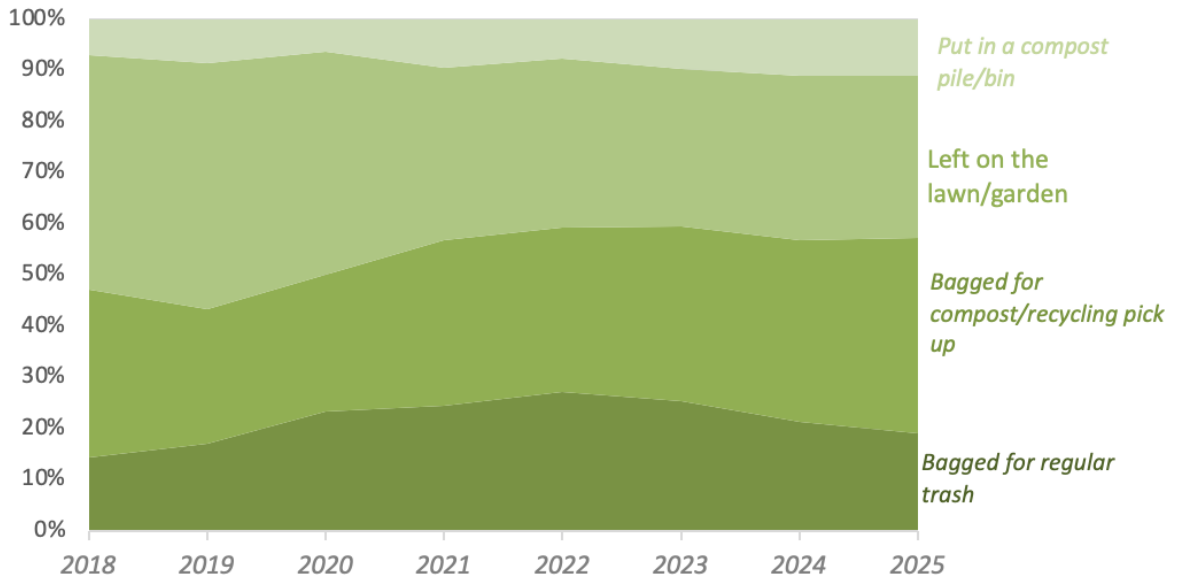
As can be seen in Table 5, respondents in 2018 and 2019 reported leaving grass clippings on their lawn or garden at higher rates than do 2025 respondents. Otherwise, there were no significant differences between this year's survey responses to this question and previous years.

Table 5. Disposal of grass clippings across years.

Year of Survey								
Grass clipping disposal	2018	2019	2020	2021	2022	2023	2024	2025
Bagged for regular trash	14.5%	17.0%	23.3%	24.6%	27.3%	25.4%	21.3%	19.2%
Bagged for compost/recycling pick up	32.8%	26.4%	26.7%	32.3%	32.0%	34.1%	35.6%	38.0%
Left on the lawn/garden	45.7%	48.1%	43.8%	33.7%	33.1%	30.8%	32.2%	31.8%
Put in a compost pile/bin	7.0%	8.5%	6.3%	9.5%	7.6%	9.7%	10.9%	11.0%

** Red font indicates that the value significantly differs from the current 2025 value. Asterisks (*) indicate that the question did not appear in the survey that year.*

Figure 4. Disposal of grass clippings across years.



Participants were also asked what is done with grass clippings if they end up in the street, if anything. The response options were "They are left there", "They are swept or blown back into the lawn", or "They are swept or blown into the storm drain". Of those with a lawn or garden, 38.0% report sweeping or blowing them back into their lawn, while 31.8% report sweeping or blowing them into the storm drain, as can be seen in Table 6 and Figure 5. Lastly, 19.2% report leaving their grass clippings in the street. Men report higher rates of sweeping or blowing their grass clippings into the storm drain, at 22.7% compared to 12.2% of women. Additionally, those

who have lived at their residence for less than one year report sweeping or blowing grass clippings into the storm drain more than those who have lived at their residence for 20 or more years, at 27.3% and 9.7% respectively.

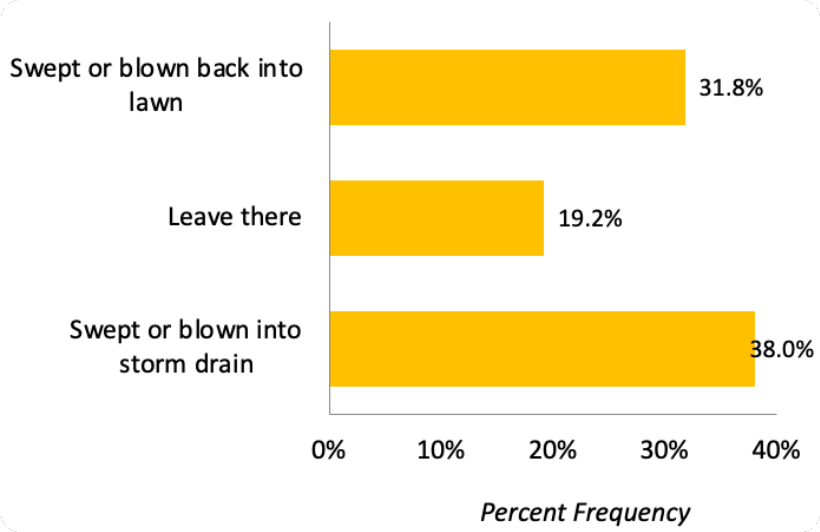
Table 6. Handling of grass clippings in street by demographic group.

Demographic	Subcategory	Grass Clippings on Street Handling		
		They are left there	Swept or blown back into the lawn	Swept or blown into the storm drain
	All Respondents	**19.2%**	**38.0%**	**31.8%**
Gender	Male	23.3%	54.0%	22.7%
	Female	20.9%	66.9%	12.2%
Age	21 to 24	15.6%	65.6%	18.8%
	25 to 34	26.7%	50.0%	23.3%
	35 to 44	16.9%	56.9%	26.2%
	45 to 54	18.6%	62.8%	18.6%
	55 to 64	22.9%	68.6%	8.6%
	65 to 74	27.8%	72.2%	0.0%
	75 or older	23.5%	58.8%	17.6%
Locality	Alexandria	22.9%	60.0%	17.1%
	Arlington	21.4%	57.1%	21.4%
	Fairfax Co.	23.7%	60.2%	16.1%
	Prince William & Stafford Co.	19.1%	61.8%	19.1%
	Loudon Co.	22.9%	56.3%	20.8%
Ethnicity	Not Hispanic/Latino	22.6%	60.1%	17.3%
	Hispanic/Latino	17.1%	57.1%	25.7%
Residence Years	Less than 1 year	9.1%	63.6%	27.3%
	1 to 3 years	20.7%	58.6%	20.7%
	4 to 9 years	18.5%	54.3%	27.2%
	10 to 19 years	18.8%	67.2%	14.1%
	20 or more years	30.1%	60.2%	9.7%
Residence Type	Owned	23.6%	58.3%	18.1%
	Rented	18.5%	64.1%	17.4%
Income	Less than $35,000	25.0%	64.3%	10.7%
	$35,000 to $49,999	25.0%	61.1%	13.9%
	$50,000 to $74,999	21.4%	61.9%	16.7%
	$75,000 to $99,999	20.0%	63.1%	16.9%

Demographic	Subcategory	Grass Clippings on Street Handling		
		They are left there	Swept or blown back into the lawn	Swept or blown into the storm drain
	$100,000 to $124,999	22.7%	59.1%	18.2%
	$125,000 to $149,999	19.4%	58.1%	22.6%
	$150,000 to $174,999	21.1%	52.6%	26.3%
	$175,000 to $199,999	11.1%	55.6%	33.3%
	$200,000 or greater	28.6%	54.3%	17.1%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 5. Handling of grass clippings in the street.



Survey respondents in 2018-2021 reported lower rates of sweeping or blowing grass clippings from the street into the storm drain than 2025 respondents. Otherwise, as shown in Table 7, there

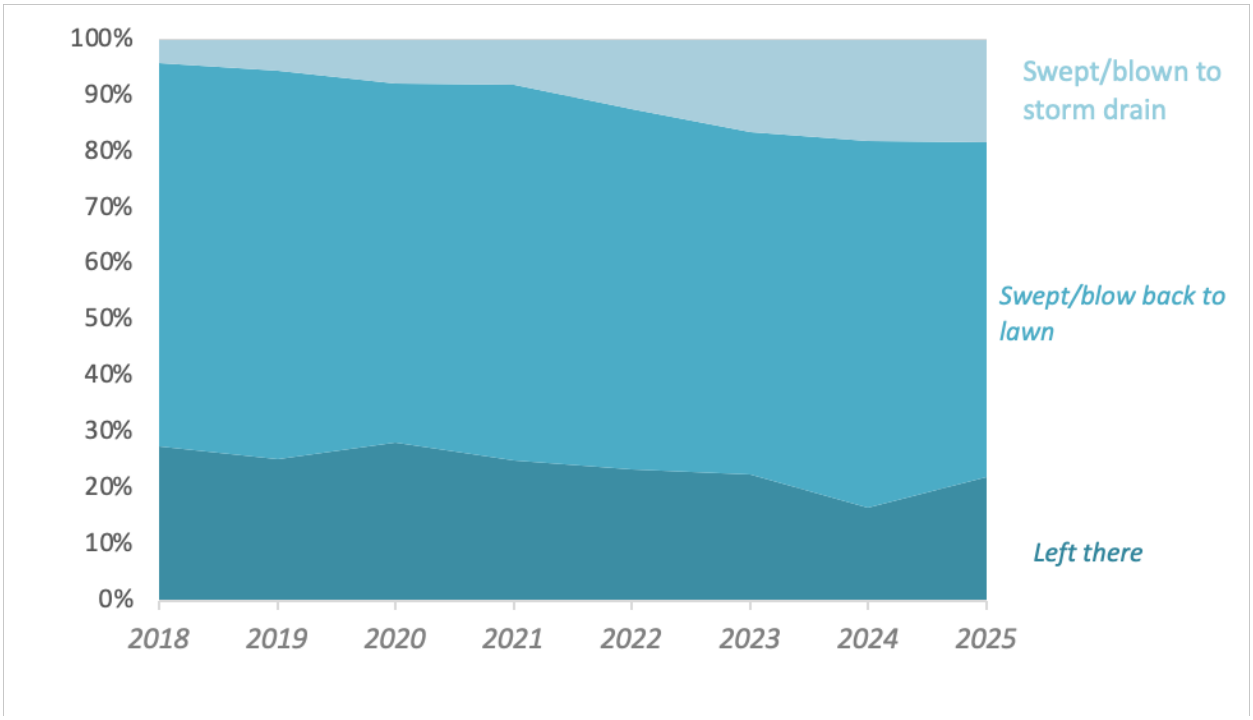
were no significant differences between previous years response and 2025 survey responses regarding handling of grass clippings in the street.

Table 7. Handling of grass clippings in the street across years.

	Year of Survey							
Grass clippings in street	2018	2019	2020	2021	2022	2023	2024	2025
Left there	27.5%	25.3%	28.3%	25.1%	23.4%	22.6%	16.5%	22.0%
Swept/blow back to lawn	68.4%	69.3%	63.9%	67.0%	64.2%	60.9%	65.5%	59.7%
Swept/blown to storm drain	4.1%	5.3%	7.8%	7.9%	12.4%	16.6%	18.1%	18.2%

* *Red font indicates that the value significantly differs from the current 2025 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 6. Handling of grass clippings in the street across years.



2.3.5 Pet Waste Pickup

Respondents who indicated they are responsible or partially responsible for at least one dog were asked how often they pick up after their dog(s) while on a walk. The response options were "Always", "Usually", "Sometimes", "Rarely", "Never", or "Not applicable/I don't take the dog(s) on walks". These respondents were also asked how often they picked up after their dog(s) in their yard, where the response options ranged from "Daily" to "Never". The responses are summarized in Table 8 and displayed in Figure 7. Of all respondents, 47.8% report having one or more dog(s) in their household for which they are at least partially responsible. Most dog owners (89.3%) report they always or usually pick up after their dog(s) on walks. Most also report picking up after their dog(s) in the yard on a daily basis (61.0%) and fewer report picking up after their dog(s) on a weekly basis (28.0%).

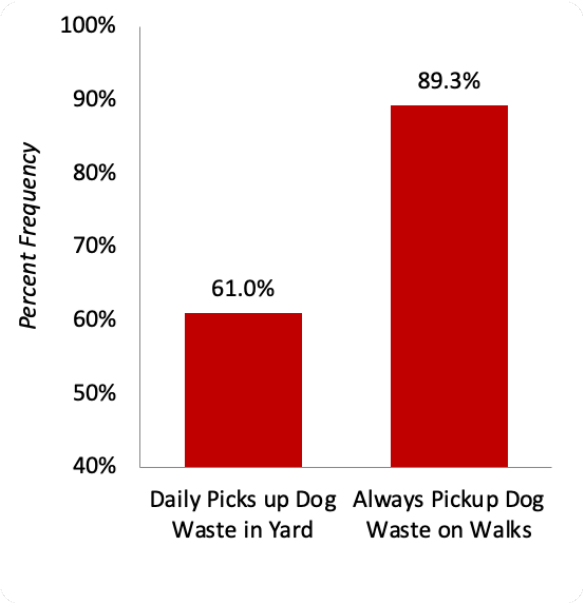
Generally, younger people reported owning dogs at a higher rate than older people. People aged 21 to 24 reported owning dogs at the highest rate (64.0%). Women reported always picking up after their dog(s) on walks at higher rates than men, 94.2% compared to 85.0%.

Table 8. Frequency of picking up dog waste by demographic group.

Demographic	Subcategory	Own a Dog	Always Pick Up Dog Waste on Walks	Daily Pick Up Dog Waste in Yard	Weekly Pick Up Dog Waste in Yard
	All Respondents	**47.8%**	**89.3%**	**61.0%**	**28.0%**
Gender	Male	53.0%	85.0%	67.0%	23.9%
	Female	42.7%	94.2%	55.1%	32.6%
Age	21 to 24	64.0%	93.5%	63.0%	25.9%
	25 to 34	57.1%	90.0%	63.2%	30.9%
	35 to 44	49.5%	82.4%	59.0%	33.3%
	45 to 54	54.7%	91.2%	60.7%	25.0%
	55 to 64	35.1%	88.9%	50.0%	25.0%
	65 to 74	28.8%	93.3%	53.3%	20.0%
	75 or older	21.2%	100.0%	85.7%	14.3%
Locality	Alexandria	52.9%	88.6%	57.1%	32.1%
	Arlington	51.0%	88.0%	78.3%	21.7%
	Fairfax Co.	42.9%	87.8%	66.2%	21.5%
	Prince William & Stafford Co.	45.2%	94.9%	55.1%	32.7%
	Loudon Co.	58.6%	85.0%	51.4%	34.3%
Ethnicity	Not Hispanic/Latino	48.0%	89.4%	62.4%	26.5%
	Hispanic/Latino	46.6%	88.5%	47.4%	42.1%
Residence Years	Less than 1 year	42.9%	93.3%	72.7%	9.1%
	1 to 3 years	47.1%	83.6%	59.5%	26.2%
	4 to 9 years	49.7%	86.3%	53.2%	35.5%
	10 to 19 years	55.8%	90.2%	73.0%	18.9%
	20 or more years	42.7%	98.0%	60.4%	31.3%
Residence Type	Owned	51.9%	91.5%	61.7%	28.9%
	Rented	40.0%	86.4%	62.7%	27.1%
Income	Less than $35,000	28.8%	89.5%	86.7%	13.3%
	$35,000 to $49,999	48.3%	92.3%	61.9%	28.6%
	$50,000 to $74,999	45.9%	84.8%	54.2%	41.7%
	$75,000 to $99,999	50.0%	89.4%	73.8%	16.7%
	$100,000 to $124,999	55.0%	90.0%	66.7%	22.2%
	$125,000 to $149,999	54.5%	87.5%	38.1%	42.9%
	$150,000 to $174,999	56.3%	88.9%	43.8%	50.0%
	$175,000 to $199,999	66.7%	83.3%	68.8%	18.8%
	$200,000 or greater	40.4%	100.0%	44.4%	27.8%

** Red font indicates significant differences within a demographic subgroup.*

Figure 7. Frequency of picking up dog waste.



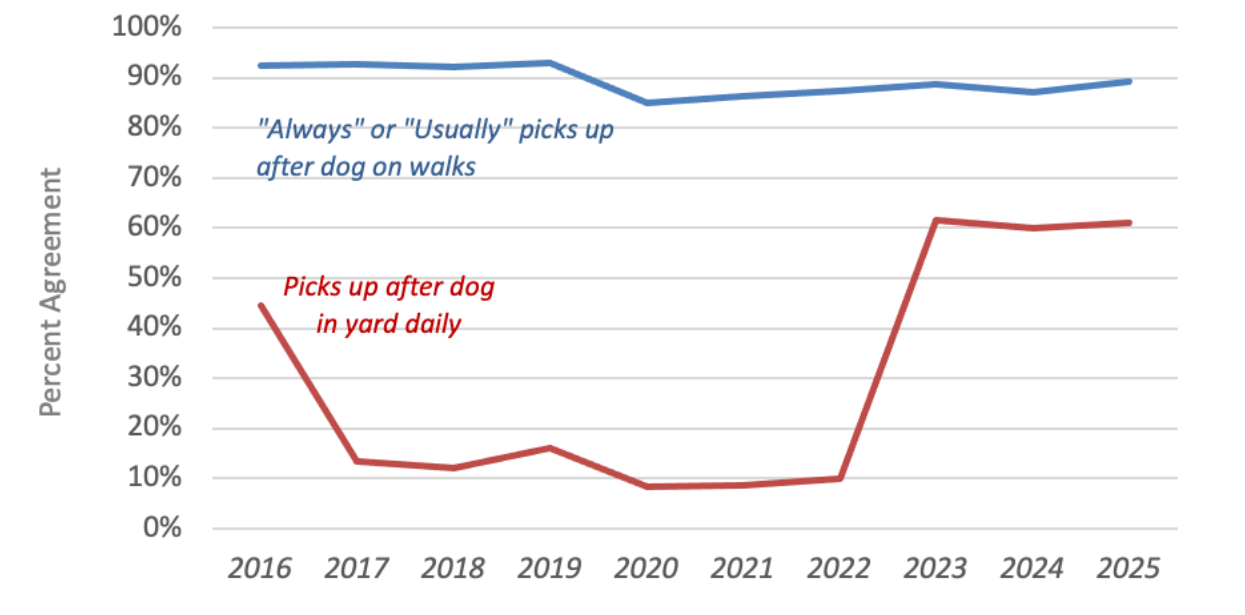
Rates of respondents reporting they "always" or "usually" pick up after their dog(s) on walks and pick after their dog(s) in the yard "daily" from 2016-2025 can be seen below in Table 9. From 2017-2022, reported rates of picking up from the yard daily were lower than in 2025. While "daily" is the most common response regarding frequency of picking in the yard in 2023 - 2025, "weekly" was the most common response in 2018-2022.

Table 9. Frequency of picking up dog waste across years.

	Year of Survey									
Survey Response	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
"Always" or "Usually" picks up after dog on walks	92.4%	92.7%	92.1%	93.0%	85.0%	86.4%	87.5%	88.7%	87.1%	89.3%
Picks up after dog in yard daily	44.6%	13.3%	12.2%	16.0%	8.3%	8.7%	9.9%	61.5%	59.9%	61.0%

* *Red font indicates that the value significantly differs from the current 2025 value.*

Figure 8. Frequency of picking up dog waste across years.



Participants who indicated that they pick up dog waste with any frequency either on walks or in their own yard were asked the most important reason for doing so, the results of which can be seen in Table 10 and Figure 9. The response options were “City/county ordinance”, “Don’t want to step in it”, “It causes water pollution”, “It is gross”, “It’s what good neighbors do”, “Odor”, or “Other reason”. In response to this question, 27.4% of dog owners report their most important reason being that it causes water pollution. Additionally, 20.7% report their most important reason being that it is gross and 17.9% report doing so because it is what good neighbors do. Finally, 15.1% report doing so because they don’t want to step in it, 11.7% because it is required by city or council ordinance, and 7.3% do so because of the odor. Hispanic/Latino respondents report higher rates of picking up dog waste because of a city/county ordinance and lower rates of doing so because it causes water pollution. Finally, people aged 55 to 64 report significantly higher rates of picking up dog waste because they don’t want to step in it.

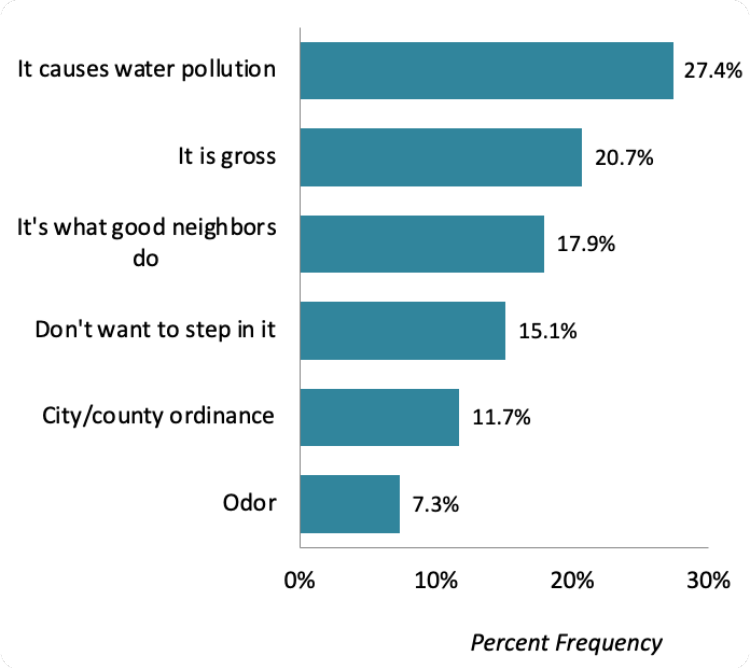
Table 10. Most important reason for picking up dog waste by demographic group.

Demographic	Subcategory	Reason for Picking Up Dog Waste					
		City/county ordinance	Don't want to step in it	It causes water pollution	It is gross	It's what good neighbors do	Odor
	All Respondents	**11.7%**	**15.1%**	**27.4%**	**20.7%**	**17.9%**	**7.3%**
Gender	Male	12.1%	18.2%	30.3%	16.2%	15.2%	8.1%
	Female	11.4%	10.1%	24.1%	26.6%	21.5%	6.3%
Age	21 to 24	16.0%	4.0%	40.0%	32.0%	8.0%	0.0%
	25 to 34	9.5%	12.7%	22.2%	23.8%	20.6%	11.1%
	35 to 44	8.1%	10.8%	37.8%	16.2%	18.9%	8.1%
	45 to 54	12.5%	25.0%	12.5%	20.8%	25.0%	4.2%
	55 to 64	7.7%	46.2%	23.1%	7.7%	7.7%	7.7%
	65 to 74	23.1%	15.4%	30.8%	15.4%	15.4%	0.0%
	75 or older	25.0%	0.0%	25.0%	0.0%	25.0%	25.0%
Locality	Alexandria	16.7%	25.0%	20.8%	25.0%	4.2%	8.3%
	Arlington	9.5%	4.8%	38.1%	19.0%	14.3%	14.3%
	Fairfax Co.	8.3%	11.7%	33.3%	18.3%	23.3%	5.0%
	Prince William & Stafford Co.	12.2%	19.5%	17.1%	26.8%	14.6%	9.8%
	Loudon Co.	15.2%	15.2%	27.3%	15.2%	24.2%	3.0%
Ethnicity	Not Hispanic/Latino	9.9%	16.0%	29.6%	19.8%	17.3%	7.4%
	Hispanic/Latino	29.4%	5.9%	5.9%	29.4%	23.5%	5.9%
Residence Years	Less than 1 year	25.0%	25.0%	12.5%	25.0%	12.5%	0.0%
	1 to 3 years	8.3%	13.9%	27.8%	30.6%	16.7%	2.8%
	4 to 9 years	17.2%	17.2%	22.4%	27.6%	13.8%	1.7%
	10 to 19 years	5.9%	11.8%	41.2%	14.7%	17.6%	8.8%
	20 or more years	9.3%	14.0%	25.6%	7.0%	25.6%	18.6%
Residence Type	Owned	13.7%	15.4%	27.4%	16.2%	18.8%	8.5%
	Rented	5.8%	13.5%	28.8%	30.8%	15.4%	5.8%
Income	Less than $35,000	14.3%	21.4%	35.7%	14.3%	7.1%	7.1%
	$35,000 to $49,999	11.1%	5.6%	38.9%	27.8%	16.7%	0.0%
	$50,000 to $74,999	0.0%	9.1%	31.8%	31.8%	18.2%	9.1%
	$75,000 to $99,999	13.5%	18.9%	32.4%	10.8%	18.9%	5.4%
	$100,000 to $124,999	8.3%	12.5%	25.0%	29.2%	12.5%	12.5%

Demographic	Subcategory	Reason for Picking Up Dog Waste					
		City/county ordinance	Don't want to step in it	It causes water pollution	It is gross	It's what good neighbors do	Odor
	$125,000 to $149,999	10.5%	10.5%	10.5%	26.3%	31.6%	10.5%
	$150,000 to $174,999	21.4%	14.3%	14.3%	21.4%	14.3%	14.3%
	$175,000 to $199,999	13.3%	13.3%	46.7%	20.0%	6.7%	0.0%
	$200,000 or greater	18.8%	31.3%	6.3%	6.3%	31.3%	6.3%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 9. Reason for picking up dog waste.



Below, in Table 11, survey responses from 2016-2024 regarding reasons for picking up dog waste can be seen. In 2020 and 2023, fewer respondents reported their reason for picking up dog waste as a city or county ordinance, compared to 2025 respondents. Survey respondents in 2020

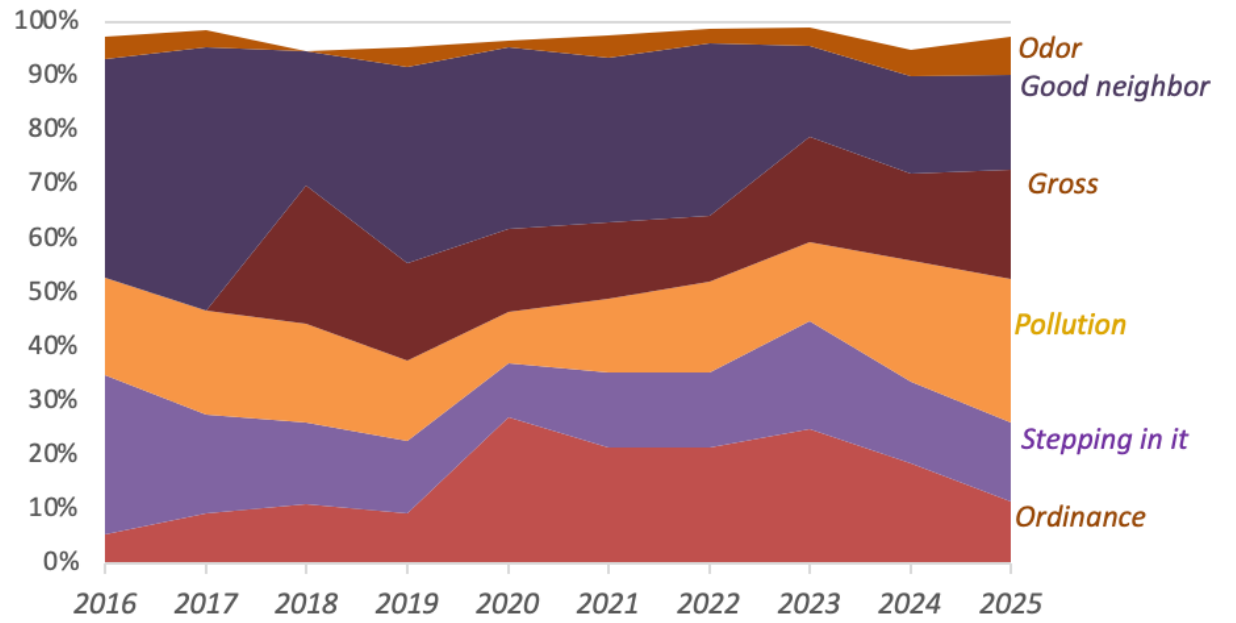
and 2021 reported lower rates of picking up dog waste because it causes water pollution, compared to 2025 respondents. Finally, respondents to this survey question in the years 2016, 2017, 2019, 2020 and 2022 reported higher rates of picking up dog waste because it's what good neighbors do, compared to 2025 respondents.

Table 11. Reason for picking up dog waste across years.

	Year of Survey									
Reason	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
City/county ordinance	5.5%	9.2%	11.1%	9.4%	27.0%	21.6%	21.4%	24.9%	18.6%	11.4%
Don't want to step in it	29.5%	18.4%	15.0%	13.5%	10.1%	13.7%	13.9%	19.8%	14.9%	14.7%
It causes water pollution	17.8%	19.1%	18.3%	14.6%	9.6%	13.7%	16.8%	14.8%	22.4%	26.6%
It is gross	*	*	25.5%	18.1%	15.2%	14.1%	12.2%	19.4%	16.1%	20.1%
It's what good neighbors do	40.4%	48.7%	24.8%	36.3%	33.7%	30.3%	31.9%	16.9%	18.0%	17.4%
Odor	4.1%	3.3%	*	3.5%	1.1%	4.1%	2.5%	3.4%	5.0%	7.1%
Other reason	2.7%	1.3%	5.2%	4.7%	3.4%	2.5%	1.3%	0.8%	5.0%	2.7%

** Red font indicates that the value significantly differs from the current 2025 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 10. Reason for picking up pet waste across years.



2.3.6 Behaviors Related to Vehicles

Respondents were next asked about their behavior regarding changing motor oil and how the used motor oil is disposed. Because the survey queries knowledge and behaviors regarding changing the motor oil of their personal vehicles, respondents were first asked if they own a personal vehicle. The majority of respondents (86.4%) report having a personal vehicle that they own or lease, as seen in Table 12. Alexandria and Arlington had lower rates of owning or leasing a personal vehicle while Loudon County had the highest rates. Men report higher rates of owning a vehicle than women, as do those who have lived in their residence for more years and those who own their homes. Additionally, Hispanic/Latino respondents reported lower rates of vehicle ownership and reported rates of vehicle ownership tended to increase with household income.

2.3.6.1 Disposing of Motor Oil

Those who own or lease a personal vehicle were then asked how they dispose of motor oil when their vehicle oil is changed (Table 12 and Figure 11). Response options were “I don’t change the oil myself/I take it to a garage/oil change service”, “Take the motor oil to a gas station or hazmat facility for recycling”, “Store it in my garage”, “Put it in the trash”, “Dump it in the gutter or

down the storm sewer", "Dump it down the sink", "Dump it on the ground", and an option to write-in another method not listed. Most of these respondents (65.0%) report taking their vehicle to a garage or oil changing service when the oil needs to be changed. Additionally, 21.1% report taking the old motor oil to a gas station or hazmat facility, 6.9% store it in their garage, 4.2% put it in the trash, 0.9% dump it in the gutter or storm drain, 0.9% dump it on the ground, and 0.9% report dumping it down the sink.

Men reported using a gas station or hazmat facility at higher rates than women. Older respondents reported higher rates of using an oil change service and lower rates of using a gas or hazmat facility. Hispanic/Latino respondents and renters report lower rates of using a garage or oil change service. Rates of garage or oil change facility use tended to increase with income and were highest amongst respondents in Loudon County and those who own a home. Respondents in Arlington reported higher rates of putting motor oil in the trash.

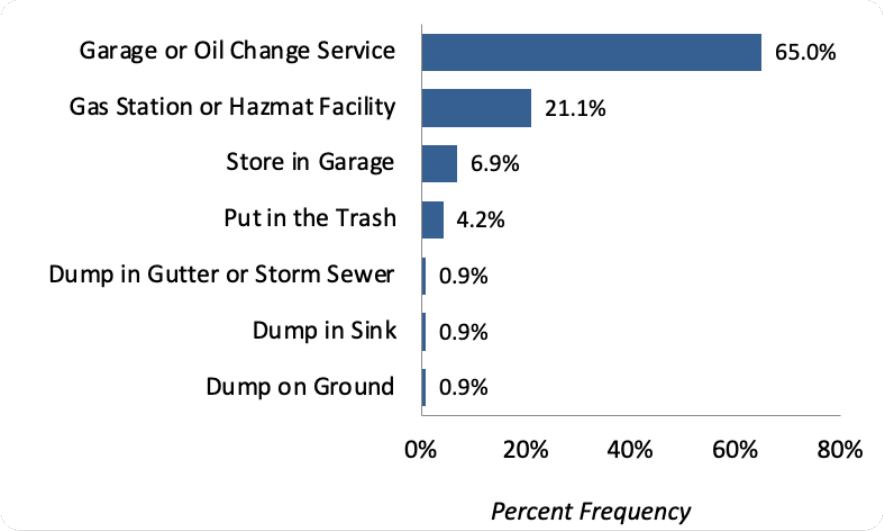
Table 12. Vehicle possession and motor oil disposal by demographic group.

Demographic	Subcategory	Own or Lease Vehicle	Motor Oil Disposal						
		Yes	Uses a Garage or Oil Change Service	Gas Station or Hazmat Facility	Store in Garage	Put in the Trash	Dump in Gutter or Storm Sewer	Dump in Sink	Dump on Ground
	All Respondents	**86.4%**	**65.0%**	**21.1%**	**6.9%**	**4.2%**	**0.9%**	**0.9%**	**0.9%**
Gender	Male	90.3%	60.0%	25.0%	6.8%	5.0%	1.4%	0.9%	0.9%
	Female	83.1%	70.5%	16.7%	7.1%	3.3%	0.5%	1.0%	1.0%
Age	21 to 24	92.0%	54.3%	30.4%	4.3%	4.3%	2.2%	4.3%	0.0%
	25 to 34	87.9%	52.1%	28.1%	12.4%	5.8%	1.7%	0.0%	0.0%
	35 to 44	88.3%	56.7%	23.3%	6.7%	7.8%	1.1%	2.2%	2.2%
	45 to 54	78.1%	60.0%	22.0%	12.0%	2.0%	0.0%	0.0%	4.0%
	55 to 64	86.0%	83.7%	14.3%	0.0%	2.0%	0.0%	0.0%	0.0%
	65 to 74	88.1%	90.4%	7.7%	1.9%	0.0%	0.0%	0.0%	0.0%
	75 or older	78.8%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Locality	Alexandria	77.9%	71.7%	13.2%	3.8%	5.7%	1.9%	0.0%	3.8%
	Arlington	80.4%	47.5%	27.5%	10.0%	10.0%	2.5%	0.0%	2.5%
	Fairfax Co.	91.8%	66.1%	23.0%	7.9%	1.2%	0.6%	1.2%	0.0%

Demographic	Subcategory	Own or Lease Vehicle	Motor Oil Disposal						
		Yes	Uses a Garage or Oil Change Service	Gas Station or Hazmat Facility	Store in Garage	Put in the Trash	Dump in Gutter or Storm Sewer	Dump in Sink	Dump on Ground
	Prince William & Stafford Co.	80.0%	67.0%	18.9%	6.6%	5.7%	0.9%	0.9%	0.0%
	Loudon Co.	97.1%	64.7%	22.1%	5.9%	4.4%	0.0%	1.5%	1.5%
Ethnicity	Not Hispanic/Latino	87.5%	66.4%	20.4%	7.0%	3.6%	1.0%	0.8%	0.8%
	Hispanic/Latino	77.6%	53.3%	26.7%	6.7%	8.9%	0.0%	2.2%	2.2%
Residence Years	Less than 1 year	62.9%	63.6%	31.8%	0.0%	4.5%	0.0%	0.0%	0.0%
	1 to 3 years	82.4%	69.8%	17.7%	6.3%	2.1%	1.0%	2.1%	1.0%
	4 to 9 years	85.4%	62.8%	18.6%	8.5%	7.0%	1.6%	0.8%	0.8%
	10 to 19 years	92.2%	54.3%	28.6%	7.1%	5.7%	1.4%	1.4%	1.4%
	20 or more years	94.4%	70.4%	20.0%	7.0%	1.7%	0.0%	0.0%	0.9%
Residence Type	Owned	94.3%	60.8%	22.8%	8.0%	4.9%	1.5%	0.8%	1.1%
	Rented	75.1%	73.2%	18.3%	5.2%	2.0%	0.0%	1.3%	0.0%
Income	Less than $35,000	57.6%	73.7%	21.1%	2.6%	2.6%	0.0%	0.0%	0.0%
	$35,000 to $49,999	79.3%	68.2%	18.2%	11.4%	0.0%	0.0%	2.3%	0.0%
	$50,000 to $74,999	94.6%	67.1%	22.9%	4.3%	2.9%	0.0%	1.4%	1.4%
	$75,000 to $99,999	86.7%	57.1%	29.8%	3.6%	3.6%	4.8%	1.2%	0.0%
	$100,000 to $124,999	90.0%	61.1%	14.8%	11.1%	9.3%	0.0%	1.9%	1.9%
	$125,000 to $149,999	90.9%	57.5%	20.0%	17.5%	2.5%	0.0%	0.0%	2.5%
	$150,000 to $174,999	100.0%	67.7%	25.8%	0.0%	3.2%	0.0%	0.0%	3.2%
	$175,000 to $199,999	100.0%	63.0%	14.8%	7.4%	14.8%	0.0%	0.0%	0.0%
	$200,000 or greater	95.7%	77.3%	13.6%	6.8%	2.3%	0.0%	0.0%	0.0%

** Red font indicates significant differences within a demographic subgroup.*

Figure 11. Motor oil handling behaviors.



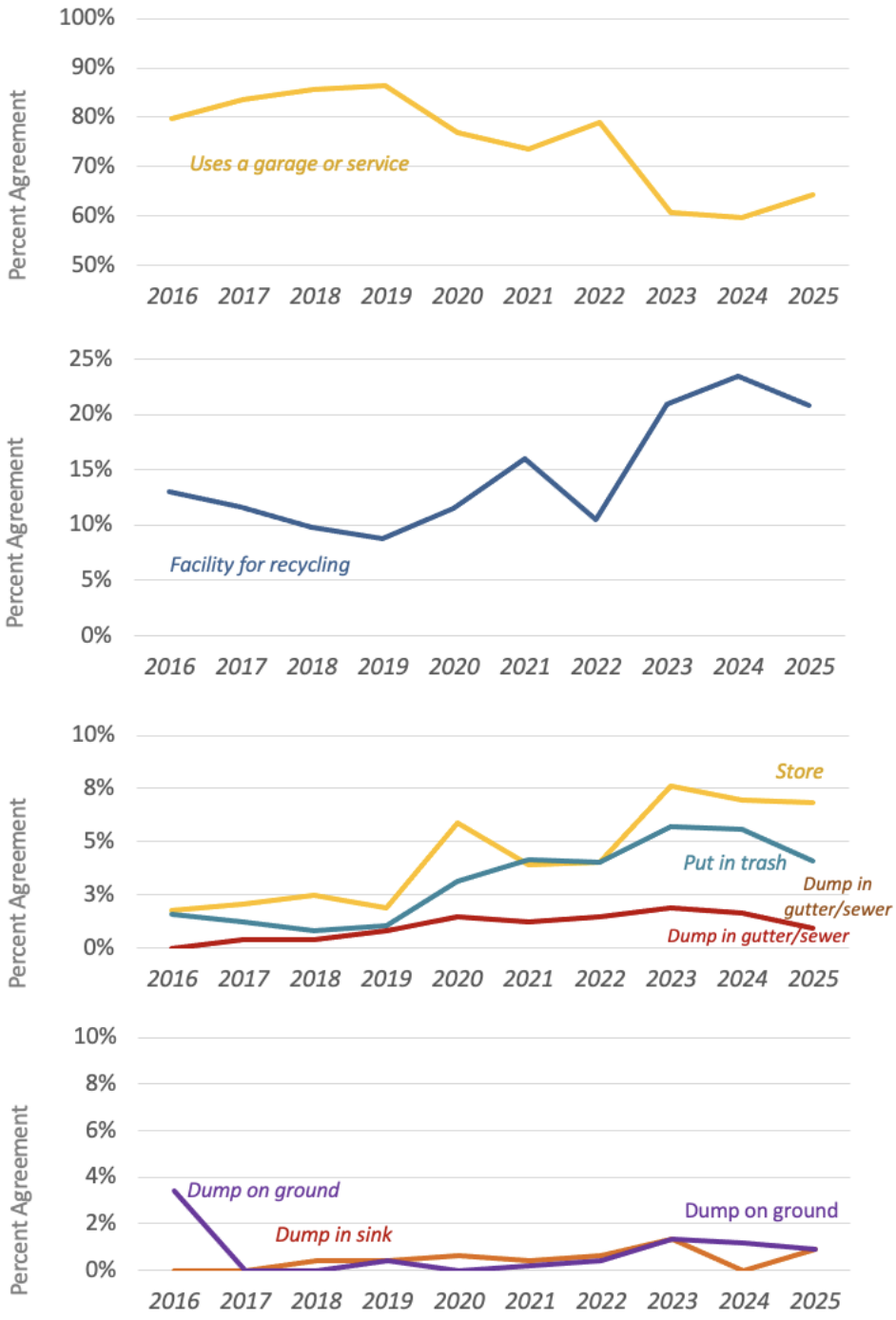
Reported motor oil handling behaviors from years 2016-2025 can be seen below in Table 13. First, reported use of using a garage or oil change service were higher in years 2016-2020 and 2022 than in 2025. Survey respondents from years 2017-2020 and 2022 report less frequent use of recycling facilities than 2025 respondents. Additionally, respondents in 2016, 2017 and 2019 reported less frequent oil storage, and respondents in 2023 and 2024 reported putting their motor oil in the trash less frequently than 2025 respondents.

Table 13. Motor oil handling behaviors across years.

Year of Survey										
Motor oil disposal	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Uses a Garage or Oil Change Service	79.8%	83.7%	85.7%	86.5%	76.8%	73.7%	78.9%	60.7%	59.8%	64.3%
Facility for Recycling	13.0%	11.6%	9.8%	8.8%	11.5%	16.0%	10.5%	21.0%	23.5%	20.8%
Store	1.8%	2.0%	2.5%	1.9%	5.9%	3.9%	4.0%	7.6%	7.0%	6.9%
Put in the Trash	1.6%	1.2%	0.8%	1.0%	3.1%	4.1%	4.0%	5.7%	5.6%	4.1%
Dump in Gutter/Sewer	*	0.4%	0.4%	0.8%	1.5%	1.2%	1.5%	1.9%	1.6%	0.9%
Dump in Sink	*	0.0%	0.4%	0.4%	0.6%	0.4%	0.6%	1.3%	0.0%	0.9%
Dump on Ground	3.4%	0.0%	0.0%	0.4%	0.0%	0.2%	0.4%	1.3%	1.2%	0.9%

** Red font indicates that the value significantly differs from the current 2025 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 12. Motor oil handling behaviors across years.



2.3.6.2 Vehicle Washing

Participants who reported owning or leasing a vehicle were also asked about their vehicle washing behaviors. Respondents were asked where they have washed their personal vehicle in

the past year, with response options being “At my home or someone else’s home”, “At a commercial car wash”, “I haven’t washed my vehicle”, and the option to write in another response not listed.

