AECOM

U.S. Army Garrison
Fort Belvoir, Virginia

ANNUAL REPORT
1 JULY 2022 – 30 JUNE 2023

General VPDES Permit for Discharges of Stormwater from Municipal Separate Storm Sewer Systems

Permit VAR040093

25 August 2023

Delivering a better world

Quality Information

Prepared by	Checked by	Verified by	Approved by
David Greenspan	Laurie Ruhlmann	Alaina Armel, PE	Carrie Henderson, REM, PMP
AECOM Technical Services	AECOM Technical Services	AECOM Technical Services	AECOM Technical Services

Prepared for:

Department of the Army
U.S. Army Garrison, Fort Belvoir
Directorate of Public Works
Environmental Division

Technical:
David Greenspan
AECOM Technical Services, Inc.
703-946-8790
david.greenspan@aecom.com

Prepared by:
AECOM Technical Services, Inc.
3101 Wilson Blvd, Suite 900
Arlington, VA 22201
www.aecom.com

TABLE OF CONTENTS

TABLES

APPENDICES

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VPDES)
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT
FORT BELVOIR ANNUAL REPORT
1 JULY 2022 – 30 JUNE 2023

Information provided in this annual report is provided as specified in the MS4 General Permit codified in 9VAC25-890-40 and effective 1 November 2018. Additionally, Virginia Department of Environmental Quality (VADEQ) provided an MS4 Annual Report Submittals – Minimum Requirements for the 2018-2023 MS4 General Permit Checklist via email on 2 August 2019.

1. BACKGROUND INFORMATION (PART I.D.2)

a. Name and permit number of the permitted facility submitting the annual report:

US Army, Fort Belvoir, VA MS4 Permit Number: VAR040093

b. Annual Report Year:

1 July 2022 – 30 June 2023

c. Modifications to any operator's department's roles and responsibilities:

The Director of Public Works, Mr. Micah E. Boersma took over responsibilities from the former Director, Mr. Bradford D. Britain on 17 July 2022 and has been present for the entirety of the reporting period. A delegation of signature authority is provided in Appendix A.

The MS4 Program Manager, Ms. Calli J. Kaufhold, was assigned a temporary work order and was no longer managing the program from 7 February 2023 to the end of the reporting period and can be reached at 703-806-0022. Ms. Ashley C. McMahon was in place as the acting MS4 Program Manager during this time and can be reached at 703-806-0627. The former Stormwater Facility Maintenance Liaison, Mr. Ryan T. Maisano, left the Fort Belvoir DPW on 24 February 2023 and the position has not yet been filled, with the position also temporarily covered by Ms. Ashley C. McMahon during this time.

d. Number of new MS4 outfalls and associated acreage by HUC added during the permit year:

There were four (4) new MS4 outfalls brought online during the reporting period 1 July 2022 – 30 June 2023 due to new construction. These four (4) outfalls are all within the Dogue Creek Watershed (HUC6 – PL27). Appendix B contains pertinent data for all new structures.

e. Signed 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."

Micah E. Boersma Director, Public Works	Date
VAR040093 MS4 Permit Number	Fort Belvoir MS4 Name

2. MINIMUM CONTROL MEASURE IMPLEMENTATION (PART I.E)

A. MCM#1 – PUBLIC EDUCATION AND OUTREACH

I. PART I.E.1.G. (1) AND (2)

Provide a list of at least three high-priority stormwater issues addressed in the public education and outreach plan and provide a list of strategies used to communicate each high-priority stormwater issue.

Fort Belvoir chose to implement three (3) strategies listed in Table 1 of the MS4 General Permit including: traditional written materials, media materials, and speaking engagements. These strategies were used to educate the public on key water quality issues applicable to Fort Belvoir with a focus on those associated with Total Maximum Daily Loads (TMDLs), to include bacteria, nutrients, sediment, chloride, and FOG (fats, oils, and greases). Table 1 below summarizes activities conducted and the associated reporting data for the reporting period. Supporting documentation (articles, newsletters, brochures, etc.) are available upon request.

Table 1: Education and Outreach Activities (1 July 2022 – 30 June 2023)

Traditional Written Materials				
Articles Published via The Housing Group Mass Notification System and/or Housing Facebook posts Articles and Guides distributed to the Housing Communities across Fort Belvoir Total Number of Residences = 2,154[1] Total Population = 7,637[2]				
Date	**Issue**	**Audience**	**Title**	**Topic**
September 2022	Bacteria	Email: 4,000[3] Facebook: N/A[4]	*Pet Waste and Stormwater*	How pet waste contributes to pollution and tips to help
December 2022	Chloride	Email: 4,000[3] Facebook: N/A[4]	*Road Salt and Our Water*	Tips for winter snow removal
March 2023	Litter, Sediment, Nutrients	Email: 4,000[3] Facebook: N/A[4]	*What is Stormwater Management?*	How stormwater is managed at Fort Belvoir, basics of SMFs, how to help manage and maintain our infrastructure
April 2023	Sediment	Email: 4,000[3] Facebook: N/A[4]	*Sediment and How it Affects Us*	Basics of erosion and how sediment impacts our storm sewer system and the environment, tips to help
Newsletters and Brochures DPW Newsletter distributed to High-Priority Facility Personnel via email[5] and posted on Facebook[6] for the general public. Brochures are posted at key locations to reach audiences where topics are applicable.				
Email: 20 Sep 22 Facebook: 21 Sep 22	Oils and Grease, Nutrients	Email: 92[5] Facebook: 67[6]	Fall Stormwater Newsletter	Winterizing equipment, blasting and painting, dewatering, and fall landscaping
Email: 15 Dec 22 Facebook: 21 Dec 22	Chloride, Sediment	Email: 80[5] Facebook: 88[6]	Winter Stormwater Newsletter	Salt storage and application, ESC/SWM requirements for construction projects
Email: 24 Mar 23 Facebook: 29 Mar 23	Sediment, Litter, Oils and Grease	Email: 81[5] Facebook: 167[6]	Spring Stormwater Newsletter	Outdoor material storage, outdoor secondary containment, and dig permit requirements
Email: 27 Jun 23 Facebook: 7 July 23	Sediment, Detergent, Oils, Litter	Email: 94[5] Facebook: N/A	Summer Stormwater Newsletter	Spill prevention and response, minimizing and eliminating exposure, and vehicle and equipment washing

Date	Issue	Audience	Event	Materials Displayed
Ongoing	PCBs	Posted at Hunting/Hiking kiosks and on the iSportsman website: 60[7]	PCB Awareness for Hikers and Hunters	Brochure: *"The Dangers of PCBs and How You Can Help"*
Media Materials: Facebook Posts on @FortBelvoirEnvironmental Each post is monitored individually for the audience reached; please see Appendix C.				
1 Jul 22 through 30 Jun 23	Various	~22 posts, average of 131 viewers[6]	Various	A wide variety of stormwater topics
Speaking Engagements: Presentations Interactive Displays and Stormwater Awareness Brochures distributed at events.				
28 Jul 22	Chloride	75 Belvoir tenant representatives in attendance, including Garrison Commander	Environmental Quality Control Committee (EQCC) Meeting	A prepared PowerPoint presentation was displayed for all attendees
21 Apr 23	Sediment, Detergent, Grease, Litter, Fertilizer (Nutrients), PCBs	36 Belvoir residents in attendance Six (6) of each Brochure distributed	Earth Day	Displays: - *Common Stormwater Pollutants* - *Litter & Plastic Pollution's Effect on Water Quality* - *Stormwater Pollution Prevention Diorama* - *Only Rain Down the Drain* Brochures: - *Now We Know Better* - *Protect Our Local Waterways* - *10 Things You Can Do to Save the Bay* - *Only Rain Down the Drain* - *The Dangers of PCBs and How You Can Help* Children's Activity Books
18 May 23	FOG, Detergents, Bacteria, Fertilizer (Nutrients), PCBs	2,050[8] Soldiers and Civilians in attendance 202 Booth Visitors 105 Brochures distributed	Safety and Wellness Day	Displays: - *Stormwater Trivia* - *Only Rain Down the Drain* - *Pollution Jars* Brochures: - *Illicit Discharge Detection and Elimination* - *Protect Our Local Waterways* - *Detox Your Home* - *10 Things You Can Do to Save the Bay*

[1]Number of Residences: Fort Belvoir Army Stationing and Installation Plan (ASIP) Fiscal Year (FY21) Summary.
[2]U.S. Census Bureau 2020 Population data.
[3]Phone conversation on 5 August 2022, between MS4 Program Manager, Calli Kaufhold and Housing Department Representative
[4]Facebook data on membership within this private group belonging to Woodlawn Village Mayor.
[5]Distribution list/delivery from Industrial Stormwater Program Manager, Ashley C. McMahon.
[6]Facebook Interaction Report, shown in Appendix C.
[7]1,207 people applied for fishing permits and had the chance to interact with the posted PCB Brochure on the iSportsman website: E-mail from Wildlife Scientist, Kevin Walter dated 18 July 2023. Unable to determine actual number of people who opened link to PCB brochure; assumes 5% of people who applied for fishing license through website opened link. This number may be elevated from actual.
[8]E-mail from PAIO USAG Fort Belvoir, Paul Lara.

A list of education and outreach opportunities that may be employed during the next reporting period (1 July 2023 – 30 June 2024) may be found in the most recent MS4 Program Plan.

II. REVIEW OF MCM#1 PROGRAM EFFECTIVENESS:

For the reporting period, 1 July 2022 – 30 June 2023, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on 1 November 2018:

- Belvoir employed three (3) strategies from Table 1 of the MS4 General Permit to reach varied audiences. Various topics were addressed, including the five (5) priority issues identified in the Program Plan.
- Fort Belvoir continued to develop effective avenues for reaching the residents of Fort Belvoir by using the mass email notification system that was used during the last reporting cycles.
    - Four (4) articles were distributed via One Call Now, the mass email notification system used by the housing group. Articles cover seasonally topical pollution prevention techniques and promote the use of best management practices to housing residents.
- DPW-Environmental continued to publish its quarterly newsletter, which was distributed via email to High Priority Facility personnel and via Facebook to the public.
- DPW-Environmental maintained avenues to ensure a wide distribution of educational materials through the dedicated @FortBelvoirEnvironmental Facebook page. DPW-Environmental also maintained control over the home page which assisted in better control of posting information and plans, although all edits are routed through Public Affairs Office (PAO) prior to publishing.
- As COVID-19 restrictions and gathering guidelines eased and as the public gradually became more accustomed to interactions post-pandemic, DPW-Environmental was able to participate in more in-person events as well as maintain public interaction on the virtual stage. The in-person speaking events included an EQCC Meeting, Earth Day, and Safety and Wellness Day.
    - EQCC Meeting – Salt Management was held in-person on 28 July 2022. Seventy-five tenant representatives as well as the Garrison Commander attended the event to learn about salt management, strategies, best management practices, and the Chloride TMDL Action Plan.
    - An Earth Day Celebration was held in-person on 21 April 2023. Thirty-six residents attended the event and learned about the need to reduce sediment, detergent, grease, and litter in our waterways through brochures and interactive displays.
    - The Public Affairs Office (PAO) held Safety and Wellness Day on 18 May 2023, with approximately 2,050 soldiers and civilians in attendance. Fort Belvoir Environmental Division educated participants using brochures and interactive displays, including the popular Stormwater Trivia Game.

Best Management Practice (BMP) 1.1 for the Public Education and Outreach Minimum Control Measure (MCM) continues to remain effective and utilizes various communication media (Email mass notification, Housing Facebook pages, newsletters, brochure distribution to targeted audiences, Environmental Division Facebook page, speaking engagements) available within the Fort Belvoir organization. The inherent flexibility of the plan provides for many opportunities to reach the public without being so prescriptive as to limit growth and innovation in how the program is run. How Fort Belvoir achieved compliance with the measurable goals for MCM #1 based on the Program Plan is discussed below.

BMP 1.1 IMPLEMENT A PUBLIC EDUCATION AND OUTREACH PLAN:

The Education and Outreach Plan, contained within the Program Plan, is designed to increase the public's knowledge on how to reduce stormwater pollution and the hazards associated with illegal discharges and improper disposal of wastes, including pertinent legal implications. The Plan places priority on reducing impacts to impaired waters and other local water pollution concerns for the areas surrounding Fort Belvoir; the five main stormwater issues are those associated with local TMDLs, including bacteria, nutrients, sediment, chloride, and

FOG (fats, oils, and greases). The Plan calls for the implementation of a diverse program with a variety of strategies that can be targeted toward individuals or groups most likely to have significant stormwater impacts.

The plan outlines multiple strategies that will achieve the conditions listed in Permit Part I.E.1.b,c, and d, and how materials developed will:

1. Clearly identify one or more of the high-priority water quality issues noted above.
2. Explain the importance of the high-priority stormwater issue.
3. Include measures or actions the public can take to minimize the impact of the high-priority stormwater issues.
4. Provide a contact and telephone number, website, or location where the public can find out more information.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan:

The measurable goal to annually review and revise the Education and Outreach Plan, as needed, was met.

- The Public Education and Outreach Plan was reviewed during the 2022-2023 reporting period, and found it adequately met all goals and remained effective. No updates were made for this reporting period.

The measurable goal to annually utilize two or more of the public education and outreach strategies that meet Permit Part I.E.1.b, c, and to communicate to the public the high-priority stormwater issues identified and how to reduce stormwater pollution, was partially met.

- Belvoir employed at least three (3) strategies from Table 1 of the MS4 General Permit to reach varied audiences. Various topics were addressed including the five (5) priority issues identified in the Program Plan: bacteria, nutrients, sediment, chloride, and FOG (fats, oils, and greases) as well as Polychlorinated Biphenyls (PCBs), littering, and detergent use.
- The Facebook page, @FortBelvoirEnvironmental, was used about 22 times during this reporting period to address pollutant-specific topics, post quarterly newsletters, announce clean-ups and other events, and to thank volunteers. Postings were seen by an average of 131 viewers per post throughout the year.
- BMP Factsheets for common operations are used to ensure proper guidance is being provided to assist tenants in making operational decisions that may help minimize exposure to stormwater. The BMP Fact Sheets are also distributed on an as needed basis to individuals and/or tenant commands when issues are noted during inspections or additional guidance is requested. BMP Fact Sheets were revised in April 2023.
- DPW-Environmental continued to team with the Conservation group and the Directorate of Moral, Welfare, and Recreation (MWR) to passively distribute Stormwater Pollution prevention brochures to the public.
    - PCB Brochures, *The Dangers of PCBs, and How You Can Help: Learn how you can protect Yourself, your Family, and the Environment*, continue to be posted on trail heads and hunting kiosks to provide information to hikers and hunters on how to identify and report potential PCB containing equipment (i.e., old transformers), especially in remote areas of the installation.
    - The brochure *PCB Safety and Awareness* is also still available online in the iSportsman website. The iSportsman website is the access portal for hunting, fishing, and watercraft recreation at Fort Belvoir. The fishing page displays the brochure to make fishermen aware of PCBs and fish consumption. A total of 1,207 fishing licenses were applied for via the iSportsman website during

this reporting period. Each license application is an opportunity for the public to interact with the brochure.

- Fort Belvoir provides multiple avenues for the public to get in contact with subject matter experts and/or to report pollution sources. Although these avenues were available, they were not always functional and/or may have provided out of date contact information to the public.
    - MS4 contact information is located on the Fort Belvoir Environmental Division Webpage and provides a constant open channel for contacting the DPW Stormwater Program. Although the site was set up and contact information was provided, it was noted as having incorrect numbers and emails on occasion during the reporting period due to Army pushing updates that would revert the site back to listing older information. It should be noted that although the MS4 number may have been incorrect sporadically, the posted number would still connect to the environmental office where calls could be routed to the correct person.
    - The Pollution Reporting Button added to the website on 27 October 2020 to provide the public with a way to directly notify the Stormwater Program of any potential issues remains in place. However, the button was non-functional until repair was completed on 10 August 2022. To prevent future issues, an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality. This was recommended with the previous years' annual report but was not completed; however, tests of the button performed on 22 May 2023 and 10 July 2023 showed it was functioning as intended, and a report was received from the button on 16 February 2023.
    - Due to turnover of personnel within the MS4 Program, contact information was provided in Brochures and Newsletters distributed but were not updated when there were changes in phone numbers or emails. Fort Belvoir plans to update all brochures and newsletters with new information prior to further distribution.