Those who reported washing their vehicle at home were asked about their water quality-related behaviors when washing their car. Response options were “Yes”, “No”, and “Not sure” for the following statements:

- I wash it on the grass, gravel, or dirt
- I use environmentally friendly detergent
- I use water only (no soap or detergent)

Of those who own or lease a personal vehicle, 37.4% said they wash their car/truck at home, as shown in Table 14 and Figure 13. Of those 37.4% of respondents that wash their vehicle at home, 52.1% report washing it on the grass, gravel, or dirt (Table 14 and Figure 14). Additionally, 62.4% report using environmentally friendly detergent. Finally, 22.9% report only using water. A majority, 64.6%, report washing their vehicle at a commercial car wash and 5.5% reported not washing their car in the past year.

Home owners report washing their vehicle at home at higher rates than renters. Additionally, rates of washing vehicles at home tended to increase with income. Younger people reported washing their car in grass, gravel, or dirt at higher rates, with 75.0% of respondents aged 21 to 24 compared to 22.2% of respondents aged 65 to 74. Men reported higher rates of using a commercial location to wash their car (70.4%) than women (59.2%). Loudon county residents reported the highest rates of commercial car wash use as did home owners. Generally, reported use of commercial car washes tended to increase with income.

Table 14. Vehicle washing behaviors by demographic group.

Demographic	Subcategory	Wash Car at Home	Wash Car in Grass, Gravel, or Dirt	Wash Car using Enviro-Friendly Detergent	Wash Car using only Water (No Soap)	Wash Car at Commercial Location	Have not Washed Car in Past Year
	All Respondents	**37.4%**	**52.1%**	**62.4%**	**22.9%**	**64.6%**	**5.5%**
Gender	Male	39.3%	57.3%	64.9%	21.9%	70.4%	5.7%
	Female	36.1%	46.7%	59.8%	23.9%	59.2%	5.5%
Age	21 to 24	48.0%	75.0%	62.5%	12.5%	64.0%	4.0%

Demographic	Subcategory	Wash Car at Home	Wash Car in Grass, Gravel, or Dirt	Wash Car using Enviro-Friendly Detergent	Wash Car using only Water (No Soap)	Wash Car at Commercial Location	Have not Washed Car in Past Year
	25 to 34	42.1%	55.9%	59.3%	27.1%	67.1%	5.7%
	35 to 44	42.7%	54.5%	65.9%	31.8%	66.0%	3.9%
	45 to 54	29.7%	44.4%	57.9%	16.7%	60.9%	3.1%
	55 to 64	31.6%	44.4%	72.2%	22.2%	57.9%	10.5%
	65 to 74	30.5%	22.2%	55.6%	16.7%	71.2%	3.4%
	75 or older	21.2%	42.9%	71.4%	0.0%	57.6%	12.1%
Locality	Alexandria	35.3%	45.8%	62.5%	20.8%	54.4%	4.4%
	Arlington	31.4%	68.8%	75.0%	18.8%	60.8%	5.9%
	Fairfax Co.	37.9%	48.5%	56.5%	25.0%	67.6%	6.0%
	Prince William & Stafford Co.	36.3%	51.0%	59.2%	20.4%	58.5%	5.9%
	Loudon Co.	44.3%	58.1%	74.2%	25.8%	81.4%	4.3%
Ethnicity	Not Hispanic/Latino	38.4%	52.6%	61.0%	23.4%	64.5%	6.0%
	Hispanic/Latino	29.3%	47.1%	76.5%	17.6%	65.5%	1.7%
Residence Years	Less than 1 year	25.7%	44.4%	77.8%	11.1%	51.4%	5.7%
	1 to 3 years	35.3%	40.5%	47.6%	19.0%	63.0%	3.4%
	4 to 9 years	36.4%	54.5%	65.5%	25.5%	64.2%	5.3%
	10 to 19 years	41.6%	61.3%	75.0%	25.8%	72.7%	5.2%
	20 or more years	41.1%	54.9%	60.8%	23.5%	65.3%	8.1%
Residence Type	Owned	43.8%	56.9%	58.1%	25.2%	71.0%	5.3%
	Rented	29.3%	43.3%	70.0%	18.3%	56.1%	4.9%
Income	Less than $35,000	21.2%	42.9%	50.0%	21.4%	37.9%	7.6%
	$35,000 to $49,999	43.1%	52.0%	64.0%	36.0%	44.8%	1.7%
	$50,000 to $74,999	39.2%	58.6%	62.1%	10.3%	74.3%	4.1%
	$75,000 to $99,999	34.7%	61.8%	64.7%	26.5%	70.4%	4.1%
	$100,000 to $124,999	33.3%	35.0%	55.0%	30.0%	65.0%	11.7%
	$125,000 to $149,999	52.3%	56.5%	56.5%	34.8%	70.5%	6.8%
	$150,000 to $174,999	31.3%	66.7%	90.0%	0.0%	84.4%	0.0%

Demographic	Subcategory	Wash Car at Home	Wash Car in Grass, Gravel, or Dirt	Wash Car using Enviro-Friendly Detergent	Wash Car using only Water (No Soap)	Wash Car at Commercial Location	Have not Washed Car in Past Year
	$175,000 to $199,999	40.7%	63.6%	81.8%	9.1%	70.4%	7.4%
	$200,000 or greater	48.9%	34.8%	56.5%	17.4%	76.6%	6.4%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 13. Vehicle washing locations.

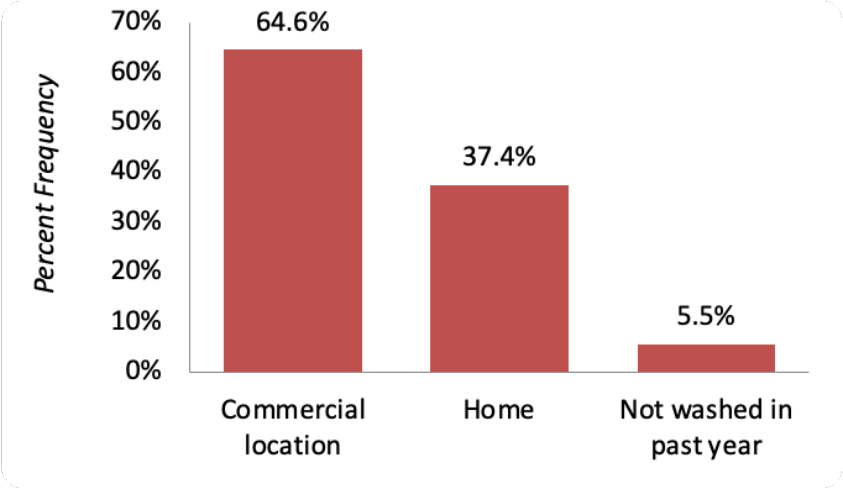
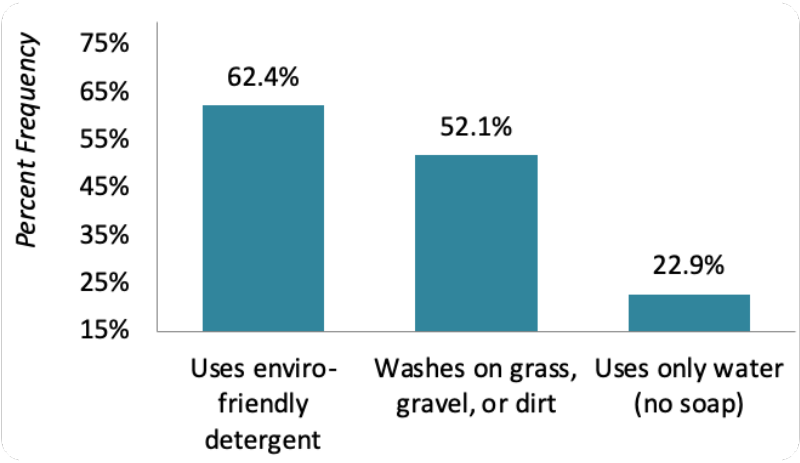


Figure 14. Desirable behaviors associated with vehicle washing.



Below, Table 15 displays reported rates of vehicle washing behaviors from 2018-2025. Notably, reported rates of washing vehicles on grass, gravel or dirt were lower in 2018, 2019 and 2022

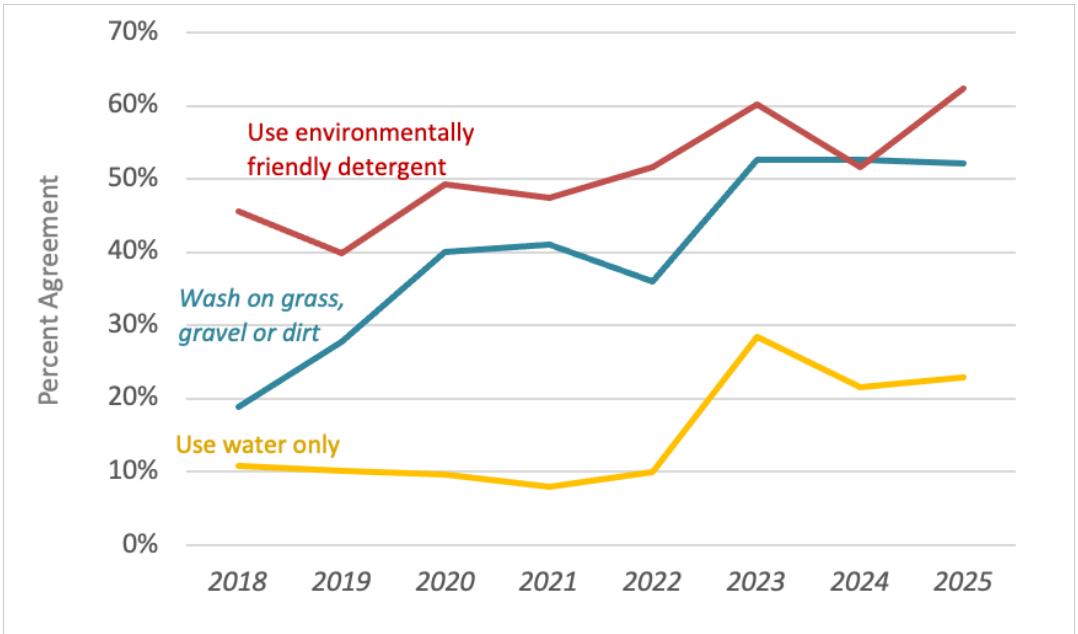
than in 2025. Additionally, reported use of only water to wash vehicles was lower in years 2022-2022 than in 2025.

Table 15. Vehicle washing behaviors across years.

Year of Survey								
Vehicle washing behavior	2018	2019	2020	2021	2022	2023	2024	2025
Wash on grass, gravel or dirt	18.8%	27.7%	40.1%	41.0%	36.0%	52.6%	52.7%	52.1%
Use environmentally friendly detergent	45.6%	39.9%	49.2%	47.5%	51.7%	60.3%	51.6%	62.4%
Use water only	10.7%	10.1%	9.6%	8.0%	10.0%	28.5%	21.6%	22.9%

* *Red font indicates that the value significantly differs from the current 2025 value.*

Figure 15. Vehicle washing behaviors across years.



Next, those who report washing their vehicle at home were asked how many times per year they do so, with response options being “Less than once a year”, “1-2 times per year”, “3-4 times per year”, “5-6 times per year”, “7-12 times per year”, “12+ times per year”. These responses can be seen in Table 16 and Figure 16. The most common response, at 25.4%, was 3-4 times per year. Next, 20.6% report washing their vehicle at home 1-2 times per year, 19.6% do so 12+ times per

year, and 19.0% do so 5-6 times per year. Less commonly, 11.6% of those who wash their personal vehicle at home report doing so 7-12 times per year, and 3.7% do so less than once per year. Women report washing their vehicle at home 1-2 times per year at higher rates than men, 28.3% compared to 13.4%. Additionally, men report washing their vehicles at home 7-12 times per year at higher rates than women, 16.5% compared to 6.5%. Finally, 52.6% of people aged 45 to 54 and 42.9% of people aged 75 or older who wash their vehicles at home report doing so 5-6 times per year, significantly higher rates than younger people.

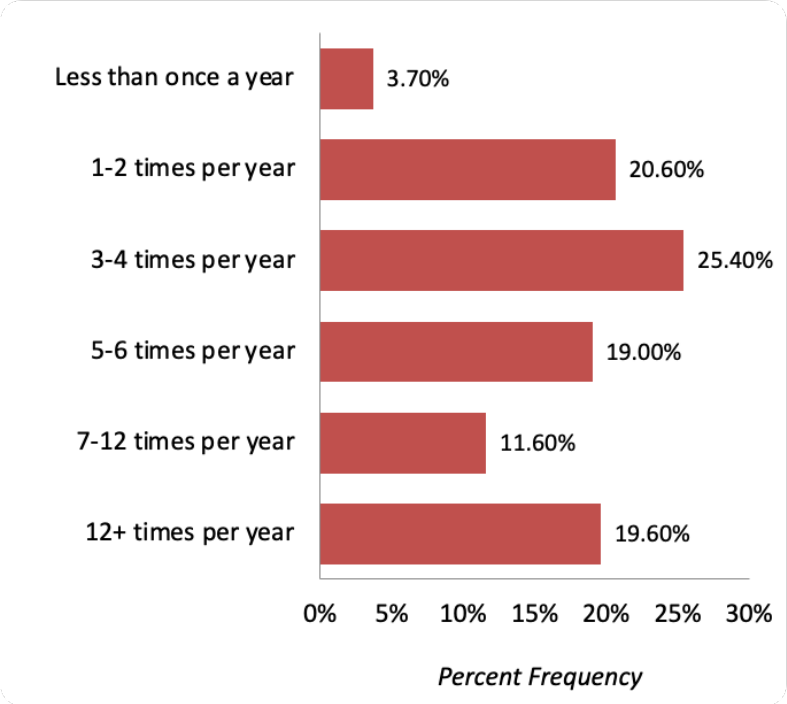
Table 16. Frequency of car washing at home by demographic group.

Demographic	Subcategory	Frequency of Car Washing at Home					
		Less than once a year	1-2 times per year	3-4 times per year	5-6 times per year	7-12 times per year	12+ times per year
	All Respondents	**3.7%**	**20.6%**	**25.4%**	**19.0%**	**11.6%**	**19.6%**
Gender	Male	3.1%	13.4%	21.6%	22.7%	16.5%	22.7%
	Female	4.3%	28.3%	29.3%	15.2%	6.5%	16.3%
Age	21 to 24	8.3%	12.5%	25.0%	25.0%	20.8%	8.3%
	25 to 34	1.7%	18.6%	28.8%	16.9%	15.3%	18.6%
	35 to 44	6.8%	18.2%	18.2%	9.1%	13.6%	34.1%
	45 to 54	0.0%	10.5%	26.3%	52.6%	0.0%	10.5%
	55 to 64	5.6%	33.3%	27.8%	5.6%	11.1%	16.7%
	65 to 74	0.0%	44.4%	27.8%	11.1%	0.0%	16.7%
	75 or older	0.0%	14.3%	28.6%	42.9%	0.0%	14.3%
Locality	Alexandria	8.3%	37.5%	16.7%	12.5%	4.2%	20.8%
	Arlington	0.0%	18.8%	31.3%	18.8%	6.3%	25.0%
	Fairfax Co.	1.4%	18.8%	26.1%	20.3%	18.8%	14.5%
	Prince William & Stafford Co.	4.1%	20.4%	26.5%	22.4%	10.2%	16.3%
	Loudon Co.	6.5%	12.9%	25.8%	16.1%	6.5%	32.3%
Ethnicity	Not Hispanic/Latino	4.1%	20.3%	25.0%	18.0%	12.2%	20.3%
	Hispanic/Latino	0.0%	23.5%	29.4%	29.4%	5.9%	11.8%
Residence Years	Less than 1 year	11.1%	22.2%	22.2%	11.1%	22.2%	11.1%
	1 to 3 years	4.8%	16.7%	23.8%	16.7%	11.9%	26.2%
	4 to 9 years	3.6%	12.7%	32.7%	20.0%	14.5%	16.4%
	10 to 19 years	0.0%	34.4%	18.8%	18.8%	12.5%	15.6%

Demographic	Subcategory	Frequency of Car Washing at Home					
		Less than once a year	1-2 times per year	3-4 times per year	5-6 times per year	7-12 times per year	12+ times per year
	20 or more years	3.9%	23.5%	23.5%	21.6%	5.9%	21.6%
Residence Type	Owned	4.8%	22.6%	22.6%	22.6%	8.9%	18.5%
	Rented	1.7%	16.7%	28.3%	13.3%	16.7%	23.3%
Income	Less than $35,000	14.3%	14.3%	28.6%	7.1%	28.6%	7.1%
	$35,000 to $49,999	0.0%	28.0%	36.0%	12.0%	4.0%	20.0%
	$50,000 to $74,999	6.9%	17.2%	27.6%	20.7%	13.8%	13.8%
	$75,000 to $99,999	2.9%	20.6%	11.8%	29.4%	14.7%	20.6%
	$100,000 to $124,999	0.0%	5.0%	30.0%	25.0%	15.0%	25.0%
	$125,000 to $149,999	0.0%	21.7%	30.4%	13.0%	8.7%	26.1%
	$150,000 to $174,999	10.0%	30.0%	30.0%	10.0%	0.0%	20.0%
	$175,000 to $199,999	9.1%	36.4%	18.2%	9.1%	18.2%	9.1%
	$200,000 or greater	0.0%	21.7%	21.7%	26.1%	4.3%	26.1%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 16. Frequency of car washing at home.



2.3.7 Home Landscaping Water Conservation

Respondents were asked about their familiarity with and possession of various home water conservation methods including rain barrels, rain gardens, and conservation landscaping. Results are summarized in Table 17 and displayed in Figure 17. Survey participants were given a definition of each conservation method and asked "Which of the following statements are true for you?" with response options "Yes", "No", and "Don't know" for the following statements:

- I have [a rain barrel/ a rain garden/ conservation landscaping].
- I am familiar with [rain barrels/ rain gardens/ conservation landscaping].
- I don't [a rain barrel/ a rain garden/ conservation landscaping] but I'm interested in getting [one/ one/ it].

When queried on their ownership, familiarity, and interest in rain barrels, about one-fourth (24.7%) report owning one, most (72.9%) report having familiarity with them, and about one-third (35.4%) report wanting to own one. When the same questions were posed regarding rain gardens, about one-fourth (24.4%) report owning one, half (48.1%) say they are familiar with them, and about one-third (30.9%) report wanting to own one. Finally, when asked about

conservation landscaping, one third (33.0%) report having it, half (55.7%) report being familiar with it and one third (32.8%) report being interested in adopting it. Of those respondents without rain barrels (75.3% of respondents), about a third (34.8%) would like to have one. Similarly, of those without rain gardens (75.5%) or conservation landscaping (67.0%), a third (32.2% and 36.3%, respectively) would like to adopt the method.

We note that all respondents were asked whether they would like to adopt the methods, regardless of whether they have the ability or space to do so; in other words, apartment renters were asked about each method. When we consider only those respondents with a lawn or garden (81.2% of survey respondents), interest in water conservation methods is largely the same: the proportion of these respondents who want rain barrels, rain gardens, and conservation landscaping are 38.2%, 33.2%, and 35.3%, respectively.

Taken together, we note that familiarity with rain gardens and conservation landscaping is lower than familiarity with rain barrels and shows room for growth. Almost all respondents with lawns and gardens are interested in adopting new water conservation methods, indicating receptiveness to water conservation among residents and the opportunity for education and buy-in.

Table 17. Familiarity with home water conservation methods by demographic group.

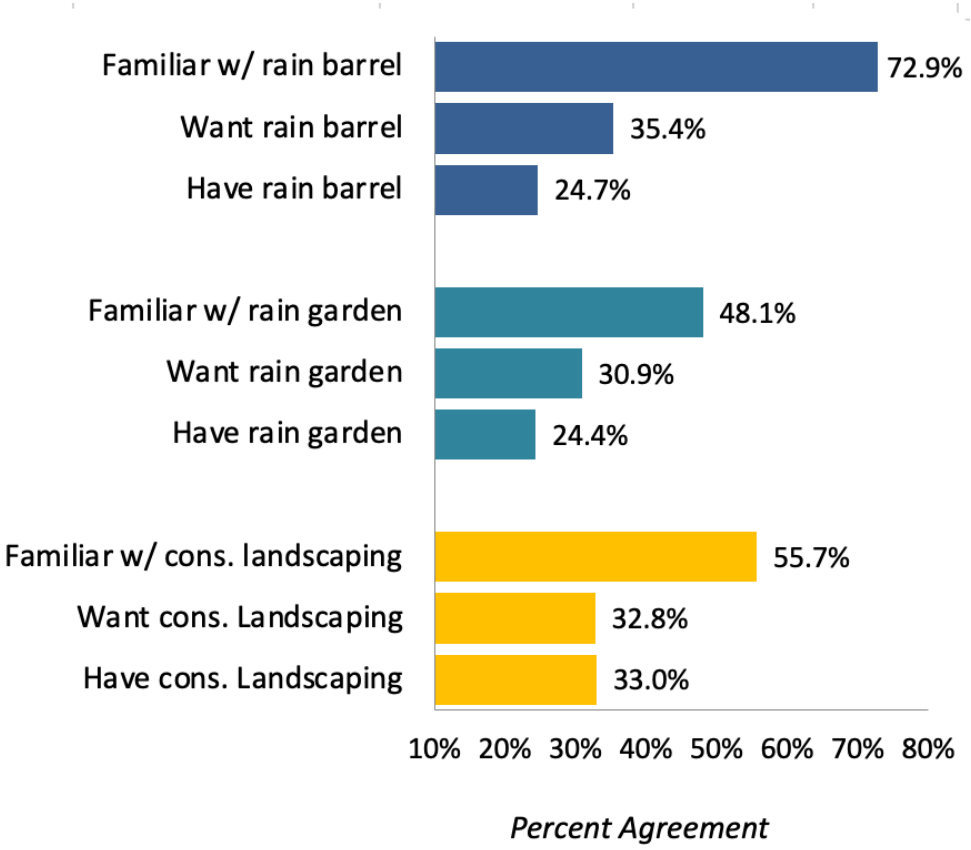
Demographic	Subcategory	Have Rain Barrel	Familiar with Rain Barrel	Want a Rain Barrel	Have Rain Garden	Familiar with Rain Garden	Want a Rain Garden	Have Cons. Landscape	Familiar with Cons. Landscape	Want Cons. Landscape
	All Respondents	**24.7%**	**72.9%**	**35.4%**	**24.4%**	**48.1%**	**30.9%**	**33.0%**	**55.7%**	**32.8%**
Gender	Male	30.4%	74.9%	35.6%	28.9%	52.0%	35.4%	39.3%	59.9%	31.2%
	Female	19.2%	70.6%	34.9%	20.0%	44.3%	26.3%	26.7%	51.4%	34.5%
Age	21 to 24	34.0%	76.0%	34.0%	40.0%	56.0%	22.0%	44.0%	60.0%	28.0%
	25 to 34	32.9%	65.7%	44.3%	30.0%	56.4%	36.4%	40.7%	63.6%	39.3%
	35 to 44	32.0%	74.8%	34.0%	32.0%	54.4%	46.6%	34.0%	57.3%	35.9%
	45 to 54	28.1%	65.6%	28.1%	30.2%	49.2%	33.3%	28.1%	53.1%	29.7%
	55 to 64	10.5%	82.5%	36.8%	8.8%	35.1%	21.1%	26.3%	47.4%	38.6%
	65 to 74	3.4%	81.4%	28.8%	3.4%	30.5%	16.9%	22.0%	45.8%	23.7%
	75 or older	9.1%	75.8%	27.3%	6.1%	33.3%	9.1%	21.2%	48.5%	15.2%
Locality	Alexandria	25.0%	76.5%	32.4%	25.0%	50.0%	27.9%	29.4%	66.2%	39.7%
	Arlington	31.4%	66.7%	47.1%	33.3%	54.9%	37.3%	47.1%	54.9%	25.5%
	Fairfax Co.	22.5%	73.1%	32.4%	23.2%	47.5%	29.8%	31.3%	54.9%	33.0%
	Prince	19.3%	67.4%	37.0%	21.5%	43.0%	28.1%	31.9%	48.9%	28.9%

Demographic	Subcategory	Have Rain Barrel	Familiar with Rain Barrel	Want a Rain Barrel	Have Rain Garden	Familiar with Rain Garden	Want a Rain Garden	Have Cons. Landscape	Familiar with Cons. Landscape	Want Cons. Landscape
	William & Stafford Co.									
	Loudon Co.	35.7%	84.3%	34.3%	25.7%	52.9%	37.1%	32.9%	61.4%	38.6%
Ethnicity	Not Hispanic/Latino	23.4%	74.6%	35.7%	23.0%	48.1%	30.4%	33.5%	55.4%	32.6%
	Hispanic/Latino	34.5%	60.3%	32.8%	34.5%	48.3%	34.5%	29.3%	58.6%	34.5%
Residence Years	Less than 1 year	14.3%	57.1%	31.4%	20.0%	42.9%	34.3%	8.6%	34.3%	34.3%
	1 to 3 years	22.7%	68.1%	35.3%	24.4%	49.6%	27.7%	33.6%	54.6%	28.6%
	4 to 9 years	26.5%	72.2%	37.7%	24.5%	49.7%	37.1%	33.8%	56.3%	37.1%
	10 to 19 years	32.5%	76.6%	37.7%	32.9%	52.6%	34.2%	37.7%	62.3%	33.8%
	20 or more years	22.6%	80.6%	32.3%	20.2%	43.5%	23.4%	35.5%	58.1%	30.6%
Residence Type	Owned	30.4%	80.2%	35.7%	28.0%	48.2%	31.2%	37.5%	59.0%	34.6%
	Rented	17.1%	63.4%	35.1%	18.5%	48.8%	30.2%	26.3%	52.2%	29.8%
Income	Less than $35,000	21.2%	62.1%	25.8%	24.2%	42.4%	24.2%	31.8%	43.9%	28.8%
	$35,000 to $49,999	17.2%	67.2%	29.3%	22.4%	43.1%	31.0%	24.1%	56.9%	31.0%
	$50,000 to $74,999	21.6%	68.9%	43.2%	17.6%	44.6%	28.4%	27.0%	50.0%	37.8%
	$75,000 to $99,999	26.5%	76.5%	35.7%	29.6%	53.1%	29.6%	44.9%	58.2%	29.6%
	$100,000 to $124,999	28.3%	75.0%	33.3%	22.0%	42.4%	40.7%	30.0%	58.3%	41.7%
	$125,000 to $149,999	29.5%	75.0%	45.5%	31.8%	56.8%	36.4%	36.4%	63.6%	36.4%
	$150,000 to $174,999	25.0%	81.3%	40.6%	18.8%	56.3%	40.6%	34.4%	59.4%	37.5%
	$175,000 to $199,999	44.4%	85.2%	48.1%	40.7%	55.6%	40.7%	37.0%	70.4%	40.7%
	$200,000 or greater	19.1%	76.6%	25.5%	17.0%	46.8%	17.0%	27.7%	53.2%	17.0%

** Red font indicates significant differences within a demographic subgroup.*

*** Insufficient data for between-group comparison*

Figure 17. Familiarity with home water conservation methods.



Men reported higher rates than women of having rain barrels (30.4% versus 19.2%) and conservation landscaping (39.3% versus 26.7%), as shown in Table 17. Generally, younger people reported higher rates of familiarity with rain barrels and rain gardens in addition to higher rates of having rain gardens and wanting rain gardens. Hispanic/Latino respondents reported lower rates of rain barrel familiarity, as did those who are newer to their homes. Home owners more frequently have rain barrels (30.4%), compared to renters (17.1%) and show greater familiarity with rain barrels (80.2% versus 63.4%). Thus, women, newer residents, and older residents are potential candidates for water conservation outreach and education.

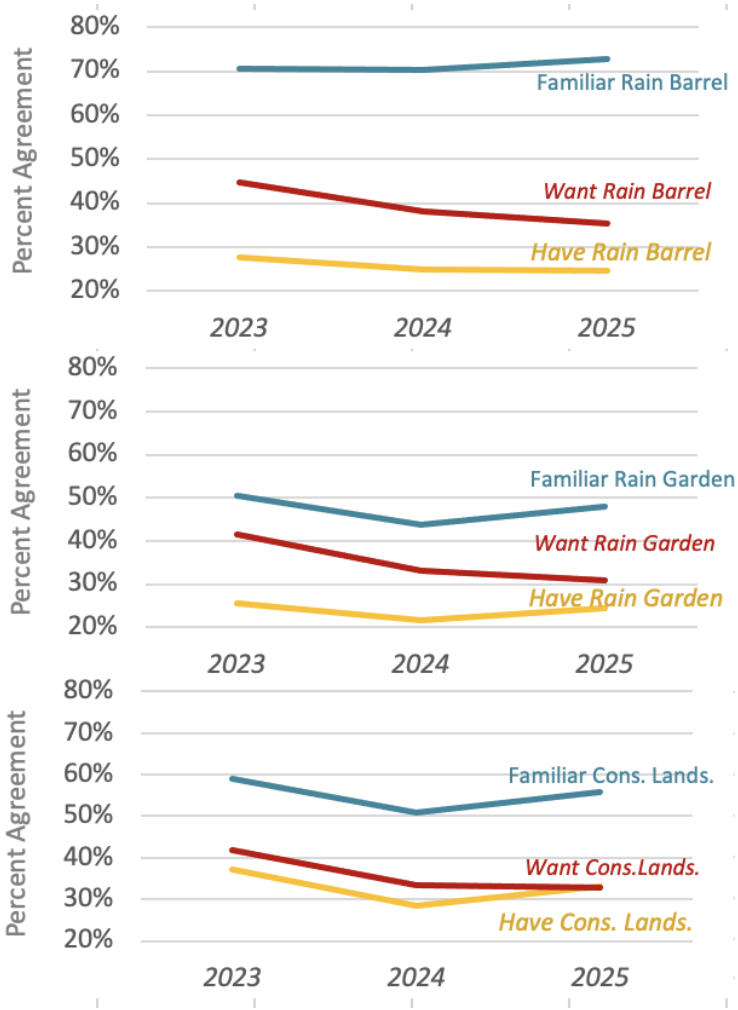
Familiarity, ownership and desire to own home water conservation methods from 2023 to 2025 are shown in Table 18. Respondents' desire to own rain barrels and rain gardens are lower in 2025 than 2023. No other significant differences were observed.

Table 18. Familiarity with home water conservation methods across years.

	Year of Survey		
Survey Response	2018	2019	2020
Have Rain Barrel	27.7%	25.0%	24.7%
Familiar Rain Barrel	70.7%	70.4%	72.9%
Want Rain Barrel	44.9%	38.2%	35.4%
Have Rain Garden	25.5%	21.6%	24.4%
Familiar Rain Garden	50.5%	43.8%	48.1%
Want Rain Garden	41.6%	33.3%	30.9%
Have Conservation Landscaping	37.1%	28.6%	33.0%
Familiar Conservation Landscaping	59.1%	50.8%	55.7%
Want Conservation Landscaping	42.0%	33.3%	32.8%

* *Red font indicates that the value significantly differs from the current 2025 value.*

Figure 18. Familiarity, ownership and desire to own home water conservation methods (rain barrels, rain gardens, and conservation landscaping).



2.3.8 Engagement in Water Quality Improvement Activities

Respondents were asked about their awareness of and engagement in community activities that promote better water quality in the past 12 months. Results are summarized in Table 19 and displayed in Figure 19. When asked about their familiarity with water quality activities, 28.7% report being aware of a water quality activity in the past 12 months. Men reported being aware of a water quality activity at higher rates than women, at 35.6% compared to 22.4%. Additionally, respondents in Arlington reported the highest rates of water quality activity awareness. Finally, reported awareness of water quality activities tended to decrease with age, with 42.0% of

respondents aged 21 to 24 reporting awareness while only 6.1% of respondents aged 75 or older reported awareness.

Finally, 67.6% of respondents who reported being aware of a water quality activity in the past 12 months also report participating in at least one. Men reported higher rates of participation, at 75.0% compared to 56.1% of women.

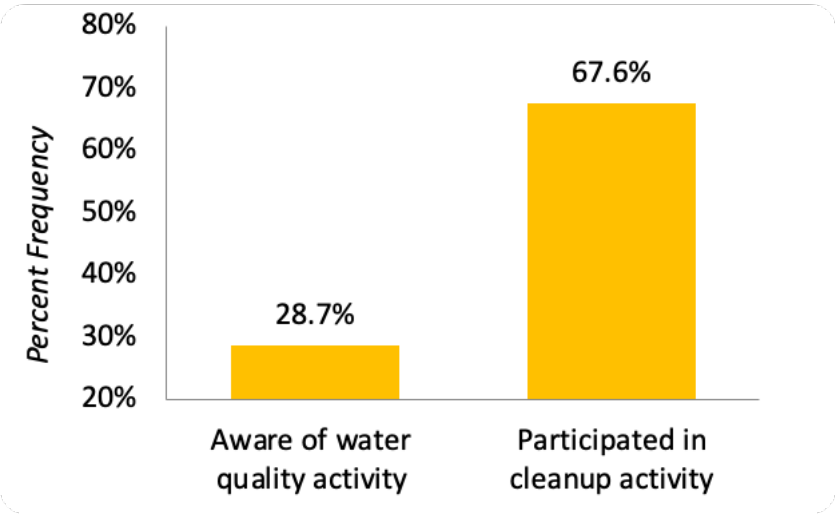
Table 19. Cleanup engagement behaviors by demographic group.

Demographic	Subcategory	Aware of Water Quality Activity in Last 12 Months	Participated in Cleanup Activity in Last 12 Months
	All Respondents	**28.7%**	**67.6%**
Gender	Male	35.6%	75.0%
	Female	22.4%	56.1%
Age	21 to 24	42.0%	76.2%
	25 to 34	32.9%	80.4%
	35 to 44	35.9%	64.9%
	45 to 54	33.3%	61.9%
	55 to 64	21.1%	50.0%
	65 to 74	10.2%	33.3%
	75 or older	6.1%	0.0%
Locality	Alexandria	33.8%	52.2%
	Arlington	46.0%	82.6%
	Fairfax Co.	24.2%	63.6%
	Prince William & Stafford Co.	25.9%	68.6%
	Loudon Co.	28.6%	75.0%
Ethnicity	Not Hispanic/Latino	28.6%	67.2%
	Hispanic/Latino	29.3%	70.6%
Residence Years	Less than 1 year	22.9%	75.0%
	1 to 3 years	22.7%	74.1%
	4 to 9 years	31.8%	75.0%
	10 to 19 years	40.3%	61.3%
	20 or more years	25.2%	54.8%
Residence Type	Owned	32.9%	69.9%
	Rented	23.5%	60.4%
Income	Less than $35,000	24.2%	56.3%
	$35,000 to $49,999	24.1%	85.7%
	$50,000 to $74,999	27.4%	65.0%
	$75,000 to $99,999	35.7%	65.7%

Demographic	Subcategory	Aware of Water Quality Activity in Last 12 Months	Participated in Cleanup Activity in Last 12 Months
	$100,000 to $124,999	33.3%	50.0%
	$125,000 to $149,999	25.0%	72.7%
	$150,000 to $174,999	34.4%	72.7%
	$175,000 to $199,999	37.0%	90.0%
	$200,000 or greater	17.0%	75.0%

** Red font indicates significant differences within a demographic subgroup.*

Figure 19. Cleanup activity engagement.



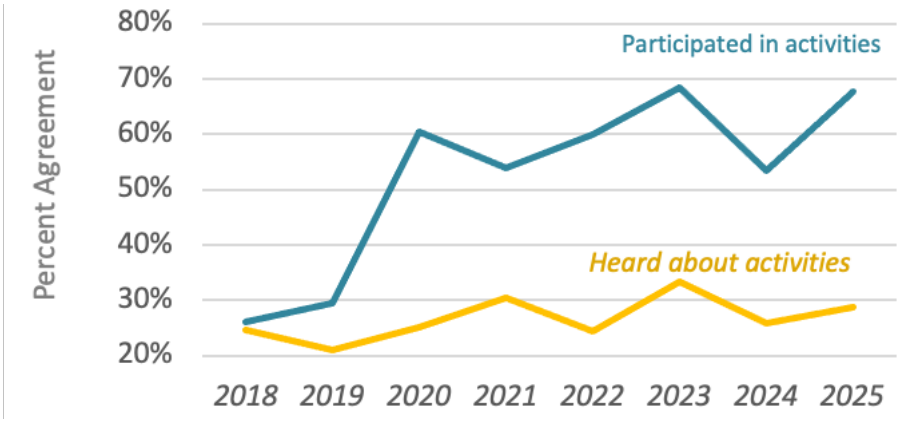
Response regarding cleanup engagement behaviors from years 2018-2025 can be seen below in Table 20. Reported rates of cleanup participation increased considerably in 2020, and have remained high since.

Table 20. Cleanup awareness and engagement across years.

	Year of Survey							
Survey Question	2018	2019	2020	2021	2022	2023	2024	2025
Heard about activities	24.6%	21.0%	25.2%	30.4%	24.4%	33.2%	25.9%	28.7%
Participated in activities	26.0%	29.5%	60.3%	53.9%	59.8%	68.5%	53.5%	67.6%

** Red font indicates that the value significantly differs from the current 2025 value.*

Figure 20. Cleanup awareness and engagement across years.



2.3.9 Roadway Materials

Four survey questions measure residents' behaviors and perceptions related to roadway materials for icy conditions:

- **During snowy and icy conditions, how often (if at all) do you (or a family member) apply deicer (e.g., salt) at your residence?** [*always or most of the time, frequently, sometimes, occasionally, rarely, never, don't know*]
- [skipped if the "rarely" or "never" was given in the previous question] **Do you (or a family member) typically apply deicer (e.g., salt) at your residence before, during, or after a winter storm event?** [Select all that apply: Before, During. After Depends / varies too much to say, Other, Don't know]
- **During snowy and icy conditions, how often (if at all) do you (or a family member) apply an abrasive for traction (e.g., sand) at your residence? [**always or most of the time, frequently, sometimes, occasionally, rarely, never, don't know]
- **In general, how would you rate the impact (if any) on each of the following from using salt for winter storm events?** [5-point scale from "very positive" to "very negative", and "don't know/not sure"]: Tap/Drinking water, local waterways, emergency vehicle safety, motorist safety, pedestrian safety, economic and civic activity.

Respondents varied in frequency of applying deicer at their residences, with about 41.7% reporting "always or frequently", 29.1% reporting "Sometimes or occasionally" and 29.3% reporting "rarely or never". Reported frequency of applying deicer tended to decrease with age. Over half of respondents aged 21 to 24 reported applying deicer always or frequently compared to 22.0% of respondents aged 65 to 74. Finally, respondents who have lived in their residence for 20 or more years reported the lowest rates of applying deicer "always or frequently".

Table 21. Frequency of applying a deicer at one's residence, by demographic group.

Demographic	Subcategory	Always or frequently	Sometimes or Occasionally	Rarely or never
	All Respondents	**41.7%**	**29.1%**	**29.3%**
Gender	Male	41.2%	29.8%	29.0%
	Female	42.0%	28.4%	29.6%
Age	21 to 24	56.0%	24.0%	20.0%
	25 to 34	46.8%	33.1%	20.1%
	35 to 44	42.6%	32.7%	24.8%
	45 to 54	41.9%	30.6%	27.4%
	55 to 64	39.3%	19.6%	41.1%
	65 to 74	22.0%	32.2%	45.8%
	75 or older	34.4%	15.6%	50.0%
Locality	Alexandria	44.8%	20.9%	34.3%
	Arlington	33.3%	37.3%	29.4%
	Fairfax Co.	37.6%	32.6%	29.8%
	Prince William & Stafford Co.	51.5%	24.2%	24.2%
	Loudon Co.	36.8%	30.9%	32.4%
Ethnicity	Not Hispanic/Latino	42.5%	26.7%	30.8%
	Hispanic/Latino	35.1%	47.4%	17.5%
Residence Years	Less than 1 year	45.5%	27.3%	27.3%
	1 to 3 years	48.3%	28.0%	23.7%
	4 to 9 years	44.7%	30.7%	24.7%
	10 to 19 years	48.0%	28.0%	24.0%
	20 or more years	26.8%	29.3%	43.9%
Residence Type	Owned	40.3%	28.6%	31.1%
	Rented	42.7%	30.2%	27.1%
Income	Less than $35,000	47.7%	21.5%	30.8%
	$35,000 to $49,999	48.2%	23.2%	28.6%
	$50,000 to $74,999	43.8%	28.8%	27.4%
	$75,000 to $99,999	39.6%	33.3%	27.1%
	$100,000 to $124,999	28.8%	35.6%	35.6%
	$125,000 to $149,999	38.6%	31.8%	29.5%
	$150,000 to $174,999	40.6%	31.3%	28.1%
	$175,000 to $199,999	48.1%	33.3%	18.5%
	$200,000 or greater	42.6%	23.4%	34.0%

** Red font indicates significant differences within a demographic subgroup. Because the frequency categories are correlated (i.e., the sum to 100%), statistical tests were only run for the "Always or frequently" category.*

Responses also varied in terms of when a deicer is used, if used at all. Among those reporting deicer use, approximately one third used them before a storm. Fewer (26.5% and 26.1%) use deicers during or after a storm, and 11.3% responded that it depends on the circumstances/it varies. Older adults are less likely than younger adults to use deicer before and during a storm. Similarly, those who have lived in their residence for fewer years are more likely to apply deicer before a storm. Further, respondents with an income from $175,000-$199,999 reported the highest rates of applying deicer before a storm.

Table 22. When respondents apply deicers, by demographic group.

Demographic	Subcategory	Before Storm	During Storm	After Storm	Depends
	All Respondents	**34.0%**	**26.5%**	**26.1%**	**11.3%**
Gender	Male	32.4%	29.1%	26.7%	11.7%
	Female	36.1%	24.3%	25.1%	10.6%
Age	21 to 24	38.0%	42.0%	18.0%	8.0%
	25 to 34	41.4%	32.9%	28.6%	12.1%
	35 to 44	35.0%	28.2%	22.3%	16.5%
	45 to 54	43.8%	23.4%	26.6%	4.7%
	55 to 64	24.6%	21.1%	26.3%	10.5%
	65 to 74	18.6%	16.9%	28.8%	13.6%
	75 or older	18.2%	3.0%	33.3%	6.1%
Locality	Alexandria	30.9%	27.9%	14.7%	16.2%
	Arlington	43.1%	31.4%	21.6%	3.9%
	Fairfax Co.	29.7%	23.6%	25.8%	11.0%
	Prince William & Stafford Co.	43.0%	26.7%	30.4%	12.6%
	Loudon Co.	24.3%	28.6%	32.9%	10.0%
Ethnicity	Not Hispanic/Latino	33.5%	27.0%	25.7%	11.4%
	Hispanic/Latino	37.9%	22.4%	29.3%	10.3%
Residence Years	Less than 1 year	48.6%	20.0%	20.0%	8.6%
	1 to 3 years	40.3%	26.9%	20.2%	13.4%
	4 to 9 years	37.1%	30.5%	29.1%	11.9%
	10 to 19 years	31.2%	28.6%	24.7%	13.0%

Demographic	Subcategory	Before Storm	During Storm	After Storm	Depends
	20 or more years	21.8%	21.8%	30.6%	8.1%
Residence Type	Owned	31.1%	27.9%	27.9%	11.7%
	Rented	38.0%	24.4%	24.4%	10.2%
Income	Less than $35,000	36.4%	18.2%	16.7%	15.2%
	$35,000 to $49,999	36.2%	24.1%	24.1%	12.1%
	$50,000 to $74,999	40.5%	32.4%	29.7%	4.1%
	$75,000 to $99,999	23.5%	34.7%	25.5%	11.2%
	$100,000 to $124,999	31.7%	28.3%	26.7%	8.3%
	$125,000 to $149,999	29.5%	29.5%	25.0%	13.6%
	$150,000 to $174,999	34.4%	18.8%	37.5%	15.6%
	$175,000 to $199,999	55.6%	18.5%	25.9%	11.1%
	$200,000 or greater	34.0%	19.1%	29.8%	14.9%

* *Red font indicates significant differences within a demographic subgroup.*

As shown in Table 23, the use of roadway abrasives is less common than salt use: 24.7% of respondents use abrasives "always or frequently", and slightly less than half use them "rarely or never". Generally, reported use of abrasives tends to decrease with age, with 50.0% of respondents aged 21 to 24 using abrasives "always or frequently" as compared to 10.0% of respondents aged 65 to 74. Further, 32.6% of respondents aged 21 to 24 reported using abrasives "rarely or never" compared to 74.6% of respondents aged 65 to 74. Similarly, reported use of abrasives tended to decrease as years of residence increased. Hispanic/Latino respondents reported the highest rates of using abrasives "sometimes or occasionally" while non-Hispanic/Latino respondents reported the highest rates of using abrasives "rarely or never". Finally, respondents with an income of $200,000 or greater reported the lowest use of abrasives, with nearly three quarters reporting abrasive use "rarely or never".

Table 23. Frequency of applying an abrasive at one's residence, by demographic group.

Demographic	Subcategory	Always or frequently	Sometimes or Occasionally	Rarely or Never
	All Respondents	**24.7%**	**26.6%**	**48.8%**
Gender	Male	26.1%	27.4%	46.5%
	Female	23.6%	24.9%	51.5%
Age	21 to 24	50.0%	17.4%	32.6%
	25 to 34	25.8%	35.6%	38.6%
	35 to 44	25.3%	32.3%	42.4%
	45 to 54	30.6%	22.6%	46.8%
	55 to 64	20.4%	20.4%	59.3%
	65 to 74	6.8%	18.6%	74.6%
	75 or older	10.0%	16.7%	73.3%
Locality	Alexandria	31.7%	23.8%	44.4%
	Arlington	35.3%	21.6%	43.1%
	Fairfax Co.	17.6%	29.5%	52.8%
	Prince William & Stafford Co.	26.6%	25.0%	48.4%
	Loudon Co.	25.0%	28.1%	46.9%
Ethnicity	Not Hispanic/Latino	25.0%	24.3%	50.7%
	Hispanic/Latino	22.2%	44.4%	33.3%
Residence Years	Less than 1 year	20.0%	33.3%	46.7%
	1 to 3 years	29.1%	20.9%	50.0%
	4 to 9 years	29.3%	29.9%	40.8%
	10 to 19 years	31.5%	31.5%	37.0%
	20 or more years	12.3%	23.0%	64.8%
Residence Type	Owned	23.6%	26.4%	50.0%
	Rented	26.8%	26.3%	46.8%

Demographic	Subcategory	Always or frequently	Sometimes or Occasionally	Rarely or Never
Income	Less than $35,000	32.2%	27.1%	40.7%
	$35,000 to $49,999	29.4%	19.6%	51.0%
	$50,000 to $74,999	28.8%	27.4%	43.8%
	$75,000 to $99,999	21.9%	32.3%	45.8%
	$100,000 to $124,999	20.7%	29.3%	50.0%
	$125,000 to $149,999	19.0%	31.0%	50.0%
	$150,000 to $174,999	13.3%	36.7%	50.0%
	$175,000 to $199,999	37.0%	25.9%	37.0%
	$200,000 or greater	19.6%	6.5%	73.9%

** Red font indicates significant differences within a demographic subgroup. Because the frequency categories are correlated (i.e., the sum to 100%), statistical tests were only run for the "Always or frequently" category.*

The frequency of deicer and abrasive use in 2024 (the year the questions were added to the survey) and 2025 are show below. Usage of both materials increased from 2024 to 2025. Data on when deicers are used are also shown below. There are no differences in the usage patterns between 2024 and 2025.

Table 24. Use of deicers and abrasives in 2024 and 2025.

Used 'Always' or 'Frequently'	Year of Survey	
	2024	2025
Deicer	33.7%	41.7%
Abrasive	17.2%	24.7%

* *Red font indicates that the value significantly differs from the current 2025 value.*

Table 25. When deicers are used in 2024 and 2025.

When deicer is used, relative toa storm	Year of Survey	
	2024	2025
Before	31.2%	34.0%
During	21.8%	26.5%
After	31.6%	26.1%
It depends	15.4%	11.3%

* *Red font indicates that the value significantly differs from the current 2025 value. There are no significant differences between 2024 and 2025 values.*

Finally, respondents were asked about their perceptions, positive and negative, of the impact of roadway salt use on various factors. The majority of respondents feel that roadway salt use has a positive impact on emergency vehicle safety (63.9%), motorist safety (66.1%), and pedestrian safety (69.4%), as seen in Table 26. About one third view the impact on tap/drinking water (33.8%) and local waterways as positive (34.1%). Finally, about half (53.0%) perceive the impact on economic and civic activity as positive. Men reported higher rates of perceived positive impact on tap water than women. Additionally, younger respondents perceived the impact on tap water and local waterways to be positive more so than older respondents did.

Table 26. Perceived impact of roadway salting as "very" or "somewhat" positive, by demographic group.

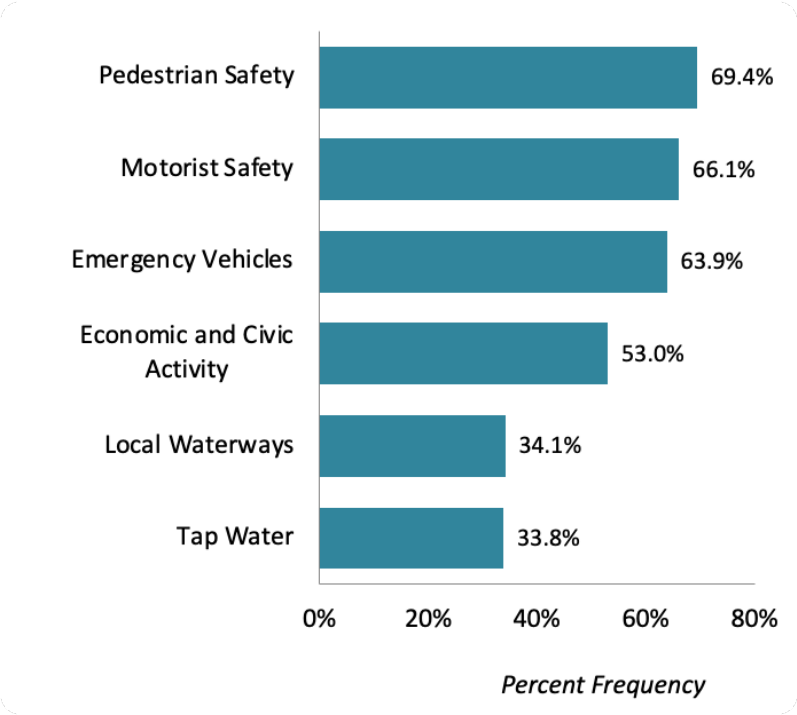
Demographic	Subcategory	Tap Water	Local Waterways	Emergency Vehicles	Motorist Safety	Ped. Safety	Eco. and Civic Act.
	All Respondents	**33.8%**	**34.1%**	**63.9%**	**66.1%**	**69.4%**	**53.0%**
Gender	Male	39.7%	38.4%	65.3%	67.8%	69.0%	56.3%

Demographic	Subcategory	Tap Water	Local Waterways	Emergency Vehicles	Motorist Safety	Ped. Safety	Eco. and Civic Act.
	Female	27.8%	29.8%	62.4%	64.3%	69.8%	49.4%
Age	21 to 24	46.0%	44.0%	74.0%	76.0%	72.0%	64.0%
	25 to 34	45.7%	44.3%	64.3%	61.4%	67.1%	60.0%
	35 to 44	36.9%	39.8%	62.1%	67.0%	68.9%	59.2%
	45 to 54	42.2%	42.2%	64.1%	65.6%	73.4%	57.8%
	55 to 64	21.1%	24.6%	63.2%	68.4%	70.2%	43.9%
	65 to 74	8.5%	6.8%	64.4%	72.9%	72.9%	33.9%
	75 or older	6.1%	6.5%	51.6%	51.6%	61.3%	25.8%
Locality	Alexandria	27.9%	33.8%	67.6%	63.2%	70.6%	57.4%
	Arlington	41.2%	47.1%	62.7%	70.6%	72.5%	62.7%
	Fairfax Co.	29.7%	27.2%	63.3%	66.1%	71.1%	46.7%
	Prince William & Stafford Co.	35.6%	37.8%	62.2%	65.2%	63.0%	54.1%
	Loudon Co.	41.4%	35.7%	65.7%	67.1%	74.3%	55.7%
Ethnicity	Not Hispanic/Latino	33.3%	32.5%	65.9%	68.6%	72.2%	53.1%
	Hispanic/Latino	37.9%	46.6%	48.3%	46.6%	48.3%	51.7%
Residence Years	Less than 1 year	31.4%	31.4%	57.1%	62.9%	65.7%	54.3%
	1 to 3 years	32.8%	31.4%	63.6%	61.9%	66.9%	51.7%
	4 to 9 years	41.7%	44.4%	64.2%	65.6%	69.5%	59.6%
	10 to 19 years	35.1%	37.7%	61.0%	67.5%	72.7%	51.9%
	20 or more years	25.0%	22.8%	67.5%	70.7%	70.7%	46.3%
Residence Type	Owned	34.3%	31.0%	63.7%	67.3%	70.8%	52.0%
	Rented	33.7%	39.0%	64.9%	65.9%	69.3%	55.1%
Income	Less than $35,000	33.3%	38.5%	70.8%	73.8%	67.7%	55.4%
	$35,000 to $49,999	36.2%	46.6%	65.5%	69.0%	67.2%	53.4%
	$50,000 to $74,999	32.4%	29.7%	60.8%	63.5%	77.0%	48.6%
	$75,000 to $99,999	39.8%	34.7%	61.2%	64.3%	67.3%	54.1%
	$100,000 to $124,999	28.3%	26.7%	60.0%	56.7%	65.0%	50.0%
	$125,000 to $149,999	34.1%	40.9%	65.9%	59.1%	63.6%	56.8%
	$150,000 to	31.3%	25.0%	68.8%	75.0%	81.3%	53.1%

Demographic	Subcategory	Tap Water	Local Waterways	Emergency Vehicles	Motorist Safety	Ped. Safety	Eco. and Civic Act.
	$174,999						
	$175,000 to $199,999	51.9%	50.0%	76.9%	80.8%	80.8%	69.2%
	$200,000 or greater	19.1%	19.1%	55.3%	63.8%	63.8%	44.7%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 21. Perceived positive impacts of roadway salting (rates impact as "very" or "somewhat" positive).



Positive perceptions of salting between years 2024 (the first year the question was included in the survey) and 2025 are shown below. More respondents believe there is a positive impact of road salting on economic and civic activity in 2025, compares to 2024.

Table 27. Perceived positive impacts of roadway salting, 2024 – 2025.

"Very" or "Somewhat" positive	Year of Survey	
	2024	2025
Tap Water	31.1%	33.8%
Local Waterways	30.5%	34.1%
Emergency Vehicles	61.8%	63.9%
Motorist Safety	65.1%	66.1%
Pedestrian Safety	68.8%	69.4%
Economic and Civic Activity	45.5%	53.0%

* *Red font indicates that the value significantly differs from the current 2025 value.*

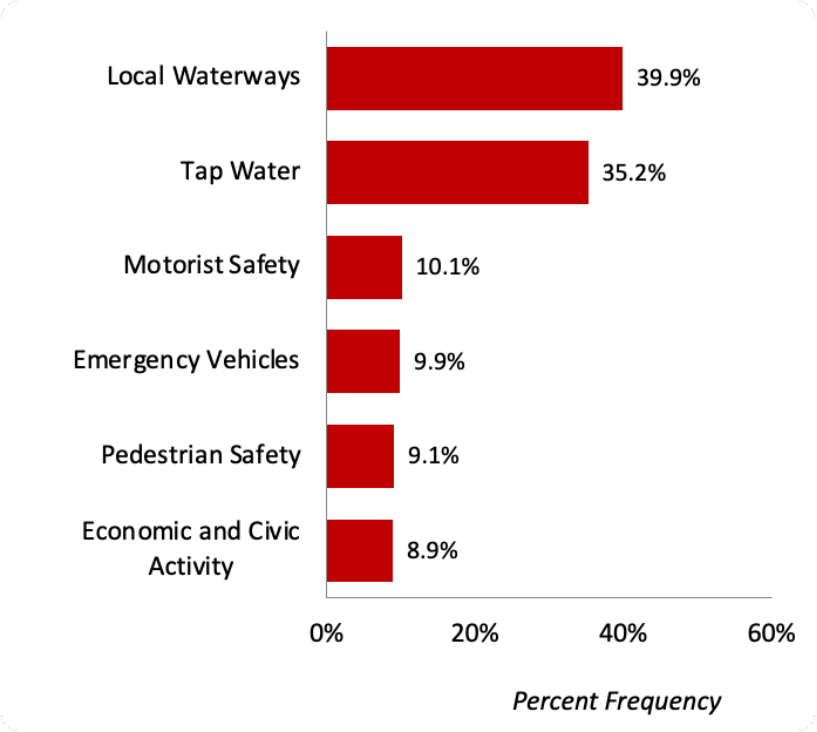
Table 28 shows rates of negative perceptions of roadway salting. The most common negative perceptions are on the impacts of salting on tap water and local waterways. Additionally, older adults more frequently perceive the impact of salt on tap water and local waterways as negative, compared to other age groups. Respondents in Fairfax County reported the highest rates of perceived impact on local water ways as negative as did respondents who have lived in their residence for longer periods of time. Hispanic/Latino respondents reported higher rates of perceived negative impact on emergency vehicles, motorist safety, and economic and civic activity than non-Hispanic/Latino respondents.

Table 28. Perceived impact of roadway salting as "very negative" or "somewhat negative", by demographic group.

Demographic	Subcategory	Tap Water	Local Waterways	Emergency Vehicles	Motorist Safety	Ped. Safety	Eco. and Civic Act.
	All Respondents	**35.2%**	**39.9%**	**9.9%**	**10.1%**	**9.1%**	**8.9%**
Gender	Male	33.6%	42.0%	11.4%	9.4%	11.0%	9.0%
	Female	37.3%	38.0%	8.6%	11.0%	7.5%	8.6%
Age	21 to 24	36.0%	36.0%	10.0%	12.0%	8.0%	10.0%
	25 to 34	27.1%	29.3%	11.4%	13.6%	12.9%	9.3%
	35 to 44	28.2%	35.9%	11.7%	11.7%	11.7%	9.7%
	45 to 54	29.7%	32.8%	9.4%	6.3%	3.1%	4.7%
	55 to 64	40.4%	43.9%	3.5%	3.5%	7.0%	7.0%

Demographic	Subcategory	Tap Water	Local Waterways	Emergency Vehicles	Motorist Safety	Ped. Safety	Eco. and Civic Act.
	65 to 74	62.7%	72.9%	11.9%	10.2%	6.8%	11.9%
	75 or older	42.4%	51.6%	6.5%	6.5%	6.5%	9.7%
Locality	Alexandria	36.8%	36.8%	8.8%	10.3%	11.8%	10.3%
	Arlington	27.5%	31.4%	19.6%	13.7%	9.8%	3.9%
	Fairfax Co.	40.1%	48.9%	8.9%	8.3%	7.8%	10.6%
	Prince William & Stafford Co.	31.9%	28.9%	6.7%	6.7%	9.6%	5.9%
	Loudon Co.	32.9%	47.1%	12.9%	18.6%	8.6%	12.9%
Ethnicity	Not Hispanic/Latino	34.6%	40.4%	8.7%	8.7%	8.3%	7.8%
	Hispanic/Latino	39.7%	36.2%	19.0%	20.7%	15.5%	17.2%
Residence Years	Less than 1 year	25.7%	37.1%	11.4%	20.0%	17.1%	14.3%
	1 to 3 years	36.1%	36.4%	9.3%	13.6%	9.3%	7.6%
	4 to 9 years	29.8%	29.8%	9.9%	6.6%	10.6%	11.3%
	10 to 19 years	40.3%	44.2%	11.7%	13.0%	6.5%	5.2%
	20 or more years	40.3%	53.7%	8.9%	6.5%	6.5%	8.1%
Residence Type	Owned	35.0%	42.3%	10.3%	7.5%	8.2%	7.5%
	Rented	35.1%	36.1%	9.3%	13.2%	9.8%	10.2%
Income	Less than $35,000	39.4%	35.4%	10.8%	7.7%	12.3%	12.3%
	$35,000 to $49,999	24.1%	25.9%	8.6%	12.1%	10.3%	6.9%
	$50,000 to $74,999	40.5%	45.9%	5.4%	9.5%	4.1%	6.8%
	$75,000 to $99,999	32.7%	38.8%	9.2%	11.2%	11.2%	8.2%
	$100,000 to $124,999	40.0%	43.3%	13.3%	11.7%	10.0%	6.7%
	$125,000 to $149,999	38.6%	38.6%	15.9%	11.4%	13.6%	15.9%
	$150,000 to $174,999	31.3%	46.9%	9.4%	6.3%	0.0%	6.3%
	$175,000 to $199,999	22.2%	30.8%	0.0%	0.0%	0.0%	0.0%
	$200,000 or greater	40.4%	53.2%	14.9%	14.9%	12.8%	14.9%

Figure 22. Perceived negative impacts of roadway salting (rates impact as "very" or "somewhat" negative).



Finally, the table below shows negative perceptions of the impact of roadway salting in 2024 and 2025. There are no significant differences in negative perceptions between years.

Table 29. Perceived negative impacts of roadway salting, 2024 – 2025.

"Very" or "Somewhat" negative	Year of Survey	
	2024	2025
Tap Water	33.1%	35.2%
Local Waterways	41.3%	39.9%
Emergency Vehicles	10.6%	9.9%
Motorist Safety	12.2%	10.1%
Pedestrian Safety	9.5%	9.1%
Economic and Civic Activity	10.2%	8.9%

** Red font indicates that the value significantly differs from the current 2025 value.*

2.4 Knowledge

2.4.3 Identifying the Local Watershed

Respondents were asked a series of questions in order to assess their knowledge about watersheds. First, participants were asked if they were familiar with the term "watershed". Regardless of the response (yes or no), all respondents were then shown this definition of the term:

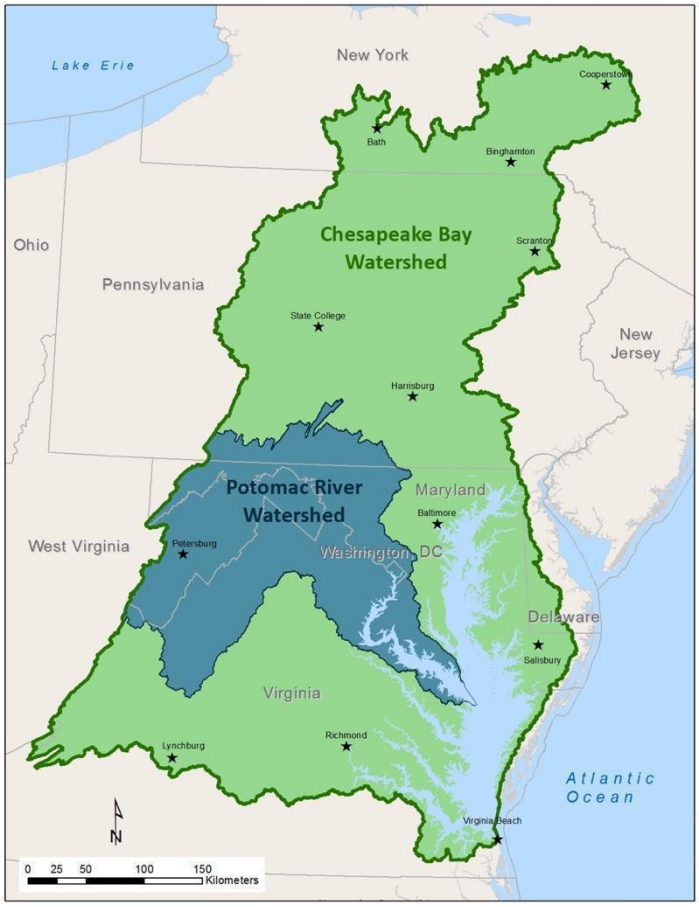
A watershed is an area of land that channels rainfall and snowmelt to creeks, streams, and rivers, and eventually to outflow points such as reservoirs, bays, and the ocean.

Next, survey participants were queried about their knowledge of their local watershed. They were asked whether they believe they live in the following watersheds, and provided the response options were "Yes", "No", and "Don't know:

- Chesapeake Bay watershed
- Potomac River watershed
- Another watershed not listed

For reference, a map of the Chesapeake Bay watershed and the Potomac River watershed can be seen below in Figure 23. All survey respondents live in both the Chesapeake Bay and Potomac watersheds.

Figure 23. Map of Chesapeake Bay and Potomac River watersheds.[1]



As can be seen in Table 30, 68.4% of respondents report that they are familiar with the term "watershed". Non-Hispanic/Latino respondents reported being familiar with the term at higher rates than Hispanic/Latino respondents (70.3% compared to 53.4%), as did home owners compared to renters (73.9% compared to 60.0%). Additionally, respondents who have lived in their residence for 20 or more years reported the highest rates of familiarity with the term "watershed".

When asked about the watersheds they reside in, 23.8% of respondents report that they live in the Chesapeake Bay watershed, 40.2% report that they live in the Potomac River watershed, and 2.2% report that they live in another watershed that was not listed in the survey. Men report higher rates than women of living in the Chesapeake Bay watershed (32.9% compared to 14.9%)

[1] Interstate Commission on the Potomac River Basin. (n.d.). *Potomac River Basin Atlas*. Potomac River Basin Atlas - Subwatersheds. https://www.potomacriver.org/Atlas-Maps/Subwatersheds/

or another watershed (3.7% compared to 0.8%). Arlington residence reported the highest rates of living in the Chesapeake Bay watershed, as did respondents who have lived in their residence for 10 or more years. Home owners also reported higher rates of living in the Chesapeake Bay watershed as well as respondents with an income of $175,000 or greater. Finally, respondents who have lived in their residence for one to three years reported the lowest rates of living in the Potomac River watershed. Respondents who have lived in their residence for less than one year reported significantly higher rates of living in another watershed not provided.

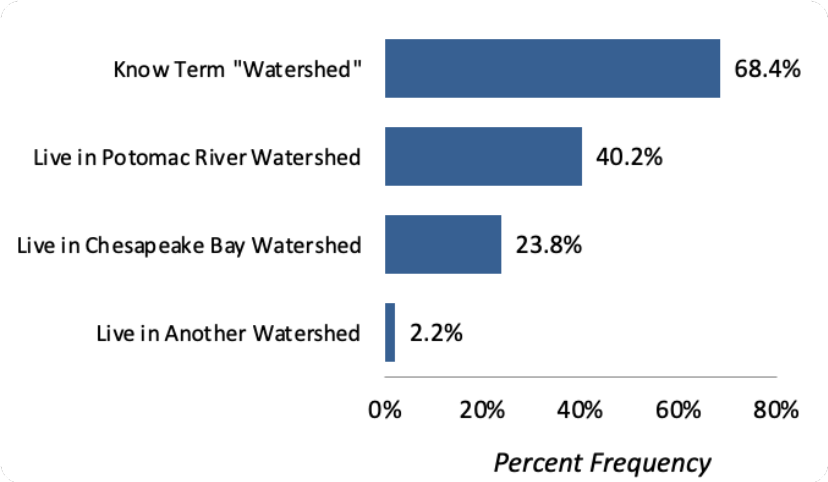
Table 30. Identifying the local watershed by demographic.

			Reports they live in the …		
Demographic	**Subcategory**	**Knows Term "Watershed"**	**Chesapeake Bay Watershed**	**Potomac River Watershed**	**Another Watershed**
	All Respondents	**68.4%**	**23.8%**	**40.2%**	**2.2%**
Gender	Male	72.9%	32.9%	45.3%	3.7%
	Female	63.9%	14.9%	35.0%	0.8%
Age	21 to 24	78.0%	32.0%	42.0%	0.0%
	25 to 34	71.4%	26.4%	40.7%	3.6%
	35 to 44	61.2%	27.2%	38.8%	1.9%
	45 to 54	62.5%	15.6%	35.9%	1.6%
	55 to 64	68.4%	19.3%	36.8%	3.5%
	65 to 74	76.3%	25.9%	43.1%	1.8%
	75 or older	60.6%	9.1%	48.5%	0.0%
Locality	Alexandria	73.5%	20.6%	45.6%	0.0%
	Arlington	70.6%	41.2%	35.3%	2.0%
	Fairfax Co.	73.1%	24.9%	43.1%	2.8%
	Prince William & Stafford Co.	60.0%	18.5%	34.1%	2.2%
	Loudon Co.	65.7%	21.4%	42.9%	2.9%
Ethnicity	Not Hispanic/Latino	70.3%	24.6%	40.7%	2.2%
	Hispanic/Latino	53.4%	17.2%	36.2%	1.7%
Residence Years	Less than 1 year	65.7%	20.0%	40.0%	11.4%
	1 to 3 years	68.1%	11.8%	28.6%	0.8%
	4 to 9 years	60.9%	21.2%	42.7%	1.3%
	10 to 19 years	68.8%	35.1%	40.3%	1.3%

			Reports they live in the …		
Demographic	Subcategory	Knows Term "Watershed"	Chesapeake Bay Watershed	Potomac River Watershed	Another Watershed
	20 or more years	78.2%	32.5%	48.4%	2.4%
Residence Type	Owned	73.9%	30.1%	47.2%	2.5%
	Rented	60.0%	15.6%	33.2%	2.0%
Income	Less than $35,000	56.1%	18.2%	30.3%	4.5%
	$35,000 to $49,999	63.8%	14.0%	36.2%	1.8%
	$50,000 to $74,999	62.2%	16.2%	33.8%	1.4%
	$75,000 to $99,999	72.4%	29.6%	46.4%	3.1%
	$100,000 to $124,999	70.0%	15.0%	45.0%	0.0%
	$125,000 to $149,999	63.6%	15.9%	40.9%	4.5%
	$150,000 to $174,999	78.1%	31.3%	46.9%	0.0%
	$175,000 to $199,999	77.8%	51.9%	44.4%	0.0%
	$200,000 or greater	83.0%	40.4%	42.6%	2.1%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 24. Local watershed identification.



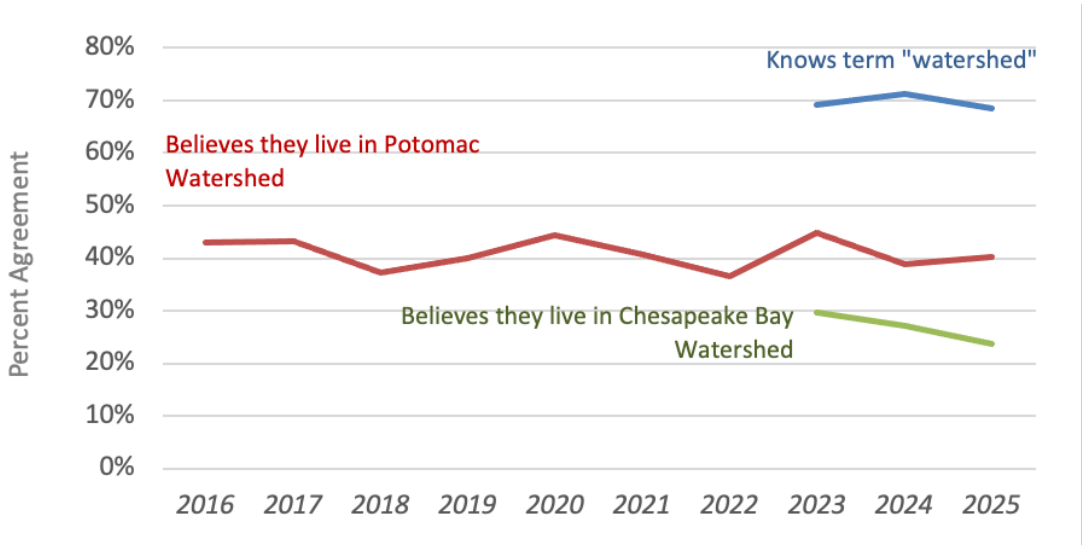
There are no differences in familiarity with the term “watershed” in the years in which the term was queried in this survey (since 2023). There also are no differences in knowledge of the local watersheds in the years that knowledge has been queried (since 2023 for the Chesapeake Bay watershed and since 2016 for the Potomac watershed).

Table 31. Watershed awareness across years.

	Year of Survey									
Survey Response	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Knows term "watershed"	*	*	*	*	*	*	*	69.2%	71.3%	68.4%
Believes they live in Potomac Watershed	43.0 %	43.2 %	37.2 %	40.0 %	44.4 %	40.8 %	36.6 %	44.93 %	38.88 %	40.20 %
Believes they live in Chesapeake Bay Watershed	*	*	*	*	*	*	*	29.7%	27.1%	23.8%

** Red font indicates that the value significantly differs from the current 2025 value. There are no significant differences between 2025 values and values for previous years.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 25. Watershed awareness across years.



2.4.4 Awareness of Stormwater Drainage and Household Hazardous Waste Disposal

Respondents were asked a series of questions in order to assess their knowledge about stormwater drainage and household waste disposal.

As shown in Table 32, 38.8% of respondents report believing that stormwater goes into the Chesapeake Bay or Potomac River, 18.8% believing it goes to a wastewater treatment facility,

and 33.9% believing it goes to all. The remainder of respondents reported believing it doesn't go to any of the provided destinations (6.1%) or another destination not provided (2.4%). Younger respondents reported higher rates of believing water goes to a wastewater treatment facility, with 34.0% of respondents aged 21 to 24 as compared to 3.0% of respondents aged 75 or older. Additionally, Respondents who have lived in their residence for 1 to 3 years reported significantly lower rates of believing stormwater goes to a wastewater treatment facility. Women reported higher rates of believing stormwater goes to all of the provided destinations (39.0% compared to 28.3% of men). Finally, respondents aged 75 or older reported significantly higher rates of believing that stormwater goes to another destination not provided in the survey.

Participants were also asked whether they knew if their locality has a specific place for residents to drop off Household Hazardous Waste (HHW), with response options being "Yes, I know whether we have a location for drop-offs" and "No, I'm not sure whether we have a location for drop-offs"; refer to Table 26. When asked about HHW, 61.1% report knowing if their locality has a specific drop of location for it, which can be seen in Table 26. Men reported knowing of an HHW drop of location at higher rates than women (69.2% compared to 53.7%) as did non-Hispanic/Latino respondents compared to Hispanic/Latino respondents (63.2% compared to 44.8%). Reported familiarity with a HHW drop of location increased as years of residence did, with those who have lived in their residence for 20 or more years saying so at a rate of 77.4% and those who have lived in their residence for less than 1 year saying so at a rate of 42.9%. More home owners, 72.8%, reported knowing of an HHW drop of location than renters, 45.9%. Finally, knowledge of an HHW drop of location tended to increase with income, with 85.2% of respondents with a household income of $175,000 to $199,999 and 43.9% of respondents with an income of less than $35,000.

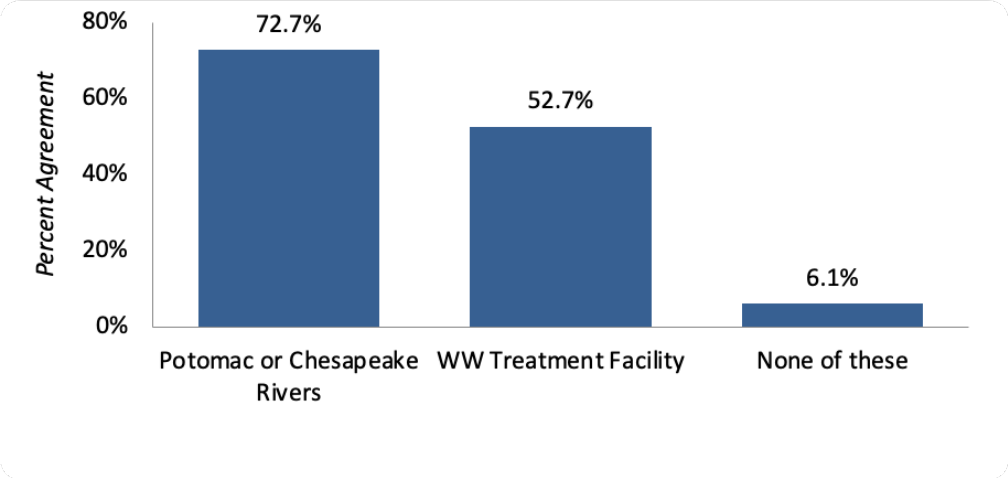
Table 32. Awareness of watersheds and knowledge of stormwater drainage by demographic group.

		Stormwater goes…					
Demographic	**Subcategory**	**WW Treat-ment**	**Potom. or Ches.**	**All Above**	**None**	**Other**	**Know HHW Drop-Off**
	All Respondents	**18.8%**	**38.8%**	**33.9%**	**6.1%**	**2.4%**	**61.1%**
Gender	Male	22.3%	40.9%	28.3%	6.1%	2.4%	69.2%
	Female	15.4%	37.0%	39.0%	6.3%	2.4%	53.7%
Age	21 to 24	34.0%	40.0%	22.0%	2.0%	2.0%	56.0%
	25 to 34	18.6%	45.0%	32.1%	3.6%	0.7%	53.6%
	35 to 44	18.4%	40.8%	34.0%	6.8%	0.0%	64.1%
	45 to 54	18.8%	39.1%	28.1%	12.5%	1.6%	65.6%
	55 to 64	21.4%	28.6%	39.3%	7.1%	3.6%	66.7%
	65 to 74	13.6%	37.3%	42.4%	3.4%	3.4%	66.1%
	75 or older	3.0%	24.2%	45.5%	12.1%	15.2%	63.6%
Locality	Alexandria	26.5%	42.6%	25.0%	2.9%	2.9%	61.8%
	Arlington	21.6%	45.1%	23.5%	7.8%	2.0%	58.8%
	Fairfax Co.	19.8%	34.1%	39.6%	5.5%	1.1%	64.3%
	Prince William & Stafford Co.	11.9%	38.1%	35.1%	10.4%	4.5%	53.3%
	Loudon Co.	20.0%	44.3%	32.9%	1.4%	1.4%	68.6%
Ethnicity	Not Hispanic/Latino	19.2%	38.3%	33.8%	6.3%	2.5%	63.2%
	Hispanic/Latino	15.5%	43.1%	34.5%	5.2%	1.7%	44.8%
Residence Years	Less than 1 year	20.0%	31.4%	34.3%	14.3%	0.0%	42.9%
	1 to 3 years	10.9%	41.2%	35.3%	8.4%	4.2%	50.4%
	4 to 9 years	20.0%	38.0%	34.7%	6.0%	1.3%	56.3%
	10 to 19 years	28.6%	41.6%	26.0%	2.6%	1.3%	68.8%
	20 or more years	18.5%	37.9%	36.3%	4.0%	3.2%	77.4%
Residence Type	Owned	22.3%	39.9%	30.4%	6.0%	1.4%	72.8%
	Rented	14.2%	37.3%	38.2%	6.9%	3.4%	45.9%
Income	Less than $35,000	9.1%	40.9%	31.8%	12.1%	6.1%	43.9%
	$35,000 to $49,999	14.0%	45.6%	26.3%	7.0%	7.0%	48.3%
	$50,000 to $74,999	17.6%	40.5%	35.1%	5.4%	1.4%	55.4%
	$75,000 to $99,999	22.4%	38.8%	34.7%	3.1%	1.0%	65.3%
	$100,000 to $124,999	21.7%	35.0%	38.3%	5.0%	0.0%	71.7%
	$125,000 to $149,999	27.3%	36.4%	29.5%	6.8%	0.0%	56.8%
	$150,000 to $174,999	15.6%	34.4%	46.9%	3.1%	0.0%	75.0%

		Stormwater goes…					
Demographic	Subcategory	WW Treat-ment	Potom. or Ches.	All Above	None	Other	Know HHW Drop-Off
	$175,000 to $199,999	25.9%	37.0%	29.6%	3.7%	3.7%	85.2%
	$200,000 or greater	19.1%	36.2%	34.0%	8.5%	2.1%	68.1%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 26. Stormwater destination beliefs.



More respondents believe that stormwater goes to wastewater treatment facilities in 2025 than in 2016-2022. More response also believe that stormwater goes to the Chesapeake Bay in 2025 compared to 2018 and 2020 – 2023. There are no differences in knowledge of where to drop of hazardous household waste across the year in which knowledge was queried (2018 – present).

Table 33. Stormwater destination beliefs across years.

	Year of Survey									
Survey Response	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Stormwater goes: Wastewater treatment facility	13.0%	14.2%	12.0%	14.8%	27.6%	28.8%	26.8%	45.60%	61.10%	52.70%
Stormwater goes: Potomac River or Chesapeake Bay	*	*	62.8%	68.4%	59.4%	60.0%	61.2%	61.6%	72.3%	72.7%
Knows HHW drop-off	*	*	64.0%	64.2%	67.0%	65.0%	66.6%	60.7%	60.1%	61.1%

** Red font indicates that the value significantly differs from the current 2025 value.*
Asterisks (*) indicate that the question did not appear in the survey that year.

Figure 27. Storm water destination beliefs across years.

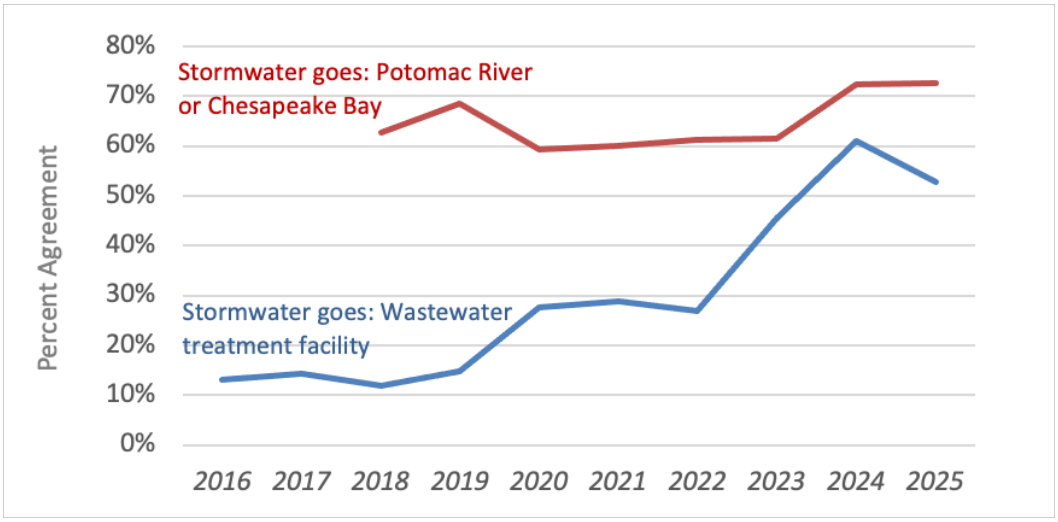
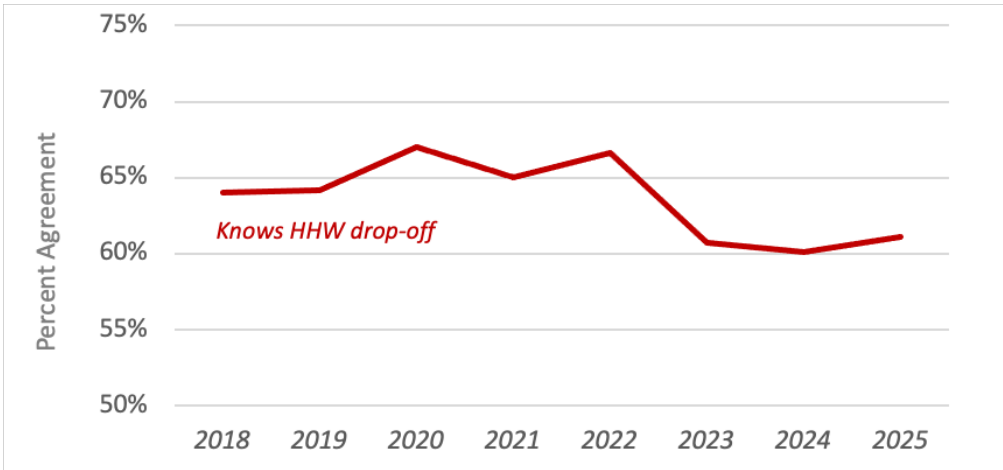


Figure 28. Awareness of where to drop off hazardous household waste across years.



2.4.5 Identifying and Reporting Water Pollution

Participants were provided with two images, as seen below (Figure 29), and asked if either photo contains a potential source of water pollution, with response options being “Yes”, “No”, “Not sure”, and “Cannot see image”. The results are summarized in Table 34 and displayed in Figure 30. When asked about the provided images, 77.1% report that yes, they would consider the images to be a potential source of water pollution. Positive identification of the images as pollution is lower with greater age: while 80% of respondents ages 21 – 24 believe that the images depict pollution, only 51.5% of those age 70 and older believe this.

Figure 29. Images depicting pollution shown to survey respondents.

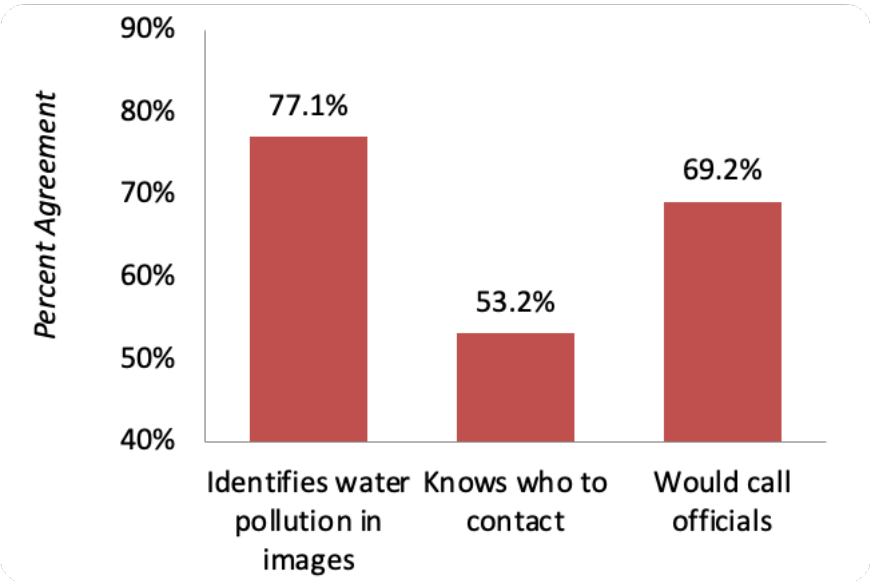
Table 34. Water pollution knowledge and behaviors by demographic group.