The measurable goal to utilize at least one (1) strategy each season to provide the public topical information on the impacts their activities can have on stormwater runoff and measures or actions they can take to minimize that impact was met.

- Four (4) Seasonal Stormwater Newsletters were developed to cover high-priority water quality topics like chloride, sediment, litter, and nutrients. The newsletter provided updates on permit compliance activities, trainings, and pollution prevention, including seasonally appropriate topics (i.e. de-icing in December, wash waters in June).
    - The newsletters explained the importance of preventing the different pollutants and how they affect current TMDL Action Plans in place.
    - All forms of media contained information on pollution prevention practices that the public can utilize to minimize stormwater runoff pollutants.
    - Newsletters were distributed to Industrial Stormwater (ISW) permitted tenants, MS4 High Priority Facility (HPF) tenants, and published to the Environmental Division Facebook page.
    - Newsletters were published on 20 September 2022, 15 December 2022, 24 March 2023, and on 27 June 2023. It should be noted that the summer newsletter distributed via email on 27 June 2023 was not posted on the Environmental Division Facebook until 7 July 2023.
- DPW-Environmental continued to coordinate with the Housing Group as an avenue to distribute information directly to Fort Belvoir Residents during this reporting cycle. The Housing Group utilizes the mass notification system, One Call Now, to communicate with all residents via email. Additionally, they maintain dedicated Facebook pages to communicate with residents.
    - A Fall article *Pet Waste and Stormwater* was distributed in September 2022 and covered how pet waste can contribute to pollution and bacteria at Fort Belvoir as well as tips to help.
    - A Winter article *Road Salt and Our Water* was distributed in December 2022 and covered harmful effects of ice melt on local streams, practices for use of ice melt, and provided tips for

minimizing chlorides in stormwater runoff by using shoveling, sweeping, and proper application/storage.
    - A Spring article *What is Stormwater Management?* was distributed in March 2023 and covered how stormwater is managed across Fort Belvoir, the basics of Stormwater Management Facilities (SMFs), and how residents can help manage and maintain our infrastructure.
    - A Summer article *Sediment and How it Affects Us* was distributed in April 2023 and covered the basics of erosion and how sediment can impact our storm sewer system and the environment, as well as providing tips to help by stabilizing bare areas.
- As COVID-19 restrictions and gathering guidelines eased, Belvoir was able to participate in more in-person events where presentations to housing, military, civilian, and contractor personnel living and working on Fort Belvoir could be used to educate the public on critical stormwater issues and their role in preventing pollutants from entering waterways. DPW participated in three (3) events where interactive displays were used to communicate stormwater topics to the public.
    - The EQCC Meeting on Salt Management was held on 28 July 2022, at the main DPW-Environmental Building. Personnel presented to various tenant agencies and the Garrison Commander on proper salt management practices, techniques, and awareness. This presentation included information on the Lower Accotink Creek Chloride TMDL and how it affects Fort Belvoir. A total of 75 participants attended this event.
    - Earth Day was held on 21 April 2023 at the Natural Resources Education Center and families participating were able to interact with displays covering Common Stormwater Pollutants, Litter & Plastic Pollution's Effect on Water Quality, and a Stormwater Pollution Prevention diorama. Approximately 36 people visited the displays and interacted with Stormwater personnel. Copies of stormwater educational materials were made available and included multiple brochures and Children's Activity Pages.
    - Safety and Wellness Day was held on 18 May 2023, at the Fort Belvoir Exchange and provided an opportunity to interact with military and civilian personnel living and working on Fort Belvoir. Approximately 2,050 people attended the event. The display at the DPW-Environmental booth provided attendees an opportunity to play a stormwater trivia game. Copies of stormwater educational materials were made available and include Brochures and Pamphlets. A total of 202 people visited the booth, and a total of 105 brochures were handed out during the event.

B. MCM#2 – PUBLIC INVOLVEMENT/PARTICIPATION

I. PART I.E.2.F. (1)

Provide a summary of any public input on the MS4 Program received (including stormwater complaints) and the permit holder responses.

Input Received on the MS4 Program:

The MS4 Stormwater Program completed an MS4 Program Plan update on 29 June 2023 and posted the document for public comment on 24 July 2023. A summary of any comments received, if any, will be included with the next Annual Report as it is outside of this reporting period.

The 2021-2022 Annual Report was posted on the website on 26 October 2022; no comments were received from the public. VADEQ requested additional information and/or clarification in a letter dated 30 January 2023. Fort Belvoir submitted a response to these requests to VADEQ on 28 February 2023. A summary of the VADEQ requests and Fort Belvoir responses are as follows:

- VADEQ requested clarification on MCM#5 on the number of public SMFs inspected and the total present. Fort Belvoir reviewed records and affirmed that there were 238 publicly owned and operated SMFs, with 128 of them being inspected in the reporting period.
- VADEQ noted under MCM #6 that "no-exposure" is not applicable to MS4 HPFs. Fort Belvoir clarified that the use of the terminology "no-exposure risk" was not the same as the definition under the ISW major permit and was used to determine if a site-specific Stormwater Pollution Prevention Plan (SWPPP) was necessary for any HPF. Fort Belvoir further clarified that all HPFs would remain on the HPF list to receive an annual evaluation regardless of its exposure risk.
- VADEQ requested under MCM#6 a list of training events conducted in FY2022 to include the date, number of employees in attendance, and the objective of each training event. Fort Belvoir noted that this was already included in the report as Table 7 but will be more clearly stated for future reports.
- VADEQ requested under the Chesapeake Bay TMDL Action Plan to indicate if credits were purchased for the intent of meeting Chesapeake Bay TMDL Action Plan Requirements. Fort Belvoir clarified that no credits were purchased during the reporting period.
- VADEQ requested under the Local TMDL Action Plans to indicate the monitoring plan and actions to be taken to mitigate PCB levels at MP13. Fort Belvoir noted that this was already included in the report and cited the verbiage and tables but will ensure this is more clearly stated for future reports.
- VADEQ noted under the Local TMDL Action Plans that an acceptance letter regarding the Sediment TMDL Action Plan was sent to Fort Belvoir on 15 October 2021, but that this letter was not an approval and did not change the sediment wasteload allocation for Fort Belvoir. VADEQ requested that Fort Belvoir submit a revised Sediment TMDL Action Plan reflecting the current MS4 area and the sediment removal calculations for stormwater management facilities, stream restorations, street sweeping, and land use conversions 180 days after the reissuance of the Permit No. VA0092771 (Industrial Major Permit). Fort Belvoir responded indicating that this will be completed as requested once the Industrial Major Permit is reissued.

An additional comment letter was received via email on 17 March 2023 for the 2021-2022 Annual Report from VADEQ, requesting a response by 15 June 2023. Fort Belvoir submitted a response to these requests to VADEQ on 13 June 2023. A summary of the VADEQ requests and Fort Belvoir responses are as follows:

- VADEQ requested indication as to why annual inspections of all public SMFs within the MS4 were not conducted in FY2022. Fort Belvoir performed an internal QC evaluation and determined that only 66

publicly owned SMFs were not inspected during the 2021-2022 permit year, with 39 of those 66 being inspected late in July and August of 2022. Fort Belvoir stated that the Base Operations and Maintenance Contractor is supposed to be responsible for these inspections; however, as all inspections were not completed as outlined in their contract, a Non-Compliance Report was submitted to the Contracting Officer in May 2022 to document this issue. Fort Belvoir additionally scheduled a meeting with the Base Operations and Maintenance Contractor on 30 May 2022 to discuss requirements and put a schedule in place to ensure inspections for permit year 2022-2023 would be met.

- VADEQ provided the following statement: "The Fort Belvoir Directorate of Public Works Environmental team conducts its annual evaluation of high-priority municipal facilities based upon a no-exposure risk. Determination of high-priority municipal facilities in a MS4 is based on the assessment of the high priority for the discharge of pollutants from facilities not covered under a separate VPDES permit (Part I.E.6.c of the MS4 General Permit)." Fort Belvoir responded by describing that an internal No Exposure Evaluation Document Checklist had been developed based on EPA Form 3510-11 to evaluate and document whether a site conforms to the requirements of the non-exposure exception from SWPPP development, and that sites noted as meeting the exemption are not considered to have a significant source of pollutants. Fort Belvoir further described that yearly inspections using the Annual Comprehensive Inspection Checklist and Non-Exposure forms developed still occur to determine if a SWPPP is required for any facility, and included a copy of the developed Non-Exposure Form and 2021-2022 High Priority Facility Summary Report showing facility evaluations.
- VADEQ requested the 15 April 2020 PCB TMDL Action Plan to be revised to include an updated monitoring and mitigation plan. This was due to an interpretation that annual monitoring at site MP-13 had been discontinued as last reported results were from 29 October 2021. In response, Fort Belvoir completed updates to the PCB TMDL Action Plan as requested and submitted to VADEQ on 13 June 2023. This update included additional sampling results for site MP-13 post 29 October 2021 and clearer verbiage to indicate this site was still receiving annual monitoring and will continue to receive annual monitoring to document the downward trend toward meeting the Water Quality Criterion.

The 2021-2022 Annual Report received final acceptance from VADEQ in a letter dated 26 June 2023 with the caveat that:

- The current PCB TMDL Action Plan infers that MP 011, 12th Aviation Motor Pool/Washrack, is within the MS4. It is currently part of the Stormwater Industrial permit VA0092771 until the permit is reissued and the respective outfall has been removed from permit No. VA0092771. The revised PCB TMDL Action Plan submitted to DEQ on 13 June 2023 is acceptable. However, a disclaimer must be added to the PCB TMDL Action Plan to indicate MP 011 is part of VPDES Permit No. VA0092771.
    - Fort Belvoir completed final edits and updates to the PCB TMDL Action Plan on 6 July 2023, to include the statement as requested, and this final version was uploaded to the Fort Belvoir Environmental Website on 24 July 2023.

Fort Belvoir maintains all TMDL Action Plans posted on the website and available to the public. Although no comments were received from the public, VADEQ requested additional information, made recommendations, and proposed additional requirements pertaining to the Tidal Potomac and Anacostia River Watershed PCB TMDL Action Plan and the Accotink Creek Sediment TMDL Action Plan. Details on these comments and Fort Belvoir responses are covered under Section 4 - Local TMDL Information of this Annual Report.

Stormwater Complaints Received during the 2022-2023 Reporting Period:

All Stormwater complaints received from the public are managed under the Illicit Discharge Detection and Elimination (IDDE) program discussed under MCM #3. Public complaints are characterized under the 'Direct Notification' category. Eighteen (18) complaints were direct notifications made by someone outside of DPW

trained staff. Incidents 23-02, 23-04, 23-08, 23-11, 23-16, 23-18, 23-19, 23-23, 23-26, 23-27, 23-28, 23-29, 23-32, 23-33, 23-34, 23-36, 23-37, and 23-39 are discussed below:

- **23-02:** On 15 July 2022, a previously unknown Septic Tank at the golf course maintenance Building 2990 was discovered to be overflowing via an alarm panel in the Manager's office with the high-level warning light blinking with the alarm silenced. The tank was dripping out of an access manhole slowly. A Project Work Order (PWO) DC-22047-2J was submitted and approved on 18 July 2022 for cleaning out the septic system. Additional information was obtained which determined the tank had been cleaned out and DPW Operations and Maintenance (O&M) had been advised to abandon the tank and connect to the existing sanitary system. An additional email chain shows that the tank (holding tank) is not to be abandoned, but to be replaced with a larger holding tank to be maintained by American Water (AW) and pumped on a regular schedule. This includes that the tank was "forgotten about" for approximately two (2) years and had the potential to have been discharging during this period, with no one having a solid answer. The tank was estimated to be approximately 6,000 gallons in size and to fill up in about three (3) months' time. DPW O&M Staff calculated a worst-case scenario at 48,000 gallons of raw sewage discharged into the immediate area. AECOM contract staff recommended filing a VADEQ Pollution Report as well as contacting the Virginia Department of Health due to the nature of the discharge. Per a conference call with the acting DPW MS4 Program Manager, a meeting occurred on 1 February 2023 with the assigned Project Manager, the Golf Course staff, and AW. Another PWO was submitted to pump the septic tank and perform an investigation. The current plan is if the tank is in good condition, the tank is to remain and it will be determined what permit(s) may be necessary, if it is grandfathered, who will submit for the permit(s), and what funds would be necessary. If the tank is not in good condition, it will be abandoned in place and temporarily replaced with port-a-johns, and a new sanitary line will ultimately be connected to tie into the sewer mains adjacent to Walker Gate. AW is providing an estimate for this work currently. Additional investigation will be completed to determine if the soil is contaminated, and if lime needs to be put down as well as if the Department of Health needs to be notified. Incident is open and a determination needs to be made on if the tank is being pumped regularly and if connecting the tank to the public sewer system is an option.
- **23-04:** On 7 July 2022, a resident complained about sewage in their backyard from AW staff jetting a sewage line to clear buildup that was reported. The manhole was noted as shallow. Mist began to come up out of the manhole from jetting activities, and this is the suspected illicit discharge. The resident's trampoline may have incurred some mist from jetting activities. The AW operations supervisor spoke to the resident and cleaned any mist on the trampoline. A Pollution Report was filed with VADEQ, report #305753. An investigation occurred and no sewage liquid or any liquid was seen in the vicinity of the reported incident, indicating that mist may have been the only discharge and that it was very minimal. Incident was closed on 21 July 2022.
- **23-08:** On 30 August 2022, Aerospace Defense Facility East (ADF-E) personnel notified DPW of a radiator fluid leak at the Remote Inspection Facility (RIF) along an approximate 140-foot stretch of road leading up to and going underneath the RIF overhang, and Safety and Security was notified immediately of spill. MS4 Contract Staff (AECOM) was already within the secure area for other inspections with Safety, so were able to respond to the spill immediately. Absorbent litter was placed immediately in area to prevent any flow off the concrete. Spill did touch the trench drain at the RIF, but it was extremely minimal, so there is the potential for an illicit discharge. Most of the spill was in a covered overhang area. The truck was researched and found to have a total of 11 gallons of radiator fluid within it, but less than half of this was spilled, estimated at just below five (5) gallons total. A follow-up email was sent to ADF-E Contract Staff (Boeing) on 10 October 2022 including the incident report and requesting verification for incident closeout. A conference call between contract staff occurred on 25 October 2022 verifying the spill was successfully cleaned up and no further actions were required. Incident was closed on 25 October 2022.