Demographic	Subcategory	ID Water Poll	Knows Who to Contact	Would Call Officials
	All Respondents	**77.1%**	**53.2%**	**69.2%**
Gender	Male	74.9%	62.8%	74.5%
	Female	79.2%	44.3%	64.7%
Age	21 to 24	80.0%	52.0%	70.0%
	25 to 34	82.9%	57.9%	74.3%
	35 to 44	75.7%	61.2%	70.9%
	45 to 54	78.1%	53.1%	70.3%
	55 to 64	70.2%	40.4%	64.9%
	65 to 74	83.1%	47.5%	66.1%
	75 or older	51.5%	42.4%	51.5%
Locality	Alexandria	83.8%	60.3%	70.6%
	Arlington	68.6%	60.8%	80.4%
	Fairfax Co.	76.9%	50.5%	62.1%
	Prince William & Stafford Co.	71.1%	47.4%	69.6%

Demographic	Subcategory	ID Water Poll	Knows Who to Contact	Would Call Officials
	All Respondents	**77.1%**	**53.2%**	**69.2%**
	Loudon Co.	88.6%	58.6%	77.1%
Ethnicity	Not Hispanic/Latino	76.1%	51.8%	69.0%
	Hispanic/Latino	84.5%	63.8%	70.7%
Residence Years	Less than 1 year	82.9%	51.4%	80.0%
	1 to 3 years	72.3%	48.7%	66.4%
	4 to 9 years	72.8%	55.6%	71.5%
	10 to 19 years	84.4%	51.9%	75.3%
	20 or more years	80.6%	55.6%	62.1%
Residence Type	Owned	80.6%	55.5%	69.3%
	Rented	71.7%	50.7%	69.8%
Income	Less than $35,000	62.1%	50.0%	71.2%
	$35,000 to $49,999	74.1%	51.7%	72.4%
	$50,000 to $74,999	82.4%	43.2%	63.5%
	$75,000 to $99,999	79.6%	67.3%	72.4%
	$100,000 to $124,999	83.3%	41.7%	68.3%
	$125,000 to $149,999	84.1%	54.5%	63.6%
	$150,000 to $174,999	84.4%	65.6%	78.1%
	$175,000 to $199,999	77.8%	66.7%	74.1%
	$200,000 or greater	68.1%	42.6%	61.7%

* *Red font indicates significant differences within a demographic subgroup*

Figure 30. Water pollution identification and knowledge.



Participants were asked if they knew who to contact to report potential water pollution with the response options "I definitely know", "I think I know", "I don't think I know", and "I definitely don't know". They were also asked the likelihood that they would call officials to report potential pollution so it could be investigated with the response options being "I definitely would", "I probably would", "I'm equally likely to call and to not call", "I probably would not", and "I definitely would not". The responses are summarized in Table 34 and Figure 30 above.

Approximately half (53.2%) of respondents reported that they would report potential water pollution to authorities. Men reported higher rates than women of knowing who to contact (62.8% compared to 44.3%). Finally, 69.2% of respondents reported that they would call officials to report water pollution. There were no significant demographic trends.

Water pollution knowledge and intended behaviors across years are shown in Table 35 below. There is no difference between 2025 and previous years in the positive identification of water pollution. More respondents report that they know who to contact about water pollution in 2025 than in 2019, though 2019 appears to be an outlier on this metric. Finally, more respondents in 2025 report that that "definitely" or "probably" would contact someone about water pollution if they observed it, compared to 2016 – 2022; the proportion of respondents who would report pollution has generally increased over the years of the survey.

Table 35. Water pollution knowledge and behaviors across years.

Year of Survey								
Survey Response	2018	2019	2020	2021	2022	2023	2024	2025
"Yes", consider images water pollution	78.0%	75.2%	79.6%	80.4%	80.8%	79.0%	80.8%	77.1%
"Definitely" or "think" I know who to contact about water pollution	51.6%	42.0%	52.6%	59.2%	58.8%	56.5%	49.0%	53.2%
"Definitely" or "probably" would contact about water pollution	41.6%	38.0%	44.0%	53.4%	52.4%	63.4%	66.6%	69.2%

* *Red font indicates that the value significantly differs from the current 2025 value.*

Those who reported being equally likely to call and not to call and those who reported that they would probably or definitely not call were next asked to identify their personal barrier to reporting, or, in other words, why they would not report the potential pollution. These results are summarized in Table 36 and displayed in Figure 31. Response options given were “I’m too busy”, “It’s not my responsibility”, “It’s none of my business”, “I prefer not to communicate with officials or authorities”, and an option to write-in another reason not listed.

Of these respondents, 28.8% reported their reason for not calling being that they’d prefer not to communicate with officials or authorities. Additionally, 21.8% reported that it’s none of their business, 17.3% reported being too busy, another 17.3% reported their reason being one not listed, and 14.7% reported that they wouldn’t call because it’s not their responsibility. Men reported significantly higher rates than women of not calling because it’s not their responsibility, 25.4% compared to 7.8%. Finally, Older respondents tended to report higher rates of their reason being one not listed on the survey as did respondents who have lived in their residence for a longer time.

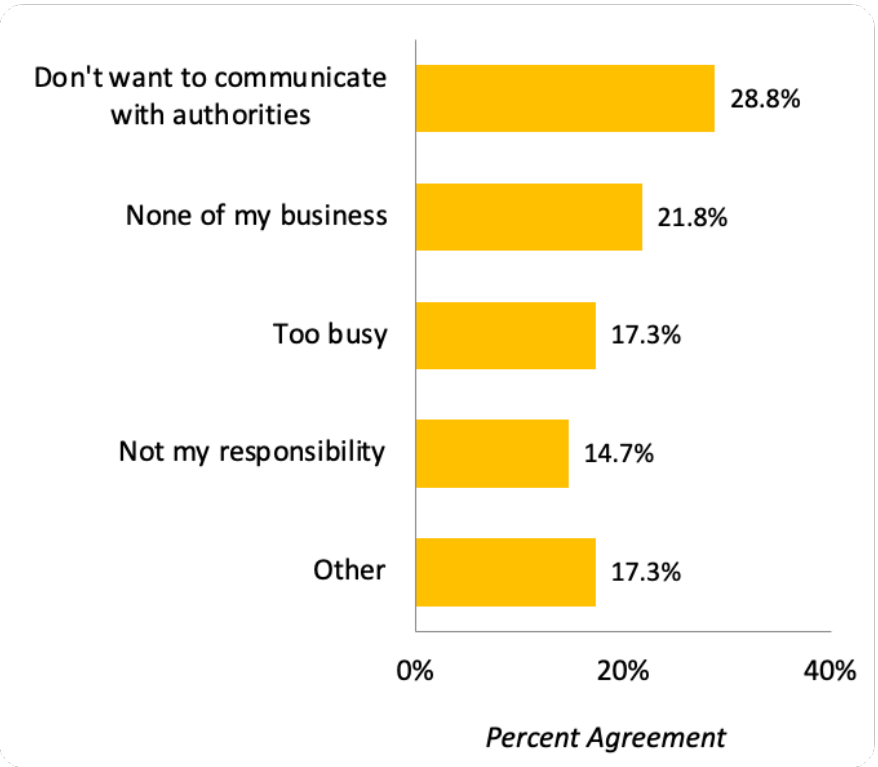
Table 36. Barriers to reporting pollution by demographic group.

Demographic	Subcategory	Too busy	Not my respons.	None of my business	Don't want to comm. with authorities	Other
	All Respondents	**17.3%**	**14.7%**	**21.8%**	**28.8%**	**17.3%**
Gender	Male	14.3%	25.4%	20.6%	25.4%	14.3%
	Female	20.0%	7.8%	22.2%	31.1%	18.9%
Age	21 to 24	26.7%	0.0%	26.7%	33.3%	13.3%
	25 to 34	27.8%	13.9%	25.0%	30.6%	2.8%
	35 to 44	16.7%	13.3%	16.7%	46.7%	6.7%
	45 to 54	26.3%	5.3%	15.8%	31.6%	21.1%
	55 to 64	15.0%	25.0%	15.0%	20.0%	25.0%
	65 to 74	0.0%	15.0%	25.0%	15.0%	45.0%
	75 or older	0.0%	31.3%	31.3%	12.5%	25.0%
Locality	Alexandria	30.0%	5.0%	15.0%	35.0%	15.0%
	Arlington	10.0%	20.0%	10.0%	30.0%	30.0%
	Fairfax Co.	11.6%	18.8%	21.7%	29.0%	18.8%
	Prince William & Stafford Co.	17.1%	12.2%	26.8%	24.4%	19.5%
	Loudon Co.	31.3%	12.5%	25.0%	31.3%	0.0%
Ethnicity	Not Hispanic/Latino	15.1%	15.8%	21.6%	28.8%	18.7%
	Hispanic/Latino	35.3%	5.9%	23.5%	29.4%	5.9%
Residence Years	Less than 1 year	57.1%	0.0%	14.3%	14.3%	14.3%
	1 to 3 years	25.0%	12.5%	22.5%	22.5%	17.5%
	4 to 9 years	16.3%	20.9%	18.6%	37.2%	7.0%
	10 to 19 years	21.1%	5.3%	5.3%	26.3%	42.1%
	20 or more years	4.3%	17.0%	31.9%	29.8%	17.0%
Residence Type	Owned	14.9%	14.9%	21.8%	28.7%	19.5%
	Rented	22.6%	16.1%	19.4%	27.4%	14.5%
Income	Less than $35,000	15.8%	5.3%	47.4%	10.5%	21.1%
	$35,000 to $49,999	25.0%	18.8%	12.5%	25.0%	18.8%
	$50,000 to $74,999	14.8%	18.5%	11.1%	37.0%	18.5%
	$75,000 to $99,999	11.1%	14.8%	25.9%	33.3%	14.8%
	$100,000 to $124,999	31.6%	15.8%	15.8%	21.1%	15.8%
	$125,000 to $149,999	12.5%	25.0%	12.5%	37.5%	12.5%
	$150,000 to $174,999	0.0%	0.0%	28.6%	42.9%	28.6%
	$175,000 to	14.3%	0.0%	57.1%	28.6%	0.0%

Demographic	Subcategory	Too busy	Not my respons.	None of my business	Don't want to comm. with authorities	Other
	$199,999					
	$200,000 or greater	22.2%	16.7%	11.1%	27.8%	22.2%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 31. Barriers to reporting water pollution.



The primary reasons for not calling to report water pollution in 2023 - 2025 (the only years that barriers were queried) can be seen below in Table 33 below. There were no significant differences in reported barriers across years.

Table 37. Barriers to reporting water pollution across years.

	Year of Survey		
Barrier to Contact	2023	2024	2025
Too busy	17.6%	21.7%	17.3%
Not my responsibility	17.6%	16.3%	14.7%
None of my business	23.1%	20.5%	21.8%
Prefer not to communicate with officials or authorities	31.5%	25.3%	28.8%
Other	10.2%	16.3%	17.3%

** Red font indicates that the value significantly differs from the current 2025 value. Asterisks (*) indicate that the question did not appear in the survey that year.*

2.5 Campaign Awareness, Perceptions and Impact

2.5.3 Campaign Awareness

Survey participants were asked questions to better understand their level of awareness of NVRC water pollution campaigns. First, respondents were asked if they had "seen or received information about reducing water pollution from any source in the past 12 months". Next, respondents were provided with the logo depicted to the right and asked if they had seen the logo before; their responses are below in Table 38 and Figure 32.

About one-third (29.4%) of respondents had seen or received information about reducing water pollution in the past year. More men than women are aware of water pollution education materials, and awareness decreases with age. Additionally, as described in Section 2.3.8, 28.7% report being aware of a water quality activity in the past 12 months, such as a stream clean-up.

Slightly over half (54.9%) reported having previously seen the *Only Rain Down the Drain* logo, with men showing greater recognition the logo than women (63.6% compared to 47.1%). Arlington residents show the greatest recognizing the logo.

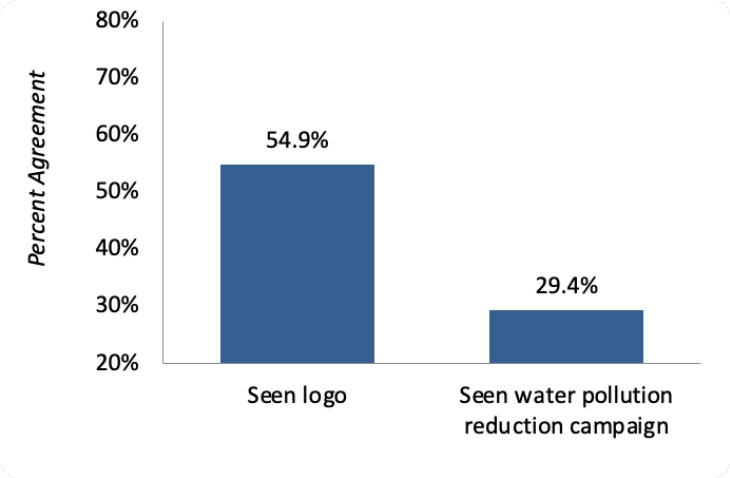
Table 38. Percentage of respondents who have seen campaigns by demographic group.

Demographic	Subcategory	Seen Logo Previously	Seen Water Pollution Reduction Campaign
	All Respondents	**54.9%**	**29.4%**
Gender	Male	63.6%	36.4%
	Female	47.1%	22.7%
Age	21 to 24	58.0%	42.0%
	25 to 34	57.9%	37.9%
	35 to 44	56.3%	35.9%
	45 to 54	57.8%	31.3%
	55 to 64	47.4%	10.5%
	65 to 74	52.5%	13.6%

Demographic	Subcategory	Seen Logo Previously	Seen Water Pollution Reduction Campaign
	75 or older	45.5%	12.1%
Locality	Alexandria	52.9%	33.8%
	Arlington	66.7%	37.3%
	Fairfax Co.	65.4%	25.8%
	Prince William & Stafford Co.	34.8%	23.0%
	Loudon Co.	60.0%	41.4%
Ethnicity	Not Hispanic/Latino	55.4%	29.0%
	Hispanic/Latino	51.7%	32.8%
Residence Years	Less than 1 year	45.7%	31.4%
	1 to 3 years	45.4%	28.6%
	4 to 9 years	56.3%	29.1%
	10 to 19 years	61.0%	39.0%
	20 or more years	61.3%	24.2%
Residence Type	Owned	60.1%	32.5%
	Rented	48.8%	25.9%
Income	Less than $35,000	40.9%	21.2%
	$35,000 to $49,999	46.6%	27.6%
	$50,000 to $74,999	51.4%	28.4%
	$75,000 to $99,999	58.2%	28.6%
	$100,000 to $124,999	60.0%	35.0%
	$125,000 to $149,999	63.6%	36.4%
	$150,000 to $174,999	68.8%	34.4%
	$175,000 to $199,999	66.7%	37.0%
	$200,000 or greater	53.2%	25.5%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 32. Water pollution reduction campaign awareness.



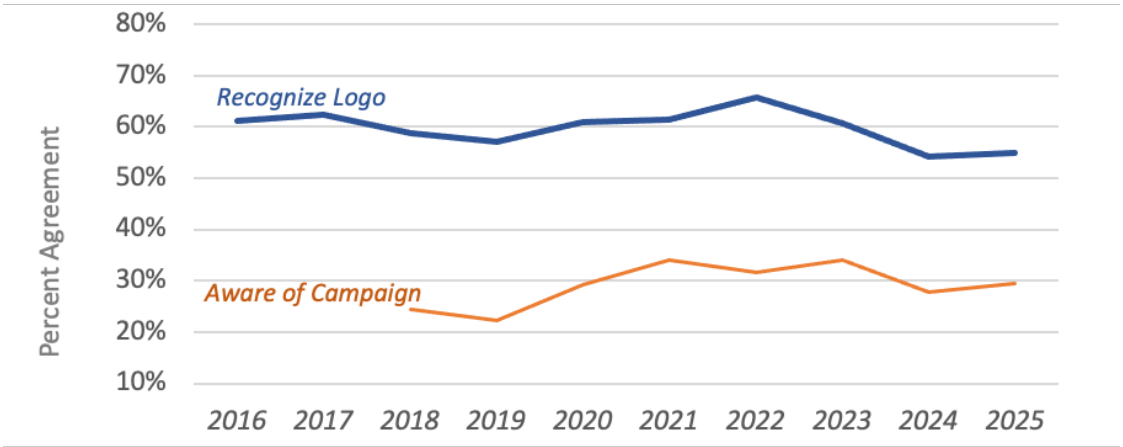
Reported recognition of the logo and water pollution reduction campaigns generally across survey years can be seen below. In 2022, reported recognition of the logo were significantly higher than in 2024. Otherwise, there were no significant differences in logo or campaign between previous years and 2025.

Table 39. Logo and campaign recognition across years.

	Year of Survey									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Recognize Logo	61.2%	62.4%	58.8%	57.0%	61.0%	61.4%	65.8%	60.7%	54.2%	54.9%
Aware of Campaign	*	*	24.4%	22.2%	29.2%	34.0%	31.6%	34.1%	27.8%	29.4%

** Red font indicates that the value significantly differs from the current 2025 value.*
Asterisk (*) indicates that the survey question did not appear that year.

Figure 33. Logo and campaign recognition across years.



Next, survey participants were shown both the "Only Rain Down the Drain" and "Pollution Solutions" advertisements in a random order and asked questions about recognition and perceptions of both. Some participants report not being able to see one or both of the videos, in which case their data was excluded from analysis for these questions.

2.5.3.1 Only Rain Down the Drain

Participants were shown the advertisement "Only Rain Down the Drain" and asked a series of questions about it. First, participants were asked if they had seen the ad or a similar one on TV, Facebook, or Twitter and given the response options "Yes", "No", "Not sure", and "Video did not play". After seeing the *Only Rain* advertisement, 18.5% of respondents report having seen the ad previously, as can be seen in Table 36 and Figure 34. Participants were then asked about their perceptions of the ad by listing a series of statements with the option to "Strongly disagree", "Disagree", "Neither disagree nor agree", "Agree", and "Strongly Agree". The statements were:

- I understand the information in the ad.
- The ad is relevant to me.
- I trust the information in the ad.
- The ad's message is important.
- The ad is persuasive.
- I think the ad would be effective.

In response to these statements, 83.7% report understanding the information in the ad, 70.7% report believing that the ad is relevant, 81.1% report trusting the information in the ad, 81.7% report thinking the information in the ad is important, 69.5% report believing the ad is

persuasive, and 72.9% think the ad is effective. The ad perception results for both ads are shown in Figure 35. Men reported higher rates of having seen the ad previously, at 24.5% compared to 12.4% of women. Additionally, ad recognition tended to decrease with age, and residents in Arlington reported the highest rates of recognition while residence in Prince William & Stafford County reported the lowest rates.

Loudon County residents reported the highest rates of believing that the ad was persuasive. Additionally, Hispanic/Latino respondents reported lower rates of understanding the ad and lower rates of trusting the ad. Reported belief that ad was relevant and trusted tended to increase with years of residence. Finally, owners reported higher rates than renters of believing the ad was relevant, important, and persuasive.

Table 40. Perceptions of Only Rain Down the Drain advertisement by demographics.

Demographic	Subcategory	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
	All Respondents	**18.5%**	**83.7%**	**70.1%**	**81.1%**	**81.7%**	**69.5%**	**72.9%**
Gender	Male	24.5%	82.4%	67.3%	80.0%	78.8%	66.5%	70.2%
	Female	12.4%	85.1%	73.1%	82.6%	84.7%	73.1%	76.0%
Age	21 to 24	20.8%,	79.2%	62.5%	77.1%	81.3%	58.3%	66.7%
	25 to 34	26.5%	80.9%	68.4%	78.7%	75.0%	68.4%	70.6%
	35 to 44	20.8%,	78.2%	73.3%	83.2%	84.2%	70.3%	74.3%
	45 to 54	26.2%	85.2%	72.1%	77.0%	83.6%	70.5%	70.5%
	55 to 64	5.4%	89.3%	73.2%	82.1%	87.5%	75.0%	78.6%
	65 to 74	8.9%,	94.6%	75.0%	92.9%	89.3%	76.8%	80.4%
	75 or older	0.0%	87.9%	60.6%	75.8%	75.8%	63.6%	69.7%
Locality	Alexandria	13.8%	83.1%	67.7%	75.4%	80.0%	67.7%	70.8%
	Arlington	37.3%	80.4%	68.6%	80.4%	78.4%	64.7%	70.6%
	Fairfax Co.	15.7%	86.5%	73.6%	82.6%	81.5%	66.9%	71.3%
	Prince William & Stafford Co.	13.1%	79.2%	65.4%	77.7%	80.8%	67.7%	73.8%
	Loudon Co.	26.9%,	88.1%	73.1%	89.6%	88.1%	85.1%	79.1%
Ethnicity	Not Hispanic/Latino	17.9%	85.1%	71.5%	83.0%	82.1%	70.6%	74.0%
	Hispanic/Latino	23.2%	73.2%	58.9%	66.1%	78.6%	60.7%	64.3%
Residence Years	Less than 1 year	15.6%	78.1%	50.0%	62.5%	75.0%	68.8%	65.6%
	1 to 3 years	12.9%	82.8%	67.2%	77.6%	76.7%	65.5%	74.1%
	4 to 9 years	21.1%	79.6%	69.4%	81.0%	80.3%	66.0%	70.1%

Demographic	Subcategory	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
	10 to 19 years	26.0%	83.1%	71.4%	88.3%	87.0%	81.8%	83.1%
	20 or more years	16.8%	91.6%	78.2%	84.9%	86.6%	69.7%	70.6%
Residence Type	Owned	20.9%	88.5%	74.8%	86.0%	85.3%	71.9%	74.8%
	Rented	16.1%	77.4%	65.3%	74.4%	76.4%	65.8%	70.9%
Income	Less than $35,000	13.8%	75.4%	63.1%	66.2%	75.4%	66.2%	67.7%
	$35,000 to $49,999	20.0%	78.2%	60.0%	74.5%	76.4%	67.3%	74.5%
	$50,000 to $74,999	11.4%	82.9%	68.6%	81.4%	81.4%	67.1%	72.9%
	$75,000 to $99,999	24.0%	76.0%	65.6%	72.9%	71.9%	57.3%	62.5%
	$100,000 to $124,999	13.8%	93.1%	77.6%	89.7%	86.2%	75.9%	81.0%
	$125,000 to $149,999	25.6%	86.0%	79.1%	90.7%	81.4%	79.1%	81.4%
	$150,000 to $174,999	29.0%	96.8%	80.6%	90.3%	96.8%	80.6%	77.4%
	$175,000 to $199,999	22.2%	88.9%	70.4%	96.3%	96.3%	81.5%	77.8%
	$200,000 or greater	8.5%	93.5%	78.3%	91.3%	93.5%	73.9%	76.1%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 34. Recognition of Only Rain Down the Drain and Pollution Solution advertisements.

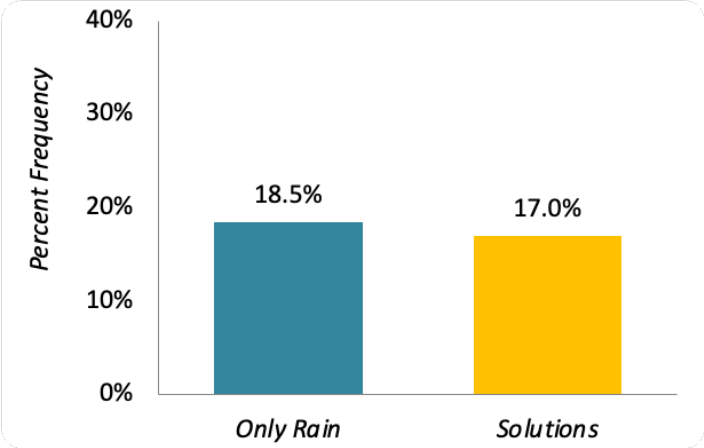
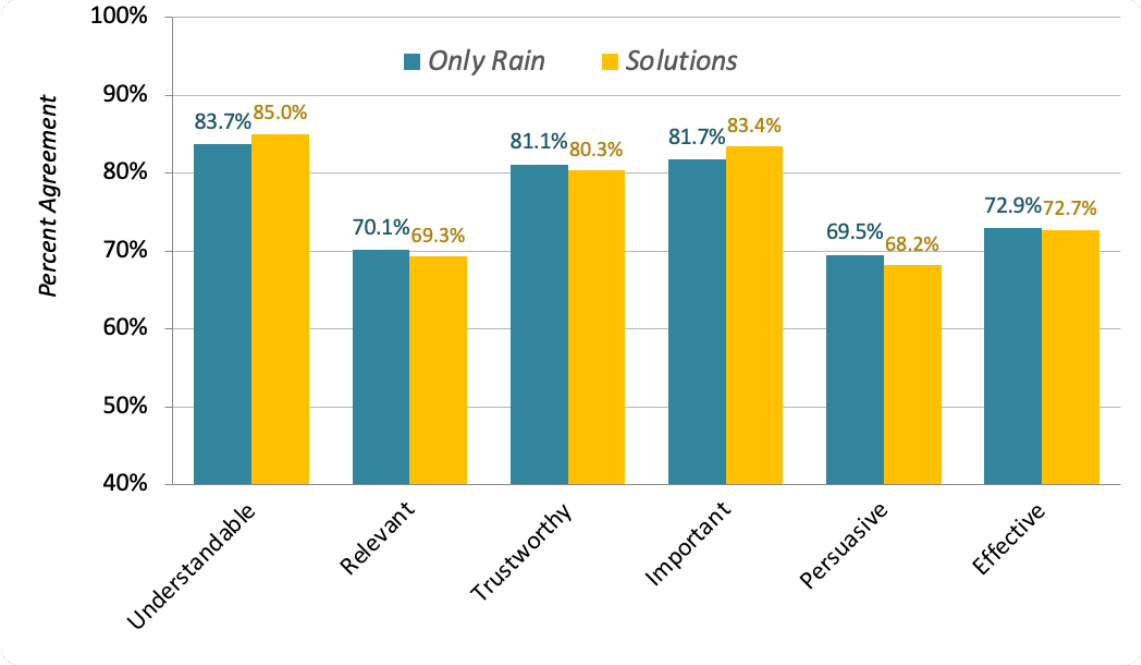


Figure 35. Perceptions of Only Rain Down the Drain and Pollution Solution advertisement.



Rates of recognition and perceptions of *Only Rain Down the Drain* from 2016 to 2025 can be seen below in Tables 41 and 42. Notably, respondents of the 2021 and 2022 survey reported higher rates of recognition when compared to 2025. In 2024, the rate of seeing the ad as relevant were greater than in 2025. Otherwise, there were no significant differences in awareness or perceptions of this ad.

Table 41. Recognition of Only Rain *over survey years.*

	Year of Survey									
Response to Survey Question	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Recognize *Only Rain*	15.6%	23.6%	14.8%	15.4%	22.0%	29.0%	27.8%	23.3%	19.2%	18.5%

* *Red font indicates that the value significantly differs from the current 2025 value.*

Table 42. Perceptions of 'Only Rain Down the Drain' across years.

	Year of Survey		
***Only Rain* perceptions**	2023	2024	2025
Understand	79.4%	83.3%	83.7%
Relevant	70.7%	78.8%	70.1%
Trust	78.9%	80.1%	81.1%
Important	84.2%	83.7%	81.7%
Persuasive	68.5%	70.5%	69.5%
Effective	73.0%	71.9%	72.9%

* *Red font indicates that the value significantly differs from the current 2025 value.*

2.5.3.2 Pollution Solutions

Participants were shown the ad "Pollution Solutions" and asked a series of questions about it. First, participants were asked if they had seen the ad or a similar one on TV, Facebook, or Twitter and given the response options "Yes", "No", "Not sure", and "Video did not play". After seeing the 'Pollution Solutions' ad, 17.0% of respondents report having seen the ad previously, as shown in Table 43 below and Figure 34 above. Generally, the incidence of recognition lowers with age (i.e., fewer older respondents recognize the ad than younger respondents). Men reported having seen the ad previously at higher rates than women, at 22.3% compared to 12.9%. Respondents in Arlington also reported higher rates of having seen the ad previously.

Participants were then asked about their perceptions of the ad in an identical series of question as for *Only Rain*. Results are shown in Figure 35 above. The majority (85.0%) of respondents

reported understanding the ad, 69.3% reported believing the ad is relevant, 80.3% reported trusting the information in the ad, 83.4% reported thinking the information in the ad is important, 68.2% report believing the ad is persuasive and 72.7% report thinking the ad is effective.

Owners reported higher rates of trusting the ad and believing the ad is important than renters did. Finally, reported trust in the ad tended to increase with income, generally.

Table 43. Perceptions of 'Pollution Solutions' advertisement by demographic group.

Demographic	Subcategory	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
	All Respondents	**17.0%**	**85.0%**	**69.3%**	**80.3%**	**83.4%**	**68.2%**	**72.7%**
Gender	Male	21.8%	84.4%	70.8%	78.6%	81.5%	66.7%	69.5%
	Female	12.4%	85.9%	67.6%	82.2%	85.5%	69.6%	75.9%
Age	21 to 24	27.1%	85.4%	60.4%	75.0%	83.3%	60.4%	70.8%
	25 to 34	24.1%	78.1%	67.2%	77.4%	80.3%	62.0%	67.9%
	35 to 44	18.8%	86.1%	71.3%	78.2%	80.2%	66.3%	76.2%
	45 to 54	20.3%	86.4%	72.9%	83.1%	88.1%	74.6%	76.3%
	55 to 64	5.5%	89.1%	69.1%	81.8%	85.5%	78.2%	69.1%
	65 to 74	5.5%	94.5%	74.5%	92.7%	92.7%	81.5%	83.6%
	75 or older	0.0%	84.8%	69.7%	78.8%	78.8%	60.6%	66.7%
Locality	Alexandria	12.3%	83.1%	66.2%	72.3%	81.5%	69.2%	70.8%
	Arlington	35.3%	84.3%	72.5%	72.5%	84.3%	64.7%	64.7%
	Fairfax Co.	13.1%	88.1%	72.2%	84.7%	84.7%	66.3%	72.2%
	Prince William & Stafford Co.	14.8%	80.5%	64.8%	78.1%	81.3%	65.6%	73.4%
	Loudon Co.	22.1%	88.2%	70.6%	86.8%	85.3%	79.4%	80.9%
Ethnicity	Not Hispanic/Latino	16.2%	85.7%	69.7%	81.1%	83.8%	68.5%	73.7%
	Hispanic/Latino	23.6%	80.0%	65.5%	74.5%	80.0%	65.5%	65.5%
Residence Years	Less than 1 year	15.2%	81.8%	63.6%	69.7%	81.8%	66.7%	75.8%
	1 to 3 years	15.0%	85.0%	63.7%	76.1%	79.6%	68.1%	73.5%
	4 to 9 years	16.3%	81.6%	72.8%	77.6%	80.3%	64.4%	68.7%
	10 to 19 years	27.6%	86.8%	68.4%	88.2%	89.5%	73.7%	77.6%
	20 or more years	13.4%	89.1%	72.3%	85.7%	87.4%	69.7%	73.1%
Residence Type	Owned	18.2%	88.4%	73.8%	85.8%	88.0%	70.4%	73.8%
	Rented	15.7%	80.7%	64.5%	73.1%	77.2%	66.0%	71.6%

Demographic	Subcategory	Recog.	Underst.	Relevnt.	Trust	Import.	Persuas.	Effect.
Income	Less than $35,000	12.5%	76.6%	59.4%	64.1%	73.4%	60.9%	67.2%
	$35,000 to $49,999	22.2%	81.5%	57.4%	74.1%	77.8%	57.4%	70.4%
	$50,000 to $74,999	13.2%	86.8%	67.6%	80.9%	82.4%	64.7%	73.5%
	$75,000 to $99,999	20.8%	75.0%	62.5%	74.0%	79.2%	68.4%	64.6%
	$100,000 to $124,999	12.1%	93.1%	74.1%	87.9%	86.2%	74.1%	75.9%
	$125,000 to $149,999	18.6%	86.0%	81.4%	81.4%	88.4%	72.1%	86.0%
	$150,000 to $174,999	28.1%	100.0%	75.0%	93.8%	93.8%	81.3%	84.4%
	$175,000 to $199,999	22.2%	92.6%	88.9%	96.3%	96.3%	85.2%	88.9%
	$200,000 or greater	8.7%	93.5%	80.4%	93.5%	91.3%	65.2%	65.2%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for comparison to other subgroups.*

Recognition and perceptions of *Pollutions Solutions* across the two years the ad was included in the survey are shown below. There are no significant differences between years on any metric.

Table 44. Recognition and perceptions of Pollution Solutions across years.

	Year of Survey	
***Pollution Solutions* Recognition and Perception**	2024	2025
Recognize	16.7%	17.0%
Understand	81.1%	85.0%
Relevant	70.4%	69.3%
Trust	81.3%	80.3%
Important	82.5%	83.4%
Persuasive	69.1%	68.2%
Effective	71.8%	72.7%

2.5.4 Campaign Impact

Survey participants who reported recognizing one or both advertisements were asked a series of questions about the potential impact of the ad(s) on their behaviors.

Recognition and perceptions of Pollution Solutions are shown in the tables below; note that this ad launched in the 2023-2024 ad cycle.

2.5.4.1 Impact of advertisements on pet waste clean-up

Respondents were asked how certain behaviors have changed since they first saw the ad(s), if they had seen the advertisements prior to the current survey. The first set of questions asked about their current pet waste disposal behaviors, the results of which can be seen in Table 40 and Figure 36. Participants were provided the following statements with response options being "Yes", "No", or "Does not apply":

- I understand more about the impact of pet waste on water quality.
- I'd like to pick up pet waste more often, though I haven't made any changes yet.
- I now pick up pet waste more often.
- I was already doing what is recommended to reduce water pollution from pet waste.

Of those respondents who had seen the ad prior to completing the current survey, 92.1% report understanding more about pet waste, 65.9% report wanting to pick up pet waste more often despite not having made any changes yet, 75.8% report now picking pet waste up more often and 80.0% report already doing what is recommended. Women reported higher rates of wanting to

pick up pet waste more often (81.8%) and now picking up pet waste more (88.2%) often than men (55.6% and 67.9%). Finally, respondents aged 55 to 74 reported the highest rates of now picking up pet waste more often.

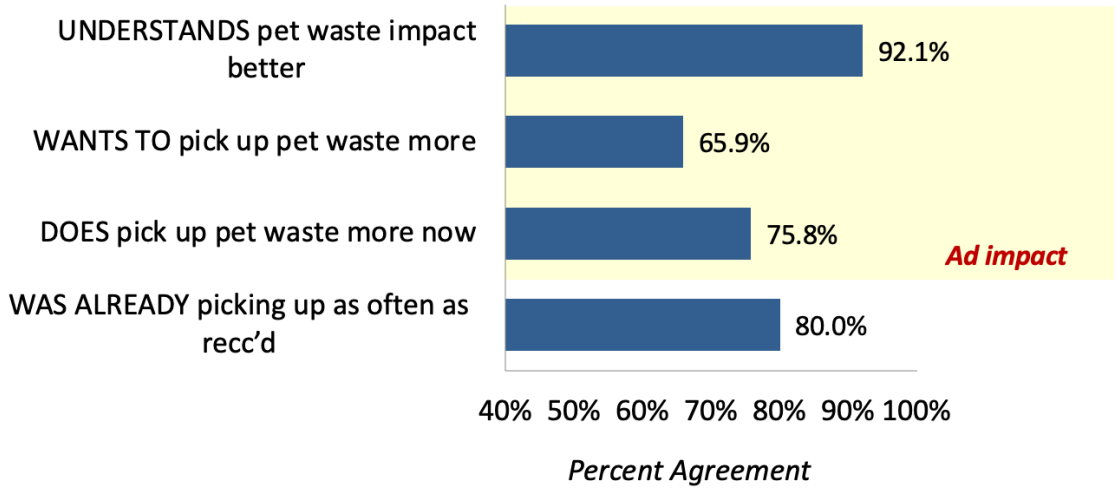
Table 45. Ad impact on pet waste clean-up behavior by demographic group among participants who had seen the advertisement prior to completing the current survey.

Demographic	Subcategory	Understands Pet Waste	Want to Pick Up More	More Pick-Up Now	Pet Waste Already
	All Respondents	**92.1%**	**65.9%**	**75.8%**	**80.0%**
Gender	Male	90.3%	55.6%	67.9%	73.7%
	Female	94.7%	81.8%	88.2%	89.2%
Age	21 to 24	78.6%	50.0%	71.4%	76.9%
	25 to 34	92.3%	67.6%	86.5%	75.7%
	35 to 44	95.5%	61.1%	45.0%	71.4%
	45 to 54	94.1%	80.0%	86.7%	93.3%
	55 to 64	100.0%	75.0%	100.0%	100.0%
	65 to 74	100.0%	0.0%	100.0%	100.0%
	75 or older				
Locality	Alexandria	87.5%	66.7%	83.3%	87.5%
	Arlington	89.5%	73.7%	52.6%	94.1%
	Fairfax Co.	90.3%	48.1%	84.6%	67.7%
	Prince William & Stafford Co.	90.9%	83.3%	76.2%	84.2%
	Loudon Co.	100.0%	66.7%	84.2%	80.0%
Ethnicity	Not Hispanic/Latino	92.0%	66.2%	75.0%	79.0%
	Hispanic/Latino	92.3%	63.6%	81.8%	85.7%
Residence Years	Less than 1 year	100.0%	50.0%	75.0%	40.0%
	1 to 3 years	95.2%	89.5%	95.0%	85.0%
	4 to 9 years	88.2%	58.1%	74.2%	75.0%
	10 to 19 years	90.5%	55.0%	60.0%	81.0%
	20 or more years	94.7%	71.4%	75.0%	94.1%
Residence Type	Owned	91.5%	57.7%	72.2%	86.0%
	Rented	92.5%	76.5%	80.0%	72.2%
Income	Less than $35,000	81.8%	70.0%	80.0%	80.0%
	$35,000 to	92.9%	71.4%	69.2%	86.7%

Demographic	Subcategory	Understands Pet Waste	Want to Pick Up More	More Pick-Up Now	Pet Waste Already
	$49,999				
	$50,000 to $74,999	90.0%	55.6%	77.8%	62.5%
	$75,000 to $99,999	87.0%	58.8%	83.3%	81.0%
	$100,000 to $124,999	100.0%	62.5%	88.9%	55.6%
	$125,000 to $149,999	100.0%	83.3%	83.3%	75.0%
	$150,000 to $174,999	100.0%	62.5%	100.0%	100.0%
	$175,000 to $199,999	100.0%	66.7%	0.0%	83.3%
	$200,000 or greater	83.3%	50.0%	66.7%	100.0%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 36. Ad impact on pet waste behaviors.



2.5.4.2 Impact of advertisements on lawn/garden fertilization

Next, respondents were asked about their fertilizer behaviors. Participants were provided with the following statements with the response options being "Yes", "No", or "Does not apply":

- I understand more about the impact of fertilizer on water quality.

- I'd like to fertilize fewer time during the year.
- I now plan to fertilize fewer times during the year.
- I was already doing what is recommended to reduce water pollution from fertilizer.

Of respondents who reported seeing the ad(s) previously, 88.9% report understanding more about the impact of fertilizer on water quality, 71.1% report wanted to fertilize fewer times despite not making any changes yet, 64.8% report now fertilizing less frequently and 80.4% report that they were already doing what is recommended as can be seen in Table 46 and Figure 37. Men reported higher rates than women of wanting to fertilize less. Respondents who have lived in their residence for 10 to 19 years reported the lowest rates fertilizing less now.

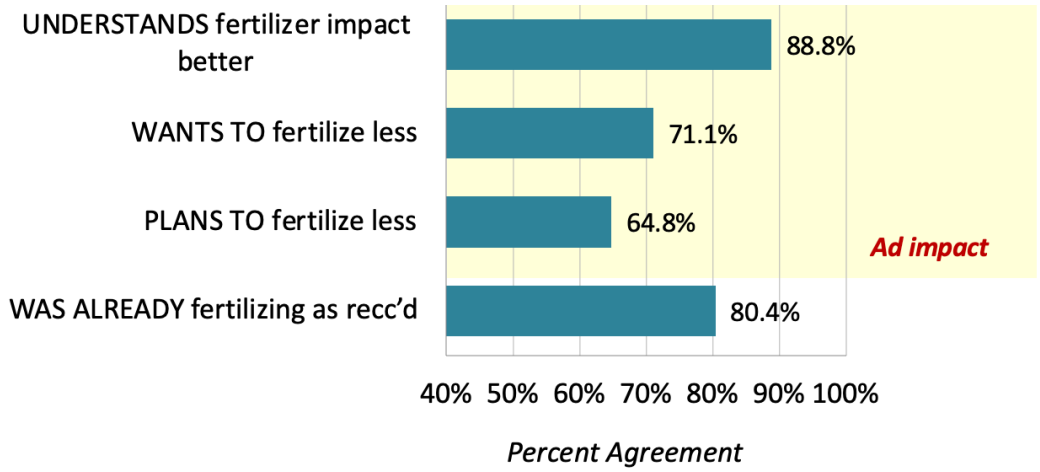
Table 46. Ad impact on fertilizing behavior by demographic group of those who had seen the advertisement prior to completing the survey.

Demographic	Subcategory	Understands Fertilizer	Want to Fertilize Less	Fertilizes Less Now	Was Fertilizing Less Already
	All Respondents	**88.8%**	**71.1%**	**64.8%**	**80.4%**
Gender	Male	86.7%	60.7%	56.6%	80.0%
	Female	91.9%	87.9%	76.5%	80.6%
Age	21 to 24	64.3%	38.5%	41.7%	69.2%
	25 to 34	88.9%	80.0%	77.1%	77.1%
	35 to 44	100.0%	71.4%	45.5%	83.3%
	45 to 54	88.2%	75.0%	86.7%	87.5%
	55 to 64	100.0%	75.0%	33.3%	80.0%
	65 to 74	100.0%	100.0%	100.0%	100.0%
	75 or older				
Locality	Alexandria	75.0%	71.4%	83.3%	57.1%
	Arlington	89.5%	68.4%	47.4%	89.5%
	Fairfax Co.	96.3%	59.3%	63.0%	75.9%
	Prince William & Stafford Co.	82.6%	78.9%	72.2%	86.4%
	Loudon Co.	90.5%	83.3%	72.2%	80.0%
Ethnicity	Not Hispanic/Latino	90.6%	71.8%	63.2%	79.5%
	Hispanic/Latino	76.9%	66.7%	75.0%	85.7%
Residence Years	Less than 1 year	100.0%	50.0%	100.0%	50.0%
	1 to 3 years	95.2%	84.2%	73.7%	88.9%

Demographic	Subcategory	Understands Fertilizer	Want to Fertilize Less	Fertilizes Less Now	Was Fertilizing Less Already
	4 to 9 years	78.1%	68.8%	71.9%	75.8%
	10 to 19 years	95.0%	68.4%	27.8%	90.5%
	20 or more years	89.5%	68.8%	75.0%	78.9%
Residence Type	Owned	87.7%	67.3%	60.4%	82.8%
	Rented	89.7%	77.8%	70.6%	75.7%
Income	Less than $35,000	80.0%	50.0%	60.0%	63.6%
	$35,000 to $49,999	76.9%	92.3%	83.3%	85.7%
	$50,000 to $74,999	90.0%	80.0%	62.5%	87.5%
	$75,000 to $99,999	95.7%	50.0%	57.9%	86.4%
	$100,000 to $124,999	90.0%	71.4%	55.6%	77.8%
	$125,000 to $149,999	100.0%	90.9%	90.9%	58.3%
	$150,000 to $174,999	88.9%	88.9%	88.9%	100.0%
	$175,000 to $199,999	83.3%	66.7%	16.7%	83.3%
	$200,000 or greater	83.3%	50.0%	25.0%	83.3%

** Red font indicates significant differences within a demographic subgroup.*
*** Insufficient data for between-group comparison.*

Figure 37. Ad impact on fertilization behaviors.



2.5.4.3 Impact of advertisements on motor oil disposal

Finally, survey participants were asked about their behaviors regarding disposing of motor oil after watching the advertisements. Respondents were provided the following statements with the option to respond "Yes", "No", or "Does not apply":

- I understand more about the impact of motor oil on water quality.
- I'd like to dispose of motor oil properly, though I haven't made any changes yet.
- I now properly dispose of motor oil.
- I was already doing what is recommended to reduce water pollution from motor oil.

Of the respondents, 89.0% report understanding more about the impact of motor oil on water quality, 61.3% report wanting to dispose of motor oil properly despite not making any changes yet, 79.4% report now properly disposing of motor oil and 82.4% of respondents were already doing what is recommended as shown in Table 47 and Figure 38. Women reported higher rates than men of wanting to dispose of motor oil properly (75.0% compared to 52.6%) and already disposing of motor oil properly (92.3% compared to 75.8%). Residents of Alexandria and Prince William & Stafford Counties reported higher rates of wanting to dispose of motor oil properly while Fairfax County and Loudon County residents reported the lowest rates.

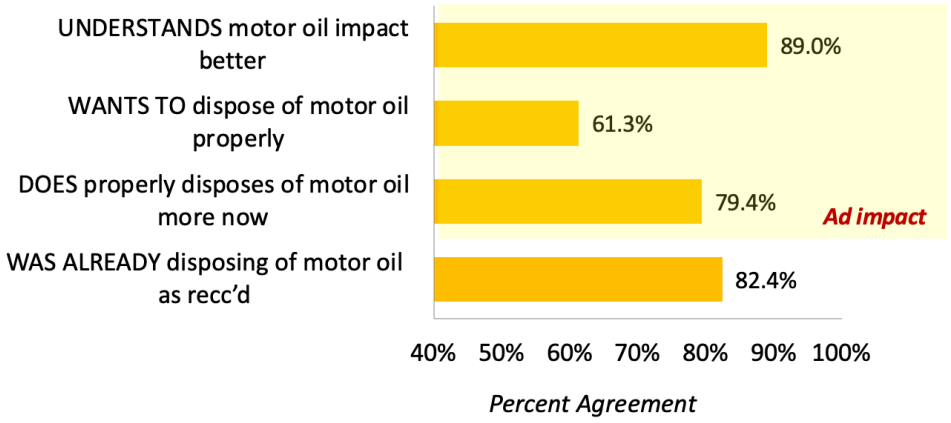
Table 47. Ad impact on motor oil (MO) disposal by demographic group among respondents who had seen the advertisement prior to completing the survey.

Demographic	Subcategory	MO Understand	Wants to Dispose Properly	Now Disposes Properly	Was Already Disposing Properly
	All Respondents	**89.0%**	**61.3%**	**79.4%**	**82.4%**
Gender	Male	86.9%	52.6%	75.0%	75.8%
	Female	92.1%	75.0%	86.1%	92.3%
Age	21 to 24	78.6%	23.1%	78.6%	71.4%
	25 to 34	92.1%	70.3%	75.7%	76.3%
	35 to 44	81.8%	59.1%	72.7%	87.0%
	45 to 54	94.1%	75.0%	87.5%	88.2%
	55 to 64	100.0%	75.0%	100.0%	100.0%
	65 to 74	100.0%	0.0%	100.0%	100.0%
	75 or older	**	**	**	**
Locality	Alexandria	87.5%	83.3%	75.0%	77.8%
	Arlington	94.7%	73.7%	68.4%	84.2%
	Fairfax Co.	87.1%	41.4%	82.8%	80.6%
	Prince William & Stafford Co.	81.8%	85.0%	76.2%	82.6%
	Loudon Co.	95.0%	47.4%	90.0%	85.0%
Ethnicity	Not Hispanic/Latino	88.5%	62.5%	79.8%	82.8%
	Hispanic/Latino	92.3%	53.8%	76.9%	80.0%
Residence Years	Less than 1 year	100.0%	60.0%	83.3%	50.0%
	1 to 3 years	95.0%	64.7%	90.0%	95.2%
	4 to 9 years	77.1%	63.6%	72.7%	77.1%
	10 to 19 years	95.0%	45.0%	68.4%	81.8%
	20 or more years	94.7%	72.2%	89.5%	88.9%
Residence Type	Owned	89.3%	54.5%	75.4%	81.4%
	Rented	88.1%	72.2%	84.2%	82.9%
Income	Less than $35,000	83.3%	60.0%	81.8%	72.7%
	$35,000 to $49,999	93.3%	78.6%	69.2%	87.5%
	$50,000 to $74,999	80.0%	50.0%	90.0%	90.0%
	$75,000 to	95.5%	54.5%	86.4%	78.3%

Demographic	Subcategory	MO Understand	Wants to Dispose Properly	Now Disposes Properly	Was Already Disposing Properly
	$99,999				
	$100,000 to $124,999	60.0%	66.7%	77.8%	80.0%
	$125,000 to $149,999	100.0%	72.7%	91.7%	75.0%
	$150,000 to $174,999	100.0%	37.5%	88.9%	100.0%
	$175,000 to $199,999	100.0%	66.7%	33.3%	66.7%
	$200,000 or greater	75.0%	60.0%	60.0%	100.0%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 38. Ad impact on motor oil behaviors.



2.5.4.4 Impact of ads across years

Reported impact of the ads on behaviors regarding pet waste, fertilizer, and motor oil in across survey years can be seen below in Table 48. The proportion of respondents who intend to fertilize less is lower in 2025 than in 2024. The proportion of respondents who want to change the way they dispose of motor oil is also lower in 2025 than in 2024. There are no other significant differences across years.

Table 48. Ad impact across years.

Survey Question		Year of Survey		
		2023	2024	2025
Pet Waste	Understands	85.5%	82.9%	92.1%
	Wants to change	77.6%	70.3%	65.9%
	Has picked up more	76.6%	73.3%	75.8%
	Was already picking up	83.0%	84.9%	80.0%
Fertilizer	Understands	85.0%	81.6%	88.8%
	Wants to change	74.7%	78.2%	71.1%
	Plans on fertilizing less	76.3%	81.6%	64.8%
	Was already fertilizing less	71.4%	78.1%	80.4%
Motor Oil	Understands	84.4%	87.8%	89.0%
	Wants to change	75.7%	73.3%	61.3%
	Now disposes of motor oil properly	79.3%	80.9%	79.4%
	Was already disposing properly	82.0%	87.8%	82.4%

* *Red font indicates that the value significantly differs from the current 2025 value.*

2.5.5 Perceptions of the Campaign Sponsor (NVCWP)

Survey participants were asked about their perceptions of the campaign sponsor, the Northern Virginia Clean Water Partners, as perceptions of the campaign sponsor are known to impact consumer perceptions of the campaign. Table 49 and Figure 39 shows the percentage of respondents that indicate that they "Agree" or "Strongly Agree" with statements about NVCWP, on a 5-point scale of "Strongly Disagree", "Disagree", "Neither agree nor Disagree", "Agree" and "Strongly Agree". The statements were:

- I was familiar with the NVCWP before this survey
- I trust information from the NVCWP
- I would contact the NVCWP if I had a question or concern about water quality
- The NVCWP shares my values when it comes to water quality

Slightly more than one-third (37.4%) of respondents reported being familiar with NVCWP. In addition, 72.7% report trusting NVCWP, 69.7% share values with NVCWP, and 69.9% would contact NVCWP. Men reported higher rates of being familiar with NVCWP, at 43.7% compared to 31.8% of women. Respondents aged 55 to 64 reported the highest rates of sharing values with NVCWP while those aged 75 or older reported the lowest rates. Non-Hispanic/Latino respondents also reported higher rates of sharing values with NVCWP than Hispanic/Latino respondents (71.6% versus 55.2%). Generally, those who have lived in their residence for more years reported that they would contact NVCWP at higher rates than those who have lived in their residence for fewer years.

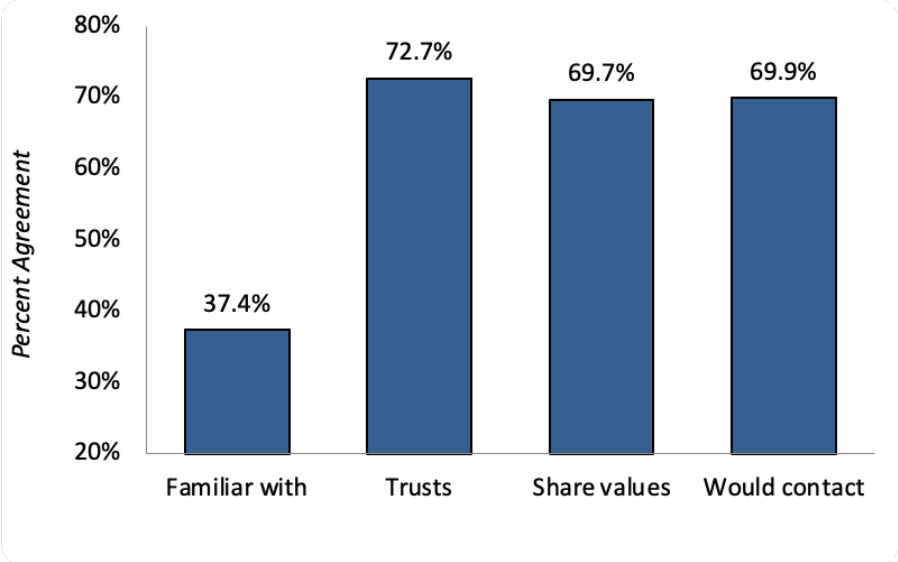
Table 49. Perceptions of the campaign sponsor, NVCWP, by demographic group.

Demographic	Subcategory	Familiar with NVCWP	Trusts NVCWP	Share Values with NVCWP	Would Contact NVCWP
		Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree
	All Respondents	**37.4%**	**72.7%**	**69.7%**	**69.9%**
Gender	Male	43.7%	72.8%	72.0%	72.8%
	Female	31.8%	72.5%	67.8%	67.8%
Age	21 to 24	44.0%	74.0%	66.0%	64.0%
	25 to 34	39.3%	67.9%	66.4%	68.6%
	35 to 44	44.7%	74.5%	70.6%	71.6%
	45 to 54	40.6%	68.8%	65.6%	67.2%
	55 to 64	31.6%	82.5%	84.2%	75.4%
	65 to 74	22.0%	78.0%	78.0%	74.6%
	75 or older	27.3%	66.7%	54.5%	66.7%
Locality	Alexandria	35.3%	67.6%	61.8%	66.2%
	Arlington	45.1%	76.5%	74.5%	66.7%
	Fairfax Co.	36.3%	72.0%	65.4%	69.8%
	Prince William & Stafford Co.	33.3%	69.4%	72.4%	68.7%
	Loudon Co.	44.3%	82.9%	80.0%	78.6%
Ethnicity	Not Hispanic/Latino	37.7%	73.4%	71.6%	70.9%
	Hispanic/Latino	34.5%	67.2%	55.2%	62.1%
Residence Years	Less than 1 year	31.4%	62.9%	74.3%	68.6%
	1 to 3 years	33.6%	67.2%	66.4%	58.0%
	4 to 9 years	39.7%	70.7%	69.3%	70.7%
	10 to 19 years	42.9%	84.4%	77.9%	79.2%
	20 or more years	36.3%	75.8%	66.9%	75.0%
Residence Type	Owned	40.6%	77.0%	70.0%	74.9%
	Rented	33.2%	68.6%	70.6%	65.2%
Income	Less than $35,000	31.8%	66.7%	65.2%	59.1%
	$35,000 to $49,999	32.8%	66.7%	68.4%	70.2%
	$50,000 to $74,999	35.1%	67.6%	71.6%	63.5%
	$75,000 to $99,999	39.8%	67.3%	62.2%	63.3%
	$100,000 to $124,999	45.0%	76.7%	75.0%	75.0%
	$125,000 to $149,999	38.6%	81.8%	63.6%	72.7%

Demographic	Subcategory	Familiar with NVCWP	Trusts NVCWP	Share Values with NVCWP	Would Contact NVCWP
		Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree	Agree or Strongly Agree
	$150,000 to $174,999	37.5%	84.4%	81.3%	84.4%
	$175,000 to $199,999	48.1%	81.5%	85.2%	92.6%
	$200,000 or greater	31.9%	80.9%	72.3%	76.6%

** Red font indicates significant differences within a demographic subgroup.*

Figure 39. Perceptions of NVCWP.



Changes in perceptions of NVCWP across between 2023 and 2025 are shown in the table below. There are no significant differences between 2025 perceptions and perceptions in previous years.

Table 45. Perceptions of NVCWP across years.

	Survey Year		
	2023	2024	2025
Familiar with NVCWP	42.2%	33.3%	37.4%
Trusts NVCWP	73.5%	71.2%	72.7%
Share Values with NVCWP	74.5%	69.7%	69.9%
Would Contact NVCWP	70.9%	66.8%	69.7%

2.6 Message Sources

Survey participants were asked about their TV service provider and which channels they watch in order to get a better understanding of their sources of messaging. Provided options for TV service provider were "Verizon", "Comcast", "Cox", "Xfinity", "Do not have cable TV", "Do not watch TV", "I don't know", and the option to write-in another provider not listed. As shown in Table 50 and Figure 40, 39.7% of participants report using Verizon as their TV service provider, 4.7% report using Comcast, 11.9% report using Cox and 15.6% report using Xfinity. Additionally, 20.6% report not having cable, 1.0% report not watching TV, 0.2% report using some other service not listed, and 6.3% of respondents report not knowing which TV service provider they use.

Men reported higher rates of using Verizon while women reported higher rates of using Xfinity. Respondents aged 55 to 64 reported using another TV service provider not listed. Residents of Alexandria reported the lowest rates of using Verizon, while Fairfax County residents reported the highest rates of using Cox as well as the lowest rates of using Xfinity. Hispanic/Latino respondents reported higher rates of not watching TV, at 3.4% compared to 0.7% of non-Hispanic/Latino respondents. Reported use of Verizon was highest amongst respondents who have lived in their residence for 20 or more years as well as respondents who own their home. Generally, reported Verizon use increased with income. Finally, home owners reported higher rates of Xfinity use than renters.

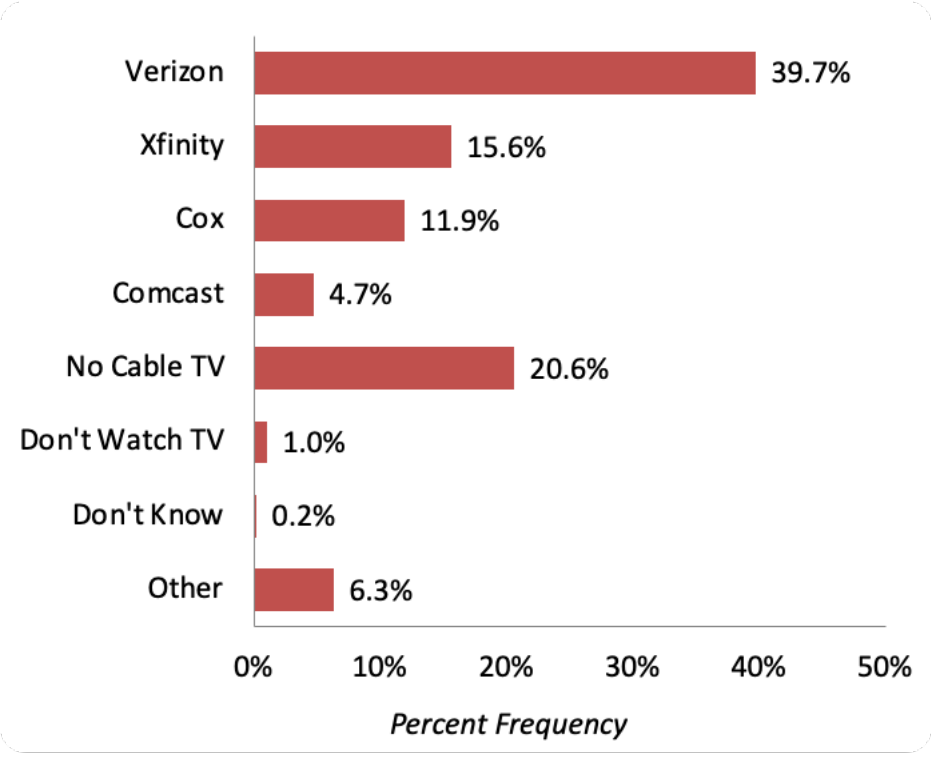
Table 50. TV service providers among respondents by demographic group.

Demographic	Subcategory	TV Service Provider							
		Verizon	Comcast	Cox	Xfinity	No Cable TV	Don't Watch TV	Don't Know	Other
	All Respondents	**39.7%**	**4.7%**	**11.9%**	**15.6%**	**20.6%**	**1.0%**	**0.2%**	**6.3%**
Gender	Male	45.3%	6.5%	13.0%	10.1%	18.6%	0.8%	0.0%	5.7%
	Female	34.1%	3.1%	10.6%	20.8%	22.7%	1.2%	0.4%	7.1%
Age	21 to 24	46.0%	4.0%	4.0%	22.0%	20.0%	2.0%	0.0%	2.0%
	25 to 34	37.1%	4.3%	10.7%	17.9%	24.3%	1.4%	0.0%	4.3%
	35 to 44	33.0%	7.8%	14.6%	14.6%	24.3%	0.0%	0.0%	5.8%
	45 to 54	40.6%	4.7%	10.9%	15.6%	20.3%	1.6%	1.6%	4.7%
	55 to 64	33.3%	0.0%	8.8%	12.3%	24.6%	0.0%	0.0%	21.1%
	65 to 74	54.2%	3.4%	20.3%	6.8%	11.9%	1.7%	0.0%	1.7%
	75 or older	45.5%	9.1%	12.1%	21.2%	3.0%	0.0%	0.0%	9.1%
Locality	Alexandria	23.5%	4.4%	11.8%	30.9%	20.6%	1.5%	0.0%	7.4%
	Arlington	41.2%	11.8%	2.0%	17.6%	21.6%	0.0%	0.0%	5.9%
	Fairfax Co.	44.5%	3.8%	24.7%	3.8%	18.1%	1.1%	0.0%	3.8%
	Prince William & Stafford Co.	36.3%	4.4%	2.2%	24.4%	20.7%	0.7%	0.7%	10.4%
	Loudon Co.	48.6%	2.9%	4.3%	12.9%	25.7%	1.4%	0.0%	4.3%
Ethnicity	Not Hispanic/Latino	40.8%	4.5%	12.5%	15.6%	19.9%	0.7%	0.2%	5.8%
	Hispanic/Latino	31.0%	6.9%	6.9%	15.5%	25.9%	3.4%	0.0%	10.3%
Residence Years	Less than 1 year	31.4%	5.7%	11.4%	17.1%	28.6%	2.9%	0.0%	2.9%
	1 to 3 years	29.4%	5.9%	10.1%	17.6%	25.2%	1.7%	0.0%	10.1%
	4 to 9 years	39.7%	4.0%	9.9%	20.5%	22.5%	0.0%	0.7%	2.6%
	10 to 19 years	42.9%	6.5%	13.0%	10.4%	18.2%	1.3%	0.0%	7.8%
	20 or more years	50.0%	3.2%	15.3%	10.5%	12.9%	0.8%	0.0%	7.3%
Residence Type	Owned	47.3%	4.6%	12.4%	9.2%	19.1%	0.4%	0.0%	7.1%
	Rented	30.2%	4.9%	11.7%	23.9%	22.0%	2.0%	0.5%	4.9%
Income	Less than $35,000	19.7%	1.5%	15.2%	25.8%	28.8%	3.0%	0.0%	6.1%
	$35,000 to $49,999	36.2%	5.2%	15.5%	20.7%	17.2%	1.7%	0.0%	3.4%
	$50,000 to $74,999	37.8%	4.1%	10.8%	17.6%	18.9%	1.4%	1.4%	8.1%
	$75,000 to $99,999	44.9%	9.2%	9.2%	16.3%	15.3%	0.0%	0.0%	5.1%

Demographic	Subcategory	TV Service Provider							
		Verizon	Comcast	Cox	Xfinity	No Cable TV	Don't Watch TV	Don't Know	Other
	$100,000 to $124,999	43.3%	1.7%	18.3%	11.7%	18.3%	0.0%	0.0%	6.7%
	$125,000 to $149,999	43.2%	4.5%	13.6%	6.8%	29.5%	0.0%	0.0%	2.3%
	$150,000 to $174,999	46.9%	3.1%	9.4%	6.3%	25.0%	3.1%	0.0%	6.3%
	$175,000 to $199,999	37.0%	11.1%	3.7%	22.2%	18.5%	0.0%	0.0%	7.4%
	$200,000 or greater	53.2%	2.1%	6.4%	6.4%	19.1%	0.0%	0.0%	12.8%

* *Red font indicates significant differences within a demographic subgroup.*

Figure 40. TV service provider usage.



Finally, respondents were also asked what TV channels they watch. TV channel options provided in the survey were “HLN TV”, “Oxygen”, “Toon”, “ENT”, “Animal Planet”, “CNN”, “ESPN”, “History”, “National Geographic”, “Lifetime”, “The CW”, “Home and Garden”, and

"None of the above". When asked which TV channels they watched (see Table 51 and Figure 41), 42.3% of respondents reported watching CNN, 42.3% reported watching ESPN, 35.0% reported watching National Geographic, 27.3% reported watching the History Channel, 23.1% reported watching Animal Planet, and 21.5% reported watching Lifetime. Additionally, 18.8% reported watching none of the provided channels, while 16.6% reported watching HGTV, 12.0% reported watching The CW, 12.1% watch Oxygen, 9.9% watch Toon, and 5.5% watch HLN.

Men reported higher rates of watching HLN, ESPN, the History Channel, and National Geographic. Women reported higher rates of watching Oxygen and Lifetime. Women also reported higher rates of not watching any of the TV channels listed. Residents of Fairfax County and Loudon County reported higher rates of watching CNN, ESPN, National Geographic, and HGTV. Non-Hispanic/Latino respondents reported higher rates of watching ESPN. Generally, people who have lived in their residence for longer reported higher rates of watching ESPN, the History Channel, and National Geographic. Home owners reported higher rates of watching CNN, ESPN, the History Channel, and National Geographic. Respondents with an income of $49,999 or less reported the lowest rates of watching ESPN.

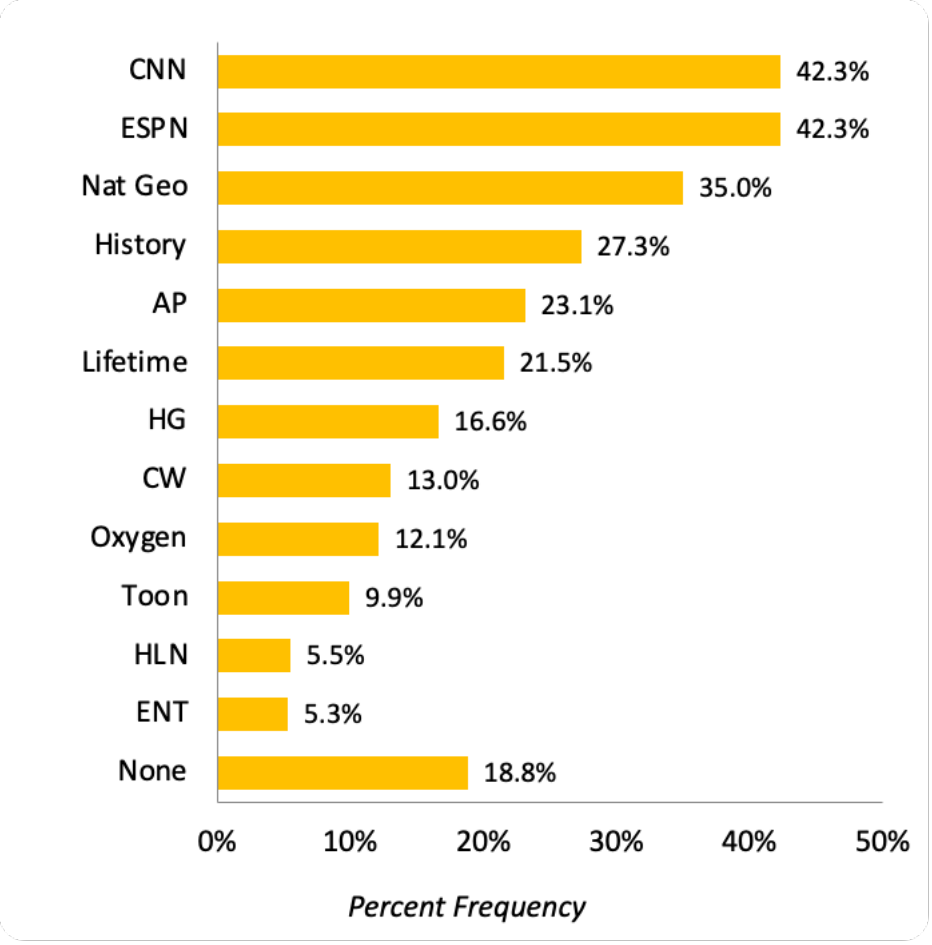
Table 51. TV channels that respondents report watching by demographic group.

Demographic	Subcategory	TV Service Provider												
		HLN	Oxygen	Toon	ENT	AP	CNN	ESPN	History	Nat Geo	Lifetime	CW	HG	None
	All Respondents	**5.5%**	**12.1%**	**9.9%**	**5.3%**	**23.1%**	**42.3%**	**42.3%**	**27.3%**	**35.0%**	**21.5%**	**13.0%**	**16.6%**	**18.8%**
Gender	Male	8.1%	8.9%	11.7%	6.5%	22.7%	44.1%	56.3%	33.6%	41.7%	15.0%	13.8%	15.8%	12.1%
	Female	2.4%	15.3%	8.2%	4.3%	23.5%	40.8%	29.4%	21.2%	28.6%	28.2%	12.5%	17.3%	25.1%
Age	21 to 24	14.0%	20.0%	16.0%	12.0%	34.0%	58.0%	50.0%	24.0%	42.0%	20.0%	22.0%	22.0%	14.0%
	25 to 34	6.4%	10.7%	12.1%	7.9%	27.9%	40.0%	45.7%	20.7%	39.3%	20.0%	11.4%	17.9%	15.7%
	35 to 44	4.9%	7.8%	11.7%	3.9%	20.4%	41.7%	42.7%	27.2%	32.0%	19.4%	8.7%	15.5%	21.4%
	45 to 54	4.7%	23.4%	10.9%	7.8%	25.0%	35.9%	37.5%	18.8%	25.0%	23.4%	14.1%	17.2%	20.3%
	55 to 64	3.5%	10.5%	8.8%	0.0%	14.0%	43.9%	26.3%	35.1%	29.8%	28.1%	15.8%	17.5%	24.6%
	65 to 74	1.7%	10.2%	0.0%	1.7%	18.6%	42.4%	44.1%	39.0%	40.7%	25.4%	13.6%	10.2%	15.3%
	75 or older	3.0%	3.0%	3.0%	0.0%	15.2%	39.4%	48.5%	42.4%	33.3%	15.2%	12.1%	15.2%	24.2%
Locality	Alexandria	1.5%	10.3%	7.4%	0.0%	17.6%	44.1%	36.8%	26.5%	27.9%	19.1%	4.4%	8.8%	27.9%
	Arlington	11.8%	11.8%	5.9%	5.9%	17.6%	31.4%	41.2%	17.6%	29.4%	13.7%	11.8%	13.7%	11.8%
	Fairfax Co.	6.6%	9.3%	11.5%	7.1%	25.3%	45.1%	50.0%	31.3%	37.9%	18.7%	13.7%	17.0%	17.6%
	Prince William & Stafford Co.	3.7%	18.5%	12.6%	4.4%	20.0%	34.1%	34.1%	22.2%	28.9%	31.9%	14.8%	14.1%	20.0%
	Loudon Co.	5.7%	8.6%	5.7%	7.1%	32.9%	57.1%	44.3%	34.3%	50.0%	17.1%	17.1%	30.0%	15.7%
Ethnicity	Not Hispanic/Latino	5.6%	12.1%	10.7%	5.6%	23.9%	42.9%	44.0%	27.7%	34.8%	21.2%	14.1%	17.2%	18.5%
	Hispanic/Latino	5.2%	12.1%	3.4%	3.4%	17.2%	37.9%	29.3%	24.1%	36.2%	24.1%	5.2%	12.1%	20.7%
Residence Years	Less than 1 year	0.0%	11.4%	8.6%	2.9%	17.1%	28.6%	25.7%	22.9%	20.0%	34.3%	14.3%	5.7%	22.9%
	1 to 3 years	2.5%	9.2%	14.3%	4.2%	18.5%	42.9%	34.5%	18.5%	24.4%	19.3%	8.4%	20.2%	23.5%

Demographic	Subcategory	TV Service Provider												
		HLN	Oxygen	Toon	ENT	AP	CNN	ESPN	History	Nat Geo	Lifetime	CW	HG	None
	4 to 9 years	7.3%	13.2%	7.3%	4.6%	25.8%	38.4%	44.4%	23.2%	32.5%	21.9%	12.6%	10.6%	18.5%
	10 to 19 years	10.4%	13.0%	13.0%	13.0%	33.8%	51.9%	41.6%	39.0%	51.9%	27.3%	16.9%	28.6%	15.6%
	20 or more years	4.8%	12.9%	7.3%	3.2%	19.4%	44.4%	52.4%	34.7%	41.9%	16.1%	15.3%	16.1%	15.3%
Residence Type	Owned	6.7%	12.4%	9.2%	7.1%	23.3%	49.8%	48.8%	33.2%	41.7%	20.8%	14.5%	19.4%	15.9%
	Rented	3.4%	12.2%	8.8%	3.4%	22.9%	33.7%	35.6%	19.0%	26.8%	23.4%	12.2%	13.2%	22.9%
Income	Less than $35,000	3.0%	12.1%	4.5%	1.5%	21.2%	28.8%	27.3%	15.2%	21.2%	22.7%	9.1%	4.5%	36.4%
	$35,000 to $49,999	1.7%	10.3%	20.7%	5.2%	29.3%	36.2%	29.3%	27.6%	29.3%	24.1%	13.8%	19.0%	15.5%
	$50,000 to $74,999	8.1%	13.5%	8.1%	2.7%	24.3%	36.5%	44.6%	27.0%	36.5%	23.0%	10.8%	16.2%	17.6%
	$75,000 to $99,999	9.2%	11.2%	16.3%	9.2%	24.5%	48.0%	46.9%	32.7%	40.8%	23.5%	13.3%	19.4%	13.3%
	$100,000 to $124,999	5.0%	11.7%	5.0%	5.0%	20.0%	55.0%	45.0%	26.7%	41.7%	25.0%	18.3%	15.0%	11.7%
	$125,000 to $149,999	4.5%	9.1%	15.9%	6.8%	27.3%	52.3%	43.2%	18.2%	38.6%	6.8%	13.6%	15.9%	18.2%
	$150,000 to $174,999	9.4%	18.8%	0.0%	6.3%	18.8%	37.5%	46.9%	21.9%	28.1%	18.8%	18.8%	21.9%	34.4%
	$175,000 to $199,999	3.7%	14.8%	3.7%	3.7%	7.4%	33.3%	44.4%	40.7%	44.4%	14.8%	7.4%	18.5%	3.7%
	$200,000 or greater	2.1%	10.6%	4.3%	6.4%	25.5%	48.9%	57.4%	38.3%	34.0%	25.5%	12.8%	23.4%	19.1%

** Red font indicates significant differences within a demographic subgroup.*

Figure 41. TV channels watched.



3 APPENDIX

3.2 Survey Instrument

2025 Stormwater Survey

Survey Instrument

*** Revisions to the 2025 survey from the previous year are highlighted.*

Programming instructions

- Programming instructions are in [SQUARE BRACKETS].
- Skip/branch logic is in [RED SQUARE BRACKETS].
- All items are single-select unless otherwise noted.
- Retain response option order unless noted.
- Retain grid item order unless noted.
- Allow respondents to go back/forward.
- Respondents may skip any question, but give one prompt if they move forward without a response. Terminate if a screener question is skipped.

Consent and screening

We're conducting this survey to understand opinions related to storm water. Everything you say will be anonymous. You'll watch a couple short videos, so please make sure your sound is on. The survey should take about 10 minutes.

Do you want to proceed?
Yes
No [END SURVEY]

Section	Construct	Q #	Question
Demographics	Sex	S1	First, we'll ask a few questions about you. What is your gender identity? Male Female Non-binary/non-conforming Prefer not to answer
Demographics	Age	S2	Which of the following categories includes your age? Under 18 [END SURVEY] 18 to 20 [END SURVEY] 21 to 24 25 to 34 35 to 44 45 to 54 55 to 64 65 to 74 75 or older
Demographics	Residence Type	S3	Is your home…? Owned Rented Military housing Transitional housing Other (Please specify): None of the above [END SURVEY]
Demographics	VA Residency	S4	Do you live in the state of Virginia? Yes No [END SURVEY]

Demographics	NoVA Residency	S5	Do you live in one of the following towns, cities, or counties? Please select only one location. Alexandria Arlington Fairfax County: Fairfax City Fairfax County: Herndon Fairfax County: Vienna Fairfax County, but not one of the cities/towns listed Falls Church Henrico County [END SURVEY] Loudoun County: Leesburg Loudoun County, but not Leesburg Prince William County: Dumfries Prince William County: Manassas Prince William County: Manassas Park Prince William County, but not one of the cities/towns listed Richmond [END SURVEY] Virginia Beach [END SURVEY] None of the above [END SURVEY]
Demographics	Occupation	S6	What is your occupation/sector of work? [RETAIN ORDER, DO NOT RANDOMIZE] a. Student only (no other occupation) b. Retired c. Currently unemployed d. Agriculture, forestry, fishing and hunting, and mining e. Landscaping, grounds keeping, or lawn care f. Construction g. Manufacturing h. Wholesale trade i. Retail trade j. Transportation and warehousing k. Utilities l. Information or information technology m. Finance and insurance, n. Real estate and/or rental and leasing o. Professional and/or scientific p. Administrative q. Waste management services r. Educational services s. Health care and/or social assistance t. Arts, entertainment, and recreation u. Accommodation/hospitality and food services v. Public administration w. Other services x. Other: _____

Demographics	HH Income	S7	What is your household's annual income? Less than $35,000 $35,000 to $49,999 $50,000 to $74,999 $75,000 to $99,999 $100,000 to $124,999 $125,000 to $149,999 $150,000 to $174,999 $175,000 to $199,999 $200,000 or greater
Demographics	Ethnicity	S8	Which of the following describes your ethnicity? (Please select all that apply) African American/Black American Indian/Native Alaskan Asian Hispanic/Latino Native Hawaiian/Pacific Islander White/Caucasian Other: _____
Demographics	Language	S9	What is the main language spoken in your home? a. English b. Spanish c. Chinese d. Vietnamese e. Arabic f. Korean g. Tagalog (including Filipino) h. Urdu i. Amharic or Somali j. French (including Cajun) k. Persian (including Farsi, Dari) l. Other: _____
Demographics	Years in residence	Q1	How many years have you lived in your current residence? Less than 1 year 1 to 3 years 4 to 9 years 10 to 19 years 20 or more years

<table>
<tr><td>Behavior</td><td>Lawn or garden at residence</td><td>Q2</td><td>Does your home have a lawn or garden, no matter how small?

Yes
No</td></tr>
<tr><td>Behavior</td><td>Lawn care familiarity</td><td>Q3</td><td>[IF Q2 = YES] Are you familiar with how your garden or lawn is cared for (e.g., fertilizer use, mowing)?
Yes
No</td></tr>
<tr><td>Behavior</td><td>Lawn care use</td><td>Q4</td><td>[IF Q2 = YES] Do you use a lawn care service at least once a year?
Yes
No</td></tr>
<tr><td>Behavior</td><td>Vehicle owner</td><td>Q5</td><td>Do you own or lease a personal vehicle?
Yes
No</td></tr>
<tr><td>Demographics</td><td>Own a dog</td><td>Q6</td><td>Is there one or more dogs in your home that you are at least partially responsible for?

Yes
No</td></tr>
<tr><td>Knowledge</td><td>Watershed</td><td>Q7</td><td>Are you familiar with the term “watershed”?

Yes
No

[DISPLAY TEXT ON NEXT PAGE AFTER RESPONSE HAS BEEN ENTERED.]
A watershed is an area of land that channels rainfall and snowmelt to creeks, streams, and rivers, and eventually to outflow points such as reservoirs, bays, and the ocean.</td></tr>
<tr><td>Demographics</td><td>Reside within watershed</td><td>Q8</td><td>Do you live in the….

<table><tr><td></td><td>YES</td><td>NO</td><td>Don’t Know</td></tr><tr><td>Chesapeake Bay watershed?</td><td></td><td></td><td></td></tr><tr><td>Potomac River watershed?</td><td></td><td></td><td></td></tr><tr><td>Another watershed not listed?</td><td></td><td></td><td></td></tr></table>
[IF “Another watershed not listed” = YES.]
You selected “Another watershed not listed”. Please tell us the watershed:</td></tr>
</table>

Perceptions	Storm water final destination	Q9	"Stormwater" is rainwater that flows into the street, along the gutter and into the storm drain. To the best of your knowledge, where does stormwater in Northern Virginia then go? A wastewater treatment facility Potomac River and Chesapeake Bay All of the above None of the above Other: _____
Behavior	Dog walk cleanup frequency	Q10	[IF Q6= YES] When taking your dog(s) for a walk, how often do you pick up after your dog(s)? Always Usually Sometimes Rarely Never Not applicable/I don't take the dog(s) on walks
Behavior	Dog yard clean up frequency	Q11	[IF Q6 = YES AND Q2 = YES] How often do you (or someone else from your household) remove your dog's waste from your yard? Not applicable – dog not allowed to go in the home's yard Daily Weekly Monthly Less often than once a month Never Not sure

Belief	Reason for dog clean up	Q12	[IF Q10 = (Always, Usually, Sometimes, Rarely) AND Q11 = (Daily, Weekly, Monthly, Less often than once a month)] What is the most important reason to pick up after your dog(s)? (Please select only one) City/county ordinance Don't want to step in it It causes water pollution It is gross It's what good neighbors do Odor Other reason None/no reason to
Behavior	Grass clippings handling	Q13	[IF Q3 = YES] How are grass clippings from your lawn disposed of? Bagged and put in the regular trash Bagged and put in compost/recycling bags for pick up Left on the lawn/garden Put in a compost pile/bin Not sure Other Not applicable/don't have grass clippings
Behavior	Grass clippings on street handling	Q14	[IF Q3 = YES] After your grass has been mown, what is done if grass clippings end up in the street? They are left there. They are swept or blown back into the lawn. They are swept or blown into the storm drain Not applicable/don't have grass clippings Other: _____ Not sure
Behavior	Lawn fertilization frequency	Q15	[IF Q3 = YES] Which of the following best describes how often your lawn is fertilized? 1 time a year 2 times a year 3 times a year 4+ times a year Only if/when if a soil test indicates the grass needs fertilizer Never Not sure

<table>
<tr><td>Knowledge</td><td>Rain barrel familiarity</td><td>Q16</td><td>A rain barrel is a barrel you put under your downspout to collect rain water that you can use around your yard. Which of the following statements are true for you?

<table><tr><td></td><td>YES</td><td>NO</td></tr><tr><td>I have a rain barrel.</td><td></td><td></td></tr><tr><td>I am familiar with rain barrels.</td><td></td><td></td></tr><tr><td>I don’t have a rain barrel but I’m interested in getting one.</td><td></td><td></td></tr></table></td></tr>
<tr><td>Knowledge</td><td>Rain garden familiarity</td><td>Q17</td><td>A rain garden is a bowl-shaped garden area where runoff can collect and soak into the ground. Which of the following statements are true for you?

<table><tr><td></td><td>YES</td><td>NO</td></tr><tr><td>I have a rain garden.</td><td></td><td></td></tr><tr><td>I am familiar with rain gardens.</td><td></td><td></td></tr><tr><td>I don’t have a rain garden but I’m interested in installing one.</td><td></td><td></td></tr></table></td></tr>
<tr><td>Knowledge</td><td>Conservation landscaping familiarity</td><td>Q18</td><td>Conservation landscaping is replacing an area of lawn or bare soil in your yard with native plants. Which of the following statements are true for you?

<table><tr><td></td><td>YES</td><td>NO</td></tr><tr><td>I have conservation landscaping in my yard.</td><td></td><td></td></tr><tr><td>I am familiar with conservation landscaping.</td><td></td><td></td></tr><tr><td>I don’t have conservation landscaping but I’m interested in installing it.</td><td></td><td></td></tr></table></td></tr>
<tr><td>Behavior</td><td>Vehicle oil handling</td><td>Q19</td><td>[IF Q5 = YES]
When you need to change the oil in your car or truck, what do you do with the old motor oil?

I don’t change the oil myself/I take it to a garage/oil change service
Take the old motor oil to a gas station or hazmat facility for recycling
Store it in my garage
Put it in the trash
Dump it in the gutter or down the storm sewer
Dump it down the sink
Dump it on the ground
Other: _____ [please specify]</td></tr>
</table>

<table>
<tr><td>Knowledge</td><td>HHW drop off knowledge</td><td>Q20</td><td>Do you know whether or not your locality has a specific place for residents to drop off household hazardous waste (HHW)? HHW includes items like automobile fluids, pesticides and herbicides, oil-based paint and paint thinners, etc.

Yes, I know whether we have a location for drop-offs.
No, I’m not sure whether we have a location for drop-offs.</td></tr>
<tr><td>Behavior</td><td>Wash vehicle at home</td><td>Q21</td><td>[IF Q5 = YES]
In the past year, where have you washed your personal vehicle? Check all that apply. [MULTISELECT]

At my home or someone else’s home
At a commercial car wash
I haven’t washed my vehicle
Other: _____ [please specify]</td></tr>
<tr><td>Behavior</td><td>Wash vehicle at home frequency</td><td>Q22</td><td>[IF Q21 = At my/someone else’s home]
How often do you typically wash your car/truck at home?

Less than once a year
1- 2 times per year
3-4 times per year
5-6 times per year
7-12 times per year
12+ times per year</td></tr>
<tr><td>Behavior</td><td>Wash vehicle method</td><td>Q23</td><td>[IF Q21 = At my/someone else’s home]
When you wash your car/truck at home, which of the following apply?

<table>
<tr><th></th><th>YES</th><th>NO</th><th>NOT SURE</th></tr>
<tr><td>I wash it on the grass, gravel or dirt</td><td></td><td></td><td></td></tr>
<tr><td>I use environmentally friendly detergent</td><td></td><td></td><td></td></tr>
<tr><td>I use water only (no soap or detergent)</td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

Knowledge	Pollution identification	Q24	Looking at the picture below, would you consider either to be a potential source of water pollution? [MEDIA: SurveyImage_POLLUTION.png] Yes No Not sure Cannot see image
Knowledge	Pollution reporting knowledge	Q25	Do you feel that you know who to contact to report potential water pollution? I definitely know I think I know I don't think I know I definitely don't know
Behavior	Likelihood to report pollution	Q26	What is the likelihood that you would call county or town officials to report potential pollution so they could investigate the cause? I definitely would I probably would I'm equally likely to call and to not call I probably would NOT I definitely would NOT
Behavior	Reason for not reporting pollution	Q27	[IF Q26 = Equally likely, Probably not or Definitely not] What is the primary reason that you would **not** call county or town officials to report potential pollution? I'm too busy It's not my responsibility It's none of my business I prefer not to communicate with officials or authorities Other: _____
Behavior	Salt/abrasive	Q28	During snowy and icy conditions, how often (if at all) do you (or a family member) apply **deicer** (e.g., salt) at your residence? Always or most of the time Frequently Sometimes Occasionally Rarely Never Don't know

<table>
<tr>
<td>Behavior</td>
<td>Salt/abrasive</td>
<td>Q29</td>
<td>[SKIP IF Q28 = “RARELY” OR “NEVER”]

Do you (or a family member) typically apply deicer (e.g., salt) at your residence before, during, or after a winter storm event?
(Select all that apply.)