- **23-11:** On 21 October 2022, Fort Belvoir Residential Communities (FBRC) reported an unknown corrugated metal pipe (CMP) seen within a Wet Pond (BMP 4064) during a call discussing maintenance requirements. It was believed that the pipe is a leftover temporary outlet from the original construction of the Wet Pond. The unknown pipe appears to be a CMP on the pond side connected to a reinforced concrete pipe (RCP) at the outlet location. The riser structure was assessed, and it is DPW-Environmental's opinion that the pond/riser structure is correctly designed for a wet pond with an adequate outfall and inflow, and that the leftover CMP/RCP combo pipe does not meet the original design intent of this location. It was recommended that the leftover pipe is capped on each end and abandoned in place or removed. There was erosion observed on each side of the pipe combo which was filled in and graded to match existing grade, as well as seeded and mulched to stabilize. A report was sent to FBRC BMP maintenance contractors with Blue Heron Group as well as FBRC. Blue Heron Group disagreed with DPW-Environmental's opinion and believed that the pipe should remain, and a compromise was made to install an adjustable control orifice to monitor water levels during the first two (2) quarters of 2023. On 5 April 2023, DPW-Environmental Contractor Daniel Schlobach confirmed the adjustable control orifice was installed as part of the study being conducted by FBRC to determine the necessity of this pipe, which will be removed if deemed unnecessary. Incident is open and will need to follow-up with FBRC to obtain results of the study once completed.
- **23-16:** On 21 November 2022, a call was received from the Fort Belvoir Fire Department regarding a spill near the Officer's Club. American Disposal's garbage truck experienced a mechanical failure in its hydraulic arm and spilled less than four (4) gallons of hydraulic fluid on to the pavement in a residential area. The spill had not entered the storm sewer system and was fully contained at least 60 yards away from the nearest curb inlet. American Disposal personnel deployed their own spill kit (granular absorbent, absorbent sheets, and booms) and the Fort Belvoir Fire Department was contacted to assist with remaining clean up. Additional spill supplies (absorbent sheets) were provided from the DPW Hazardous Waste Program. Later that same day, American Disposal's personnel had completed removal of their spill kit materials, with the base operations contractor, Aleut, having taken over. On 23 November 2023, Aleut had removed all materials and no further action was needed. Incident was closed on 28 November 2022.
- **23-18:** On 18 November 2022, National Geospatial Agency (NGA) Environmental staff was contacted by HVAC Technicians on site about a leak in the Visitor Control Center (VCC) Parking lot (the spill wasn't reported until 22 November 2022). Earlier that morning it was identified that a security vehicle parked in the lot had been leaking transmission fluid. A tow truck was called, and the vehicle was removed from the facility for repairs. Upon arrival of the environmental staff, the spill had mostly dried due to sun and steady winds and was estimated to be no more than two (2) pints. A small line of fluid spots extended from the main puddle in the parking spot out into the roadway, caused from the tow truck lifting and moving the leaking vehicle. Loose absorbent material and mats were placed to absorb the remaining wet fluid from the leak and excess absorbent was then swept up and placed into storage pending disposal. The vehicle was taken out of service and removed from the site for repairs and no further action was needed. Incident was closed on 23 November 2022.
- **23-19:** On 28 November 2022, a strong diesel smell and fuel film was seen at the boat ramp at the Dogue Creek Marina by a fisherman. The spill was estimated at or below one (1) gallon of most likely diesel fuel. The Fort Belvoir Fire Department responded and placed floating booms to try to contain and absorb the spill. Booms had been removed during a follow-up inspection and no additional sheen or smell was detectable. It was likely that the spill resulted from placing a boat in or out of the water and was not the result of maintenance work after hours, as nearby boats in the vicinity were surveyed and no point source of the spill was determined. It was recommended that a spill kit for public use be provided at the boat ramp in case of an emergency, as the Marina Office was closed and inaccessible during the follow-up inspection. VADEQ was notified of this incident with pollution report number 1353807 and was confirmed closed on 30 November 2022 from VADEQ Pollution Response Coordinator. Incident was closed on 30 November 2022.

- **23-23:** On 5 January 2023, ADF-E personnel notified DPW regarding indications of sewage fungus observed in two electrical manholes. These manholes run north along McCracken Road, east of the visitor's center and west of the guard house within a grassed patch. During the initial inspection, the manholes were found to contain approximately four (4) feet of murky water and contained a white and pink/orange fungus. Two (2) 200 mL samples were taken from one of the manholes, one at the bottom of the manhole and one at the surface. The sample taken from the bottom of the manhole had a chunky consistency and had to be diluted for the analysis as the opacity of the sample was too high. Both samples were high in ammonia and chlorine, which indicates potential infiltration from a sanitary line, which could be the source of the fungus. The fungal species were potentially identified as *Zoogloeal bacterium* which is an ill-defined taxonomically jelly-like gelatinous mass, *Fusarium aquaeductuum* which is a filamentous fungus that imparts a pink or red coloration, and *Leptomitus lacteus* which is also a filamentous fungus that has an appearance of overlapping cotton or wool-like streamers. These manholes undergo scheduled pumping regularly, which should be avoided until a source of the fungus is found and remediated. The other two (2) electrical manholes located uphill will need to be investigated to determine if sludge build-up is observed to try to narrow the area of potential infiltration. The plans for the nearby sanitary sewer will need to be reviewed to identify possible crossings with the electrical lines observed, and Fairfax County should be contacted for further investigation if a line with potential damage is found. Avoid pumping out of manholes (currently scheduled quarterly) until source is found. Incident is open and is awaiting closure information from MS4 Program Manager and Fairfax County.
- **23-26:** On 30 January 2023, the waste disposal subcontractor at the Fort Belvoir Community Hospital (FBCH), Wilburn, was removing waste when a large roll off containing compacted cardboard ripped the power pack for the compactor loose of its fittings and dragged it out into the pavement behind building 1230, east of Doerr Road, which FBCH identifies as the Soil Loading Dock. The power pack contained roughly two (2) gallons of hydraulic fluid which then drained onto impervious pavement and into the adjacent storm conveyance system via MS4 structure 6284. The spill happened during dry weather and no flow conditions were observed within the storm conveyance system. The hydraulic fluid was contained within the storm drain system at the point of entrance and FBCH personnel pulled up the grate on the storm drain and had placed two (2) absorbent pillows within the system to collect any additional liquid drips. DPW-Environmental staff provided a bag of granular absorbent to begin addressing the rest of the spill. At 0945, Bates Trucking/Trash Removal arrived on-site and deployed additional granular absorbent to the pavement and into the storm conveyance, ground it down, and then swept it up. Bates Trucking/Trash Removal then packaged the spill waste and transported it off Fort Belvoir for disposal. Incident was closed on 31 January 2023.
- **23-27:** On 30 January 2023, an Aleut street sweeper truck was performing contract duties when a hydraulic line broke and spilled approximately one (1) to two (2) gallons of hydraulic fluid. The spill was located on impervious asphalt and did not reach the storm system. The spill occurred in the parking lot of building 1189 which is located to the east of Middleton Road across from the skate park where some RVs were parked. Loose absorbent was placed to absorb the spill twice and was swept up and deposited into 55-gallon drums for disposal. Absorbent booms were placed at nearby stormwater inlets to prevent any hydraulic fluid from entering the storm sewer system. The leak was repaired on site to prevent further leakage and full work was completed later in the day. Incident was closed on 31 January 2023.
- **23-28:** On 16 February 2023, a report was received from a Jackson Bleckley through the online "Report Stormwater Pollution" button. A dark brown, almost black, and odorous discharge coming from outfall 405 was reported. This outfall drains directly into Dogue Creek and is located on the north side of Mt. Vernon Road and adjacent to the bridge that leads to River Village, just upstream of the Fort Belvoir Marina. It was reported that the discharge had a strong sewage/hazardous smell, and a visible plume made its way to the other side of Dogue Creek and moved with the tide. Mr. Bleckley reported that he fishes the area frequently and has never seen a discharge like this come from this outfall. The initial investigation concluded that there was no remaining evidence of an illicit discharge; however, the report generated clearly indicated some sort of illicit discharge that flowed from the outfall. This outfall was added to

follow-up on the next several Windshield Route 3 inspections to check up on any evidence of an illicit discharge. A follow-up inspection was performed on 4 April 2023 and no further evidence of an illicit discharge was observed. A trunk investigation was performed and confirmed the discharge was most likely decayed organic matter that was flushed out of the pipe during a large rain event, which explains the black color and sewage-like smell to the discharge. Incident was closed on 4 April 2023.

- **23-29:** On 1 November 2022, a drainpipe in the crawl space of building 2109A was broken and flooded the crawl space, though this was not reported to DPW until a work order was filed on 31 January 2023. During an inspection performed on 22 February 2023, there were no obvious signs of sewage entering the storm system and the spill was contained to the crawl space under the building. Under the work order, the base operations subcontractor Aleut had pumped any remaining sewage out of the crawl space and removed it from site for proper disposal. Once the excess sewage was removed, 750 pounds of powdered lime was applied to the soil to serve as a disinfectant and the crawlspace was covered with a six (6) mm membrane. The removal and repair of the broken sewage line was completed, and no further action was required. Incident was closed on 28 February 2023.
- **23-32:** On 13 March 2023, AW reported that a service line was hit near building 927 during excavation of the area. Building 927 is in a residential neighborhood and is located off Maloney Road, with Dogue Creek directly east of the building just past the tree line. An inspection of the area was performed on 14 March 2023 and no evidence of water from the broken service line was found near the MS4 structures surrounding building 927. Additionally, repairs to the broken service line were already underway during the inspection. Incident was closed on 14 March 2023.
- **23-33:** On 22 March 2023, AW reported that a service line behind building 913 near Dogue Creek was hit and approximately 300 gallons of potable water made it to two (2) forebays behind the building. Building 913 is in a residential neighborhood and is off Moyer Road, with Dogue Creek directly east of the building past the tree line. The two (2) forebays are in the grassy area of building 913 and are located on opposite sides of a small sidewalk that cuts through the grassy area. An inspection was performed on 23 March 2023 and no further evidence of the spill was present near the forebays and it was confirmed that the service line had been already repaired. A VADEQ pollution report was issued under report number 308681, which was closed out on 23 March 2023. Incident was closed on 23 March 2023.
- **23-34:** On 10 April 2023, sewer gas coming from the storm drain near building 2110, the McCree Barracks, was reported to DPW from United States Army Corps of Engineers (USACE) and was passed to AW, who performed the initial investigation of the site. AW met with Aleut and the Superintendent of Allied Construction, who were performing building renovations in the area, and identified the smell had been coming from several MS4 structures in the immediate area. AW investigated a multitude of storm drains in the vicinity and flow was evident with potential grey water near building 2102, with the flow being traced to an outfall behind the amphitheater on the corner of Gunston and Abbott Roads. Aleut investigated and tested inside building 2102 for various appliances that could possibly be the source and confirmed that the crawl spaces were dry. AW performed video monitoring of the storm drains and found the flow did appear to pick up in the storm laterals and looked to match the testing performed by Aleut. Buildings 2102, 2103, and 2109 were all tested and appeared to have some sort of illicit sewer to storm connection, but it could not be identified at that time. AW met with DPW-Environmental and reviewed which MS4 structures contained the sewage smell, the outfalls behind the amphitheater, and the potential sources of the sewage. An inspection of the barracks and surrounding area was performed alongside AW personnel which began at MS4 structure 3439 (north of the amphitheater). During the inspection of structure 3439, a strong methane smell was present (likely due to decaying organic matter), but no grey water or floatables were seen. The inspection worked backwards from the amphitheater to manhole 3441 which was opened and inspected, showing an evident flow and a grayish color to the water with no floatables or sewage smell present. The inspection moved to the McCree Barracks complex and area inlet 3462 was inspected with a noticeable flow and sewage smell present upon inspection of the structure. AW had notified DPW that they do not own the sanitary lines and are not responsible for any repairs to be made, with USACE notifying Grunley Construction, who had completed a renovation project of several

buildings within the McCree Barracks complex, that they need to investigate further to verify extent of the illicit connection and come up with a remediation plan. Fort Belvoir Housing was notified of this issue and blocked off common areas with signs to notify residents that the areas are not to be used and provided temporary facilities. On 11 April 2023, the VADEQ Pollution Report was filed through the online reporting system under report number 308904 and a request was received from VADEQ to complete a discharge letter for the incident as the five-day report. On 12 April 2023, additional communication from USACE was received stating the problem may be more than originally anticipated, as there are two (2) towers tied into the storm lines instead of just the first-floor common areas, and this was set as a high-priority issue to be resolved ASAP. FBRC sent communications summarizing the impact to Installation Operations, which was also distributed to higher ranking Garrison Personnel for situational awareness. On 13 April 2023, Grunley Construction was confirmed to be the Prime Contractor for the McCree Barracks renovation project alongside subcontractor Heritage who will perform the plumbing and mechanical work. During further investigations of the area on 14 April 2023, only one area was found to contain sludge in building 2110; however, every connection to both storm and sanitary was checked within the building, with the one cross connection repaired the same day. Sampling was coordinated by DPW for testing at the outfall for biological oxygen demand (BOD), total suspended solids (TSS), chemical oxygen demand (COD), in addition to MS4 illicit discharge sampling parameters of ammonia, chlorine, phosphate, detergents, optical brighteners, fluoride, pH, and conductivity. The five-day report was submitted to VADEQ and a request for as-builts was submitted to Grunley once they finish the repairs. On 20 April 2023, Heritage submitted an updated letter to Grunley stating building 2109 was inspected on 17 and 18 April 2023 and one cross connection was identified, with repairs completed on 23 April 2023. Additionally, building 2103 was inspected on 20 and 21 April 2023 and determined that no cross connections were found. On 25 April 2023, Heritage submitted another update letter explaining building 2109 has had multiple issues with sanitary piping under and above ground including a missing 90-degree elbow in Tower A, one cross connection identified in Tower B which was repaired, and that all connections were correct in 2103 but the sanitary line for Tower C was broken and sewer seepage was noticeable. On 26 April 2023, an email was received from DPW stating they are aware of the sewer seepage issue in building 2103 and that O&M is working with Heritage and Aleut to address the situation. On 4 May 2023, DPW-Environmental followed up with DPW Engineering and FBRC to confirm that the towers were still offline. Additionally, AW had performed additional video monitoring of the lines and confirmed there were no breaks. Updates were received on 2 June 2023 that during a Commanders Meeting, USACE stated the sanitary connections to the storm sewer had been detached and reconnected to the sanitary laterals and that testing had occurred and were waiting on results. Incident is still under investigation and is waiting on final confirmation that the repairs have been made pending an inspection and the test results yield no presence of sewage.

- **23-36:** On 21 April 2023, a notification was received from Fort Belvoir Fire Department that a motor oil release occurred while The Army Aviation Brigade (TAAB) was transporting a forklift tractor. Approximately 40 gallons of motor oil was released onto the roadway and some dirt areas, leaving a trail which was several hundred feet long; however, it did not reach the storm system. The spill response was successfully directed by the Fort Belvoir Fire Department, in coordination with the DPW Hazardous Waste Program and AECOM contractors. Aleut contractors also arrived on site to begin remediation operations by applying granular absorbents to remove free liquid from the roadway. The impacted absorbents were collected and containerized using hand tools. TAAB personnel then removed and containerized the impacted soil using hand tools. Aleut and TAAB personnel completed remediation efforts and no further actions were required. Incident was closed on 24 April 2023.
- **23-37:** On 3 May 2023, a notification was received from AW regarding a service line leak near the trailer park by building 688. Building 688 is located near Castle Park off Knight Road, at the southern tip of Fort Belvoir adjacent to Gunston Cove and near the Travel Camp. Approximately 200 gallons of water made its way from the service line break down to the gravel parking lot and into a vegetated area but did not enter the storm system. By 1352, AW had turned off the water for that building, with most of the water pooling in the gravel parking lot. AW tested the water for chlorine and results came back negative. DPW-

Environmental arrived at the spill to take notes and photos for documentation. It was determined that the remaining water should evaporate and eliminate the potential for an illicit discharge. Incident was closed on 4 May 2023.

- **23-39:** On 17 May 2023, AW reported that Water Tower 589 was found to be flowing through the overflow device in the early morning hours. An estimated 35,000 gallons of water was released, which made it to area inlet structure 1418. AW responded to the spill and immediately began draining and dechlorinating the tank to bypass the overflow at around 0030, and the tank stopped draining around 0100. AW staff performed chlorine testing, and results came back negative. As a precautionary measure, AW staff deployed dechlorinating tablets on top of area inlet 1418 and the area inlet just below the water tower overflow device. No more water was found flowing from the overflow moving into the early morning hours. No wildlife impact was reported and a DEQ pollution report was filed, report number 309307. DPW-Environmental staff performed an inspection on 17 May 2023 and confirmed the deployment of the dechlorinating tablets at area inlet 1418 and the inlet below the overflow device, with no further evidence of the water tower leak occurring. The DEQ report was closed out on 22 May 2023. Incident was closed on 5 June 2023.

Open Stormwater Complaints from 2021-2022 Reporting Period:

The following list summarizes complaints that remain open from the previous reporting period received from the public. All Stormwater complaints received from the public are managed under the IDDE program discussed under MCM #3. There are zero (0) complaints that were direct notifications made by someone outside of DPW trained staff that remain from the previous reporting period.