Before
During
After
Depends / varies too much to say
Other:_____ [please specify]
Don’t know</td>
</tr>
<tr>
<td>Behavior</td>
<td>Salt/abrasive</td>
<td>Q30</td>
<td>During snowy and icy conditions, how often (if at all) do you (or a family member) apply <u>an abrasive for traction</u> (e.g., sand) at your residence?

Always or most of the time
Frequently
Sometimes
Occasionally
Rarely
Never
Don’t know</td>
</tr>
<tr>
<td>Perception</td>
<td>Salt/abrasive</td>
<td>Q31</td>
<td>In general, how would you rate the impact (if any) on each of the following from using salt for winter storm events? That is, for each item, please indicate if you feel that applying salt for winter storm events has a very positive, somewhat positive, somewhat negative, very negative, or little or no impact on that item.
[RANDOMIZE]

<table>
<tr><th></th><th>Very positive</th><th>Some-what positive</th><th>No or little impact</th><th>Some-what negative</th><th>Very negative</th><th>Don’t know/ not sure</th></tr>
<tr><td>Tap/Drinking water</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Local waterways</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Emergency vehicle safety</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Motorist safety</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Pedestrian safety</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Economic and civic activity</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td>
</tr>
</table>

Sources	TV service provider	Q32	What TV service provider do you use? [RANDOMIZE FIRST FOUR OPTIONS] Verizon Comcast Cox Xfinity Do not have cable TV Do not watch TV Other: _____ I don't know
Sources	TV channels	Q33	White of the following channels, if any, do you watch? [RANDOMIZE ALL BUT LAST] HLN TV Oxygen Toon ENT Animal Planet CNN ESPN History National Geographic Lifetime CW Home and Garden None of the above
Knowledge	Clean up activity awareness in past 12 months	Q34	Thinking about the last 12 months, have you ***heard about*** any opportunities to participate in a water quality activity, such as a stream clean up, helping to install storm drain labels, etc.? Yes No Not sure
Behavior	Cleanup activity participation in the past 12 months	Q35	[IF Q34 = YES] Thinking about the last 12 months, have you ***participated in*** a water quality activity, such as a stream clean up, helping to install storm drain labels, etc.? Yes No

<table>
<tr><td>Instruction</td><td></td><td></td><td>Please watch the video below, then we'll ask you a couple questions about it.
[VIDEO ORDER RANDOMIZED: “Only Rain Down the Drain!”, “Pollution Solutions””]</td></tr>
<tr><td>Awareness</td><td>Ad familiarity</td><td>Q36</td><td>Before this survey, had you seen this ad, or a similar one on TV, Facebook, or Twitter?

Yes
No
Not sure
Video did not play</td></tr>
<tr><td>Perception</td><td>Ad perceptions</td><td>Q37</td><td>[IF Q36 NOT = ‘Video did not play”]
Thinking of the ad video you just saw, indicate whether you agree or disagree with the following statements about it.

<table>
<tr><th></th><th>Strongly Disagree</th><th>Disagree</th><th>Neither disagree or agree</th><th>Agree</th><th>Strongly Agree</th></tr>
<tr><td>I understand the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad is relevant to me.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I trust the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad’s message is important.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad is persuasive.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I think the ad would be effective.</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Instruction</td><td></td><td></td><td>Please watch the video below, then we'll ask you a couple questions about it.
[VIDEO ORDER COUNTERBALANCED: “Only Rain Down the Drain!”, “Pollution Solutions”]</td></tr>
</table>

<table>
<tr><td>Awareness</td><td>Ad familiarity</td><td>Q38</td><td>Before this survey, had you seen this ad, or a similar one on TV, Facebook, or Twitter?

Yes
No
Not sure
Video did not play</td></tr>
<tr><td>Perception</td><td>Ad perceptions</td><td>Q39</td><td>[IF Q38 NOT ‘Video did not play”]
Thinking of the ad video you just saw, indicate whether you agree or disagree with the following statements about it.

<table>
<tr><th></th><th>Strongly Disagree</th><th>Disagree</th><th>Neither disagree or agree</th><th>Agree</th><th>Strongly Agree</th></tr>
<tr><td>I understand the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad is relevant to me.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I trust the information in the ad.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad’s message is important.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The ad is persuasive.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I think the ad would be effective.</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

<table>
<tr>
<td>Behavior</td>
<td>Ad impact</td>
<td>Q40</td>
<td>[IF Q38 = YES OR Q36 = YES]
Thinking back to when you first saw the ad(s), please indicate if the following statements are true for you now compared to then? (Select all that apply.)

<table>
<tr><th></th><th>YES</th><th>NO</th><th>DOES NOT APPLY</th></tr>
<tr><td>I understand more about the impact of pet waste on water quality.</td><td></td><td></td><td></td></tr>
<tr><td>I’d like to pick up pet waste more often, though I haven’t made any changes yet.</td><td></td><td></td><td></td></tr>
<tr><td>I now pick up pet waste more often.</td><td></td><td></td><td></td></tr>
<tr><td>I was already doing what is recommended to reduce water pollution from pet waste</td><td></td><td></td><td></td></tr>
</table>

[PAGE BREAK. KEEP QUESTION AND RESPONSE LABELS ON SCREEN
<table>
<tr><th></th><th>YES</th><th>NO</th><th>DOES NOT APPLY</th></tr>
<tr><td>I understand more about the impact of fertilizer on water quality.</td><td></td><td></td><td></td></tr>
<tr><td>I’d like to fertilize fewer times during the year.</td><td></td><td></td><td></td></tr>
<tr><td>I now ~~plan to~~ fertilize fewer times during the year.</td><td></td><td></td><td></td></tr>
<tr><td>I was already doing what is recommended to reduce water pollution from fertilizer.</td><td></td><td></td><td></td></tr>
</table>

[PAGE BREAK. KEEP QUESTION AND RESPONSE LABELS ON SCREEN.]
<table>
<tr><th></th><th>YES</th><th>NO</th><th>DOES NOT APPLY</th></tr>
<tr><td>I understand more about the impact of motor oil on water quality.</td><td></td><td></td><td></td></tr>
<tr><td>I’d like to dispose of motor oil properly, though I haven’t made any changes yet.</td><td></td><td></td><td></td></tr>
<tr><td>I now properly dispose of motor oil.</td><td></td><td></td><td></td></tr>
<tr><td>I was already doing what is recommended to reduce water pollution from motor oil.</td><td></td><td></td><td></td></tr>
</table>
</td>
</tr>
</table>

Awareness	Received info about water pollution	Q41	Have you seen or received information about reducing water pollution from any source in the past 12 months? Yes No Not sure
Awareness	Rain logo familiarity	Q42	Have you seen the logo below before? [MEDIA: SHOW SURVEYIMAGE_LOGO] Yes No Cannot see image

<table>
<tr>
<td>Perceptions</td>
<td>Sponsor awareness and perceptions</td>
<td>Q43</td>
<td>[DISPLAY TEXT ON SEPARATE PAGE.]
The Northern Virginia Clean Water Partners is a group of local governments, drinking water and sanitation authorities, and businesses that share the common goals to keep Northern Virginia residents healthy and safe by reducing the amount of pollution from stormwater runoff that reaches local creeks and rivers, and empower individuals to take action to reduce pollution.
[PAGE BREAK.]

Indicate whether you agree or disagree with the following statements about the Northern Virginia Clean Water Partners (NVCWP).

<table>
<tr><th></th><th>Strongly Disagree</th><th>Disagree</th><th>Neither disagree or agree</th><th>Agree</th><th>Strongly Agree</th></tr>
<tr><td>I was familiar with the NVCWP before this survey.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I trust information from the NVCWP.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I would contact the NVCWP if I had a question or concern about water quality.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The NVCWP shares my values when it comes to water quality.</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td>
</tr>
</table>

[FINAL PAGE]

Thank you for completing the survey! The survey was sponsored by the Northern Virginia Clean Water Partners. To learn about the Northern Virginia Clean Water Partners, visit onlyrain.org.

Environmental Policy Commission | June 16, 2025

City of Alexandria
Stormwater Management Update and Flood Action Alexandria Overview

Agenda

- Stormwater Management in Alexandria
- Water Resources & Water Quality
- Flood Action Alexandria

FLOODACTION ALEXANDRIA

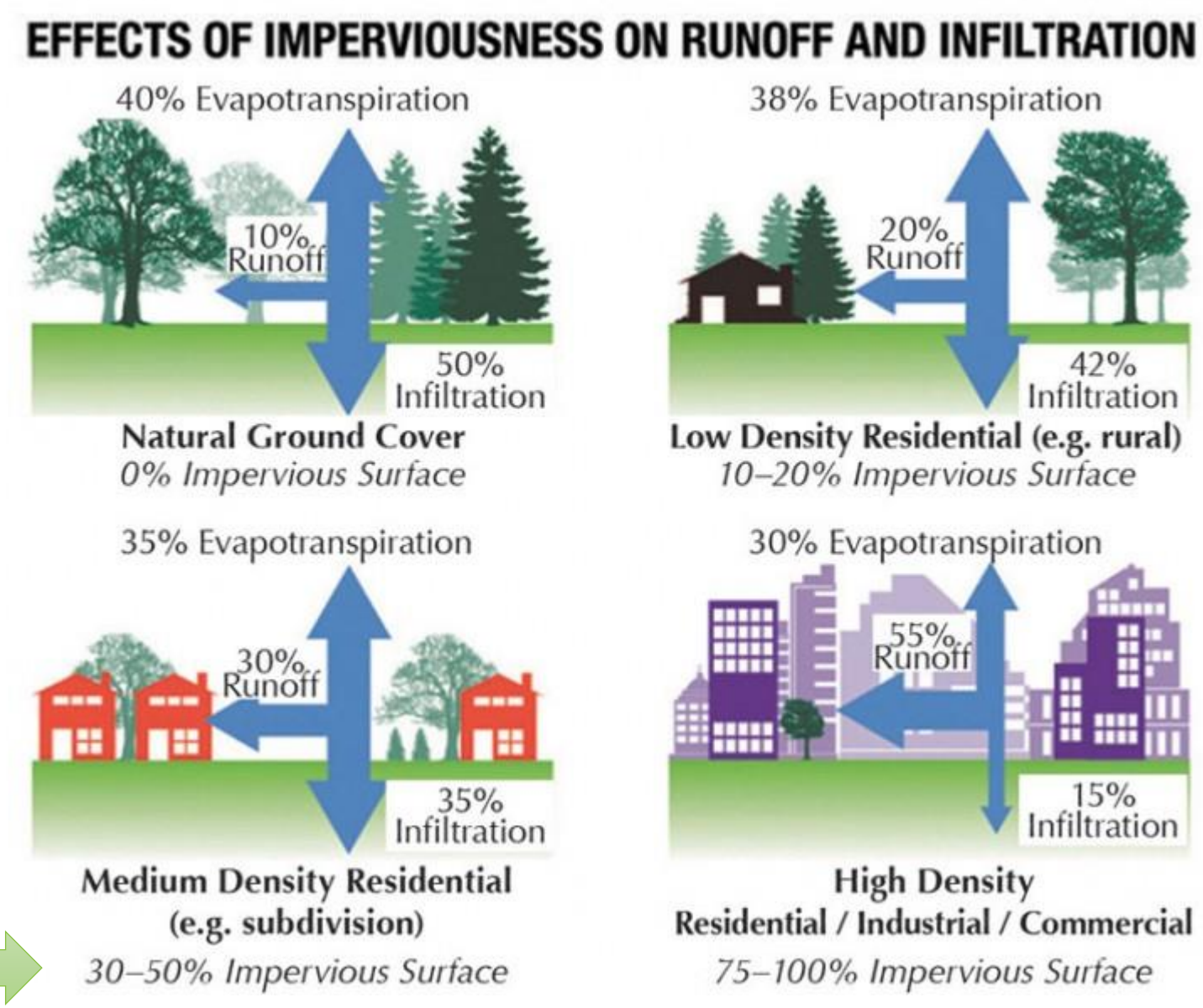
ECO-CITY ALEXANDRIA CLEAN WATERWAYS

Stormwater Management in Alexandria

- 154,700 (2021 population)
- 15 square miles
- Over 40% impervious area
- ~500 acres in Old Town area in combined sewer (See RiverRenew for more info!)

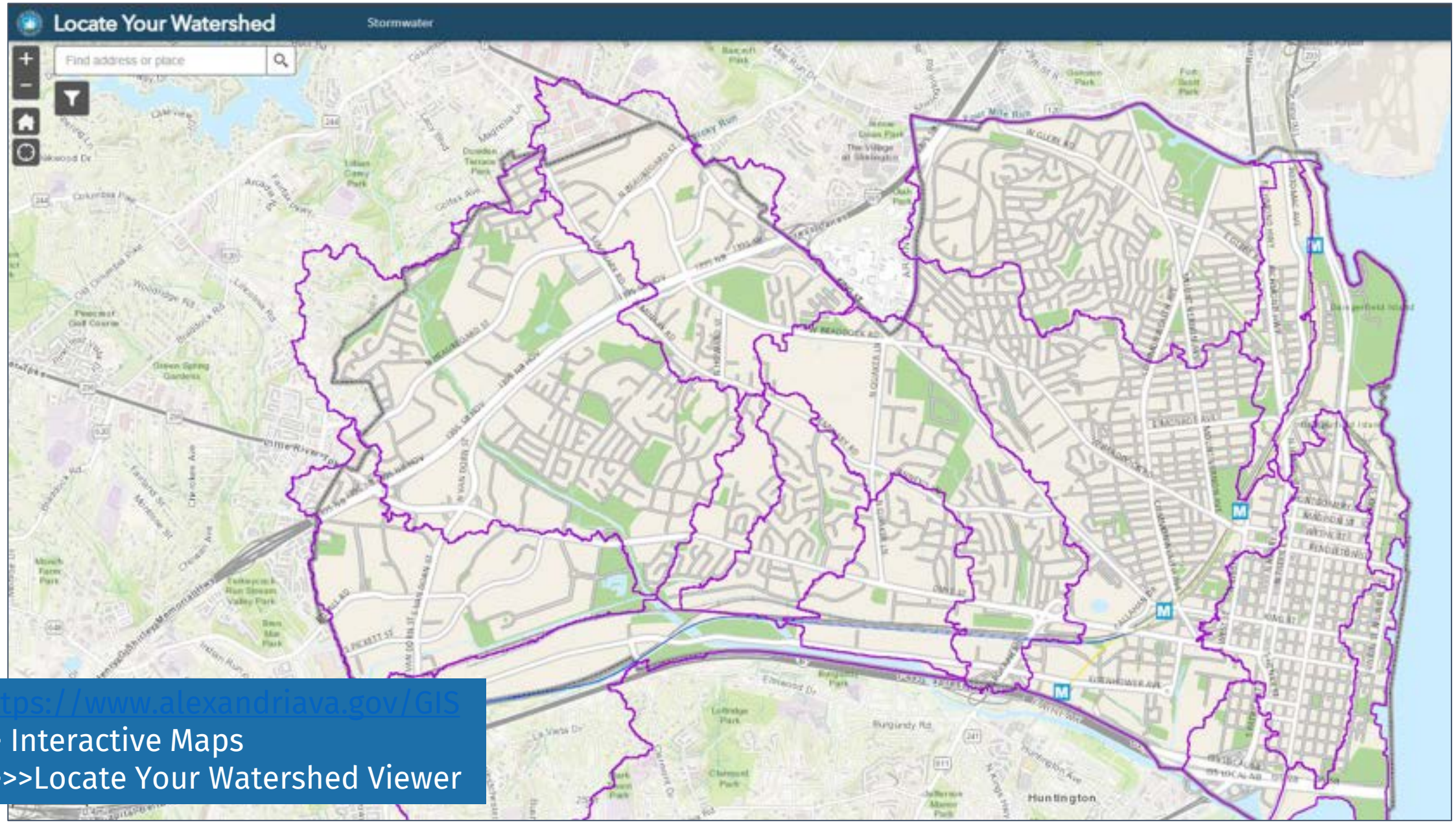
Why Does Stormwater Runoff?

- City is about 45% impervious, so about 30% becomes runoff



Where does all of the stormwater go?

"If it drains to the street, it drains to the creek."



https://www.alexandriava.gov/GIS
>> Interactive Maps
>>>>Locate Your Watershed Viewer

Types of Pollution in Alexandria's Waterways

- Trash / Litter
- Sediment / Dirt
- Nutrients from Fertilizers (over application or not timed properly)
- Salts from Snow Removal Activities
- Pet Waste
- Motor oil, grease, vehicle fluids

ECO-CITY ALEXANDRIA
CLEAN WATERWAYS

What You Can Do to Protect Water Quality

Report Clogged Inlets & Water Quality Concerns to Alex311
Pick Up After Your Pet | Do Not Litter |
Reduce Use of Fertilizer




Stormwater Program Activities

- Public Education and Outreach
- Public Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Inspections
- Stormwater Management Facility Inspections
- City Facilities Inspections
- Street Sweeping
- Storm Sewer Operations and Maintenance
- Local Total Maximum Daily Load (TMDL) Action Plans
- Chesapeake Bay TMDL Action Plan

Stormwater Utility (SWU) Fee and Credit Program

- First billed May 2018, the Fee provides a dedicated, equitable funding source for the Stormwater Management Program
- Billed twice a year on the Real Estate tax bill
- Residential fee is tiered: based on property type
- Non-residential fee is based on calculated impervious
- Property owners eligible for up to 50% reduction
- Applications accepted annually December 1 – February 15th
- Credits good for 2-years

Stormwater Utility Fee Credit Program

RESIDENTIAL PROPERTIES CREDIT MENU

STORMWATER MANAGEMENT PRACTICES

PRACTICE	CREDIT
RAIN BARRELS	5% EACH MAX 20% FOR 4
CISTERN	20%
DETENTION PRACTICES	20%
DRY WELL/ INFILTRATION	20%
RAIN GARDEN	20%
FLOW THRU PLANTER BOX	20%
PERMEABLE PAVEMENT	20%
VEGETATED GREEN ROOF	20%

ELIGIBLE LANDSCAPING PRACTICES

PRACTICE	CREDIT
NO FERTILIZER PLEDGE	10%
CONSERVATION LANDSCAPING	10%
NEW TREE PLANTING	UP TO 30% ONE TIME CREDIT
MATURE TREE PRESERVATION	UP TO 20%

*APPROVED STORMWATER PRACTICES IN THE BMP CLEARINGHOUSE MAY BE ELIGIBLE FOR CREDITS ON A CASE-BY-CASE BASES. SEE 2011 DESIGN SPECIFICATIONS FOR APPROVED PRACTICES AT HTTPS://SWBMP.VWRRC.VT.EDU

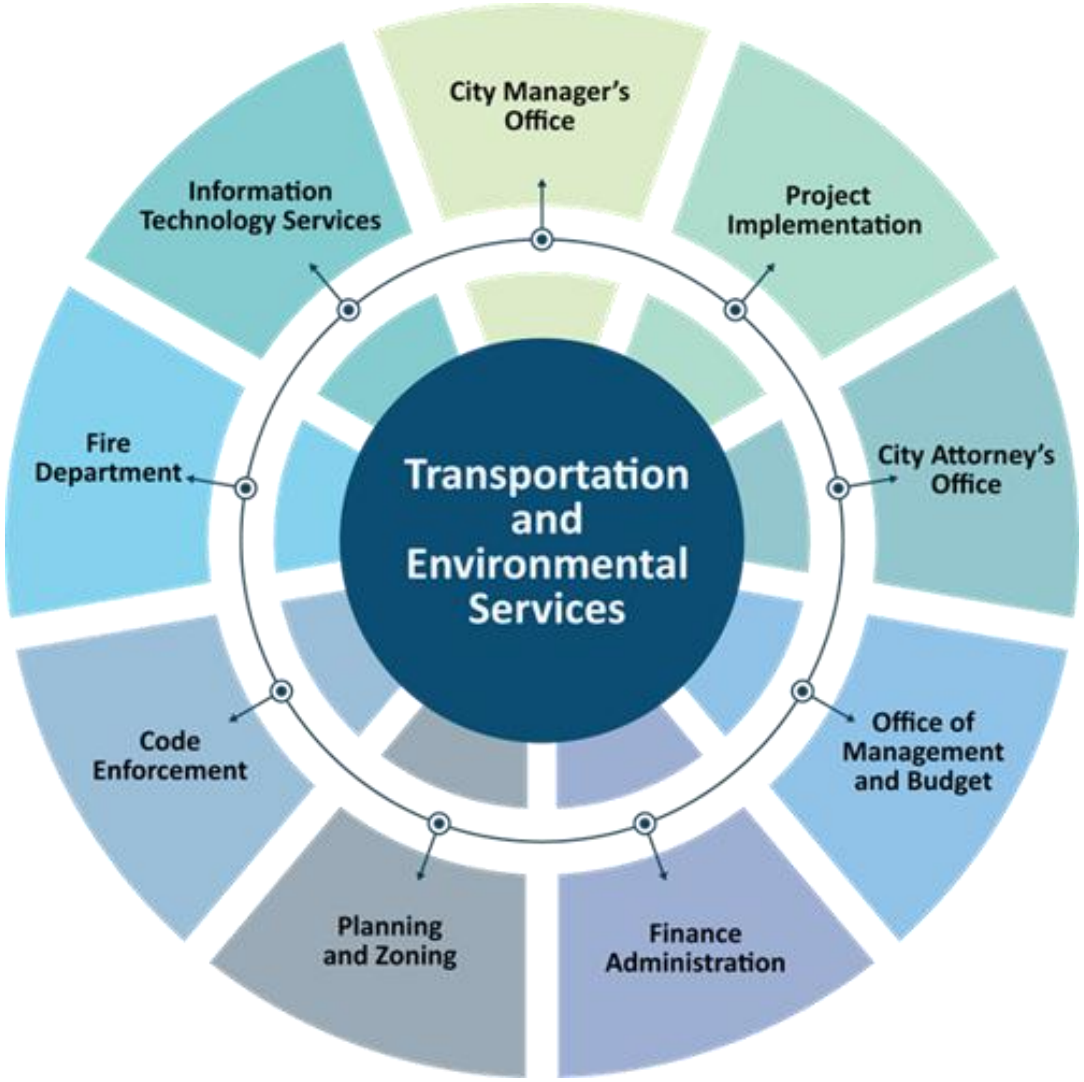
DRY FLOODPROOFING PRACTICES

PRACTICE	CREDIT
PROTECTIVE BARRIERS/ WALLS	10%
PROTECTIVE DOORWAY FLOOD GATE OR PANEL	10%
PASSIVE FLOOD GATES	10%
FLOODPROOF WINDOWS	10%
BASEMENT WINDOW PROTECTION	10%
GROUND FLOOR/ BASEMENT CUSTOM WINDOW WELLS	10%
FRENCH DRAIN AROUND BASEMENT	10%
IMPERMEABLE MATERIAL AROUND FOUNDATION	10%
CONCRETE SEALER	5%
CONSTRUCT WITH FLOOD RESISTENT BUILDING MATERIAL	5%
ELEVATE EXTERIOR UTILITIES/ SERVICE EQUIPMENT	5%

FLOODACTION

ALEXANDRIA

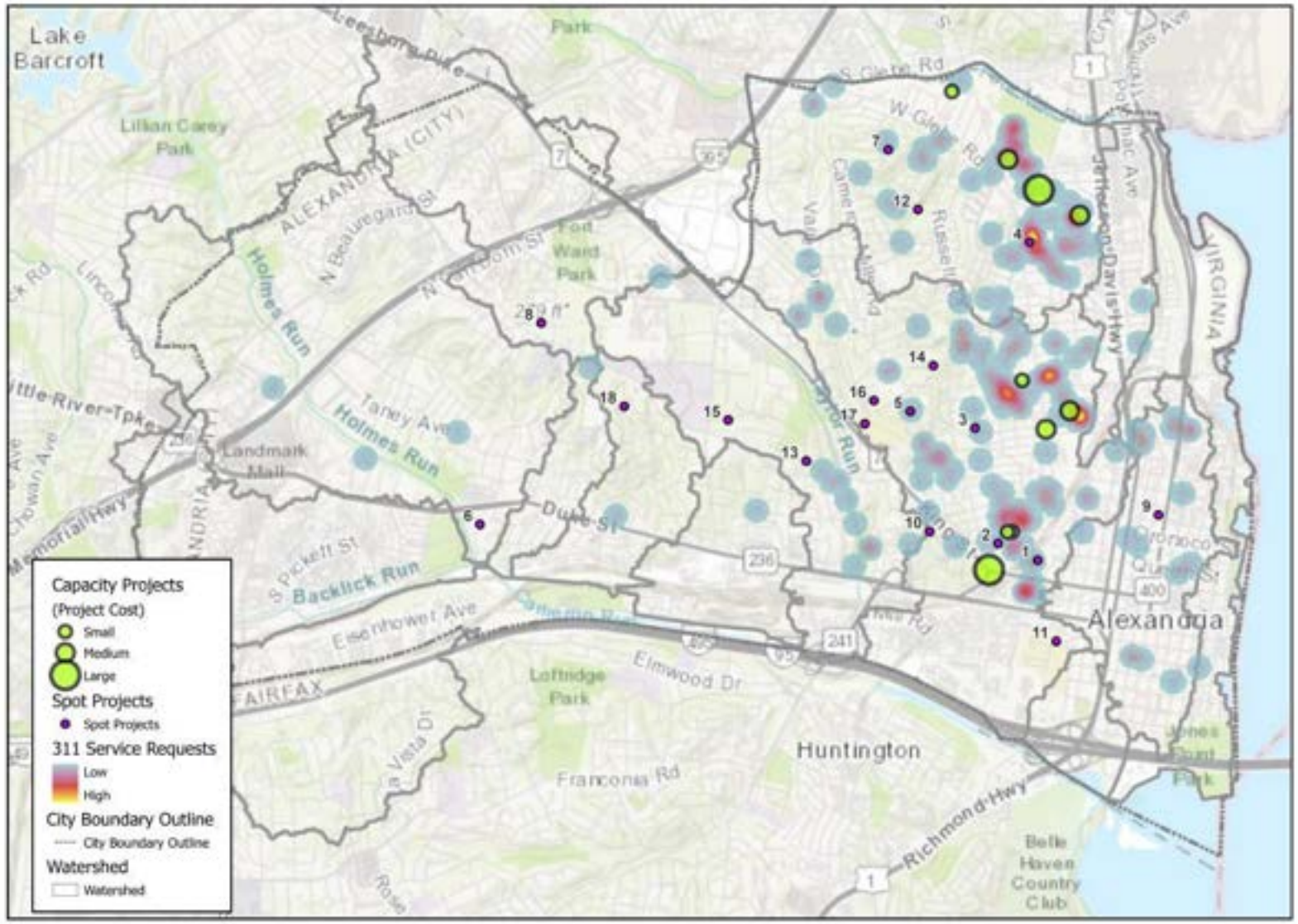
Flood Action Alexandria: Partnership to Address Flooding



- Major Capacity Capital Projects
- Spot Improvement Capital Projects
- Data Collection & Early Warning System
- Sanitary Sewer Improvements
- Enhanced Maintenance
- Enhanced Communications
- Legislative Process and Flood Mitigation Grant
- Alternative Funding

Large Capacity and Spot Improvement Capital Project Identification and Prioritization

- City of Alexandria Storm Sewer Capacity Analysis (CASSCA)
- "Heat map" using City's Alex311 service requests
- Neighborhood Engagement and Investigations
- Anecdotal data



For illustrative purposes only

Neighborhood Engagement and Investigation Meetings

- Discuss types and extent of flooding issues
- Planned large capacity projects
- Potential Spot improvement projects
- Short-term / cost-effective solutions to protect against flash flooding and sewer backups
- Flood Mitigation Pilot Grant Program (more later)

Neighborhood Spot Improvements

A crew pours concrete to form the catch basins for the new, wider inlets on Hume Avenue.

Engineer Brian Rahal, of the Stormwater Management Division, monitors progress on larger inlet installation on Hume Avenue on Jan. 24, 2022

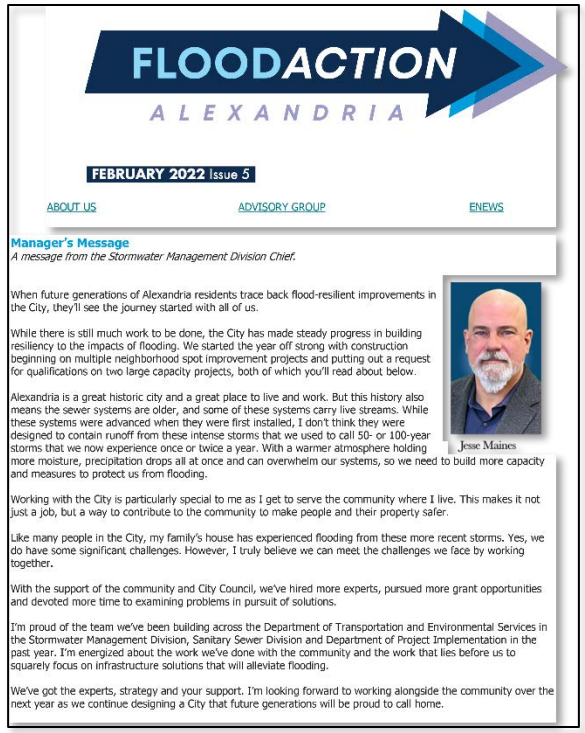
Enhanced Operations & Maintenance

- Inspecting and cleaning storm lines every 3-5 years
- Inspecting and clearing before storm events
- Repairing stormwater infrastructure as needed
- Stream and channel maintenance
- Maintaining large infrastructure components, such as cleaning Hooffs Run Culvert
- Inspecting internal sewers via CCTV
- Street sweeping & leaf removal
- Additional maintenance in response to service requests received via Alex311

Enhanced Communications

FLOOD ACTION NEWSLETTER

Project updates, news and messages directly from senior leaders.



FLOODACTION ALEXANDRIA

FEBRUARY 2022 Issue 5

ABOUT US ADVISORY GROUP ENEWS

Manager's Message

A message from the Stormwater Management Division Chief.

When future generations of Alexandria residents trace back flood-resilient improvements in the City, they'll see the journey started with all of us.

While there is still much work to be done, the City has made steady progress in building resiliency to the impacts of flooding. We started the year off strong with construction beginning on multiple neighborhood spot improvement projects and putting out a request for qualifications on two large capacity projects, both of which you'll read about below.

Jesse Maines

Alexandria is a great historic city and a great place to live and work. But this history also means the sewer systems are older, and some of these systems carry live streams. While these systems were advanced when they were first installed, I don't think they were designed to contain runoff from these intense storms that we used to call 50- or 100-year storms that we now experience once or twice a year. With a warmer atmosphere holding more moisture, precipitation drops all at once and can overwhelm our systems, so we need to build more capacity and measures to protect us from flooding.

Working with the City is particularly special to me as I get to serve the community where I live. This makes it not just a job, but a way to contribute to the community to make people and their property safer.

Like many people in the City, my family's house has experienced flooding from these more recent storms. Yes, we do have some significant challenges. However, I truly believe we can meet the challenges we face by working together.

With the support of the community and City Council, we've hired more experts, pursued more grant opportunities and devoted more time to examining problems in pursuit of solutions.

I'm proud of the team we've been building across the Department of Transportation and Environmental Services in the Stormwater Management Division, Sanitary Sewer Division and Department of Project Implementation in the past year. I'm energized about the work we've done with the community and the work that lies before us to squarely focus on infrastructure solutions that will alleviate flooding.

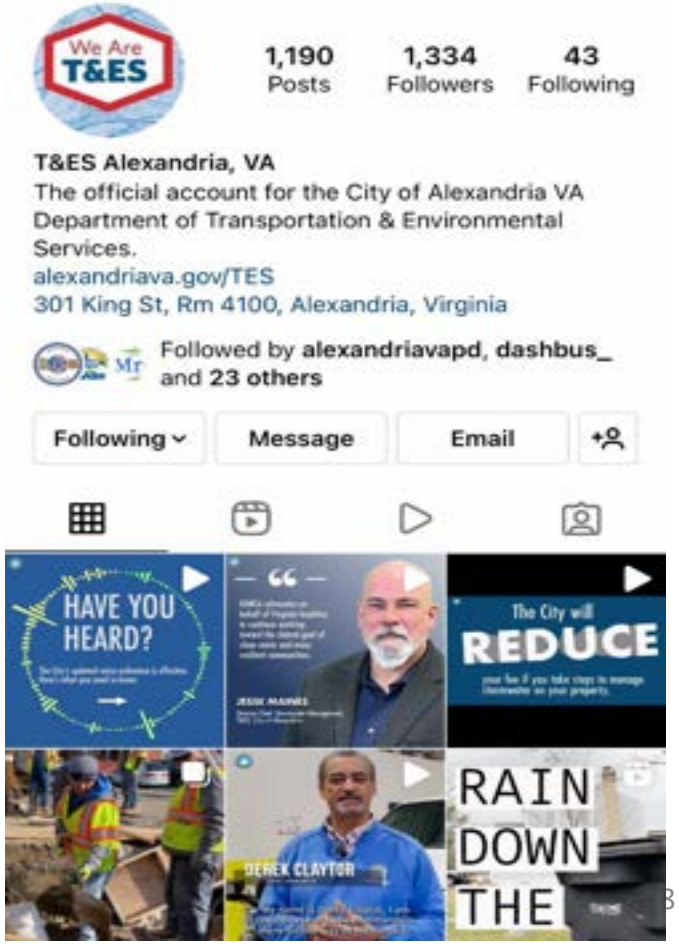
We've got the experts, strategy and your support. I'm looking forward to working alongside the community over the next year as we continue designing a City that future generations will be proud to call home.

VIDEO STORYTELLING

Informative and educational video messaging from the staff.

SOCIAL MEDIA

Are you following T&ES?
Get an inside look at projects.

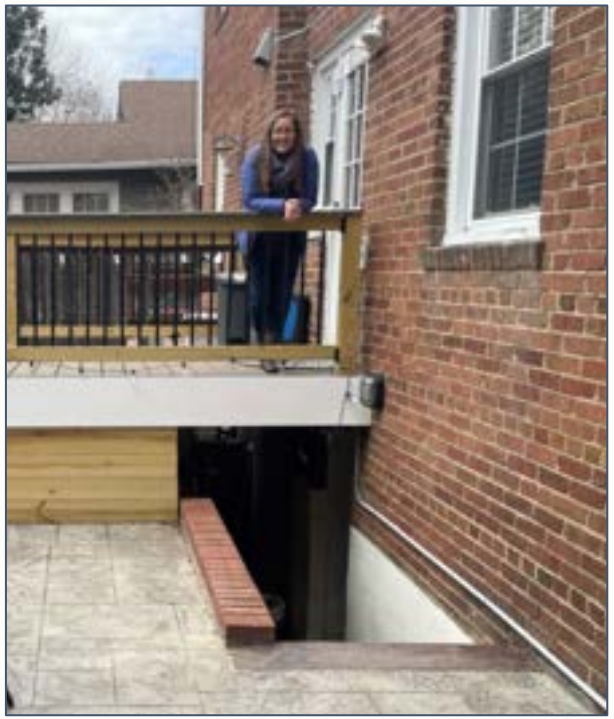


Flood Mitigation Grant Program Objectives

- Financially reimburse homeowners for flood mitigation efforts
- Designed so both the City and homeowners achieve beneficial outcomes:
  - City delivers grant funds to homeowners who made efforts to help mitigate flooding
  - Homeowners are ***reimbursed*** for products and/or services that provide a return on their own investments

The "old" way

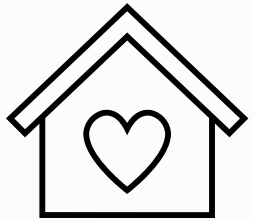
The "new" way



Flood Mitigation Grant

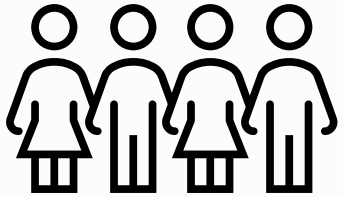
Individual Homeowner

- $5K grant, 50/50 match
- Must be an eligible flood mitigation practice
- Use by owner within boundary of real estate property.



Associations

- $25K grant, 50/50 match
- Must be an eligible flood mitigation practice
- Use by association to protect common area and/or multiple properties from flood hazard.



FLOODACTION
ALEXANDRIA

Practices Covered by Flood Mitigation Grant Program

Basement and Utilities

- Sump pump battery backups
- Drain tiles below basement floors
- Flood vents
- Utility flood covers
- Interior concrete or masonry walls
- Elevated electrical outlets and switches
- Quick Connect system
- Elevated utilities and service equipment

Windows and Doors

- Permanent glass protection
- Basement window protection
- Ground floor or basement window wells and drains
- Temporary or permanent doorway flood gate or panel
- Flood socks
- Temporary quick dams

Exterior and Topography

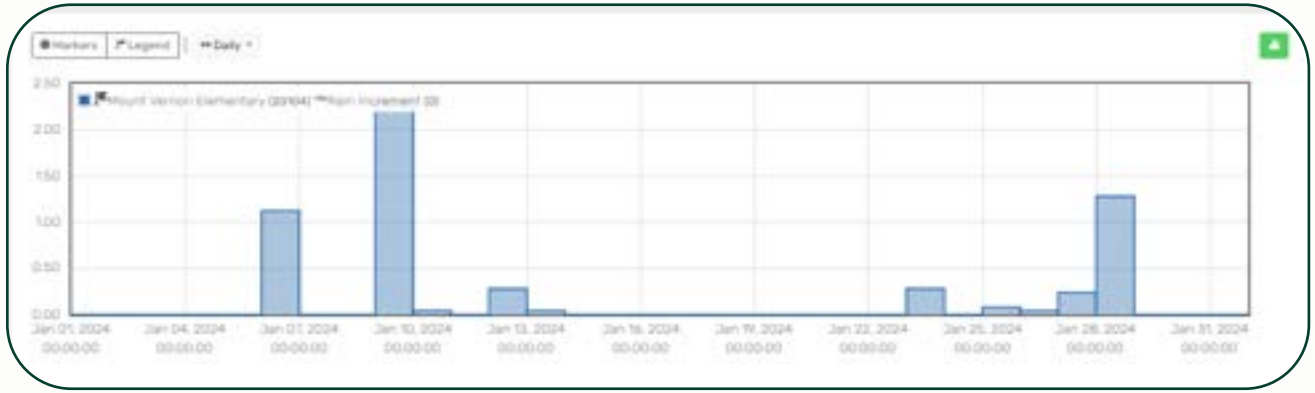
- Surface grading
- Protective walls
- Impermeable soil materials
- Flood walls
- French drain systems
- Earthen berm construction
- Sandless or traditional sandbags
- Flood resistant building materials

For questions about your flood mitigation efforts, contact City staff at FloodGrant@alexandriava.gov

FLOODACTION ALEXANDRIA

Alexandriava.gov /FloodAction

- Rain Gauge Info
- Project Dashboard of Current & Future Projects
- Story Map on the History of Flooding in Alexandria



FLOODACTION ALEXANDRIA

Flood Resilience Plan

- Identified in the Energy and Climate Change Action Plan
- Included in the Long Range Interdepartmental Work Plan
- Will include:
- Hazard identification and information dissemination
- Flood mitigation
- Flood preparedness and response
- Land development policies and regulations
- Financing strategy

Flood Resilience Strategy

Flood Mitigation	Policies & Regulations
• Nature-Based Solutions • Engineered Solutions • Land Conservation & Buyouts • Flood Mitigation Grant Program	• Floodplain management • Growth Planning • Stormwater management • Building code updates for at-risk areas • Incentives

FLOODACTION ALEXANDRIA

Flood Resilience Plan | Community Involvement

- Survey is open until September
- Tabling at community events throughout the summer
- Larger community event/open house this fall (Oct.)
- Draft report targeted for early 2026 with additional opportunity for public feedback
- Will share with Council for full adoption in spring 2026

FLOODACTION ALEXANDRIA

Thank You!