II. PART I.E.2.F. (2)

Provide a webpage address to the MS4 Program Plan and Stormwater Website.

Copies of the MS4 Program Plan, this annual report, and any other pertinent stormwater documents are posted on the Fort Belvoir Environmental Division Webpage under the Programs and Documents, then MS4 Stormwater. Goals within the Program Plan include making documents available to the public by posting to the website within 30 days of any updates.

The website is used to provide the public with access to all required MS4 Documents required under Part I.E.2.b of the Permit to include the Program Plan, Annual Reports, TMDL Action Plans, Technical Bulletins and Stormwater Pollution Prevention information. An online Pollution Reporting button was added to the Environmental website on 27 October 2020 to allow anyone on Fort Belvoir to report illicit discharges more easily. Contact information for the Stormwater Team is also posted on the website.

As noted in MCM1 discussions, the website has been experiencing technical issues as the Army pushes out updates throughout all standardized Department of the Army Facilities' webpages. This has led to issues such as delays in postings, losing file links, reverting to earlier site versions/information, and loss of functionality that affected access to program documents sporadically throughout the reporting period. Repairs to the website are ongoing and done outside of Fort Belvoir purview; therefore, to mitigate any future issues with accessibility, an update to the Program Plan BMP 2.1 will be made to require a minimum of quarterly checks of information and links by DPW-Environmental to ensure functionality or early identification of issues. This was recommended with the previous years' annual report but was not updated; however, tests of the button performed on 22 May 2023 and 10 July 2023 showed it was functioning as intended.

III. PART I.E.2.F. (3) AND (4)

Provide a Description of the Public Involvement Activities implemented during the reporting period. A minimum of four activities per year from two or more categories listed in Table 2 of the MS4 General Permit. Provide a report of the metrics used to define effectiveness for each activity and an evaluation as to whether the activities are beneficial to improving water quality.

Over four (4) public involvement activities were conducted during the 2022-2023 reporting cycle from the Pollution Prevention, Restoration, Educational Event, and Monitoring categories.

- Pollution prevention activities included educating the public via articles published through the various avenues and distribution of Pollution Prevention Brochures. To improve water quality, individuals must have awareness of issues (what), an understanding of how it impacts them or something they care about (why), and be empowered with the knowledge of what they can do (how) to change their behaviors. The ultimate intent of all articles and brochures is to educate, encourage, and empower the audience to implement best management practices, to be more alert to potential pollution concerns in their daily activities, and to report potential issues to DPW for investigation.

  Effectiveness of these activities is measured by the number of publications and the number of people reached through each publication as well as the number of brochures distributed. The number of reports or questions received from resident or recreational customers via contact information provided in published materials also serves as a metric.
  - Publication of numerous articles to a large distribution of people with consistent messaging continued during this reporting cycle.
  - Brochures were distributed both actively during educational events and passively as hiking kiosk postings and website links.
  - Eighteen (18) public complaints were received during this period. The substance of the public complaints received indicates that the publication of articles and distribution of brochures is beneficial to improving water quality.
- Restoration activities included one (1) clean-up event, which produced immediate results through the removal of trash already affecting water quality in streams. Effectiveness of these events is measured by the number of volunteers involved and the amount of trash collected.
  - A clean up for National Public Lands Day was completed on 24 September 2022, where the public was able to be involved in cleaning up the Tidal Basin. A total of 20 volunteers participated in the cleanup and collected a total of 30 bags of trash.
  - The Potomac Watershed Clean-up was completed on 22 April 2023, where the public was able to get involved in cleaning up the Tidal Basin. A total of 40 volunteers participated in the cleanup and collected a total of 36 bags of trash.
- Planting events (Restoration) are beneficial to improving water quality by removing or limiting potential erosion that may contribute to sediment pollution. Effectiveness of these events are measured by the number of volunteers involved and number of plantings completed
  - No planting events occurred during this reporting period.
- Educational events serve as a means of raising awareness of water quality issues and why they are important and promoting improved practices. The aim of this awareness and knowledge is to change public behaviors that impact water quality, making these events very beneficial to improving water quality. Effectiveness of these events are measured by the number of attendees and the number of brochures handed out.
  - The EQCC Meeting on Salt Management was an event where DPW-Environmental personnel presented to various tenant agencies and the Garrison Commander on proper salt management practices, techniques, and awareness. This presentation included information on the Lower

Accotink Creek Chloride TMDL and how it affects Fort Belvoir. A total of 75 participants attended this event.
    - The STEAM – Operation Oil Spill Cleanup Challenge consisted of DPW-Environmental personnel working with the Fort Belvoir MWR Library to engage with the community and educate on stormwater issues, particularly FOG. The event included an activity where participants, mostly school aged children, attempted to clean up a mock oil spill to educate the public on ecological impacts of oil spills and various sources of pollution. Two (2) different brochures were available for participants, with 12 total brochures handed out and ten (10) residents in attendance.
    - The Earth Day Celebration consisted of DPW-Environmental Personnel interacting with and educating the public via four (4) displays that: identify common stormwater pollutants, explain how litter and plastic pollution affects water quality, and displays how various pollutants end up in our waterways. Five (5) different brochures as well as children's activity pages were available for participants. Thirty-six (36) residents attended this event and six (6) of each brochure were handed out.
    - Fort Belvoir Safety and Wellness Day was attended by approximately 2,050 soldiers and civilians. Fort Belvoir Environmental personnel educated participants with brochures and a Stormwater Trivia Game. Four (4) different brochures were available for participants, and a total of 202 personnel visited the booth with 105 brochures handed out during the event.
- The online 'Pollution Reporting' button/ form (Monitoring) on the Environmental website provides an avenue for the public to anonymously report potential pollution sources and concerns directly to DPW. This strategy complements the Education and Outreach Plan by working to increase the number of people across the installation who are alert to potential pollution sources, and empowering and equipping them to report concerns. Supporting a larger group of people who are monitoring for potential pollution sources benefits water quality. Effectiveness is measured by the number of reports received via the online reporting system.
    - One report (logged as incident 23-28) was received via the button during this reporting period on 16 February 2023.
    - As noted earlier, the reporting button was not functioning properly, and repairs were completed on 10 August 2022. To prevent future issues, an update to the Program Plan BMP 3.3 needs to be made to require quarterly tests of button functionality. This was recommended with the previous reporting period annual report but was not updated; however, tests of the button performed on 22 May 2023 and 10 July 2023 showed it was functioning as intended.

Table 2 below shows the activities and metrics used in determining effectiveness for the public involvement activities that were conducted. Supporting documentation is available upon request.

Table 2: Public Involvement Activities (1 July 2022 – 30 June 2023)

Date	Name of Event/Activity	Category from Permit Table 2	Metric
Sep 22 Dec 22 Mar 23 Apr 23	Articles published in Housing Newsletter promoting Residential BMPs	Pollution Prevention	Email distribution: ~4,000
28 Jul 22	EQCC – Salt Management	Educational Event	Attendees: 75
22 Sep 22	National Public Lands Day Clean-up	Restoration	Volunteers: 20 Bags of trash collected: 30
7 Apr 23	STEAM Challenge – Operation Oil Spill Cleanup	Educational Event	Attendees: 10 residents Brochures: 12 distributed

Date	Name of Event/Activity	Category from Permit Table 2	Metric
21 Apr 23	Earth Day Celebration	Educational Event	Attendees: 36 residents Displays: Four (4) Interactive Displays Brochures: 30 distributed
22 Apr 23	Potomac Watershed Clean-up	Restoration	Volunteers: 40 Bags of trash collected: 36
18 May 23	Safety and Wellness Day	Educational Event	Attendees: 2,050 Soldiers/Civilians Displays: Three (3) Interactive Displays Brochures: 105 distributed
Ongoing	Anonymous Online Pollution Reporting Button/Form	Monitoring	One (1) Report Received

IV. PART I.E.2.F. (3) AND (4)

Provide the names of other MS4 permittees with whom collaboration with public involvement activities occurred within the reporting period.

Fort Belvoir does not currently collaborate with any other MS4 permittees for public involvement activities held.

V. REVIEW OF MCM#2 PROGRAM EFFECTIVENESS

For the reporting period, 1 July 2022 – 30 June 2023, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on 1 November 2018:

- Fort Belvoir has provided multiple methods for the public to report illicit discharges, improper disposal, spills, and other complaints as required by Part I.E.2.a.(1).
    - Potential pollution issues have always been able to be reported to DPW via a phone call or email.
    - The Pollution Reporting Button was added to the website on 27 October 2020 to provide the public with a way to directly notify the Stormwater Program of any potential issues remains in place. However, a July 2022 test of the button determined that it was not functioning properly at the time and repairs to the button was completed on 10 August 2022. To prevent future issues, an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality.
- The public can provide comments and input on the Program Plan any time via phone or email as required under Part I.E.2.a.(2).
    - The MS4 Program Plan was updated on 29 June 2023. The updated MS4 Program Plan was posted to the website and made available for public comment on 24 July 2023.
- Fort Belvoir maintains a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention, as required by Part I.E.2.b. located here: Fort Belvoir Environmental Division Webpage under 'Programs and Documents', then 'MS4 Stormwater Program'. The website is used to provide the public with access to all required MS4 Documents to include the Program Plan, Annual Reports, TMDL Action Plans, Technical Bulletins, and Stormwater Pollution Prevention information.
    - As noted previously, updates to the Army servers presented a challenge during this reporting period as some files were delayed in being posted, lost file links, or lost functionality due to an update. Fort Belvoir DPW must contact the Public Affairs Office (PAO) for PAO to upload/re-link files. Once aware of these issues, Fort Belvoir DPW responded as quickly as feasible and tracked any issues until resolution. Staffing issues also contributed to slower response times. One (1) incident believed to be related to server updates occurred during this reporting period:
        - On 10 March 2023, notification was received that multiple file links were non-functional, documents were missing, or emails and phone numbers were incorrect, as follows:

- Link to MS4 permit is broken in the narrative section – repaired 3 August 2023.
- Registration statement link instead opens the 2019-2020 Annual Report file – repaired 3 August 2023.
- Program Plan is still 9 November 2021 version and should have been updated – this is the current version; however, a more updated version has been uploaded for public comment as of 24 July 2023.
- Missing Bacteria TMDL Action Plan – re-uploaded on 3 August 2023.
- Missing Sediment TMDL Action Plan – re-uploaded on 3 August 2023.
- Date for PCB TMDL Action Plan is incorrect, should be 2021 not 2020 – revised on 3 August 2023.
- 2021-2022 Annual Report is missing – re-uploaded on 3 August 2023.
- All Technical Bulletins should be updated with new Program Manager information – all revised 26 July 2023 and uploaded 3 August 2023.
- BMP Fact Sheets should be updated with correct POCs – completed 20 June 2023.

  - The 2021-2022 Annual Report was posted on the Fort Belvoir website on 26 October 2022, as required by Part I.E.2.b.(3) of the permit. As shown above, an issue with the system had the file missing temporarily which has been fixed.
  - BMP Fact Sheets were updated in April 2023 and posted on 20 June 2023.
  - The Program Plan was updated on 29 June 2023, and it was posted on the Fort Belvoir website for public comment on 24 July 2023.

- Fort Belvoir conducted eight (8) public involvement activities as described above from four (4) different categories listed in Table 2 as required by Part I.E.2.c of the MS4 General Permit.

All BMPs (BMP 2.1 and 2.2) for the Public Involvement/Participation MCM continue to remain effective and meet permit requirements. As detailed above, Army server updates presented website challenges during this reporting period, as well as staffing issues. Updates to the MS4 Program Plan shall been made to mitigate any future issues with accessibility to files and to ensure that Belvoir continues to meet permit requirements. How Fort Belvoir achieved compliance with the measurable goals for MCM #2 is discussed below.

BMP 2.1 MAINTAIN A WEBPAGE DEDICATED TO THE MS4 PROGRAM AND STORMWATER POLLUTION PREVENTION

The current webpage provides public access to all MS4 Program Documents required under Part I.E.2.b of the Permit, including the effective MS4 Permit and coverage letter, current Program Plan, and Annual Reports for each year of the terms covered by the current permit. The webpage also provides methods for how the public can provide input on the permittee's MS4 Program Plan as well as a mechanism for the public to report potential illicit discharges, improper disposal, spills to the MS4, complaints regarding land disturbing activities, or other potential stormwater pollution concerns. The MS4 Stormwater Program Administrator is responsible for ensuring that all permit required MS4 Stormwater Program documents are posted on the Fort Belvoir Environmental Division Webpage under 'Programs and Documents' and then 'MS4 Stormwater Program'.

Additionally, all developed TMDL Action Plans, Technical Guidance Bulletins for Construction Projects, and Fact Sheets covering over 25 Operational Best Management Practices are made available on the webpage. (Fact Sheets and Master SWPPP are located under the Industrial Stormwater or ISW tab on the webpage.)

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to maintain a webpage with the effective MS4 Permit and coverage letter, Program Documents, and Annual Reports for each year of the terms covered by the current permit and to post copies of each annual report on the Fort Belvoir webpage within 30 days of submittal to the VADEQ was partially met.

- The MS4 Permit and coverage letter, the most current MS4 Program Plan, and Annual Reports are made available to meet the permit requirements specified in Part I.E.2 for public involvement and participation.
- All Annual Reports for this permit cycle are available on the webpage. The 2021-2022 Annual Report was submitted to VADEQ on 28 September 2022 and posted on 26 October 2022. This 2022-2023 Annual Report will be posted within 30 days of submittal to VADEQ.
- As noted previously, multiple updates to Army servers presented a challenge during this reporting period as it led to issues such as losing file links, reverting to earlier site versions/information, and loss of functionality that affected access to program documents sporadically throughout the reporting period. Repairs to the website are ongoing and done outside of Fort Belvoir purview; therefore, to mitigate any future issues with accessibility, an update to the Program Plan BMP 2.1 will be made to require a minimum of quarterly checks of information and links by DPW-Environmental to ensure functionality or early identification of issues.
- Additional staffing deficiencies made it difficult to ensure access was maintained to the webpage and updates were made in a timely manner. This in combination with Army server updates led to this goal being only partially met.

The measurable goal to maintain a copy of the current MS4 Program Plan on the webpage, review and update the MS4 Program Plan at a minimum of once per reporting period, and post copies within 30 days of any updates was met.

- The MS4 Program Plan underwent a review and update in June 2023 and was completed and finalized on 29 June 2023. This updated Program Plan was posted to the website and made available for public comment on 24 July 2023.

The measurable goal to provide contact information where the public can submit comments on the stormwater program documents and can report illicit discharges, improper disposal, spills to the MS4, complaints regarding land disturbing activities, and other potential stormwater concerns as well as maintain the reporting/complaint button established in 2020 was partially met.

- The website provides contact information for the MS4 Program and all DPW-Environmental contacts which helps in providing a constant open channel for contacting the DPW.
    - Although the site was set up and contact information was provided, it was noted as having incorrect numbers and emails during the reporting period due to Army pushing updates that would revert the site back to listing older information. It should be noted that although the MS4 number may have been incorrect sporadically, the posted number would still connect to the environmental office where calls could be routed to the correct person.
    - Repairs to the website have been completed and an update to the Program Plan BMP 2.1 will be made to require quarterly checks of links and information presented to the public on the website.
- The Pollution Reporting button/form that was made available online on 27 October 2020 remains in place. However, a July 2022 test of the button determined that it was not functioning properly at the time. It is unknown when functionality was interrupted. Repair to the button was completed on 10 August 2022. Further tests conducted on 22 May 2023 and 10 July 2023 showed this feature to be working, along with an incident report received on 16 February 2023. To prevent future issues, an update to the Program Plan BMP 3.3 will be made to require quarterly tests of button functionality.

- As discussed above, the MS4 Stormwater group received 18 complaints, via direct reporting avenues (phone and/or email) which is attributed to contact information being posted on the website, on Facebook posts, or other forms of print media distributed.
- An additional link for "Report a Spill" was implemented on the DPW-Environmental SharePoint on 24 May 2023. This button is intended to be an additional means for tenant agencies to be able to report an illicit discharge or spill. No reports were received via the button during this reporting period.