Jesse Lassetter, Sr. Environmental Specialist
Jessica.Lassetter@alexandriava.gov

Jesse E. Maines, Division Chief, Stormwater Management
Jesse.Maines@alexandriava.gov

FLOODACTION ALEXANDRIA

ECO-CITY ALEXANDRIA
CLEAN WATERWAYS

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 2 Annual Report

July 1, 2024 – June 30, 2025

Appendix B

Minimum Control Measure #2, Public Involvement and Participation

1. City's Webpage for Alex311
2. City's Webpage with MS4 Program Plan and Annual Report
3. City's Webpage for Earth Day

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 2 Annual Report

July 1, 2024 – June 30, 2025

Appendix C

Minimum Control Measure #3, Illegal Discharge Detection and Elimination

1. MS4 Outfalls Map, Sept. 2024
2. MS4 Outfalls Table
3. Notice of Potential Interconnections (2009) and Resent 2020
4. Illicit Discharges to the MS4
5. Illicit Discharge Complaints
6. Outfall Inspections
7. EnerGov Code Case Search
8. Alex311 Web-based Form
9. CityWorks
10. City's Household Hazardous Waste webpage
11. State Permitted Discharges Map
12. State Permitted Discharges Table
13. Conditions Regarding Cooking Residue

City of Alexandria

Storm Sewer System Outfall Map

PL25

PL26

PL28

Legend

- Outfall Points
- City Boundary Line
- MS4_Area

VA_HUC12

HUC

- PL25
- PL26
- PL28

September 2024

City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment*	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000001IO	7.89	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886440.46	6984163.82
000002IO	13.11	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887433.77	6985111.699
000003IO	7.70	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886723.66	6983909.517
000004IO	6.82	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886768.19	6983959.464
000005IO	9.26	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886527.7	6983494.552
000008IO	5.16	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885959.42	6984253.376
000010IO	28.90	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11884893.22	6983957.149
000015IO	260.86	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886772.62	6985948.308
000016IO	10.53	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887114.73	6985732.021
000017IO	6.29	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887237.89	6985607.025
000041IO	31.67	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888852.69	6981534.963
000042IO	0.61	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888839.71	6981576.72
000043IO	2.93	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888978.05	6981101.434
000044IO	22.51	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889063.01	6981533.091
000045IO	6.09	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888946.51	6980279.499
000048IO	26.41	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889082.33	6980591.082
000050IO	13.52	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888159.24	6983592.744
000051IO	6.27	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888369.04	6983123.82
000052IO	2.35	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888399.7	6982932.266
000053IO	0.71	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888415.94	6982864.731
000054IO	0.94	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888419.47	6982706.854
000055IO	21.02	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888460.54	6982655.803
000056IO	17.93	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888447.75	6982658.441
000057IO	2.06	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888681.1	6982256.677
000058IO	2.47	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888674.7	6982076.896
000059IO	4.38	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888760.68	6981795.462
000060IO	4.15	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888738.67	6982030.953
000061IO	0.96	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888613.22	6982314.863
000062IO	3.21	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888098.71	6983638.702
000063IO	0.13	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888118.97	6983622.493
000064IO	3.77	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888245.47	6983276.601
000065IO	1.32	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888285.14	6983309.497
000067IO	1.74	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888375.89	6982913.114
000068IO	3.26	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887349.24	6983366.923
000069IO	0.74	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887298.84	6983388.581
000070IO	2.71	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887704.72	6982949.739
000074IO	83.60	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885800.97	6984307.115
000075IO	0.06	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885834.11	6984309.427
000076IO	3.17	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887379.89	6984905.205
000077IO	3.78	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887269.74	6985371.613
000100IO	3.27	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887473.68	6983140.415
000101IO	2.47	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887067.13	6983467.829
000105IO	2.88	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871772.65	6988871.466
000106IO	1.34	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872351.47	6988913.388

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City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment*	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000107IO	0.54	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871868.81	6988632.407
000108IO	0.18	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871717.05	6988957.849
000109IO	21.82	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871709.92	6988392.875
000111IO	6.81	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872121.4	6987563.654
000112IO	12.47	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873633.7	6989781.374
000116IO	24.22	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11875459.07	6989850.611
000137IO	2.90	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11875428.37	6989580.595
000138IO	54.02	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873477.22	6989249.213
000139IO	13.28	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11876210.96	6989363.584
000140IO	36.50	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876260.94	6988957.362
000141IO	7.02	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876271.96	6988924.012
000144IO	39.79	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875529	6989042.071
000145IO	23.06	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11876612.34	6989189.499
000148IO	2.62	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878443.82	6980994.703
000149IO	174.66	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878439.43	6981085.436
000150IO	1.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878394.06	6981111.526
000160IO	10.72	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878082.06	6981564.146
000167IO	19.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877911.78	6981936.063
000168IO	6.11	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877136.98	6982486.439
000187IO	33.71	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872480.58	6986519.899
000188IO	0.14	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872719.14	6986432.001
000189IO	53.32	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872727.84	6986390.825
000190IO	0.20	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872609.86	6986480.859
000191IO	18.63	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872162.41	6987222.227
000192IO	3.49	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872157.94	6987385.018
000193IO	9.44	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872820.91	6986465.417
000194IO	5.16	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872716.75	6986195.981
000196IO	26.43	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873082.39	6986343.762
000199IO	19.72	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874431.35	6986442.873
000205IO	2.79	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874958.15	6983625.44
000206IO	17.30	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874658.4	6983959.895
000207IO	37.93	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873856.13	6984375.101
000208IO	1.33	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873960.35	6984405.523
000209IO	15.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874220.58	6984243.16
000210IO	2.83	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874028.17	6984111.987
000211IO	54.30	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874299.01	6983950.406
000261IO	25.97	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875441.23	6983386.159
000262IO	139.25	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875796.74	6983158.759
000263IO	10.01	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876249.98	6983015.281
000264IO	119.20	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876474.07	6982840.734
000266IO	31.26	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876489.67	6983233.711
000267IO	0.29	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876482.58	6983243.472
000268IO	85.06	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876603.31	6983160.824
000269IO	43.19	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875185.9	6983294.572

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City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment*	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000270IO	8.66	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875394.33	6983279.187
000271IO	7.08	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874773.85	6983567.035
000274IO	0.95	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875664.7	6983084.295
000275IO	0.89	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875749.91	6983031.874
000276IO	5.38	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876040.87	6982862.205
000277IO	17.22	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876358.23	6982198.8
000278IO	3.14	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876731.02	6982030.494
000299IO	1.45	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892314.2	6976838.147
000300IO	2.08	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892091.22	6977100.812
000301IO	0.03	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892488.42	6976728.197
000302IO	7.41	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892373.97	6976944.812
000303IO	0.10	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891237.48	6977672.186
000305IO	0.19	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891328.29	6977688.155
000306IO	24.47	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891627.92	6977488.735
000307IO	2.03	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891596.3	6977417.922
000308IO	1.80	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893291.47	6977448.84
000309IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893279.27	6976636.308
000311IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893358.07	6977170.991
000312IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893321.63	6976970.877
000313IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893377.67	6977385.415
000314IO	0.00	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893216.82	6976125.102
000315IO	0.88	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11892427.5	6976535.047
000329IO	13.88	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873089.95	6985731.367
000330IO	45.37	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873471.42	6985145.152
000332IO	3.19	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889021.66	6977964.611
000333IO	2.47	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888756.38	6978667.449
000339IO	31.53	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893835.8	6979007.152
000340IO	1.10	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893771.36	6978878.931
000341IO	9.18	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893770.71	6978765.68
000342IO	22.90	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893687.46	6978645.541
000343IO	1.16	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891144.8	6977778.141
000345IO	3.97	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893347.93	6977952.632
000477IO	6.17	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899425.95	6980856.343
000499IO	115.43	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887957.9	6987122.845
000500IO	13.08	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887977.39	6987119.421
000501IO	0.02	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887985.29	6987106.255
000503IO	0.16	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887961.33	6987104.763
000509IO	0.07	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888189.54	6986745.918
000510IO	14.54	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888289.4	6986308.817
000511IO	6.78	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888524.98	6985738.758
000512IO	1.76	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888635.96	6985228.64
000513IO	4.14	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888607.65	6985390.952
000514IO and 000516IO	1.94	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888733.03	6985216.088

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000517IO	1.80	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888852.75	6985058.527
000518IO	13.55	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889036.06	6984809.284
000519IO	3.38	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889194.24	6984492.096
000520IO	2.29	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889264.36	6984339.698
000521IO	10.49	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888973.7	6984889.746
000522IO	3.85	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888592.34	6985576.612
000527IO	35.68	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889265.48	6984379.21
000528IO	4.07	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890503.11	6983766.34
000529IO	0.22	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887734.92	6984458.919
000530IO	5.78	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11887900.99	6984281.077
000535IO	2.15	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890630.67	6983613.107
000536IO	1.78	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890625.82	6983589.708
000575IO	61.89	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890841.65	6977825.425
000153IO	0.09	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878002.88	6981297.641
000154IO	2.22	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11878024.15	6980434.469
000155IO	2.41	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11877378.05	6980380.58
000156IO	83.18	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11877308.78	6980532.431
000158IO	45.24	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11877375.12	6980585.74
000162IO	48.37	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877978.71	6981527.501
000213IO	13.49	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873099.89	6978734.989
000214IO	0.22	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873553.67	6979339.892
000216IO	36.07	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871219.53	6978269.913
000218IO	0.53	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872192.49	6978410.296
000219IO	0.32	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872310.74	6978543.623
000220IO	0.31	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872625.8	6978511.084
000279IO	21.82	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873428.97	6979692.276
000608IO and 000609IO	152.21	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11871233.5	6979481.27
000580IO	5.39	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11870862.82	6977900.473
000146IO	143.54	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880028.61	6980493.867
000147IO	9.96	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11878503.95	6980523.88
000159IO	23.57	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879694.56	6980577.07
000098IO	77.58	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886181.22	6981682.23
000099IO	4.21	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886160.13	6981666.553
000151IO	0.00	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879169.15	6979988.369
000171IO	1.13	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886177.99	6981349.272
000175IO	5.45	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885280.29	6979647.181
000177IO	9.62	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11886138.29	6981566.832
000222IO	13.74	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875007.37	6978513.511
000223IO	4.80	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11875712.95	6978751.43
000225IO	28.11	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876049.89	6978885.445
000230IO	10.54	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876542.26	6979011.289
000232IO	18.68	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11874274.07	6978307.225
000233IO	15.55	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877981.82	6979339.378

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City of Alexandria
Outfall and Point of Discharge Table

Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment*	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000234IO	0.29	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880444.26	6979011.491
000235IO	2.06	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880161.03	6978883.289
000236IO	2.68	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880066.59	6978921.541
000237IO	5.60	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879597.06	6979186.565
000239IO	18.36	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11879399.17	6979351.053
000242IO	15.37	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11877266.2	6979195.948
000243IO	0.61	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880835.6	6978979.844
000244IO	0.55	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881283.49	6978950.336
000245IO	14.37	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall - Pond	PL26	11881322.96	6979451.111
000247IO	1.61	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883173.19	6978796.949
000248IO	3.90	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882964.55	6978815.446
000249IO	1.14	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881661.07	6978924.296
000250IO	1.65	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882117.72	6978880.28
000251IO	4.70	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883525.38	6978752.362
000257IO	0.02	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885199.34	6978557.125
000258IO	9.15	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885013.64	6978565.314
000259IO	2.07	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11884485.44	6978625.494
000260IO	0.73	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885358.9	6978545.929
000611IO and 000612IO	183.43	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11886156.54	6978395.62
000614IO and 000615IO	22.16	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11885351.2	6979617.37
000613IO	50.79	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11884484.87	6979664.457
000023IO	21.09	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11881862.88	6989104.991
000024IO	1.83	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11881871.58	6989023.44
000025IO	27.84	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11881734.63	6988996.356
000294IO	28.57	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11879517.26	6989272.799
000295IO and 000603IO	165.48	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11879527.29	6989274.32
000414IO	0.44	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892303.12	6993182.401
000415IO	5.16	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892632.15	6993149.696
000416IO	12.84	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893091.67	6992445.754
000417IO	129.85	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11891391.27	6993589.596
000418IO	0.87	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11891536.69	6993657.921
000419IO	0.89	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11891232.3	6993525.851
000420IO	2.37	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11890977.69	6993440.809
000422IO	44.02	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892133.87	6993252.545
000423IO	0.93	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893066.17	6991568.178
000424IO	49.26	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11890056.31	6989201.547
000426IO	14.14	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893722.17	6992206.379
000427IO	1.93	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893389.3	6991573.821
000428IO	4.76	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893386.94	6991574.315
000429IO, 000605IO, 000606IO	283.02	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893493.05	6991573.139

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City of Alexandria
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Outfall ID	Estimated MS4 Acreage Served (acres)	Receiving Water	Ultimate Receiving Water	Ultimate Receiving Water Impairment*	TMDLs	Type	HUC	Latitude Decimal Degrees	Longitude Decimal Degrees
000430IO	0.58	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11893527.94	6991655.21
000431IO and 000432IO	175.22	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11892922.94	6991532.446
000450IO	8.16	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11895169.35	6992340.963
000451IO	5.87	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11895361.1	6992393.396
000452IO and 000600IO	18.22	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11894838.04	6992290.594
000454IO	130.45	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887681.57	6993316.229
000456IO	55.69	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11890367.89	6993456.194
000457IO	0.11	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889812.16	6993494.613
000458IO	0.47	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889878.84	6993519.764
000459IO	0.57	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889767.66	6993458.942
000460IO	1.74	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11889087.66	6993356.607
000461IO	2.05	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11888131.58	6993375.136
000462IO	3.33	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11888229.8	6993334.763
000463IO	18.86	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11888959.42	6993335.478
000464IO	0.51	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887016.52	6993114.02
000465IO	51.04	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887236.44	6993171.464
000466IO	0.70	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11887363.62	6993154.696
000079IO	0.23	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11878392.77	6991456.818
000011IO	3.70	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11878084.23	6991300.581
000084IO	34.44	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11877732.58	6990995.936
000087IO	28.12	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall	PL25	11877733.56	6990992.406
000353IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897269.55	6991045.02
000361IO	210.26	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11896259.78	6992413.289
000379IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898226.43	6989274.819
000381IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898173.26	6989458.104
000382IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898387.87	6989880.871
000396IO	0.01	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897918.7	6986205.557
000397IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897899.31	6986492.831
000398IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897905	6986765.268
000402IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897936.5	6987212.757
000403IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897929.62	6987038.286
000404IO	0.75	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897735.5	6987146.48
000405IO	46.32	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897635.48	6987281.737
000406IO	4.50	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11897538.98	6987335.751
000407IO	45.04	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11897493.34	6987153.774
000447IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11896671.66	6992411.516
000448IO	0.00	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897034.41	6991838.966
000469IO	6.73	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899598.7	6982537.477
000470IO	7.17	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899274.57	6982030.579
000471IO	14.14	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899346.02	6983582.765
000472IO	3.32	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898724.86	6985681.776
000473IO	0.14	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898729.15	6985674.047

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000475IO	0.26	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899632.92	6982943.543
000476IO	0.73	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899447.45	6982756.021
000478IO	0.54	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899164.11	6981353.557
000479IO	8.44	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899211.91	6980033.524
000480IO	3.50	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899106.9	6981429.171
000481IO	3.24	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899090.24	6981596.498
000482IO	1.16	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899118.54	6977767.156
000483IO	3.70	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899107	6977958.021
000484IO	4.21	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899161.83	6978365.66
000485IO	0.09	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899176.78	6978428.621
000486IO	5.22	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899253.3	6978787.148
000487IO	17.16	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899201.25	6979183.219
000489IO	8.53	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899232.88	6979594.487
000491IO	6.02	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899003.88	6976613.722
000493IO	1.46	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898260.33	6976296.936
000494IO	2.06	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898120.95	6975913.388
000495IO	16.77	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898622.46	6977129.506
000495IO and 000496IO	5.25	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11898722.45	6977560.075
000092IO	96.39	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883287.15	6982366.915
000093IO	7.97	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883326.8	6982117.109
000094IO	17.66	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883116.46	6982186.014
000095IO	2.77	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883467.54	6981784.938
000104IO	39.49	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883709.61	6982971.088
000119IO	56.24	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882579.12	6980036.325
000120IO	3.64	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11882545.18	6980074.069
000124IO	2.60	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883256.09	6981387.195
000127IO	5.10	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883313.69	6981285.708
000128IO	1.17	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881967.95	6980192.612
000130IO	7.41	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881517.46	6980244.8
000133IO	9.57	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880744.71	6980158.563
000134IO	23.40	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881196.01	6980229.609
000135IO	8.69	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11881936.87	6980148.008
000610IO	3.93	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11880163.71	6980062.784
000586IO	1.44	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11895991.98	6985357.602
000588IO	30.32	Potomac River	Potomac River	Yes	PCBs	Outfall - Pond	PL28	11896057.16	6985376.432
000589IO	35.57	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897592.62	6988200.249
000591IO	19.13	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11897701.93	6987397.715
000592IO	5.47	Potomac River	Potomac River	Yes	PCBs	Outfall	PL28	11899348.09	6980443.038
000121IO	13.49	Strawberry Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883394.31	6981652.8
000621IO and 000622IO	1247.79	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11893852.18	6979004.593
000624IO	10.25	Cameron Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11883917.66	6978699.662
000628IO	94.16	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11872259.35	6978466.72

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000642IO	47.22	Four Mile Run	Four Mile Run Tidal	Yes	E. Coli	Outfall - Pond	PL25	11880117.33	6990035.114
000647IO	51.29	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873876.92	6984802.006
000647IO	51.29	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11890149.55	6983954.071
000660IO	0.02	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873868.37	6984516.587
000661IO	52.35	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873534	6979431.994
000662IO	7.11	Backlick Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11873518.87	6979455.317
000668IO	4.62	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11889255.88	6981334.995
000668IO	4.62	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888200.33	6986790.098
000669IO	48.69	Hooffs Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11891191.4	6977728.452
000670IO	0.31	Taylor Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11888943.74	6979086.277
000675IO	0.00	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876609.36	6982136.583
000676IO	0.00	Holmes Run	Hunting Creek/Cameron Run/Holmes Run	Yes	E. Coli	Outfall	PL26	11876545.07	6982158.99

*Impairment information is based on the 2022 305(b)/303(d) Water Quality Assessment Integrated Report (Part I.E.3.a.(2)(f)).

City of Alexandria

Department of Transportation and Environmental Services
Office of Environmental Quality
301 King Street
City Hall, Room 3000
Alexandria, VA 22314
www.alexandriava.gov/Environment

July 15, 2009

Gayle England
Stormwater Specialist
Department of Environmental Services
Arlington County, Virginia

DELIVERED VIA EMAIL: Gengland@arlingtonva.us

Subject: Notice of Potentially Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.g of this permit, the City must "Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system." This letter is to notify you of the potential for interconnections between the City's MS4 and the permitted stormwater system operated by Arlington County. Currently, we have not identified any points where the City's MS4 discharges stormwater into Arlington's regulated MS4; however, it is likely that interconnections exist.

As mentioned in our previous email correspondences and pursuant to Section II.B.3.b, the City is currently working on a mapping effort that will verify the "location of all known outfalls …including those physically interconnected to a regulated MS4…" City GIS Staff will be contacting you very soon to share information in order to identify and map any interconnections that may exist between our regulated stormwater systems. The City is scheduled to provide this map with its Annual Report due no later than October 1, 2010 to DCR.

Best Regards,

Jesse E. Maines
Water Quality Compliance Specialist
703-746-4071
Jesse.maines@alexandriva.gov

Cc: Mary Beth Fletcher, GIS Mapping Center Bureau Chief, mfletcher@arlingtonva.us

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 9:42 AM
To: 'Jason Papacosma (Jpapacosma@arlingtonva.us)'
Subject: City of Alexandria Physical Interconnection
Attachments: Arlington County 071509.pdf

Hi Jason –

I hope you are doing well.

The City of provided a letter on July 15, 2009, to Ms. Gayle England, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached). This letter referenced a regional stormwater flow map which was produced in September 2010 and included in the City's 2010-2011 MS4 Annual Report. This letter also satisfies the requirements outlined in the 2018-2023 MS4 General Permit, Part I. E.3.a.(5).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

City of Alexandria

Department of Transportation and Environmental Services
Office of Environmental Quality
301 King Street
City Hall, Room 3000
Alexandria, VA 22314
www.alexandriava.gov/Environment

July 15, 2009

Kate Bennett, MS4 Permit Coordinator
Fairfax County Stormwater Planning Division
10255 Fairfax County Parkway
Fairfax, Virginia 22035

DELIVERED VIA EMAIL:

Subject: Notice of Potentially Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.g of this permit, the City must "Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system." This letter is to notify you of the potential for interconnections between the City's MS4 and the permitted stormwater system operated by Arlington County. Currently, we have not identified any points where the City's MS4 discharges stormwater into Arlington's regulated MS4; however, it is likely that interconnections exist.

As mentioned in our previous email correspondences and pursuant to Section II.B.3.b, the City is currently working on a mapping effort that will verify the "location of all known outfalls …including those physically interconnected to a regulated MS4…" City GIS Staff will be contacting you very soon to share information in order to identify and map any interconnections that may exist between our regulated stormwater systems. The City is scheduled to provide this map with its Annual Report due no later than October 1, 2010 to DCR.

Best Regards,

Jesse E. Maines
Water Quality Compliance Specialist
703-746-4071
Jesse.maines@alexandriva.gov

Cc: Mary Beth Fletcher, GIS Mapping Center Bureau Chief, mfletcher@arlingtonva.us

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 9:41 AM
To: Ambrose, Heather
Subject: City of Alexandria Physical Interconnection
Attachments: Fairfax County 071509.pdf

Hi Heather –

I hope you are doing well.

The City of provided a letter on July 15, 2009, to Ms. Kate Bennett, MS4 Permit Coordinator, Fairfax County Stormwater Planning Division, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached). This letter referenced a regional stormwater flow map which was produced in September 2010 and included in the City's 2010-2011 MS4 Annual Report. This letter also satisfies the requirements outlined in the 2018-2023 MS4 General Permit, Part I. E.3.a.(5).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

City of Alexandria

Department of Transportation and Environmental Services
Stormwater Management Division
2900-B Business Center Drive
Alexandria, VA 22314

May 24, 2018

Brenda Wasler
Environmental Protection Specialist
National Park Service
George Washington Memorial Parkway
700 George Washington Memorial Parkway
McLean, VA 22101

DELIVERED VIA EMAIL: brenda_wasler@nps.gov

Subject: Notice of Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.a of this permit, the City shall "notify in writing the downstream MS4 of any known physical interconnection." This letter is to notify you of the interconnection between the City's MS4 and the permitted stormwater system operated by the National Park Service, George Washington Memorial Parkway.

Thank you for providing your MS4 boundaries in April 2018. We confirmed that the City does operate outfalls that discharge into Jones Point Park in the southeast portion of the City and into the area east of the George Washington Memorial Parkway in the northeast portion of the City. We will review and update the City's MS4 boundaries as needed to ensure consistency between the data sets. After this is completed, the City's boundaries will be sent for your reference.

Sincerely,

Jesse E. Maines
Division Chief
Transportation and Environmental Services
Stormwater Management Division
Jesse.maines@alexandriva.gov

Cc: Hannah Dean via email – Hannah_Dean@nps.gov

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 9:45 AM
To: robert_mocko@nps.gov
Subject: City of Alexandria Physical Interconnection
Attachments: GW Parkway.pdf

Mr. Mocko,

The City of provided a letter on May 24, 2018, to Ms. Brenda Wasler, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

City of Alexandria

Department of Transportation and Environmental Services
Office of Environmental Quality
301 King Street
City Hall, Room 3000
Alexandria, VA 22314
www.alexandriava.gov/Environment

July 15, 2009

Roy T. Mills
Location and Design Division
State Stormwater Program Administrator
Virginia Department of Transportation

DELIVERED VIA EMAIL: Roy.Mills@VDOT.Virginia.gov

Subject: Notice of Potentially Interconnected Municipal Separate Storm Sewer System (MS4)

Attention: MS4 Permit Manager

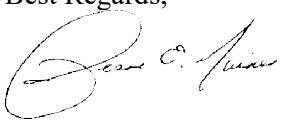
The City of Alexandria operates as a Phase II MS4 community with coverage under the Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (No. VAR 040057).

Pursuant to Section II.B.3.g of this permit, the City must "Notify, in writing, any downstream regulated MS4 to which the small regulated MS4 is physically interconnected of the small regulated MS4's connection to that system." This letter is to notify you of the potential for interconnections between the City's MS4 and the permitted stormwater system operated by the Virginia Department of Transportation (VDOT). Currently, we have not identified any points where the City's MS4 discharges stormwater into VDOT's regulated MS4; however, it is likely that interconnections exist.

As mentioned in my July 15, 2010 email and pursuant to Section II.B.3.b, the City is currently working on a mapping effort that will verify the "location of all known outfalls …including those physically interconnected to a regulated MS4…" We would like to work together and share information so that each party may have adequate information to identify any interconnections that may exist between our regulated stormwater systems. The City is scheduled to provide this map with its Annual Report due no later than October 1, 2010 to DCR.

Please contact me at your earliest convenience to work together on the mapping effort.

Best Regards,



Jesse E. Maines
Water Quality Compliance Specialist
703-746-4071
Jesse.maines@alexandriva.gov

Cc: Morris Z. Walton via email – Morris.Walton@VDOT.Virginia.gov

Jessica Lassetter

From: Jessica Lassetter
Sent: Thursday, July 30, 2020 3:56 PM
To: alex.foraste@vdot.virginia.gov
Subject: City of Alexandria Physical Interconnection
Attachments: VDOT 071509.pdf

Hi Alex,

The City of provided a letter on July 15, 2009, to Mr. Roy Mills, to satisfy the requirements indicated in the MS4 General Permit pertaining to physical interconnections (see attached). This letter referenced a regional stormwater flow map which was produced in September 2010 and included in the City's 2010-2011 MS4 Annual Report. This letter also satisfies the requirements outlined in the 2018-2023 MS4 General Permit, Part I. E.3.a.(5).

Please maintain this email and attached document in your MS4 program files and let me know if you have any questions.

Thank you,

Jessica

Jessica E. B. Lassetter
Senior Environmental Specialist/CE III
City of Alexandria, Virginia
T&ES Stormwater Management
Office: 703.746.4127
Cell: 703.915.5695
alexandriava.gov

FY2025 Illicit Discharge Complaints
REACH MS4

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
24-00025819	Reported by public	8/26/2024	8/28/2024	5300 Holmes Run Pwy	Water Quality Concern	Report of cloudy white substance in creek. T&ES staff visited the creek on Wednesday morning and determined the source of discoloration to be sediment from the outfall at N Ripley & Holmes Run Pkwy. T&ES SWM staff are working with T&ES C&I staff to inspect land disturbing activities within the drainage area to reduce excessive sediment runoff from active project areas.	Yes
9/5/2024	Reported by City Employee	9/5/2024	9/5/2024	420 N Van Dorn St	Possible Illicit Discharge	Report of fish kill and chlorine smell eminating from Holmes Run near address. T&ES staff and AFD responded to the scene to confirm incident. Testing of the waterway was performed to confirm the presence of chlorine. AFD and T&ES staff canvassed nearby properties and to find a couple potential pools had been recently winterized which could have resulted in the illicit discharge. No direct evidence was found but follow up with the possible responsable party(s) was performed to ensure future events would not reoccur.	Yes
9/19/2024	Reported by City Employee	9/19/2024	9/19/2024	4550 Strutfield Ln	Possible Illicit Discharge	Report of petroleum spill at address. T&ES staff arrived at address to identify reported release had entered MS4 and into Lucky Run stream. Due to the threat to public safety, health or welfare T&ES contracted an emergency response HAZMAT service to perform recovery and cleanup of the reported spill. An additional 3 site visits were made to ensure recovery of the spill was adaquately performed.	Yes
9/25/2024	Reported by City Employee	9/25/2024	9/25/2024	N Pickett St & N Pegram St	Possible Illicit Discharge	Report of 5-gallon paint spill along roadway of which estimated 2-gallons was identified in nearby Holmes Run. T&ES staff investigated area and were inconclusive in identifying a responsible party. Latex paint was observed to have entered the MS4, immdiately following arrival the storm inlets were blocked to cease additional discharge. Remaining free product was recovered and projuct observed in waterway was determined to no pose a significant hazard to wildlife or residents.	Yes
24-00029402	Reported by public	9/27/2024	9/27/2024	1304 Roosevelt St	Possible Illicit Discharge	Report of reckless powerwashing paint removal entering into stormdrain. City staff visited location and spoke with homeowner where power washing work was performed. Staff made contact with the contractors, provided verbal warning, which will then escalate to civil / criminal penalties if found discharging in such a manner again. Lead contractor returned to site to recover material shortly after resident report. No material entered an inlet.	Yes
24-00029410	Reported by public	9/27/2024	9/27/2024	1304 Roosevelt St	Possible Illicit Discharge	Report of reckless powerwashing paint removal entering into stormdrain, second report of same aformentioned instance. City staff visited location and spoke with homeowner where power washing work was performed. Staff made contact with the contractors, provided verbal warning, which will then escalate to civil / criminal penalties if found discharging in such a manner again. Lead contractor returned to site to recover material shortly after resident report. No material entered an inlet.	Yes
24-00030553	Reported by public	10/7/2024	10/7/2024	6 Pickett St & S Van Dorn St	Water Main Break	Report of murkey water in Backlick Run. Backlick Run and Holmes Run is experiencing considerable cloudiness due to a municipal water main break discovered this morning around 10:00 AM near the 300 block of S Van Dorn St. Staff believe this will persist throughout the day as repairs are made.	Yes
10/8/2024	Reported by Fairfax County	10/8/2024	10/8/2024	6037 Deer Ridge Trl	Possible Illicit Discharge	Report of sewer line break in Fairfax County flowing into Backlick Run. Approximately 135 gallons of fluid was released during pressure cleaning operation. No report of fishkill or other harm to human or wildlife was anticipated to have occurred.	Yes
25-00008937	Reported by public	3/19/2025	3/19/2025	4800 Brenman Park Dr	Possible Illicit Discharge	Report of detergent-like material in tributary of Holmes Run. City staff investigated report of detergent-like illicit discharge along Holmes Run. City staff arrived at Holmes Run Parkway and identified outfall where discharge had previously occurred. When staff arrived, residual contaminants were visually present, but discharge had ceased. City staff performed various water quality tests at the area and determined water quality is unlikely to result in the event of a fishkill or other health hazard at this time.	Yes

FY2025 Illicit Discharge Complaints
REACH MS4

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
25-00008940	Reported by City Staff	3/19/2025	3/19/2025	4800 Brenman Park Dr	Possible Illicit Discharge	Report of detergent-like material in tributary of Holmes Run, second report of aformentioned incident. City staff investigated report of detergent-like illicit discharge along Holmes Run. City staff arrived at Holmes Run Parkway and identified outfall where discharge had previously occurred. When staff arrived, residual contaminants were visually present, but discharge had ceased. City staff performed various water quality tests at the area and determined water quality is unlikely to result in the event of a fishkill or other health hazard at this time.	Yes
25-00015170	Reported by public	5/13/2025	5/14/2025	901 Bernard St	Possible Illicit Discharge	Report of unknown individual seen dumping an unknown liquid into storm drain. Idividual may be associated with nearby art organization. T&ES SWM Staff discussed illegal dumping violation with Alexandria Art Annex Executive Director and provided a verbal warning. The material dumped was determined to be non-hazardous latex paint in an amount estimated to be no more than a 1/2 gallon. There is no concern for wildlife or human health as a result of this event.	Yes

FY2025 Illicit Discharge Complaints

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
7/9/2024	Reported by AFD	7/9/2024	7/10/2024	1400 N Royal St	Possible Illicit Discharge	Report of fire at substation leading to release of 50-100 gallons of non-PCB mineral oil from voltage regulator. On 7/10/2024 T&ES, AFD, and HAZMAT staff investigated the scene to find the spill was entirely limited to within the footprint of the property. No product was identified to have entered the nearby waterway or other MS4. The responsable party actively worked to recover the free product.	No
24-00022209	Reported by public	7/25/2024	7/26/2024	102 E Del Ray Ave	Water Main Break	Reported observation of potential leaking sewer in front of property, uncertain is leak is wastewater pipe. Public Works staff visited the location on 7/25/2024 at approximately 8 PM and determined the source to be a leaking municipal water line owned by VA American Water. City staff have notified VAMW about the leak.	No
24-00023347	Reported by City Employee	8/5/2024	8/5/2024	10 Thompsons Aly	Possible Illicit Discharge	City staff reported oil dripping from parked vehicle in area. City T&ES staff investigated and determined the source to be a spilled bucket of oil from the back of a private vehicle. The responsible party was on site recovering the oil at the time of the investigation. No oil entered a storm drain or surface water.	No
24-00024520	Reported by public	8/15/2024	8/15/2024	4510 Duke St	Possible Illicit Discharge	Citizen reported observation of business washing out service bay oil/greases into stormdrain nearby. T&ES Stormwater Staff conducted a site investigation on 8/15. Staff did not observe any active oil or grease leaving the property (oil staining was visible in ROW). Road sediment was observed adjacent the bike station on S. Jordan Street. Stormwater staff talked to Valvoline's manager to discuss proper disposal of oil and cleaning of service bays. Valvoline utilizes sump drain when cleaning.	No
24-00037553	Reported by public	12/17/2024	12/18/2024	105 S Union St	Possible Illicit Discharge	Report of reckless disposal of grease and oils from business in alley entering nearby storn drain. City staff visited location and restaurant in question, discussed cleanup requirement with restaurant management, and confirmed that the grease hauler will return to recover remanent spilled during grease trap servicing.	No
24-00037903	Reported by public	12/20/2024	12/27/2024	3030 Potomac Ave	Water Quality Concern	Reported observation of murkey water in pond. City staff discussed with the resident and informed them concerning the known iron concentrated groundwater discharge entering the pond. There is no threat to human health / wildlife.	No
24-00037923	Reported by public	12/20/2024	12/20/2024	2823 King St	Water Quality Concern	Reported concern of discolored water flowing through creek. City T&ES staff investigated Timber Branch and did not observe an illicit discharge or cloudy material within the stream. There was no evidence of a sanitary or other municipal waste discharge.	No
25-00000298	Reported by public	1/4/2025	1/8/2025	903 King ST	Possible Illicit Discharge	Report of grey water discharge in alley behind commercial buildings. City T&ES staff investigated the alley behind 903 King Street and could not observe any grey discharge due to snow cover. Staff will follow up three times to determine source. The location of the reported discharge is within the combined sewage system meaning no untreated introduction will encounter the surface water.	No
3/20/2025	Reported by public	3/20/2025	3/20/2025	3705 Mt Vernon Ave	Possible Illicit Discharge	Report of autobody shop operating in parking lot of commercial building resulting in various loose automotive fluids polluting the parking lot and potentially entering nearby storm drains. City TES - SWM staff investigated the area to find various automotive parts stored behind commercial property and several oil-stained areas on parking lot. At the time of inspection no free product, automotive fluids, were identified to be improperly stored. City T&ES staff spoke with property management to discuss best management practices of fluids and restriction of auto work being performed near MS4. Storm drain inlets were inspected and no evidence of illicit discharge was determined at the time of inspection.	No

FY2025 Illicit Discharge Complaints

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
25-00009278	Reported by public	3/21/2025	3/24/2025	211 Sommervelle St	Water Quality Concern	Report of paint-like green substance in Ben Brenman Pond. An inspection of the area was performed as a result of concerns that a possible paint or other similar substance is polluting the pond. Upon arrival to the location city staff identified the area of concern and have determined a sizable suspension of pollen on top of the forebay of Ben Brenman Pond. The substance was further inspected to confirm no additional pollutants exist at this time. Pollen accumulation within waterways can be common during this time of the year - especially in areas surrounded by flowering trees and vegetation. Pollen can appear as a yellow or greenish film or cloud on the water's surface and is sometimes mistaken for pollutants like paint or oil. This event does not appear to pose any additional risk or harm to our waterways.	No
25-00009832	Reported by public	3/26/2025	3/28/2025	1131 King St	Possible Illicit Discharge	Report of discharge exiting drycleaners and entering nearby storm drain. City staff investigated the location of the reported water quality concern. The city staff identified the discharge of the wall-mounted PVC pipe to be minor AC condensate which is permitted to enter the combined sewer system. The situation highlighted by this report does not pose any risk to neighboring streams or the MS4.	No
25-00011224	Reported by public	4/8/2025	4/9/2025	211 Somervelle St	Water Quality Concern	Report of paint-like green substance in Ben Brenman Pond. An inspection of the area was performed as a result of concerns that a possible paint or other similar substance is polluting the pond. Upon arrival to the location city staff identified the area of concern and have determined a sizable suspension of pollen on top of the forebay of Ben Brenman Pond. The substance was further inspected to confirm no additional pollutants exist at this time. Pollen accumulation within waterways can be common during this time of the year - especially in areas surrounded by flowering trees and vegetation. Pollen can appear as a yellow or greenish film or cloud on the water's surface and is sometimes mistaken for pollutants like paint or oil. This event does not appear to pose any additional risk or harm to our waterways.	No
5/2/2025	Reported by AFD	5/2/2025	5/2/2025	700 S Patrick St	Possible Illicit Discharge	Report of gasoline spill incident at address. T&ES staff investigated area to find property ownership and HAZMAT personnel actively cleaning up the site. Approximately 35 gallons of gasoliine was released from fuel pump after customer drove off without properly detaching fuel nozzle. AFD and gas station management deployed absorbant materials and immediately recovered free product along the ROW and property and disposed of the materials properly. Nearby storm drain inlets were inspected by T&ES staff and no substantial free product was determined to have entered the MS4.	No
25-00014477	Reported by public	5/7/2025	5/8/2025	3225 Colvin St	Possible Illicit Discharge	Report of commercial property dumping meat and bleach into storm sewer inlet. City staff visited the location of the reported illicit dumping. Upon inspection, a city staff member identified a flush grate inlet within the property that appeared to be clogged, likely by compacted asphalt material, sediment, and possibly organic matter. Pooled water was also observed within the drain, which did not appear characteristic of typical stormwater. City staff contacted the responsible party for the property and instructed them to immediately clean out the storm drain. Afterward, city staff reinspected the location and confirmed that the storm drain had been adequately cleaned. The responsible party was advised on proper anti-pollution procedures to follow going forward.	No

FY2025 Illicit Discharge Complaints

Tracking ID	Method of Discovery	Date Initiated	Date Closed	Problem Address	Incident	Narrative & Result	Reach MS4?
25-00018733	Reported by public	6/2/2025	6/2/2025	3221 Duke St	Possible Illicit Discharge	Report of cooking grease potentially being poured into storm drain behind property. City staff performed a site inspection of the area surrounding the restaurants in question, including the nearby storm drain inlets and accessible portions of the stormwater network. At the time of inspection, no visible signs of an illicit discharge or accumulation of cooking waste materials in or around the storm drains were observed. City staff spoke with several of the general managers at nearby food establishments to reiterate the City's requirement for proper disposal of cooking grease and food waste. They were reminded that dumping any waste materials into the storm drain system is strictly prohibited under the City's Stormwater Management Ordinance and the Virginia Stormwater Management Program (VSMP) regulations. The staff emphasized the importance of using designated grease traps and disposal services to remain in compliance and to help protect the environment.	No

FY2025 Outfall Inspections

No.	Outfall ID	Date Inspected	Flow Description	ILLICIT DISCHARGE CHARACTERIZATION	OBSERVATIONS AND FOLLOW-UP ACTIVITIES	FOLLOW-UP NEEDED?	COMMENTS
1	000611IO	2/28/2025	MODERATE	1. NONE		FALSE	Green algae observed flow line. Matting identified during access, walkup via much boots, thin layering became suspended to discharge. No follow up needed.
2	000612IO	2/28/2025	MODERATE	1. NONE		FALSE	Green algae observed flow line. Matting identified during access, walkup via much boots, thin layering became suspended to discharge. No follow up needed.
3	000612IO	2/25/2025	MODERATE	3. POTENTIAL (presence of two or more indicators)	Follow up to inspect for turbid discharge post main break repair.	TRUE	Observed reported water main break near Eisenhower Ave and Ike Drive inspected SW network found boomsocks properly installed.
4	000611IO	2/25/2025	MODERATE	3. POTENTIAL (presence of two or more indicators)	Follow up to inspect for post water main break discharge	TRUE	Observed reported water main break near Eisenhower Ave and Ike Drive inspected SW network found boomsocks properly installed.
5	000315IO	2/25/2025	NONE	1. NONE		FALSE	
6	000301IO	2/25/2025	NONE	1. NONE		FALSE	
7	000302IO	2/25/2025	NONE	1. NONE		FALSE	
8	000624IO	2/25/2025	NONE	1. NONE		FALSE	Heavily Obscured with brush.
9	000361IO	2/24/2025	TRICKLE	2. UNLIKELY		FALSE	Some Trash/litter accumualted in RipRap
10	000509IO	2/24/2025	NONE	1. NONE		FALSE	
11	000508IO	2/24/2025	NONE	1. NONE		FALSE	
12	000500IO	2/24/2025	TRICKLE	1. NONE		FALSE	
13	000499IO	2/24/2025	MODERATE	2. UNLIKELY		FALSE	Observed vac truck construction activities nearby. No follow up needed.
14	000445IO	2/24/2025	TRICKLE	1. NONE		FALSE	
15	000451IO	2/24/2025	NONE	1. NONE		FALSE	
16	000450IO	2/24/2025	TRICKLE	1. NONE		FALSE	
17	000452IO	2/24/2025	NONE	1. NONE		FALSE	Accumulated litter, latch locked open due to siltification. No follow up needed.
18	000600IO	2/24/2025	NONE	1. NONE		FALSE	Accumulated litter, latch locked open due to siltification. No follow up needed.
19	000426IO	2/24/2025	NONE	1. NONE		FALSE	
20	000503IO	2/24/2025	TRICKLE	1. NONE		FALSE	
21	000416IO	2/24/2025	NONE	1. NONE		FALSE	
22	000151IO	2/11/2025	NONE	1. NONE		FALSE	
23	000243IO	2/11/2025	NONE	2. UNLIKELY		FALSE	No follow up need.
24	000234IO	2/11/2025	NONE	1. NONE		FALSE	
25	000235IO	2/11/2025	MODERATE	1. NONE		FALSE	Services park under construction nearby. E&SC nearby in good condition.
26	000236IO	2/11/2025	TRICKLE	1. NONE		FALSE	
27	000239IO	2/11/2025	TRICKLE	1. NONE		FALSE	
28	000247IO	2/11/2025	NONE	1. NONE		FALSE	
29	000244IO	2/11/2025	NONE	1. NONE		FALSE	Services roadway, some sediment buildup.
30	000237IO	2/11/2025	TRICKLE	2. UNLIKELY		FALSE	Observed some suds on edge of waterline, not apparent to origin. HACH WQ test strips used to sample trickle. No AL exceeded. Normal groundwater flow.
31	000249IO	2/11/2025	NONE	2. UNLIKELY		FALSE	
32	000248IO	2/11/2025	NONE	1. NONE		FALSE	

FY2025 Outfall Inspections

No.	Outfall ID	Date Inspected	Flow Description	ILLICIT DISCHARGE CHARACTERIZATION	OBSERVATIONS AND FOLLOW-UP ACTIVITIES	FOLLOW-UP NEEDED?	COMMENTS
33	000259IO	2/11/2025	NONE	1. NONE		FALSE	
34	000251IO	2/11/2025	NONE	2. UNLIKELY		FALSE	Outfall covered completely by brush and vegitation
35	000258IO	2/11/2025	MODERATE	1. NONE		FALSE	
36	000257IO	2/11/2025	NONE	1. NONE		FALSE	
37	000245IO	2/11/2025	MODERATE	1. NONE		FALSE	
38	000250IO	2/11/2025	NONE	1. NONE		FALSE	
39	000459IO	2/10/2025	NONE	2. UNLIKELY		FALSE	Observed partial silitification of outfall pipe & notable debris/litter around area. No foloow up needed.
40	000415IO	2/10/2025	NONE	1. NONE		FALSE	
41	000422IO	2/10/2025	SUBSTANTIAL	2. UNLIKELY		FALSE	
42	000414IO	2/10/2025	NONE	1. NONE		FALSE	
43	000418IO	2/10/2025	NONE	2. UNLIKELY		FALSE	Observed some dried oil spots in nearby parking lot which services outfall.
44	000417IO	2/10/2025	MODERATE	1. NONE		FALSE	Likely GW discharge due to outfall elevation. Unable to access for sampling.
45	000419IO	2/10/2025	NONE	2. UNLIKELY		FALSE	Silts partially filling up flare end of outfall.
46	000456IO	2/10/2025	NONE	1. NONE		FALSE	
47	000458IO	2/10/2025	NONE	2. UNLIKELY		FALSE	Observed debris/litter around area.
48	000457IO	2/10/2025	NONE	2. UNLIKELY		FALSE	Observed overgrowth on riprap & gabbro baskets. Additionally, various above average litter of glass, plastics, & trash around area.
49	000420IO	2/10/2025	TRICKLE	1. NONE	Vegitative overgrowth overtopping outfall.	FALSE	
50	000120IO	2/5/2025	NONE	1. NONE		FALSE	Observed typical urban stream trash. Nothing indicative of active discharge.
51	000147IO	2/5/2025	NONE	1. NONE		FALSE	No illicit discharge observed. Outfall has experienced moderate weathering and damaged concrete headwall structure.
52	000159IO	2/5/2025	TRICKLE	2. UNLIKELY		FALSE	Known ground water source. HACH water quality test strips used to verify no action levels exceeded.