BMP 2.2 PUBLIC PARTICIPATION

Fort Belvoir runs a public participation program that involves a wide audience including tenant agencies, schools, community partners and other members of the public with the goal of increasing public participation to reduce stormwater pollutant loads, improve water quality and support local restoration and clean-up projects, programs, groups, meetings, or other opportunities for public involvement. During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to implement no less than four activities per year from two or more categories listed in Part I.E.2.c of the permit and to involve tenant agencies, schools, community partners, and other members of the public was met.

- This goal was exceeded during the reporting period, with Fort Belvoir providing six (6) activities where the public was able to directly participate and two (2) activities (reading articles and use of the online reporting form) that were passively available for the public to initiate involvement. The eight (8) activities in four (4) different categories are described in Table 2 above.

C. MCM#3 – Illicit Discharge Detection and Elimination

I. Part I.E.3.e. (1)

Provide a confirmation statement that the MS4 map and information table have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting cycle.

The DPW-Stormwater team has updated the MS4 Map and Information table for all new, removed, and retrofitted structures for projects completed during this reporting cycle.

AECOM Technical Services, Inc. (AECOM) was contracted to manage the database and completed updates for new projects as they were completed to include updates to the information tables as required under Part I.E.3.a of the permit. These new projects are summarized in Table 3 below. The updated information tables with data for these new structures is included in Appendix B.

Table 3: Structures Added/Removed from the MS4 Map and Information Table

Project Name	CGP Number	Stormwater Management Facilities Added	Outfalls/Outlets Added
Sailfish Site E, Pad I Whitespace Expansion	No CGP	1 x MTD Hydrodynamic Device (ID# 9030) 1 x MTD Filtering Device (ID# 9031)	1 x Stormwater Outfall Structure ID: 9069
Dogue Creek Village Renovations	VAR10N532	1 x Bioretention Level 1 (ID# 9032) 4 x MTD Filtering Devices (ID# 9033-9036)	1 x Stormwater Outfall Structure ID: 9070
Building 2297 Drainage Corrections	No CGP	1 x Bioretention Level 1 (ID# 9037)	N/A Tied into existing system
Sailfish Site E, Pad III, Phase 2 Duct Bank	No CGP	1 x Dry Swale Level 1 (ID# 9038)	1 x Stormwater Outfall Structure ID: 9071
Sailfish Site E, Pad III	VAR10O350	3 x MTD Hydrodynamic Devices (ID# 9039-9041) 2 x MTD Filtering Devices (ID# 9042 and 9043) 2 x Bioretention Level 1 (ID# 9044 and 9045)	1 x Stormwater Outfall Structure ID: 9072
American Water Aqueous Sulfide Building	No CGP	1 x Micro-Bioretention Level 2 (ID# 9046)	N/A Tied into existing system
Woodlawn Village Infill ADA Units	VAR10O153	6 x Bioretention Level 1 (ID# 9047-9052) 16 x MTD Filtering Devices (ID# 9053-9068)	N/A Tied into existing system

II. Part I.E.3.e. (2)

Provide the total number of outfalls screened during the reporting period.

AECOM was contracted to perform Outfall Reconnaissance Inventory (ORI) screening during the reporting period 1 July 2022 – 30 June 2023. A total of 52 outfalls were chosen for screening after a review and adjustment

to the permit year-5 prioritization schedule developed as required by Part I.E.3.c.(2).(a). An additional nine (9) outfalls (17%) were picked to be re-screened based on findings from the previous reporting period (2021-2022). A summary of results from the screenings are discussed below and included in Appendix D.

2022-2023 Outfall Reconnaissance Inventory (ORI) Screening

Based on the outfall screenings completed between 1 July 2022 and 30 June 2023, DPW personnel identified two (2) outfalls with an obvious illicit connection (984 and 1715), no outfalls as being suspect of an illicit discharge, and nine (9) outfalls that had potential for illicit discharges (67, 884, 2490, 2519, 5050, 6791, 6849, 6935, and 6951), and the other 39 outfalls were found to be unlikely to have an illicit discharge. Some of the outfalls (984, 1715, and 6951) noted as having an obvious, suspect, or potential for illicit discharges were previously identified and are a part of the periodic monitoring program, discussed in the next section. New outfalls (2490, 2519, and 6935) identified with potential issues are covered below:

- **2490 (ADF-E, Fort Belvoir North Post):** Outfall was screened on 7 February 2023 and was found to be flowing at the time of inspection, and a pool sample was taken. Approximately 1" of sediment was found at the outfall opening, and the structure appears to be in good condition. Hach Water testing was used to test for pH 5.60, Ammonia 0.07 mg/L, Free Chlorine 0.01 mg/L, Total Chlorine 0.03 mg/L, Nitrate 1.00 mg/L, Nitrite 0.001 mg/L, Fluoride 0.20 mg/L, and Phosphate 0.26 mg/L. The pH reading was below the permit benchmark of 6.0 to 9.0 S.U. Outfall was re-screened on 18 April 2023 to determine if the initial pH reading was due to instrument error, and another water sample collected and tested for pH. The pH was confirmed to be below the permit benchmark of 6.0 to 9.0 S.U., as follows: 5.60 S.U.

  Actions Taken/Recommended: To determine the source of the low pH, a trunk investigation will need to occur in addition to periodic screening of the outfall. It is recommended that this outfall be monitored for a minimum of six (6) months (through August 2023) to try to identify the source causing low pH. This outfall should be placed on the periodic screening list for continued monitoring.

- **2519 (ADF-E, Fort Belvoir North Post):** Outfall was screened on 7 February 2023 and was found to be flowing at the time of inspection, and a flow sample was taken. Iron flocculate was present in the pool, and outfall structure appears to be in good condition. Hach Water testing was used to test for pH 5.32, Ammonia 0.49 mg/L, Free Chlorine 0.03 mg/L, Total Chlorine 0.04 mg/L, Nitrate 0.50 mg/L, Nitrite 0.005 mg/L, Fluoride 0.20 mg/L, and Phosphate 0.18 mg/L. The pH reading was below the permit benchmark of 6.0 to 9.0 S.U. Outfall was re-screened on 18 April 2023 to determine if the initial pH reading was due to instrument error, and another water sample collected and tested for pH. The pH was confirmed to be below the permit benchmark of 6.0 to 9.0 S.U., as follows: 5.34 S.U.

  Actions Taken/Recommended: To determine the source of the low pH, a trunk investigation will need to occur in addition to periodic screening of the outfall testing for both parameters. It is recommended that this outfall be monitored for a minimum of six (6) months (through August 2023) to try to identify the source of the low pH. This outfall should be placed on the periodic screening list for continued monitoring.

- **6935 (NGA, Fort Belvoir North Area):** Outfall was screened on 7 February 2023 and was found to be flowing at the time of inspection, and a flow sample was taken. Iron flocculate was present in the pool, and outfall structure appears to be in good condition. Hach Water testing was used to test for pH 5.62, Ammonia 0.07 mg/L, Free Chlorine 0.06 mg/L, Total Chlorine 0.05 mg/L, Nitrate 0.10 mg/L, Nitrite 0.003 mg/L, Fluoride 0.10 mg/L, and Phosphate 0.06 mg/L. The pH reading was below the permit benchmark of 6.0 to 9.0 S.U. Outfall was re-screened on 18 April 2023 to determine if the initial pH reading was due to instrument error, and another water sample collected and tested for pH. The pH was confirmed to be below the permit benchmark of 6.0 to 9.0 S.U., as follows: 5.95 S.U.

Actions Taken/Recommended: To determine the source of the low pH, a trunk investigation will need to occur in addition to periodic screening of the outfall. It is recommended that this outfall be monitored for a minimum of six (6) months (through August 2023) to try to identify the source of the low pH. This outfall should be placed on the periodic screening list for continued monitoring.

Continued Outfall Monitoring for 2022-2023 Reporting Period

Nine (9) outfalls (67, 884, 896, 984, 1715, 6791, 6849, 6951, and 7274) from previous reporting periods had outstanding corrective actions that were followed up on under the periodic screening program during the 2022-2023 reporting year. The history of investigations and actions taken to close the incidents for the nine (9) outfalls with outstanding corrective actions are described below.

In general, when an outfall or any other structure is found to need repairs, work orders are submitted to the Base Operations contractor for action. The ORI screening provides the DPW-Environmental Stormwater Facility Maintenance Liaison a summary of the types of repairs needed/recommended for each structure. The Liaison then submits requests for repairs to the O&M Division and works with them on prioritization of repairs. The O&M Division sorts through work orders, assigns them to the Base Operation Contractor for a quote/estimate, and then authorizes repairs as funding becomes available. DPW-Environmental tracks all work orders, provides additional guidance as needed, and ensures that repairs completed adequately reduce erosion and provide for a functional MS4 system. A maintenance and repair tracker has been added to the Outfall Reconnaissance Inventory (ORI) Summary Table in Appendix D for tracking these actions.

MS4 Structure ID 67:
Status: Resolved; sheen was determined to be from natural decomposition.

- During the 2019-2020 reporting period, outfall 67 was found to have a heavy sheen in pool and channel. No upstream source was found for sheen.
- During the 2020-2021 reporting period, a sheen was noted in the pool in front of the outfall although no upstream sources were located. It was recommended that the outfall be revisited the next reporting period and additional sampling for hydrocarbons (requires coordination with petroleum manager as stormwater team does not have this sampling capability) be performed to eliminate or confirm the source of the sheen.
- During the 2021-2022 reporting period, the outfall was flowing. A sample was taken from the pool as flow was too low to sample, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. A sheen was noted in the pool and channel, with no upstream source found for the sheen. Additional testing and sampling for hydrocarbons was not performed during this reporting period. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, with additional sampling for hydrocarbons (requires coordination with petroleum manager as stormwater team does not have this sampling capability) to be performed to eliminate or confirm the source of the sheen.
- During the 2022-2023 reporting period, the outfall was flowing. A sample was taken from the pool as flow was too low to sample, with test results showing no elevated levels of pollutants when compared to illicit discharge thresholds. A sheen was noted in the pool and channel, with no upstream source found for the sheen. Hydrocarbons testing showed no presence of oil, grease, and total petroleum hydrocarbons (TPH), diesel range organics (DRO), or gasoline range organics (GRO). It is believed due to no presence of hydrocarbons from testing that the sheen is most likely a heavy biological sheen, as no presence of odor was detectable. No additional screening is recommended.

MS4 Structure ID 884:
Status: Resolved; source of the flow was undetermined after multiple investigations over three (3) ORI cycles and is believed to be groundwater.

- During the 2020-2021 outfall inspection, a moderate flow was noted at the time of inspection along with a pH of 6. The origin of flow is unknown and may be from groundwater seepage, no other source noted during inspection. Therefore, further monitoring was recommended to determine the source and frequency of the discharge.
- During the 2021-2022 reporting period, the outfall was found to have a trickle flow too low to measure, and a sample was taken from the pool, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. A wet weather inspection was also performed to determine the difference between a rain flow and base flow at this location. Flows were found to be about the same level, indicating that there may not be groundwater influence but instead a potential clog in the system. Per Part I.E.3.c.(4), attempts to observe the discharge flowing should be made and documented to try to identify the source of the intermittent discharge. Therefore, it is recommended that this outfall is placed on the periodic screening list for continued monitoring for a minimum of six (6) months (through December 2022).
- During the 2022-2023 reporting period, the outfall was observed to have a flow high enough to take a sample from, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds, except for pH which was found to be below the benchmark. A second pH measurement was taken and found to be within the benchmark, so this initial low pH value was attributed to human or instrument error. Multiple investigations have occurred over the course of three (3) ORI cycles, and the source of the flow is undetermined and believed to be groundwater influenced. No additional screening is recommended.

MS4 Structure ID 896:
Status: Resolved; source of the flow was undetermined after multiple investigations over three (3) ORI cycles, and believed to be intermittent flow.

- During the 2020-2021 outfall inspection, the outfall was found to have no flow at the time of inspection, but a sample was collected from the pool. Sample results detected ammonia at 3 mg/L. Therefore, further monitoring was recommended to determine the source of ammonia and if the outfall is groundwater influenced.
- During the 2021-2022 reporting period, the outfall was not flowing with no pool present, indicating that the pool present during the previous reporting period is likely from intermittent flow. Per Part I.E.3.c.(4), attempts to observe the discharge flowing should be made and documented to try to identify the source of the intermittent discharge. Therefore, it is recommended that this outfall is placed on the periodic screening list for continued monitoring for a minimum of six (6) months (through December 2022).
- During the 2022-2023 reporting period, the outfall was observed to be flowing, and a sample was taken from the pool, with test results showing no elevated levels of pollutants when compared to illicit discharge thresholds. Multiple investigations have occurred over the course of three (3) ORI cycles, and the source of the flow is undetermined and believed to be intermittent flow. No additional screening is recommended.

MS4 Structure ID 984:
Status: Unresolved; Investigate further to determine the source of the flow into inlet 993.

- During the 2020-2021 outfall inspection, the outfall was found to have moderate flow at the time of inspection. A sample was not collected as the outfall was inaccessible at the time. Source tracking showed no overland sources of flow were found during the investigation. The report noted that at inlet 988 there is

an underground pipe discharging that was not shown in the SW map. It was recommended that this outfall be rescreened to determine the source of flows into inlet 988, if they are consistent, and if an illicit connection exists.

- During the 2021-2022 reporting period, the outfall was found to be flowing, and a sample was taken from the flow, with phosphate levels of 0.46 mg/L, ammonia levels at 0.65 mg/L, and fluoride levels at 0.48 mg/L. While the phosphate and ammonia levels are not over the illicit discharge threshold, the fluoride levels are above the 0.25 mg/L threshold indicating potable water. A trunk investigation performed this reporting period confirmed an unknown pipe flowing into structure 993 (incorrectly noted on previous report as 988, no unknown pipe was seen in structure 988) coming from Building 247 which is considered either a roof drain or an illicit connection within the building. It is recommended that this outfall is placed on the periodic screening list for continued monitoring, to include plan review and/or facility investigation to determine the source of the unknown pipe.
- During the 2022-2023 reporting period, the outfall was observed to be flowing, and a sample was taken from the flow. Hach water testing was performed and showed elevated levels of Free Chlorine at 0.15 mg/L and Nitrate at 1.4 mg/L, but not above the illicit discharge thresholds of 0.2 mg/L and 2.2 mg/L, respectively. The Fluoride levels at 0.8 mg/L and Phosphate levels at 1.32 mg/L are above the illicit discharge thresholds of 0.25 mg/L and 1.0 mg/L, respectively. The high fluoride concentration is indicative of potable water discharge and the high phosphate could be attributable to bacterial decomposition of organic matter at the bottom of the pool or potentially from clogged roof drains. A trunk investigation performed this reporting period confirmed an unknown pipe flowing into structure 993 coming from Building 247, which is considered either a roof drain or an illicit connection within the building. The plans for Building 247 were reviewed in June 2023 and a roof drain that ties-in directly to area inlet 993 was seen, likely indicating an illicit connection. It is recommended that this outfall be placed on the ORI list for the 2023-2024 reporting period and monitored annually until the source of the illicit discharge is identified, corrected, and verified.

MS4 Structure ID 1715:
Status: Unresolved; investigate further to determine the source of the flow into area inlet 1759.

- During the 2015-2016 ORI initial screening on 24 November 2015, a trickle flow was present. DPW-Environmental and contractor staff conducted a follow-up source investigation on 4 April 2016. It was suspected that there was a potable water leak in the area.
- The outfall was re-screened during the 2016-2017 ORI and the flow was found to have increased. An Illicit Discharge investigation began on 14 November 2016 and resulted in a finding that there is a connection from the mechanical room in Building 357 which feeds directly into the storm sewer. Plans for Corrective Actions to be taken are currently underway. During the source tracking investigation, it was also noted that this illicit discharge originally daylights at outfall structure ID 1728 which is now covered under the new Industrial Stormwater (ISW) Major Permit under Representative Outfall 021. Future investigations and corrective actions will continue to be tracked under the ISW Permit VA0092771.
- During the 2017-2018 reporting period, under the ISW Permit, a work request was submitted, and work is scheduled to be investigated and priced by the sanitary sewer contractor during the 2018-2019 reporting period to disconnect the illicit connection from the MS4. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.
- During the 2018-2019 report period, inspections were conducted to monitor progress. Funding and plan designs were submitted by American Water (AW) during this reporting period. Currently waiting for approval of submission to disconnect the illicit connection from the MS4.
- During the 2019-2020 reporting period, AW completed field screening and design for rerouting to sanitary sewer; plans for building remodel were at 65%, and coordination for Lab Closure and Rerouting

is ongoing. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.

- During the 2020-2021 reporting period, the outfall could not be accessed as it was fully submerged. The outfall was observed from an upstream location and noted as still receiving flows. The rerouting of the mechanical room at Building 357 has not yet been completed. On 25 May 2021, AW stated that stormwater from the roof drains is not yet separated from the mechanical room floor drain piping system. This needs to occur prior to AW completing the project. AW is also still awaiting a revised contract from DLA. On 14 June 2021, a site visit determined that rerouting has not yet been completed and that Aleut rerouting of roof drains had also stagnated. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.
- During the 2021-2022 reporting period, the outfall was found to be flowing with a sample being taken from the flow showing elevated levels of Fluoride at 0.61 mg/L, above the 0.25 mg/L threshold for potable water. From previous years, there is a known illicit connection within Building 357, and a project work order (NV-22031-2J) was re-submitted to DPW on 18 April 2022 to reroute the known illicit connection boiler and cooling tower drains to a sanitary sewer. The recommended action is that this outfall is placed on the ORI list for the 2022-2023 reporting period to confirm success of this project work order. Monitoring of this outfall is planned until the rerouting is completed.
- During the 2022-2023 reporting period, the outfall was found to be flowing with a sample being taken from the flow showing elevated levels of Fluoride at 0.6 mg/L, above the 0.25 mg/L illicit discharge threshold. The reroute of the known illicit connection within Building 357 was confirmed to be completed; however, flow was still present at the outfall. A wet weather inspection was also performed to determine the difference between a rain flow and base flow at this location, and flow was found to be substantially greater during a rain event. Two (2) trunk investigations were performed to determine the source of the flow, and water was seen flowing from nearby Building 309 into area inlet 1759 moving down the trunk and eventually discharging into a small stream via internal outlet 1728, which eventually discharges to outfall 1715. The plans for Building 309 should be reviewed to determine if the source is an illicit connection or groundwater influenced. It is recommended that this outfall be placed on the ORI list for the 2023-2024 reporting period to determine the source of the flow.

MS4 Structure ID 6791:
Status: Resolved; testing showed no presence of detergents, indicating suds and sheen are from biological processes.

- During the 2021-2022 reporting period, outfall had a trickle flow present, and a sample was taken from the flow, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. Poor pool quality with dead algae as well as suds downstream were noted. Source tracking was performed and showed a dry extended detention pond (structure 6793) in poor condition with standing water and decaying plant matter upstream, likely being the source of the suds. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, to include a detergent test to confirm suds are from natural decomposition.
- During the 2022-2023 reporting period, the outfall was found to be flowing with a sample being taken from the flow, with test results showing no elevated levels of pollutants when compared to illicit discharge thresholds. The outfall was observed to contain a heavy sheen, suds, iron flocculate, and a brownish-orange color to the flow line. The sheen was thick and sheet-like, and no obvious petroleum smell was present. When disturbed, the sheen stayed dispersed in water which is a good indicator of a biological sheen. The outfall was screened for detergents using the Hach Detergents Test Kit and no presence of detergents was found, confirming that the poor condition of the dry extended detention pond (structure 6793) is the source of the suds. It is recommended that maintenance efforts are coordinated to repair the poor condition of the dry extended detention pond; no additional screening is recommended.

MS4 Structure ID 6849:
Status: Resolved; testing showed no presence of detergents, indicating suds are from natural biological processes.

- During the 2021-2022 reporting period, outfall had a moderate flow present, and a sample was taken from the flow, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. Iron floc was noted as well as suds downstream just below the outfall lip. Source tracking was performed and showed a dry extended detention pond (structure 6851) with decaying plant matter and standing water upstream, likely being the source of the suds. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, to include a detergent test to confirm suds are from natural decomposition.
- During the 2022-2023 reporting period, the outfall was found to have a moderate flow with a sample being taken from the flow, with test results showing no elevated levels of pollutants when compared to illicit discharge thresholds. A heavy iron floc buildup was present from all three pipes, as well as the presence of suds just below the outfall lip. A sheen was present that did not re-coalesce when disturbed, indicating bacterial oxidation of the iron present in the water. The outfall was screened for detergents using the Hach Detergents Test Kit and found no presence of detergents, confirming that the poor condition of the dry extended detention pond (structure 6851) is the source of the suds. It is recommended that maintenance efforts are coordinated to repair the poor condition of the dry extended detention pond; no additional screening is recommended.

MS4 Structure ID 6951:
Status: Unresolved; testing showed no presence of detergents; however, must investigate source of diesel as hydrocarbons testing showed presence of DRO.

- During the 2019-2020 reporting period, outfall 6951 contained a trickle flow and presence of suds during the time of inspection. Source tracking was performed for the drainage area, but only an upstream ponding/wetland area was found feeding into the outfall.
- This outfall was not investigated during the 2020-2021 reporting period due to access restrictions due to COVID-19, and reinvestigation was noted to be continued during the 2021-2022 reporting period.
- During the 2021-2022 reporting period, outfall was found to have a moderate flow and a sample was taken from the flow, with test results showing slightly elevated levels of Nitrate at 1.0 mg/L and Nitrite at 0.37 mg/L, but no exceedances when compared to the illicit discharge thresholds. Outfall had a sheen, suds, sulfide as well as petroleum/gas odor, and orange color present and is suspect for an illicit discharge. The sheen that was present re-coalesced when disturbed and is believed to be petroleum, oil, or lubricants. The suds that were present did carry odors of sulfide, with a petroleum/gas smell also present. The suds are thought to be associated with the natural decay of organic matter from the ponding area upstream, while the petroleum/gas odor is believed to be an illicit discharge. Source tracking did not find a point source but confirmed an upstream ponding/wetland unconverted stormwater area. During the previous reporting period, it was stated that a detergent test would be performed; this did not occur this reporting period. It is recommended that this outfall is placed on the ORI list for the 2022-2023 reporting period, to include a detergent test for the suds as well as additional sampling for hydrocarbons (to be coordinated with the Petroleum Program Manager) to eliminate or confirm sources of the sheen and petroleum/oil odors.
- During the 2022-2023 reporting period, the outfall was found to have a moderate flow with a sample taken from the flow, with test results showing no elevated levels of pollutants when compared to illicit discharge thresholds. Source tracking was performed which confirmed the upstream ponding/wetland unconverted stormwater area. Hydrocarbon sampling was performed on 16 March 2023 and a sulfur smell was present during sample collection. No hydrocarbons were detected when testing for oil, grease, and TPH and GRO. The DRO testing showed presence of diesel range organics between C10 and C28, which

indicates diesel is present in the discharge from this outfall. The outfall was screened for detergents using the Hach Detergents Test Kit and no presence of detergents was found, confirming the suds are associated with the natural decay of organic matter from the ponding area upstream. It is recommended that this outfall be placed on the ORI list for the 2023-2024 reporting period, to determine the source of the diesel.

MS4 Structure ID 7274:
Status: Resolved; flow determined to be groundwater influenced and detergents testing showed no presence of detergents.

- During the 2020-2021 outfall inspection it was found to have moderate flow at the time of inspection. Iron floc, suds, bacteria film, and downstream erosion were observed. Upstream construction site and stormwater management facilities were surveyed but no evident source of flow or suds was found during investigation. It is recommended that this outfall be screened to confirm that suds are from natural decomposition, by using a detergent test. Additionally, it should be determined if the flow observed is constant and what the source is.
- During the 2021-2022 reporting period, outfall was found to be flowing and a sample was taken from the flow, with test results showing no elevated levels of pollutants when compared to the illicit discharge thresholds. Outfall was seen to have a bacteria film present which did not re-coalesce when disturbed, indicating that it was biological, as well as iron floc with no suds present. An upstream analysis was conducted and found a stormwater pond with no standing water seen. A wet weather inspection was also conducted this reporting period and flow was slightly greater than the original dry screening, indicating the flow is likely from and consistent with groundwater. Per Part I.E.3.c.(4), monitoring of the outfall will continue for a full six (6) months (through August 2022) to confirm that flow is groundwater influenced. It is recommended that this outfall is placed on the periodic screening list for continued monitoring.
- During the 2022-2023 reporting period, the outfall was found to be flowing and a sample was taken from the flow, with test results showing no elevated levels of pollutants when compared to illicit discharge thresholds. The outfall was found to have iron flocculate and a brownish-orange color to the flow line. During the inspection, there was an obvious sign of groundwater flow coming from the pipe documented in the report. The outfall was additionally screened using the Hach Detergents Test Kit and no presence of detergents was found. No additional screening is recommended.

New Investigations for 2023 – 2024 Reporting Period

There is one (1) new outfall (5050) added to the screening list requiring further investigations for the 2023-2024 reporting period based on 2022-2023 ORI results. The history of the outfall and anticipated closure requirements are discussed below**.**

MS4 Structure ID 5050:
Status: Unresolved; further investigation necessary to determine the source of elevated free chlorine and low pH**.**

- During the 2022-2023 reporting period, outfall was found flowing and a sample taken from the flow, with the test results showing low pH level of 5.66 and elevated Free Chlorine levels of 0.29 mg/L, both of which are outside of the illicit discharge thresholds of 6.0 to 9.0 S.U. and 0.2 mg/L, respectively. The outfall was re-sampled again on 18 April 2023 to test for pH to determine if the low reading was due to instrument or human error. The pH test resulted in a value of 6.06 which is still low but is within the 6.0 to 9.0 S.U. permit benchmark. To determine the source of the elevated levels of Free Chlorine and the low pH, a trunk investigation will need to occur to try to determine a source of the low pH and high Free Chlorine levels. It is recommended that this outfall be placed on the ORI list for the 2023-2024 reporting period.

III. PART I.E.3.E.(3). (A) – (F)

Provide a list of illicit discharges to the MS4, to include spills that reached the MS4 or surface waters. A summary of each investigation conducted by the operator of any suspected illicit discharges, including: The source of the discharge, Dates the discharge was observed, the method of discovery, incident resolution, any follow-up investigations, and the date the incident was closed.

AECOM was contracted to manage and respond to illicit discharge issues across Fort Belvoir during the 2022-2023 reporting period. Illicit discharges were discovered utilizing windshield inspections, direct reporting, and DPW inspections.

A total of 55 incidents were handled during the 2022-2023 reporting period: 46 were new reports of potential illicit discharges that were investigated, and nine (9) incidents were originally reported during previous reporting periods and had follow-up actions during this reporting period. A summary of each investigation including the required details listed in Part I.E.3.e.(3).(a) - (f) is provided in Appendix E. Full incident records for illicit discharges are available upon request.

The status of the 55 found incidents is as follows:

- 37 incidents were closed
  - 31 were new incidents
  - Six (6) were incidents reported during previous reporting periods
- 18 incidents remained open at the end of the 2022-2023 reporting cycle; these will require further actions in the 2023-2024 permit year.
  - 15 were new incidents
  - Three (3) were incidents reported during previous reporting periods

30 (65%) of the new investigated discharges were found to be invalid reports (not an illicit discharge) because either the discharge is authorized as per 9VAC25-890-20 D.3 or did not enter the MS4 system. Corrective actions were still taken for 28 of these incidents in the form of spill clean-up, training, investigations, or guidance.

16 (35%) of the new investigated discharges were found to be valid reports (potential or actual illicit discharges). Corrective Actions were taken for nine (9) of these incidents and they were closed during the reporting cycle. Seven (7) of these require monitoring and/or corrective actions that are ongoing and as such remain open incidents under the IDDE Program.

IV. REVIEW OF MCM#3 PROGRAM EFFECTIVENESS

For the reporting period, 1 July 2022 – 30 June 2023, Fort Belvoir completed the following actions to maintain compliance with permit conditions of MS4 General Permit that became effective on 1 November 2018:

- The *U.S. Army, Fort Belvoir, Virginia Illicit Discharge Detection and Elimination Plan* was reviewed but did not receive any major updates, and most updates require a resolution before implementation. The plan did receive minor updates, resulting in the current plan dated 27 June 2023. During this reporting cycle:
  - Several figures were updated to match the new formatting.
  - Minor updates were made to each section to ensure information is all up to date.
  - Current outfall and SMF information were included to match the database.
- ORI was conducted on 52 outfalls prioritized for year-5 screening as required under Part I.E.3.c.(2).(c).
- 46 new suspected illicit discharges were investigated, 31 were tracked to completion as required under Part I.E.3.c.(2) – (6), and 15 remained open and are awaiting corrective actions. Additionally, nine (9)

incidents from previous reporting periods were followed-up on and six (6) were closed during the reporting period.

- Windshield inspections were conducted on all eight (8) routes quarterly, for a total of 32 total windshield inspections completed as stated in the Fort Belvoir Illicit Discharge Detection and Elimination Plan.
- A link "Report Stormwater Pollution" was added to the website (Fort Belvoir Environmental Division Webpage) on 27 October 2020 to allow the population on Fort Belvoir to report illicit discharges online anonymously.
    - One (1) report (logged as incident 23-28) was received via the button during this reporting period on 16 February 2023.
- Illicit discharge education for the public is included in the Education and Outreach Plan developed for Part I.E.1.b, and illicit discharge identification and reporting is covered in all levels of worker training and in the written operating procedures developed for Part.I.E.6.
- Ten (10) construction projects were completed during the reporting cycle, seven (7) of which resulted in changes to the stormwater system. As-builts were used to update information tables for MS4 outfalls and stormwater management facilities (SMFs) as required by Part I.E.3.a.(1) and (2). The updated information tables are presented in Appendix B.
- GIS Layers of all identified MS4 Outfalls and SMFs was submitted to VADEQ on 24 June 2019 in the format requested in a letter dated 3 June 2019 as required by Part I.E.3.a.(3). GIS layers and stormwater database were updated per Part I.E.3.a.(4), ahead of the 1 October 2023 deadline, to account for:
    - New structures and changes to the existing system within the information table and GIS system associated with the seven (7) construction projects listed in Table 3 above.

BMPs (BMP 3.1, 3.2, and 3.3) for the IDDE MCM continue to be effective ways to meet permit requirements. The BMPs in the Program Plan call for maintaining an accurate MS4 Map and Information Table, prohibiting unauthorized non-Stormwater discharges into the MS4 through issuance of a Garrison Policy Memorandum, and implementation of the 2023 IDDE Plan which documents written procedures designed to detect, identify, and address unauthorized non-stormwater discharges. How Fort Belvoir achieved compliance with the measurable goals for MCM #3 based on the Program Plan is discussed below.

BMP 3.1 MAINTAIN AN ACCURATE MS4 MAP AND INFORMATION TABLE

Fort Belvoir developed a GIS-compatible shapefile and information table to meet all requirements listed in Part I.E.3.a.(1) and (2) for all MS4 outfalls and SMFs during the 2018-2019 reporting cycle and now maintains the data, as necessary. The information was then compiled and formatted to meet requirements set forth in a VADEQ letter dated 3 June 2019 and was then submitted to VADEQ on 24 June 2019, ahead of the 1 July 2019 deadline set by Part I.E.3.a.(3).

During the reporting period from 1 July 2022 – 30 June 2023 the following goal is set forth in the Program Plan.

The measurable goal to update the storm sewer system map and outfall information table, no later than October 1 of each year, to include any new outfalls constructed, or TMDLs approved, or both during the immediate reporting period was met.