Code Case Search

Search | Export | Action

Code Case Search | Name | Shared | Note: name is only required if criteria needs to be saved. | Mail Merge Result | Map Results

Drag a column header and drop it here to group by that column

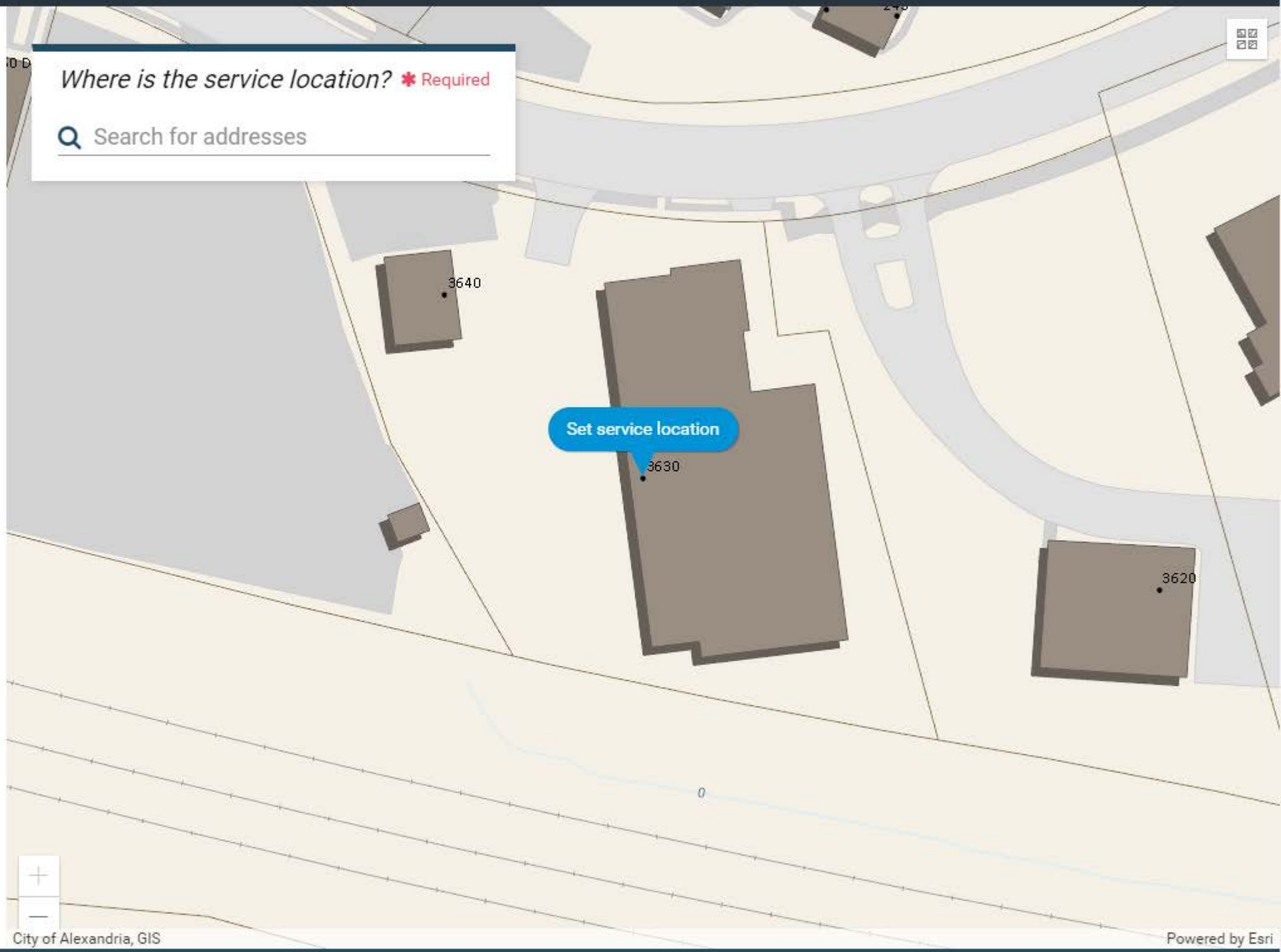
Save Layout | Clear Layout

Case Number	Main Address	Case Type	Assigned To	Case Status	Open Date
FIR2019-00172	612 S PICKETT ST C	Fire Marshal Complaints		Closed - Resolved	7/2/2019
FIR2019-00173	5405 DUKE ST	Fire Marshal Complaints		Closed - Resolved	7/2/2019
FIR2019-00174	602 NOTABENE DR	Fire Marshal Complaints		Closed - Resolved	7/2/2019
FIR2019-00175	6101 EDSALL RD 303	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00176	5219 HOLMES RUN PKWY	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00177	5951 STEVENSON AVE E	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00178	5453 SHEFFIELD CT	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00179	5733 LEVERETT CT	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00180	5797 RAYBURN AVE	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00181	5802 SANGER AVE	Fire Marshal Complaints		Closed - Resolved	7/5/2019
FIR2019-00182	5611 DERBY CT	Fire Marshal Complaints		Closed - Resolved	7/5/2019

- Service
  Sewer Infrastructure Issues
- Location
- Details
- Contact
- Submit

Where is the service location? ✱ Required

Search for addresses



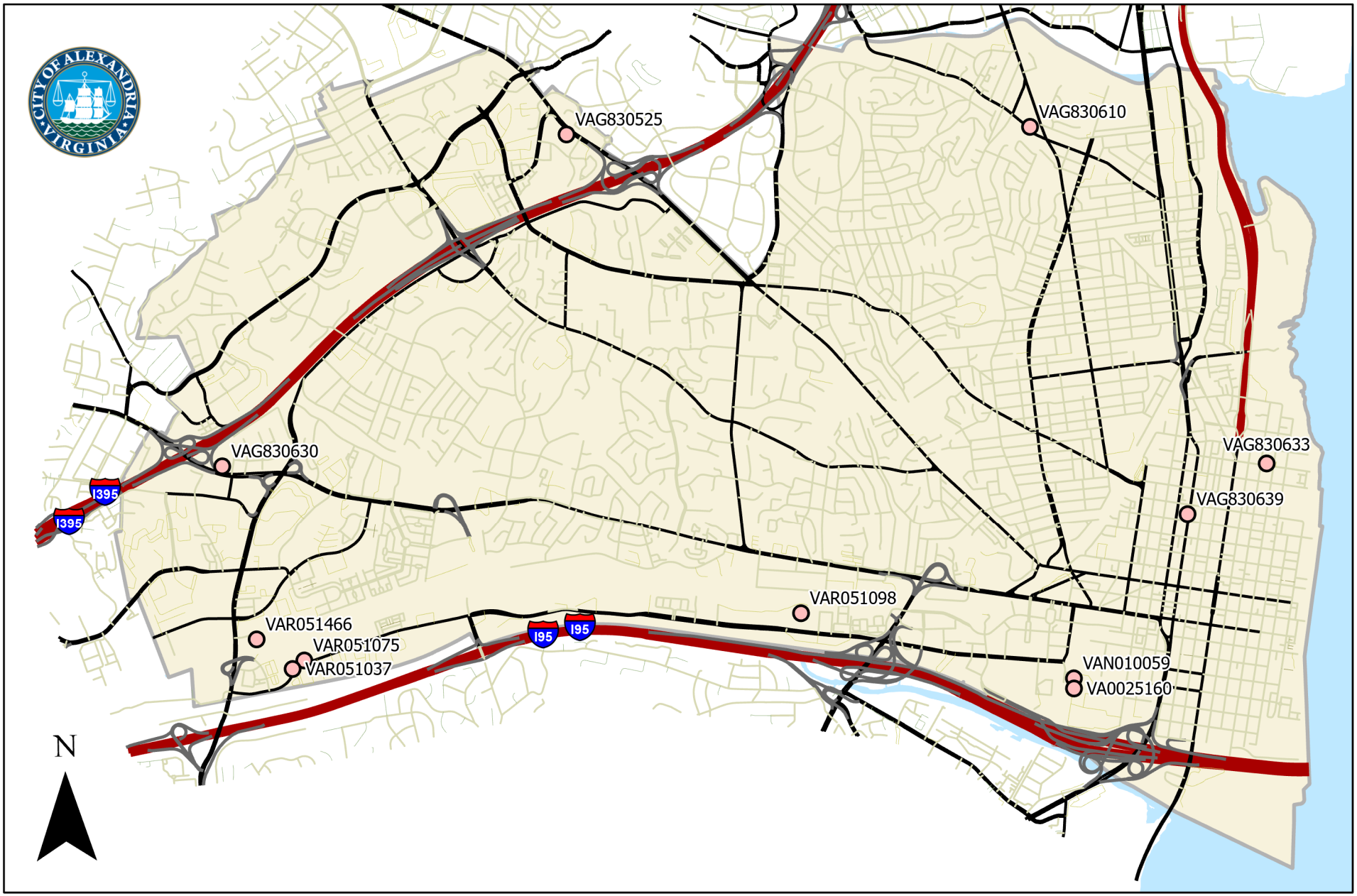
Open Cases

Salesforce Alex311 Open Cases

Open Print Expand Configure Map Search...

Sr	Date Initiated	Description	Priority	Category	Submit To	Dispatch To	Addr
206646	2020-09-24 11:19 AM	TRAFFIC SIGNS	3	TES_SIGNS	TRFSIGNS TOP TES,		4550 N PEGRAM ST
206645	2020-09-24 11:17 AM	TRAFFIC SIGNS	3	TES_SIGNS	TRFSIGNS TOP TES,		1235 N PICKETT ST
206642	2020-09-24 10:09 AM	SEWERS	2	TES_SEWERS	SEWERS PWS TES,		2 B FORREST ST
206640	2020-09-24 9:29 AM	LOW HANGING WIRE	1	TES_ROW	TES, GROUP LOW WIRE		326 E MASON AVE
206639	2020-09-24 9:17 AM	STREET CLEANING	3	TES_STCLEAN	STRTMAINT PWS TES		1600 IVANHOE CT
206638	2020-09-24 8:49 AM	PARKING METERS	2	TES_METERS	METERS TOP TES,		301 KING ST
206637	2020-09-24 8:35 AM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		929 N LINDSAY PL
206636	2020-09-23 10:31 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		922 SLATERS LN
206635	2020-09-23 8:53 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		109 W MASONIC VIEW
206634	2020-09-23 6:27 PM	STREETS POTHOLES	2	TES_POTHOLES	STRPOTHOLE PWS TES,		220 CENTURY PL
206633	2020-09-23 5:33 PM	SEWERS	2	TES_SEWERS	SEWERS PWS TES,	Pelitteri, Gavin	707 E TIMBER BRANC
206629	2020-09-23 4:59 PM	STREET MAINTENANCE	2	TES_STMAINT	STRTMAINT PWS TES		809 CAMERON ST
206628	2020-09-23 4:33 PM	STREET CLEANING	3	TES_STCLEAN	STRTMAINT PWS TES		1218 W ABINGDON DI
206627	2020-09-23 4:17 PM	SEWERS	2	TES_SEWERS	SEWERS PWS TES,		24 E LINDEN ST
206625	2020-09-23 3:17 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		901 SECOND ST
206624	2020-09-23 2:57 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		611 S COLUMBUS ST
206623	2020-09-23 2:53 PM	TREE REQUEST / PROBLEM	3	RPCA_TREES	RPCA, TREES		611 S COLUMBUS ST

City of Alexandria Permitted Discharges MS4 Reporting Year 2024-2025



VPDES Permits FY25

Classification	Type	Facility Name	Permit No.	Expiration Date	Physical Location Address	Physical Location City	Physical Location State
Active	Individual Permits	Alexandria Renew Enterprises WWTP	VA0025160	6/30/2026	1500 Eisenhower Ave	Alexandria	VA
~~Active~~	~~Individual Permits~~	~~Alexandria Combined Sewer System~~	~~VA0087068~~	~~8/31/2023~~	~~Various locations~~	~~Alexandria~~	~~VA~~
Active	Stormwater Industrial GP	United Parcel Service - Alexandria	VAR051037	6/30/2029	5601 Eisenhower Ave	Alexandria	VA
Active	Stormwater Industrial GP	Covanta Alexandria Arlington Incorporated	VAR051075	6/30/2029	5301 Eisenhower Ave	Alexandria	VA
Active	Stormwater Industrial GP	WMATA - Alexandria Metro Rail Yard	VAR051098	6/30/2029	3101 Eisenhower Ave	Alexandria	VA
Active	Stormwater Industrial GP	Virginia Paving Company - Alexandria Plant	VAR051466	6/30/2029	5601 Courtney Ave	Alexandria	VA
Active	Nutrient Trading GP	Alexandria Renew Enterprises WWTP	VAN010059	12/31/2026	1500 Eisenhower Ave	Alexandria	VA
~~Active~~	~~Nutrient Trading GP~~	~~Virginia American Water Prince William - Aggregate~~	~~VAN010058~~	~~12/31/2026~~	~~2223 Duke St~~	~~Alexandria~~	~~VA~~
Active	Petroleum Discharge GP	King Street Liberty	VAG830525	2/29/2028	4368 King St	Alexandria	VA
~~Active~~	~~Petroleum Discharge GP~~	~~Braddock West - Alexandria~~	~~VAG830587~~	~~2/25/2028~~	~~727 N West St~~	~~Alexandria~~	~~VA~~
Active	Petroleum Discharge GP	Landmark INOVA Hospital Campus	VAG830630	2/29/2028	6001 Duke St	Alexandria	VA
Active	Petroleum Discharge GP	AHDC Glebe Mount Vernon	VAG830610	2/29/2028	221 W Glebe Rd	Alexandria	VA
Active	Petroleum Discharge GP	Heritage at Old Town - Block 4	VAG830639	2/29/2028	510 S Patrick Street	Alexandria	VA
Active	Petroleum Discharge GP	425 Montgomery Street	VAG830633	2/29/2028	425 Montgomery Street	Alexandria	VA

Strikethrough = No longer indicated in the permit table; Red font = New permits for 2024-2025

Source Information: https://www.deq.virginia.gov/permits/water/surface-waters-vpdes (Downloaded 9/4/2025)

Stormwater Management
SUP2024-00014

Conditions:

1. Kitchen equipment, including floor mats, shall not be cleaned outside, nor shall any cooking residue or wash water be washed into the streets, alleys or storm sewers. (T&ES)

2. All waste products including but not limited to organic compounds (solvents), shall be disposed of in accordance with all local, state and federal ordinances or regulations. (T&ES)

3. The applicant shall control cooking odors, smoke and any other air pollution from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Department of Transportation & Environmental Services. (T&ES)

4. All loudspeakers shall be prohibited from the exterior of the building and no amplified sounds shall be audible at the property line.(T&ES)

5. Supply deliveries, loading, and unloading activities shall not occur between the hours of 11:00pm and 7:00am. (T&ES)

6. The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)

7. Cleaning of trailer shall not create a discharge to streets, alleys or storm sewers. (T&ES)

DATE: 4/15/2022 **SIGNATURE: Donna Ferguson**

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 2 Annual Report

July 1, 2024 – June 30, 2025

Appendix D

Minimum Control Measure #4, Construction Site Stormwater Runoff Control

1. E&SC Ordinance; *Alexandria, Virginia - Code of Ordinances, TITLE 5 - Transportation and Environmental Services, CHAPTER 4 - Erosion and Sediment Control*

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 2 Annual Report

July 1, 2024 – June 30, 2025

Appendix E

Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands

1. Local VSMP Authority Approval Letter, 2014
2. Environmental Management Ordinance
3. Stormwater Management Facilities Installed this Permit Year
4. City Stormwater BMP Location Map
5. Stormwater BMP Maintenance Agreement example
6. Letter to owners of Single-Family Lot BMPs
7. Sample Single-Family Educational Materials for Single-Lot BMPs
8. Development Forms Webpage
9. Oronoco Remediation Update

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

December 22, 2014

Rashad M. Young, City Manager
City of Alexandria
301 King Street, Room 3500
Alexandria, Virginia 22314

Dear Mr. Young:

In accordance with §62.1-44.15:27 G of the Virginia Stormwater Management Act (Act), Department of Environmental Quality (DEQ) has completed the review of the City of Alexandria's final Virginia Stormwater Management Program (VSMP) application package submitted on November 4, 2014. Based on this review, DEQ has determined that the City of Alexandria's VSMP is consistent with the Act, the VSMP regulation and the General VPDES Permit for Discharges of Stormwater from Construction Activities.

In light of this determination, DEQ approves the City of Alexandria's VSMP and the City is authorized to operate a VSMP as of July 1, 2014. Please note that this approval is based on the content of the application package. Any changes made to the documents in the package after the approval date, including changes to the adopted ordinance, may necessitate DEQ evaluation as part of its compliance review of your approved VSMP.

Thank you for your cooperation in developing a VSMP. We look forward to continuing to assist the City with the implementation of its VSMP.

Sincerely,

David K. Paylor

cc: Melanie Davenport, Director, Water Division
Frederick Cunningham, Director, Office of Water Permits
Joan Salvati, Manager, Local Government Stormwater Programs

City of Alexandria | FY2025 BMPs
July 1, 2024 - June 30, 2025

BMP ID	BMP Name	Acres Treated	Impervious Acres Treated	TP Removed (lbs/yr)	TN Removed (lbs/yr)	TSS Removed (lbs/yr)
2007-0009 01	Aqua-Swirl® Stormwater Hydrodynamic Separator	0.76	0.55	0.13	0	0.52
2012-0007 01	Bioretention Filter	2.37	2.3638	1.82	26.8	853.94
2012-0007 02	StormFilter™ Stormwater Treatment System	0.31	0.26	0.05	0	23.46
2012-0007 03	StormFilter™ Stormwater Treatment System	0.3	0.27	0.05	0	23.46
2015-0027 A	StormFilter™ Stormwater Treatment System	0.93	0.89	0.97	0	455.124
2016-0039 01	Urban Bioretention	0.12	0.09	0.1	1.29	51.612
2016-0039 02	Urban Bioretention	0.14	0.08	0.09	1.19	51.612
2016-0039 03	Modular Wetlands Biofiltration	0.23	0.13	0.04	0	79.764
2016-0040 01	Urban Bioretention - Tree Box Filter	0.07	0.04	0.03	0.49	14.076
2016-0040 02	Urban Bioretention - Tree Box Filter	0.17	0.13	0.08	1.26	37.536
2016-0040 03	Urban Bioretention - Tree Box Filter	0.06	0.04	0.03	0.43	14.076
2016-0040 04	Urban Bioretention - Tree Box Filter	0.14	0.11	0.07	1.04	32.844
2016-0040 05	Urban Bioretention - Tree Box Filter	0.09	0.6	0.3	4.91	140.76
2016-0040 06	Urban Bioretention - Tree Box Filter	0.05	0.03	0.02	0.35	9.384
2016-0040 07	Urban Bioretention - Tree Box Filter	0.11	0.08	0.05	0.8	23.46
2016-0040 08	Urban Bioretention - Tree Box Filter	0.08	0.6	0.29	4.85	136.068
2016-0040 09	CDS® Stormwater Treatment System	1.64	1.49	0.77	0	361.284
2016-0040 10	CDS® Stormwater Treatment System	0.51	0.49	0.21	0	98.532
2017-0025 01	Tree Box Filter	0.042	0.04	0.05	0.4	23.46
2017-0025 02	Tree Box Filter	0.022	0.02	0.02	0.2	9.384
2017-0025 03	Tree Box Filter	0.024	0.022	0.03	0.22	14.076
2017-0025 04	Tree Box Filter	0.026	0.024	0.03	0.24	14.076
2017-0025 05	Tree Box Filter	0.026	0.024	0.03	0.24	14.076
2017-0025 06	Tree Box Filter	0.028	0.023	0.03	0.24	14.076
2017-0025 07	Tree Box Filter	0.036	0.034	0.04	0.24	18.768
2017-0025 08	Tree Box Filter	0.024	0.022	0.03	0.34	14.076
2017-0025 09	Tree Box Filter	0.023	0.021	0.03	0.24	14.076
2017-0025 10	Tree Box Filter	0.024	0.022	0.03	0.23	14.076
2017-0025 11	Tree Box Filter	0.03	0.02	0.02	0.24	9.384
2017-0025 12	Tree Box Filter	0.032	0.029	0.04	0.21	18.768
2017-0025 13	Tree Box Filter	0.022	0.019	0.02	0.3	9.384
2017-0025 14	CDS® Stormwater Treatment System	0.58	0.58	0.25	0	117.3
2017-0025 15	Green Roof	0.065	0.065	0.06	0.45	28.152
2017-0025 16	Green Roof	0.05	0.05	0.06	0.46	28.152
2018-0007 01	Green Roof	0.07	0.07	0.07	0.39	32.844
2018-0007 02	CDS® Stormwater Treatment System	2.03	1.99	0.88	0	412.896
2018-0030 01	Bioretention 2	0.93	0.76	1.56	0.67	731.952
2018-0030 02	Manufactured Treatment Device - Hydrodynamic - ADS Barracuda	0.41	0.35	0.16	0	75.072
2019-0001 01	Green Roof	0.06	0.06	0.08	0.56	37.536

City of Alexandria | FY2025 BMPs
July 1, 2024 - June 30, 2025

BMP ID	BMP Name	Acres Treated	Impervious Acres Treated	TP Removed (lbs/yr)	TN Removed (lbs/yr)	TSS Removed (lbs/yr)
2019-0001 02	CDS® Stormwater Treatment System	0.32	0.32	0.14	0	65.688
2022-0004 01	Permeable Pavement	0.19	0.17	0.22	1.55	103.224
2022-0004 02	Bioretention 2	0.04	0.03	0.06	0.04	28.152

City of Alexandria Stormwater BMP Locations MS4 Reporting Year 2024-2025

City of Alexandria, Virginia
Department of Transportation & Environmental Services
Stormwater and Sanitary Infrastructure Division
2900-B Business Center Drive
Alexandria, VA 22314
www.alexandriava.gov

October 24, 2024

Dear Facility Owner:

Your property contains a stormwater Best Management Practice (BMP) that functions to treat stormwater runoff and improve the quality of the water in and around the City of Alexandria. This letter serves as an annual reminder that routine inspection and maintenance is an essential part of the ownership of any BMP. Regular maintenance ensures that BMPs do not generate additional pollutants, become nuisances, or pose safety issues, and that they function properly. When maintenance problems do exist, they are most often less costly to correct when they are caught early. BMP maintenance is not only an integral part of BMP ownership, but is also a requirement of the City's local stormwater program. City ordinance {13-109(G)} states that all stormwater BMPs must be adequately maintained by their owners to ensure that the BMPs function as designed.

Examples of stormwater BMPs include rain barrels, bioretention filters, sand filters, and permeable pavement, to name a few. These BMPs improve the quality of stormwater runoff from a developed site by reducing pollutants such as sediment, oil, litter, and excess nutrients that may enter our streams and waterways, such as Four Mile Run, Holmes Run, the Potomac River and Chesapeake Bay.

In October 2018, City Council adopted a Credit Policy that provides opportunities for all property owners to lower their fees by implementing select practices that reduce stormwater runoff or improve stormwater quality. Each year you maintain the BMP on your property in functioning condition, you are then eligible for a reduction from your annual Stormwater Utility Fee by up to 30% for a combination of practices. Credits include:

- Rain barrels – 2% each, up to 8%
- Cisterns – 10%
- Rain gardens, flow thru planter boxes, bioretention filters, sand filters, infiltration systems – 15%
- Permeable pavement – 20%
- Green roof – 20%
- and more!

The annual credit application window opens December 1st through February 15th. Visit www.alexandriava.gov/Stormwater to learn more about the City's credit policies and how to apply. Please contact Ryan Zellman at 703-746-4634 if you have questions about Stormwater Utility Fee credits.

Please contact me at 703-746-4071 or by email at *Gavin.pellitteri@alexandriava.gov* if you have any questions regarding your BMP. Your time and cooperation are greatly appreciated and working together will help to achieve our goal of protecting our streams, the Potomac River, and the Chesapeake Bay.

Sincerely,

Gavin Pellitteri
Principal Planner

Rain Barrel
BMP Fact Sheet

DID YOU KNOW…polluted stormwater runoff is the number one cause of water pollution in Northern Virginia? That's right; the very same rain that runs over streets, yards, and parking lots can send chemicals, dirt, and trash down the storm drains and into our local water bodies like the Potomac River and Chesapeake Bay!

Did you know your property is designed to improve water quality? Your property has a Best Management Practice (BMP) onsite that is used to treat stormwater runoff before it enters our local waterways.

What is a BMP? Stormwater runoff is water that flows over land, through drainage systems, and into our local waterways during and after rain storms or snow melts. Untreated stormwater can carry excess nutrients, sediment, and other contaminants into our waters. BMPs are structural practices that treat, store, or infiltrate runoff onsite before it can affect water bodies downstream. BMPs include structures such as ponds, sand filters, and bioretention areas to name a few. The use of stormwater BMPs helps to manage stormwater and to protect our City's lands and streams from erosion, flooding, and pollutants. When BMPs are maintained and function properly, they can help to improve water quality. When BMPs fail or cease to function, they can actually make water quality worse!

Example Rainwater Harvesting

Rain Barrels

Rain barrels intercept and store rainfall for future use. Rain barrels typically consist of a gutter system and storage tank that can be located on a land surface or underground. Water in the storage tank can be used for non-potable uses such as irrigation or exterior washing.

Maintenance of your BMP is a VITAL to keep it functioning properly and it is required by City Ordinance!

Common maintenance issues associated with rainwater harvesting:

- Leaves and debris in gutters and downspouts
- Clogging of screens
- Not using the stored water resulting in the rain barrel being unable to store additional runoff during storms

A BMP maintenance guideline is included with this document. Performing these routine maintenance tasks helps to ensure the function and performance of your BMP.

If you have any questions regarding your inspection and maintenance responsibilities, please call the City of Alexandria, Virginia Department of Transportation and Environmental Services, Stormwater and Sanitary Infrastructure Division at 703.746.4071.

Rain Barrel Maintenance Guidelines

Routine Maintenance Guidelines

Rain barrels must be inspected to ensure they operate in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	Frequency
Remove leaves and debris from gutters and downspouts	Semi-annually
Remove any algae growth	Semi-annually
Inspect and clean prescreening devices and first flush diverters	Quarterly
Inspect and clean storage tank lids	Annually
Inspect and repair any clogging	Annually
Inspect and repair mosquito screens	Annually
Inspect tank and remove sediment build up	Every 3 years
Clear overhanging vegetation and trees over roof	Every 3 years
Replace damaged or defective system components	As needed

Permeable Pavement
BMP Fact Sheet

DID YOU KNOW…polluted stormwater runoff is the number one cause of water pollution in Northern Virginia? That's right; the very same rain that runs over streets, yards, and parking lots can send chemicals, dirt, and trash down the storm drains and into our local water bodies like the Potomac River and Chesapeake Bay!

Did you know your property is designed to improve water quality? Your property has a Best Management Practice (BMP) onsite that is used to treat stormwater runoff before it enters our local waterways.

What is a BMP? Stormwater runoff is water that flows over land, through drainage systems, and into our local waterways during and after rain storms or snow melts. Untreated stormwater can carry excess nutrients, sediment, and other contaminants into our waters. BMPs are structural practices that treat, store, or infiltrate runoff onsite before it can affect water bodies downstream. BMPs include structures such as ponds, sand filters, and bioretention areas to name a few. The use of stormwater BMPs helps to manage stormwater and to protect our City's lands and streams from erosion, flooding, and pollutants. When BMPs are maintained and function properly, they can help to improve water quality. When BMPs fail or cease to function, they can actually make water quality worse!

Example Permeable Pavement

Permeable Pavement

Permeable pavement is an alternative type of paving that allows stormwater to filter through voids to a stone reservoir. Water is temporarily stored in the reservoir and may be infiltrated into the ground. Permeable pavement can consist of pervious concrete, porous asphalt, or interlocking pavers. Permeable pavement works to reduce the amount of runoff and to remove nutrients during rain events.

Maintenance of your BMP is a VITAL to keep it functioning properly and it is required by City Ordinance!

Common maintenance issues associated with permeable pavement:

- Clogging of the pavement
- Organic debris and sediment accumulation on the pavement
- Structural cracking or breaking

A BMP maintenance guideline is included with this document. Performing these routine maintenance tasks helps to ensure the function and performance of your BMP.

If If you have any questions regarding your inspection and maintenance responsibilities, please call the City of Alexandria, Virginia Department of Transportation and Environmental Services, Stormwater and Sanitary Infrastructure Division at 703.746.4071.

Permeable Pavement Maintenance Schedule and Guidelines

Routine Maintenance Guidelines

Permeable pavement must be inspected to ensure that it operates in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	Frequency
Remove trash and debris	As needed
Check and repair eroded areas	Annually
Inspect for and remove excess sediment	Annually
Inspect facility for clogging and repair any clogging and improper drainage	Annually
Inspect for and repair any structural damage	Annually
Inspect for repair any clogged or damaged inlets and outlets	Annually

Bioretention
BMP Fact Sheet

DID YOU KNOW…polluted stormwater runoff is the number one cause of water pollution in Northern Virginia? That's right; the very same rain that runs over streets, yards, and parking lots can send chemicals, dirt, and trash down storm the drains and into our local water bodies like the Potomac River and Chesapeake Bay!

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Example Bioretention

Bioretention

A bioretention area is a shallow landscaped depression that captures runoff. During rain events, water ponds six to twelve inches above the bottom of the depression, then filters through special media installed underground called the filter bed. A typical bioretention area consists of a filter bed, landscaping, a mulch or turf layer, an underdrain, and an outlet. Bioretention areas remove pollutants through filtration, biological uptake, and microbial activity.

Maintenance of your BMP is a VITAL to keep it functioning properly and it is required by City Ordinance!

Common maintenance issues associated with bioretention areas:

- Loss of plants
- Trash and debris accumulation
- Sediment accumulation
- Mulch layer less than 3 inches deep or over 3 years old
- Clogging
- Erosion

A BMP maintenance guideline is included with this document. Performing these routine maintenance tasks helps to ensure the function and performance of your BMP.

If you have any questions regarding your inspection and maintenance responsibilities, please call the City of Alexandria, Virginia Department of Transportation and Environmental Services, Stormwater and Sanitary Infrastructure Division at 703.746.4071.

Bioretention Area Maintenance Schedule and Guidelines

First Year Maintenance Guidelines

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- Initial inspections. For the first 6 months following construction, the bioretention area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- Spot reseeding. Inspect for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- Watering. Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- Remove and replace dead plants.

Routine Maintenance Guidelines

Bioretention areas must be inspected to ensure that they operate in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	**Frequency**
Remove trash and debris	As needed
Check and repair eroded areas	Annually
Inspect for and remove excess sediment	Annually
Mow grass filter strips and bioretention turf cover	At least four times per year
Weed and rake mulch	Twice during the growing season
Inspect plant composition for consistency with approved plans and correct any deficiencies	Annually
Remulch to maintain a three inch layer	Annually
Prune trees and shrubs	Annually
Inspect for clogging or ponding water in the filter bed	Annually
Remove invasive plants	As needed
Replace dead or damaged plant material	As needed
Repair broken pipes	As needed
Remove sediment in pretreatment cells and inflows	Every 2-3 years
Replace the mulch layer	Every 3 years

City of Alexandria, VA

Department of Transportation and Environmental Services

Oronoco Street MS4 Outfall Update

July 2024 through June 2025

Virginia Remediation Program (VRP) Site Number: 00241

The City of Alexandria (City) operated a manufacturing gas plant near the corner of North Lee and Oronoco Streets for a portion of time from 1851 to 1946, with the other owner of the site being Washington Gas. This plant produced coal-derived gas for residents and businesses in the City. The production of manufactured gas produced coal tar wastes, some of which remain at the former site today. When the site was redeveloped in the 1970s into commercial townhomes, some efforts were made to remediate the site at that time. However, after the development of the site, coal tar began migrating from the site and found its way into the surrounding soils and groundwater which led to intrusion into the storm sewer located on Oronoco Street, leading to discharges of coal tar into the Potomac River (River). The City subsequently entered the site into the VRP in 2000.

To date, several corrective actions have taken place to mitigate coal tar discharges into the River:

- Installation and operation of the floating oil containment boom around the outfall discharge area with additional oil absorbent booms installed and replaced periodically on the interior to collect contaminants.
- The ongoing operation of a free product removal system that includes recovery wells installed in the source area. The removal of free product from the subsurface makes future remedial efforts more efficient.
- The successful completion of relining the Oronoco Street storm sewer in 2007 between Lee and Union Streets and in 2014 from Union Street to the outfall. The relining reduced the volume of oily substances infiltrating into the pipe and subsequently reduced the amount of impacted material being discharged to the Potomac River.
- In 2013, the City installed a groundwater treatment system beneath Oronoco Street. The system treats dissolved-phase groundwater. After nearly ten years of operation, quarterly groundwater monitoring of wells located downgradient from the system continue to indicate that the system is functioning properly.
- With VDEQ approval, the City began planning additional remedial actions to address the contaminated sediments located below the Oronoco Street storm sewer outfall to the Potomac River. In 2015, VDEQ approved the City's Remedial Action Plan (RAP) to dredge and cap the residual coal tar-impacted sediments within the Potomac River. The bulk of affected sediments were removed, and a reactive cap was installed over the remaining sediments to eliminate future seepage of coal tar into the river and cut off potential exposure pathways to human and ecological populations. The dredge and cap project was completed in April 2018.
- In September 2019, the City cleaned and repaired a stormwater pipe in the 100 block of Oronoco Street to clear the residual coal tar from the pipeline floor and grout it.

- Five new coal tar recovery wells were installed along Oronoco Street in April 2021. The installation of these wells significantly increased the amount of coal tar recovery around and beneath the stormwater pipe. Coal tar is typically recovered twice a month. Historically, the amount of coal tar recovery ranged from 2-20 gallons per month. However, free product recovery significantly slowed down and the City is working to install new wells.
- Inspection of the stormwater pipe in June 2022 showed a crack in the transition of where the pipe has been lined using CIPP (cured in place pipe) and where the pipe was sprayed with shotcrete. There were also some small coal tar deposits observed downstream of this crack. Repair of the crack were completed in October of 2022.
- An in-well heating pilot study was completed in October 2023, following the slowdown in the recovery well capture. Only a small amount of additional coal tar was removed, and the February 2024 report recommended a new TarGOST survey and new well installation versus continued in-well heating tests. A TarGOST survey was completed in November 2023. The results showed areas of free product thickness greater than 3 feet. A total of five new recovery wells were proposed for installation.

The City continues its remedial activities related to mitigation of coal tar infiltration into and discharges from the stormwater pipe located at the end of Oronoco Street. A summary of these activities between July 2024 and June 2025 is discussed below:

- The groundwater treatment system installed in 2013 continues to perform well. Site visits are conducted twice per month with shutdowns only occurring as part of conducting routine onsite maintenance. Inspections of the permeable reactive media have shown that the media are in “like new” condition.
- The City continues to operate and maintain the boom system to prevent any potential sources of coal tar from discharging from the immediate area into the Potomac River.
- Twice per year the City submits an operations report that summarizes site remediation operations.
- Five new recovery wells were installed in August 2024. A recovery frequency study was conducted from December 2024, which lasted about 10 weeks, and a report was issued in April 2025. The study concluded that the optimal recovery schedule was for every two weeks, as done for previous well installations.
- A total of 420 feet of pipe was lined from manhole 92A to manhole 93. The lining completion was completed in November 2024. However, the liner had failed in February 2025 at manhole 92. The City had its contractor to make some interim repairs, with the permanent repair being the replacement of manhole 92. The manhole replacement is scheduled to be completed in late 2025 to early 2026.

For the upcoming year, additional actions are planned to assist in removing coal tar from the site and further protect contaminants from entering the pipe. Manhole 92 will be replaced, which is the location where the pipe liner failed. The replacement of this manhole presents an opportunity to remove free product from the excavation site. Following the replacement of the manhole, another TarGOST survey will be performed to identify areas of NAPL thickness. New wells will be installed in areas where the thickness is greater than 3 feet. The City also plans to perform sediment sampling north of the outfall

where the Robinson Terminal North pier is located. This pier is currently being removed, and the sediment sampling is anticipated for November 2025. A remedial action plan will then be developed based on the sampling results.

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 2 Annual Report

July 1, 2024 – June 30, 2025

Appendix F

Minimum Control Measure #6, Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee within the MS4 Service Area

1. Staff Training Documentation
2. City's Webpage for Alex311

FY2025 MS4 Annual Staff Training: P2GH 1/3

October 8, 2024, 9:00 a.m.

Trainers: Jessica Lassetter, Gavin Pellitteri

Department: Fleet Services

Name	Department	Signature
Bryan Anderso	Fleet	
Duane Shorter	Fleet	
Von Livingston	Fleet	
William Tawes	Fleet	
Brand Madison	Fleet	
DAnny Brandt	Fleet	
Hussaln zarkashi	Fleet	
Jairo Mejia	Fleet	
Matt Pitts	fleet	
Dennis Jones SR	Fleet	
John Sublett	Fire Dept	
Mike Young	Fire Dept	
Darryl Syler	Fleet	
Tom Wheatley	Fire Dept	
HARRY HAKENSON	FIRE Dept	
Chris Bedwell	TES	

FY2025 MS4 Annual Staff Training: P2GH

October 8, 2024, 9:00 a.m.

Trainers: Jessica Lassetter, Gavin Pellitteri

Department: Fleet Services

Name	Department	Signature
Clifton Hampton	Impound	Clifton Hampton
Eric Easterline	Impound	

FY2025 MS4 Annual Staff Training: P2GH 3/3

October 8, 2024, 9:00 a.m.

Trainers: Jessica Lassetter, Gavin Pellitteri

Department: Fleet Services

Name	Department	Signature
Robinson, Sean	TES	

(1)

FY2025 MS4 Annual Staff Training: P2GH

June 23, 2025

Trainers: Jessica Lassetter & Tony Minnick

Department: PWS Street & Sewer Maintenance

Name	Department	Signature
Rodney Young	T&ES	
Gregory Dunn Jr.	TES	
Dwayne Paton	TES	DP
Cheryl Williams	TES	
Nathaniel Marshall	TES	
David Thomas	TES	
Mary Hinderliter	↓	
Tim	TES	
John Taylor	T&ES	John Taylor
Daniel Sori	TES	
Michael Harmon	TES	
Rob McGuire	TES	
MUHAMMAD IRFAN	TES	
Lisa Jantzen	TES	
Thelbert Vaden		

FY2025 MS4 Annual Staff Training: P2GH

(2)

June 23, 2025

Trainers: Jessica Lassetter & Tony Minnick

Department: PWS Street & Sewer Maintenance

Name	Department	Signature
Karen Giuseppe	TES	Karen Giuseppe
Harold Shaw	TES	Harold Shaw
Raymond Monk	TES	Raymond Monk
Chris Allen	TES	Chris Allen
Charonne Jackson	TES	Charonne Jackson
Mallon Serapio	TES	Mallon Serapio
Dallas Reyes	TES	Dallas Reyes
Jose Gil	T&ES	Jose A. Gil
Cesar Caicedo	T&S	Cesar Caicedo
Andrew Smith	TES	Andrew Smith
Anthony Miller	TES	Anthony Miller
Terrell Joyner	TES	Terrell Joyner
Stephanie Quintanilla	TES	Stephanie Quintanilla
Keith Gray	TES	Keith Gray
Terry Stanley	T&ES	Terry Stanley

(3)

FY2025 MS4 Annual Staff Training: P2GH

June 23, 2025

Trainers: Jessica Lassetter & Tony Minnick

Department: PWS Street & Sewer Maintenance

Name	Department	Signature
Joe Thompson	T&ES	

FY2025 MS4 Annual Staff Training: P2GH

(1)

June 26, 2025

Trainers: Jessica Lassetter & Tony Minnick

Department: RR Street Cleaning

Name	Department	Signature
LOUIS SIMMS	T.E.S.	
Damone Thompson	TES	
Jerrell Williams	TES	
Anthony Jones	TES	
Matthew Buchanan	T.E.S	
Bernard Banks	T.E.S	
Abraham Remington	T.E.S	
CURTIS GREENE	TES	
Matthew Lowery	TES	
Kenn Kellerbrew	TES	
FRED Bell	TES	
Steve Waller	TES	
Tony Van Horn	TES	
Jeremias Bermudez	T & ES	
Tarik Van Horn	T.S ES	

FY2025 MS4 Annual Staff Training: P2GH

June 26, 2025

Trainers: Jessica Lassetter & Tony Minnick

Department: RR Street Cleaning

(2)

Name	Department	Signature
DAVON Melcon	TES	
ARTHUR Byrd	TES	
Bruce Boyd	tes	

FY2025 MS4 Annual Staff Training: P2GH – *Virtual via MS Teams*

May 15, 2025 | 11:30 a.m.

Trainers: Jessica Lassetter

Department: GS / Facility Maintenance

Name	Department	Signature
Dwayne Smith	General Service	Present
Amjad Igbal	General Service	Present
Fekadu Zirigua	General Service	Present
Harrison Parton	General Service	Present
Herman Maldonado	General Service	Present
Jason Hitt	General Service	Present
Luis Torres	General Service	Present
Miguel Amaya	General Service	Present
Mudassar Nasir	General Service	Present

FY2025 MS4 Annual Staff Training: P2GH

June 16, 2025, 12:00 p.m.

Trainers: Jessica Lassetter, Tony Minnick

Department: Resource Recovery

Name	Department	Signature
Jerrod Woodson	Solid Waste	
Willie Banks	solid waste	
Tony Findley	Solid Waste	
Marcus Hawkins	Solid Waste	
Tyrone Kyle	Solid Waste	
Maurice Marshall	Solid waste	
Ben Dyes	Solid Waste	
Marvin Timmons	Solid Waste	
Deonta Rucker	Solid waste	
Mike Hawkins	solid waste	
B. Brasfield	" "	
Donte' Wood	Solid Waste	
M. Tuck		
Jessie Redfearn	"	
Scott Darling	Solid waste	

FY2025 MS4 Annual Staff Training: P2GH

June 16, 2025, 12:00 p.m.

Trainers: Jessica Lassetter, Tony Minnick

Department: Resource Recovery

Name	Department	Signature
Greg Talbert	Solid Waste	
Kenneth Leach	TES	
Kendall Wallace	TES	
Tobias Kardelis	Solid Waste	
Robert Nicholson	Solid waste	
RYAN Coles	Solid Waste	
T. Williams	TES	
Marcus Yarbough	TES	
Jesse fields	TES	
Nick Anderson	Solid waste	
Jannette coles	TES	
Andre Delatte	TES	
Josie Quintanilla	TES	
Demont Jennings	Solid waste	
Rodney Pitts	TES RR	

(3)

FY2025 MS4 Annual Staff Training: P2GH

June 16, 2025, 12:00 p.m.

Trainers: Jessica Lassetter, Tony Minnick

Department: Resource Recovery

Name	Department	Signature
Antwine Hall	TES Solid Waste	
Glenn Williams	TES/Solid Waste	
Dwight Williams	TES/	

MSD Pollution Prevention & Good Housekeeping

Toolbox Topic Covered: Material Handling and Storage – Safe Lifting Techniques

Company Name: City of Alexandria Date: 5/7/25

Training led by: Jessica Lassiter / Kevin Johnson

PRINT NAME	SIGNATURE
James PLISS	James E. Pliss
Keenan Brown	
Lewis Parker	
Kevin Gaskins	
Juwon Afinni	
Ed Johnson Jr.	
David Weathers	
Mike Otachi	
Jim Sykes	
Scott Roberson	
Jonathan Carpenter	
JuQuan Daniels	
ALEX VELEZ	
Alvin Jefferson	
Abraham Kifle	
Danielle Parker	
	Durell Veney

General VPDES Permit for

Small Municipal Separate Storm Sewer Systems

Permit No. VAR040057

Year 2 Annual Report

July 1, 2024 – June 30, 2025

Appendix G

TMDL Special Conditions

1. Phase 3 Chesapeake Bay TMDL Action Plan
2. Bacteria TMDL Action Plan, Updated April 2025
3. Tidal Potomac PCB TMDL Action Plan, Updated 2025