- AECOM was contracted to manage the MS4 structure database, the GIS-compatible shapefile, and information tables for MS4 Outfalls and Stormwater management facilities. Under contract, AECOM completed updates to these systems as projects were completed and within 30 days of final project closure inspection.
- The information table was updated to account for new MS4 outfalls and SMFs installed associated with seven (7) newly completed projects as shown on Table 3.

- The structure database and GIS layers were not updated to account for changes to the system including new, abandoned, and/or retrofitted structures other than outfalls and SMFs.
- The updated information tables with data for these new structures is included in Appendix B.

With IT issues encountered during the last reporting cycle (2021-2022) and the change in program personnel, Fort Belvoir recognizes that some updates may have been missed. Therefore, the system was reviewed during the 2022-2023 reporting period to identify any data gaps and capture all updates in preparation for the permit reapplication due to VADEQ in 2023.

BMP 3.2 PROHIBIT UNAUTHORIZED NON-STORMWATER DISCHARGES INTO THE MS4

Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/Unauthorized Discharges into the MS4 and waterways was an existing policy that prohibited unauthorized discharges into the MS4 as per Part I.E.3.b of the permit. A new Garrison Commander, Joshua SeGraves, took command of Fort Belvoir in August 2020. At the time, the Policy Memorandum #71 was in place and was submitted for command approval. Due to an effort by the new command to combine multiple policy goals into fewer memoranda, the policy was not put back into place. Formerly, the policy was signed and took effect on 2 August 2018. Another new Garrison Commander, Joseph Messina, took command of Fort Belvoir in August 2022. This Policy Memorandum #71 has been staffed for signature as of May 2023.

During the reporting period from 1 July 2022 – 30 June 2023, the following goal is set forth in the Program Plan.

The measurable goal to review and revise Fort Belvoir Policy Memorandum #71 (or new ID number as assigned once efforts are completed), as needed, to meet new Command goals and obtain Garrison Commander approval and signature to get the required policy in place, was not met.

- During the 2021-2022 reporting period, DPW worked to draft a new Consolidated Policy Memorandum #28: Environmental Management, to meet command goals. All previous Policy Memorandums, including #71, were converted into Fact Sheets referenced in the Consolidated Policy. The Prohibition of Illicit/Unauthorized Discharges into the MS4 and Waterways is included in the new consolidated policy as Fact Sheet 013.
- A new Garrison Commander, Joseph V. Messina, took command of Fort Belvoir on 9 August 2022. DPW-Environmental will continue to work with the current Garrison Commander on a method to get the ordinances in place. Once successful, the policy will be posted on the Fort Belvoir website.

BMP 3.3 MAINTAIN AND IMPLEMENT ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN

The 2023 IDDE Plan documents IDDE written procedures designed to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping, to the MS4 and to effectively eliminate the unauthorized discharge.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to review and revise the IDDE Plan, as needed, including adding new outfalls to the screening prioritization list was met.

- The IDDE Plan was reviewed but did not receive any major updates. The plan did receive minor updates, resulting in the current plan dated 27 June 2023. During the review, the following was noted as requiring updates but were not done as there has not been a resolution:

  - Policy Memorandum #71 is still the method for prohibiting discharges noted in the IDDE Plan. Additionally, multiple other policies used in the Legal Authority section (#28 and #73) have also gotten caught up in the goal to combine similar policies described above. Once a policy or policies are back in place, the IDDE Plan will be updated to reflect the change.
  - The IDDE Plan currently prescribes articles to be published in the *Fort Belvoir Eagle* which has stopped hard copy publication. Therefore, the Public Education and Outreach Program has been adjusting to find other avenues for publication. Once this has been developed, the IDDE Plan will be updated to reflect the changes.
- During this reporting cycle:
  - Several figures were updated to match the new formatting.
  - Minor updates were made to each section to ensure information is all up to date.
  - Current outfall and SMF information were included to match the database.

The measurable goal to implement the five-year IDDE plan is inclusive of accomplishing multiple things across the MS4 Program. These actions are broken down to match the major plan sections of Prevention, Detection, and Elimination. The goal to fully implement the plan was partially met.

- **Prevention –**
  - Promoting Good Practices Through Training – was met
    - Illicit Discharge identification and reporting is included in all levels of worker training and in the written operating procedures developed for Part.I.E.6.
    - Key topics and audiences trained included:
      - Identifying potential spills, eliminating, or reducing spill potential, and how to respond when spills occur to Spill Prevention and Response personnel training held on 22 June 2023.
      - Sediment and Erosion Prevention during Pre-construction Trainings held on 20 September 2022, 20 December 2022, and 15 March 2023.
      - Proper Material and Waste Management including storage, handling, and disposal to personnel that deal with or have the potential to deal with hazardous materials or waste held on 10 August 2022, 11 August 2022, and 9 June 2023.
      - Preventative Maintenance to all personnel responsible for maintenance of vehicles, aircraft, equipment, tanks, etc. held throughout the reporting period.
  - Publicize Educational Events, Materials, and Guides – was partially met
    - Facebook Posts were made regularly but did not meet the goal set in the IDDE plan of at least once per month covering high-priority water quality issues (the month of June 2023 was missed).
    - Articles that were published as described in Table 1 provided a method for contacting the DPW Stormwater Program and how to report illicit discharges.
  - Facilitate Reporting of Illicit Discharge – was partially met
    - The Fort Belvoir Environmental Division Webpage continued to provide the public contact information where the illicit discharges could be reported.
      - Although the site was set up and contact information was provided, it was noted as having incorrect phone numbers multiple times during the reporting period due to Army pushing updates that would revert the site back to listing older information. It should be noted that although the MS4 number may have been incorrect sporadically, the posted number would still connect to the Environmental office where calls could be routed to the correct person.
      - Unfortunately, changes in personnel led to a loss of access to the reporting email provided on the website, resulting in it not being monitored as intended in the

Program Plan. DPW-Environmental was not able to re-obtain access until 16 May 2023.

- A link "Report Stormwater Pollution" was added to the website in 2020 to allow the population on Fort Belvoir to report illicit discharges online.
  - As noted earlier, the reporting button was not functioning until repairs were completed on 10 August 2022. Tests of the button performed on 22 May 2023 and 10 July 2023 showed it was functioning as intended.
  - One (1) report (logged as incident 23-28) was received via the button during this reporting period on 16 February 2023.
- An additional link for "Report a Spill" was implemented on the DPW-Environmental SharePoint on 24 May 2023. This button is intended to be an additional means for tenant agencies to be able to report an illicit discharge or spill.
  - No reports were received via the button during this reporting period.

- **Detection –**
  - Maintain Avenues for Direct Notification – was met
    - Direct Notification is how the public and contractors can contact the DPW and report illicit discharges. Reports of this kind can be made through multiple avenues and to any of the personnel within the Environmental office. This allows DPW to appropriate the most qualified team in response to any illicit discharge.
      - As noted above, personnel changes and technical issues presented some challenges during this reporting period, but the number of reports remained at a high level based on a review of past years' reporting.
    - 15 of the 46 reported potential Illicit Discharge Incidents investigated during this reporting period were a result of direct notification from other agencies or the public, one (1) of which was a direct notification using the online stormwater pollution report form. These are discussed in detail in Section 2.b.I of this annual report.
  - Performing Windshield Inspections – was met
    - Windshield Inspections are performed quarterly along eight (8) defined routes, developed in 2019. These inspections resulted in 33 deficiencies being noted in 15 of the 32 inspections completed:
      - Three (3) erosion and sediment control (ESC) deficiencies
      - 12 good housekeeping deficiencies
      - Five (5) incidents of spills requiring investigation
      - Zero (0) structures identified for maintenance
      - Routes 3, 6, and 7 were identified as the routes with the most issues found
    - All ESC deficiencies were reported to the ESC Inspector for the construction project site and all good housekeeping deficiencies were reported to the facility manager.
  - Dry Weather Screening of 50 outfalls – was met
    - Implementation of the plan involved completion of an outfall reconnaissance inventory (ORI) of 52 identified outfalls to detect illicit discharges as discussed in Section 2.c.II of this annual report. The U.S. Army, Fort Belvoir, Virginia 2022-2023 Outfall Reconnaissance Inventory Final Report is available upon request. A summary of findings for the 52 outfalls screened for the ORI is provided in Appendix D.
      - Two (1) outfalls showed an obvious illicit connection (984 and 1715),
      - No outfalls were considered suspect of an illicit discharge, and
      - Nine (9) outfalls were considered a potential for illicit discharge (67, 884, 2490, 2519, 5050, 6791, 6849, 6935, and 6951).
- **Elimination –**
  - Illicit Discharge Tracking – was met

- Illicit discharges are tracked using the IDDE tracker contained within the MS4 Master Tracking Spreadsheet, to organize events via an assigned event number. As discussed in Section 2.c.III a total of 46 new potential Illicit Discharge Incidents were investigated and 55 total Incidents were tracked using this spreadsheet during this reporting period.
- As required by Part I.E.3.c.(6).(a)-(e), tracking of each incident includes an incident ID, the date discovered, discovery methodology, MS4 structure # affected (if applicable), a description of the event, corrective actions required and taken, validity of the report, notes, status, and date closed. A copy of the tracking spreadsheet for Illicit Discharges is included in Appendix E.

- Determine sources of Illicit discharge and/or connections – was met
  - Source tracking was completed during the ORI as discussed in Section 2.c.II of this annual report. Out of the 52 investigated outfalls for this reporting period:
    - Source tracking was done for ten (10) outfalls which found that:
      - One (1) dry weather flow was determined to be groundwater influenced.
      - Three (3) were found to have ponds/wetland areas upstream that have been confirmed to be the source of suds and biological sheens due to leaf decay. It should be noted that these outfalls were subjected to detergents testing, which resulted in no detergents detected.
      - Three (3) were found to have pH below the permit benchmark, indicating slightly acidic conditions. Investigations to determine the source of the low pH are ongoing.
      - One (1) identified presence of diesel range organics; investigation is ongoing to determine the diesel source.
      - One (1) identified an unknown connection to the MS4 system either from a roof or floor drain at a nearby building. Investigations are ongoing to rule out an illicit connection.
      - One (1) identified an illicit connection from the roof drain to the storm system. Work to fix this illicit connection is ongoing.
  - Investigations were done as discussed in Section 2.c.III on a total of 46 new potential Illicit Discharge Incidents to determine a source for each.
    - 16 of the incidents were found to be an illicit discharge.
  - In addition to efforts by DPW, Fort Belvoir's privatized wastewater/water partner, American Water (AW), also has ongoing efforts to discover any connections of the sanitary sewer to the storm sewer system.
- Investigate, Assign, and Follow-up on Corrective Actions for each incident – was met
  - Methodology for follow up investigations was completed through corrective actions issued for Illicit Discharge Investigations. Out of the 46 Illicit Discharge Investigations completed this reporting period, 30 of them required corrective actions that were issued and verified as completed prior to closeout.
  - All deficiencies noted during windshield inspections were recorded in the IDDE tracker and corrective action forms created and issued to the appropriate responsible party. These and other illicit discharge incidents were investigated throughout the reporting period; a summary of each incident investigated, results of the investigation, corrective actions taken, and incident closure date are provided in Appendix E.

D. MCM#4 – Construction Site Stormwater Runoff Control

I. Part I.E.4.a

Describe how the construction site stormwater runoff program is implemented.

Fort Belvoir is a federal entity that has not developed standards and specifications and does not act as a Virginia Erosion and Sediment Control Program (VESCP) authority. All Erosion and Sediment Control (ESC) Plans are reviewed and approved by the VADEQ, and a Construction General Permit (CGP) is required for any project over an acre. Therefore, Fort Belvoir implements a program as per Permit Part I.E.4.a.(4) and inspects all land disturbing activities of 10,000 square feet or greater.

Fort Belvoir utilizes Virginia State Certified Erosion and Sediment Control and Stormwater Management (ESC/SWM) Inspectors to complete inspections of ongoing projects greater than 10,000 sq.ft.:

- During or immediately following initial installation of erosion and sediment controls,
- At least once every two-week period,
- Within 48 hours following any runoff producing storm event, and
- At the completion of the project prior to the release of any performance bond.

As Article 2.5 of the Chesapeake Bay Preservation Act under § 62.1-44.15:68 defines who is applicable using geographical locations and does not explicitly state "federal facilities," Army Environmental Command (AEC) has interpreted this to mean that inspections of project sites greater than 2,500 sq.ft. but less than 10,000 sq.ft. is not applicable to Fort Belvoir as a federal facility and has directed Fort Belvoir to omit these sites from the typical inspection schedule. Inspections of these smaller sites are done via the windshield inspections discussed under MCM#3.

Fort Belvoir guides all designers, project proponents, contract specialists, and construction contractors during the Environmental Division project review process and provides limited plan review prior to plans being sent to VADEQ for review and approval. DPW then issues a Land Disturbance Letter (signed by the Director of Public Works) to the construction contractor to authorize start of construction upon receipt of copies of the following documents, as applicable:

- Approved ESC and SWM Plan,
- CGP and approval letters,
- Project-specific stormwater pollution prevention plan (if required),
- Responsible Land Disturber certification, and
- DPW Excavation Permit.

On 15 February 2022, VADEQ correspondence was received stating that any plan submittals from Fort Belvoir, as an MS4 Entity, would be deemed approved by VADEQ without a formal review under a new Administrative Approval process. VADEQ communicated that this new process would require that the owner/operator and the design engineer complete and sign a form certifying that the project is compliant. At this point, the plans "may be administratively approved by DEQ without formal review and approval."

Fort Belvoir requested further guidance from VADEQ and was provided some brief information, including:

"The Administrative Review is an implementation of the laws/regulations which state a plan is approved if no action is taken by DEQ and/or DEQ has not communicated approval or denial within mandated timeframes. The volume of submissions for plan review at times exceeds DEQ's resources for each plan to be reviewed within the

regulatory timeframes; DEQ uses the criteria in the abbreviated review checklist to consider the plan eligible for the administrative review. Staff will review the checklist and if it is complete, and DEQ chooses not to review the plan, it is approved by regulation 45 and/or 60 days after the date of submission."

VADEQ-NRO stated that they would not be providing stamped and approved plans with Administrative Approval, nor will they be providing the formal approval letters as they had in the past. Only an email stating the plans are approved in accordance with § 62.1-44.15:55 of the Virginia Erosion and Sediment Control Law would accompany said plans.

While Fort Belvoir is an MS4 Entity, it does not currently act as a VESCP or Virginia Stormwater Management Program (VSMP) authority and does not have the infrastructure in place (permitting, plan review, etc.) required under 9VAC25-840 to support this Administrative Approval process as described in February 2022 nor take on the liability, as owner/operator, of certifying that plans are compliant with the requirements. Fort Belvoir finds that overall, this process seemed informal and was not appropriately promulgated and therefore did not implement any major changes to the program in response to this notification. Fort Belvoir did require that the Administrative Approval email from VADEQ be included on the cover sheet of the plans that underwent this process, so it would be kept in the program records.

Fort Belvoir is awaiting the formal promulgated adoption of this Administrative Approval Process by VADEQ and will review future guidance when it comes out to determine if current processes need to be adjusted.

II. PART I.E.4.D. (1)

Confirmation Statement that all land disturbing projects were conducted in accordance with the approved standards and specifications.

As no standards and specifications are developed or approved for Fort Belvoir, annual reporting requirements under Part I.E.4.d.(1) are not applicable.

III. PART I.E.4.D. (2)

Provide the total number of inspections conducted.

A total of 332 inspections were conducted during the reporting period 1 July 2022 – 30 June 2023 for regulated land disturbing activities. 224 inspections occurred at sites disturbing one acre and over, and 108 inspections occurred at projects disturbing 10,000 square feet to less than an acre. No inspections were conducted for non-regulated linear utility projects working under independent standards and specs.

- *Total number of regulated land-disturbing activities:* There were 13 projects which involved 10,000 square feet (sf) and over of land disturbing activity that may have operated under a Construction General Permit (CGP) for the reporting period 1 July 2022 – 30 June 2023.
    - Ten (10) projects involved land disturbance of one acre and greater, nine (9) of which required VADEQ issuance of a CGP, and one (1) of which had variances approved (DEQ SWM # 2020-0292).
    - Three (3) projects involved land disturbance that was between 10,000 sf and one acre, and no CGPs were required for these projects.
- *Total number of acres disturbed:* There were 133.06 acres of total regulated (defined as 10,000 square feet and greater) land disturbance during the reporting period 1 July 2022 – 30 June 2023.

IV. PART I.E.4.D. (3)

Provide the total number and type of enforcement actions implemented.

Enforcement actions were initiated on three (3) total projects during the reporting period. As a first action, after three repeat violations, an ESC Warning Letter is issued to the Construction Manager and Contract Officer Representative (COR) for a project. A total of three (3) Warning Letters were issued during this reporting period.

If the ESC Warning Letter did not result in the issues being addressed within one (1) week of issuance, as a second action, a Notice of Non-Compliance Letter is issued to the Construction Manager and COR. No Notice of Non-Compliance Letters were issued during this reporting period.

If the Notice of Non-Compliance Letter did not result in the issues being addressed within one (1) week of issuance, as the third action, an Email Notice of VADEQ Compliance Assistance is issued to the Construction Manager and COR. No Email Notices of VADEQ Compliance Assistance were issued during this reporting period.

In addition to Fort Belvoir's enforcement protocols, VADEQ has project oversight on all construction projects within Fort Belvoir Property. During this reporting period, VADEQ performed one (1) site inspection at Fort Belvoir.

- This inspection was performed as a closeout inspection for the American Water Route 1 Watermain Replacement Project, Construction General Permit #VAR10P877, occurring on 6 June 2023, and resulting in no violations or issues seen with the site being recommended for permit termination.

V. REVIEW OF MCM#4 PROGRAM EFFECTIVENESS

For the reporting period, 1 July 2022 – 30 June 2023, Fort Belvoir completed the following actions to maintain compliance with permit conditions of MS4 General Permit that became effective on 1 November 2018:

- Erosion and sediment control inspections were conducted on construction projects (land disturbance of 10,000 square feet and greater) upon initial installation of erosion and sediment controls, at least once during every two-week period, within 48 hours of any runoff-producing storm event, and upon completion of the project.
- Construction projects disturbing 10,000 square feet or greater of land were required to obtain ESC Plan approval from VADEQ prior to construction commencement.
- Construction projects disturbing an acre or greater of land were required to obtain ESC AND SWM Plan approval from VADEQ and obtain a CGP from VADEQ prior to construction commencement.
- All Fort Belvoir Erosion and Sediment Control Inspectors maintained certificates of competence in accordance with 9VAC25-850-40.
- Fort Belvoir uses five (5) Technical Bulletins to communicate requirements of the MS4 Construction Site Stormwater Runoff Control Program. The Bulletins are reviewed and revised as needed to account for changes in the program.
- A Pre-Construction Erosion and Sediment Control/Stormwater Management training was provided to all construction contractors working under a CGP and smaller projects that require approval of an ESC plan, prior to commencement of construction either in-person or using virtual training.

All BMPs (BMP 4.1, 4.2, and 4.3) for the construction site stormwater control MCM continue to be effective ways to meet permit requirements. The Program Plan called for publishing of MCM#4 Requirements, Preconstruction Training, Inspections of all land disturbing activities over 10,000 square feet, and the

implementation of a progressive compliance and enforcement strategy. How Fort Belvoir achieved compliance with these goals is discussed below.

BMP 4.1 COMMUNICATE THE REQUIREMENTS OF THE STORMWATER PROGRAM

DPW-Environmental uses several Bulletins to communicate requirements of the MS4 Construction Site Stormwater Runoff Control Program to government staff, project proponents, designers, and construction contractors. Currently Fort Belvoir utilizes the following Bulletins:

- ***MS4 Technical Bulletin #1:*** *Stormwater Management & (ESC) Design, Review, and Plan Approval Procedures for Land Disturbance (last revised 10 March 2022)*
- ***ESC Technical Bulletin #1:*** *Dewatering Operations (last revised 30 January 2022)*
- ***ESC Technical Bulletin #2:*** *Construction Site Stormwater Pollution Prevention Plan Requirements (last revised 31 January 2022)*
- ***ESC Technical Bulletin #3:*** *ESC Requirements for Utility Installation (last revised 31 January 2022)*
- ***ESC Technical Bulletin #4:*** *Stormwater Pollution Prevention Requirements for Small Projects & Renovation Projects (last revised 31 January 2022)*

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan,

The measurable goal: Distribute MS4 permit requirements to designers during initial planning phases of construction projects and/or as needed was met.

- DPW-Environmental distributed MS4 Bulletin #1 to designers for all projects with greater than 2,500 square feet of land disturbance during the project design phase and dig permit reviews. Bulletin #1 references the Fort Belvoir Home Page website address, for copies of the MS4 General Permit and Fort Belvoir's Registration Statement, as well as the URL address for Virginia Code for direct access to the MS4 General Permit, the Virginia Stormwater and Erosion & Sediment Control Regulations and other documents that are frequently requested. This bulletin is used to communicate the requirements and process for project approval.
- ESC Bulletins #1-4 cover topics such as: Dewatering Operations, SWPPP Requirements, ESC for Utility installation, and P2 for small projects or renovations. These are distributed, as needed and applicable, based on the type or size of a project and what operations are involved.
- MS4 Program staff, track projects greater than 2,500 square feet during the internal project and dig permit reviews to ensure that they obtain the proper level of permitting from VADEQ prior to construction commencement.

The measurable goal: Review, revise, and post any revised program bulletins on the website within 30 days of updates was not met.

- Bulletins were reviewed and revised, as needed, to account for any changes affecting the construction site runoff control program, no changes were made this reporting period.
- Fort Belvoir maintains each bulletin online on the MS4 Program Webpage under 'Technical Bulletins' on the Fort Belvoir Environmental Division Webpage.
    - Revisions to the Bulletins were last completed on 31 January 2022, and 10 March 2022 to reflect changes in program personnel, and are the current versions posted on the website.
    - Updates need to occur to all bulletins to reflect current personnel.

The measurable goal of conducting pre-construction meetings for projects over 10,000 square feet was met.

- Pre-construction Training was provided to three (3) project proponents and trained 30 individuals who initiated construction under a CGP during the reporting cycle from 1 July 2022 – 30 June 2023. All other projects were ongoing from the previous cycle and therefore key site personnel had already received training.
- Smaller projects are instead given copies of ESC Technical Bulletins #1-#4 as applicable.

BMP 4.2 EROSION AND SEDIMENT CONTROL (ESC) SITE INSPECTIONS

Fort Belvoir implements a program as per Permit Part I.E.4.a.(4) and inspects all land disturbing activities of 10,000 square feet or greater. Fort Belvoir utilizes Virginia State Certified ESC/SWM Inspectors to complete inspections of ongoing projects greater than 10,000 sq.ft.

During the reporting period from 1 July 2022 – 30 June 2023 the following goal is set forth in the Program Plan,

The measurable goal of conducting site inspections for 100% of active construction sites that involve land disturbance of 10,000 square feet or greater using certified inspectors was met.

- Two (2) Contracted inspectors, certification #DIN0991 and ESIN2517/SWIN2425, from AECOM Technical Services, Inc. (AECOM) were used to perform all construction site inspections.
- Erosion and Sediment Control inspections were conducted once every two weeks and within 48 hours of a storm event that produced greater than 0.50” of precipitation on all construction projects involving land disturbance of 10,000 square feet and greater.
- A total of 332 Erosion and Sediment Control inspections were conducted on Fort Belvoir.
- Nine (9) construction projects with stormwater management facilities were inspected periodically during construction to ensure that the new facilities are being constructed in accordance with the approved design plans. Six (6) projects with stormwater management facilities were completed during the reporting year as shown on Table 3.

BMP 4.3 PROGRESSIVE COMPLIANCE ENFORCEMENT STRATEGY

Fort Belvoir has a written compliance and enforcement strategy to ensure that contractors are conducting land disturbance responsibly and in accordance with VADEQ ESC/SWM regulations. This strategy is published in the MS4 Bulletin #1 and covered in pre-construction trainings. Failure to obtain proper permitting and/or non-compliance with ESC minimum standards (9VAC25-840-40) may result in differing levels of enforcement based on the issues noted.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan,

The measurable goal of implementing the compliance and enforcement strategy when construction contractors fail to obtain proper permitting or have repeat non-compliance findings on bi-weekly ESC inspections on an active construction site was met.

- Enforcement actions were initiated on three (3) projects during the reporting period. A total of three (3) warning letters were issued to sites after third repeat violations occurred. After Warning Letters were issued, corrective actions were taken and none of the sites incurred a fourth repeat violation. Therefore, no Notices of Non-Compliance were issued. Warning letters and inspection violations are available upon request.

E. MCM#5 – Post Construction Stormwater Management

I. Part I.E.5.i.(1). (a) and (b)

Provide the number of privately-owned Stormwater Management Facility (SMF) inspections conducted and the number and type of enforcement actions initiated to ensure long-term maintenance of privately-owned SMFs.

Fort Belvoir has a total of 108 SMFs on record that are privately-owned and operated by Fort Belvoir Residential Communities LLC (FBRC), under a public-private partnership. This includes 27 new SMFs installed during the Dogue Creek Village Renovations and Woodlawn Village Infill ADA Units projects as summarized in Table 3 that were completed this reporting period 2022-2023. The FBRC group is responsible for the operations and maintenance at 15 housing areas, or Villages, across Fort Belvoir. FBRC performs their own inspections and maintenance on SMFs and submits summaries to DPW-Environmental. During the 2022-2023 reporting period, FBRC reported:

- Completed inspections of 30 SMFs.
- Performed maintenance on 35 SMFs.
    - Ten (10) bioretention units:
        - Maintenance included mowing, vegetation removal, debris/sediment removal, minor erosion repair and stabilization, seeding and mulching of bare areas.
        - One (1) unit included a supplemental pole camera inspection at the outfall.
    - Seven (7) manufactured treatment devices:
        - Repaired two (2) cave ins around one structure.
        - Removed trash/litter/debris and re-mulched or added stone.
        - Two (2) trees replaced in tree box units.
    - Three (3) underground detention systems:
        - Maintenance included repairing cave ins, removing trash/litter/debris, and re-mulching activities.
        - One (1) unit included a supplemental pole camera inspection at the outfall.
    - One (1) wet pond:
        - Maintenance included downed tree removal with additional clearing over principal spillway pipe, blockage removal, removal of trash and debris, and mowing.
    - 14 extended detention ponds:
        - Maintenance included mowing, vegetation removal, debris/sediment removal, minor erosion repair and stabilization, seeding and mulching of bare areas, and replacement of locks and chains on access gates.
        - One repair included installation of a landscape wall to repair a collapsed slope.
        - One structure included monitoring to determine need for secondary principal spillway pipe in relation to IDDE Incident 23-11 in Part I.E.2.f. (1).
- FBRC identified four (4) additional SMFs during review of the construction plans and field reconnaissance, that were not previously captured in the MS4 database. DPW-Environmental will coordinate with FBRC to assign a permanent SMF ID#, if appropriate, to ensure the newly discovered facilities are entered into the database.
    - ***BMP 14***, discovered 2021-2022, a Contech 360 StormFilter used as pre-treatment for underground detention system at George Washington Village, determined to be MS4 Structure 139.
    - ***BMP 18***, discovered 2021-2022, a Contech 360 StormFilter used as pre-treatment for underground detention system at George Washington Village, determined to be MS4 Structure 5553.

  - ***BMP 233B***, discovered 2021-2022, a Hydrodynamic Downstream Defender at Cedar Grove Village, with an undetermined MS4 Structure ID.
  - ***SWM 11,*** discovered 2022-2023, an underground ADS StormTech Chamber at Lewis Village, with an undetermined MS4 Structure ID.
- No enforcement actions were needed or taken to ensure maintenance of FRBC SMFs.

During the 2020-2021 reporting period, an additional 11 privately owned SMFs were installed as a part of the National Museum of the United States Army (NMUSA) project. In the previous annual report for 2021-2022, this section stated that NMUSA was responsible for their own inspections and maintenance of these facilities. This was inaccurate, and it should be noted that DPW-Environmental is responsible for inspections, while NMUSA is responsible for maintenance of these SMFs as part of their Installation Agreement (IA). As such, these 11 SMFs are being redefined as publicly owned, and included in the following section for Part I.E.5.i.(2).

DPW-Environmental ensures these privately-owned SMFs are inspected at least once every five (5) years to confirm that proper maintenance is being conducted. A total of 42 inspections were conducted by DPW at the FBRC Villages this reporting period. An additional 27 inspections were conducted by DPW on new private facilities constructed during the permit year 2022-2023. Of the 69 inspections:

- Fifteen (15) of the SMFs were noted as needed minor maintenance; none of them were noted as needing major maintenance.

II. PART I.E.5.I. (2)

Provide the total number of inspections conducted on stormwater management facilities owned or operated by the permittee (i.e., publicly-owned facilities).

Fort Belvoir has 265 publicly owned and operated SMFs, including 12 new public SMFs installed or identified during this reporting period 1 July 2022 – 30 June 2023, and including the 11 SMFs for NMUSA summarized in the above section. These SMFs are within the borders of the Garrison, but 43 of them are outside the MS4 regulated area. Under the Base Operations contract, the contractor, Aleut, is responsible for inspections of all 265 SMFs, and maintenance of 192 SMFs. For the remaining 73 SMFs, maintenance is the responsibility of either Aerospace Data Facility East (ADFE) (seven SMFs), Fort Belvoir Community Hospital (FBCH) (33 SMFs), National Geospatial Agency (NGA) (22 SMFs), or NMUSA (11 SMFs).

When performing inspections Fort Belvoir currently uses a grading system to rate the functionality of each SMF with a ‘1’ rating meaning it is fully functional and an ‘5’ rating meaning it is structurally and/or functionally deficient or inaccessible. Facilities earning a ‘1’, ‘2’, or ‘3’ are considered to have passed the inspection for the year. Facilities found to be rated at a ‘4’ or ‘5’ require significant maintenance or repairs outside of routine activities (mowing, litter, etc.) and will receive a fail until the discrepancies are fixed. A summary of the ratings is provided in Table 4 below.

Table 4: SMF Inspection Rating System

Rating	Status	Description
1	Fully Functional	Structure/facility is not in need of non-routine maintenance and is operating as designed/intended. Continue routine maintenance.
2	Minor Defects	Minor structural or functional defects. Operates to design specifications. Preventative or non-routine maintenance is required. This includes needing mowing or removal of trash and debris.
3	Acceptable	Acceptable/Anticipated Structural and Functional Deterioration. Operating effectively. Preventative or non-routine maintenance is required. This includes needing tree or

Rating	Status	Description
		woody growth removal, sediment removal, replanting, mild erosion stabilization, rip rap replacement and minor unclogging.
4	Major Defects	Major structural or functional defects. Preventative or non-routine maintenance is required. This includes needing major erosion repair, complete replanting (including tree boxes with dead trees), severe unclogging, replacement of inappropriate plantings, or replacement of non-functional piping.
5	Deficient	Structurally/Functionally Deficient. In need of immediate replacement or rehabilitation. This rating was given if SMF was completely inaccessible due to vegetation or security and therefore could not be evaluated and if the SMF has completely failed.

During the 1 July 2022 – 30 June 2023 reporting cycle, the Base Operations contractor performed inspections of 240 publicly owned and operated SMFs. Inspections for the 12 new public SMFs that were added during the current reporting period and 11 SMFs for NMUSA were completed by DPW-Environmental and will ultimately be added to the Base Operations contract. This brings the total number of publicly owned and operated SMFs inspected during the reporting cycle to 263 out of the 265 total.

These new SMFs will be added to the contract via a modification and the Base Operations contractor will be provided an updated list of SMFs for inspection and maintenance for the 2023-2024 reporting period.

The inspection results from 2022-2023 found:

- One (1) facility rated at a '4'
  - This facility was able to be partially accessed but portions were inaccessible due to overgrowth, evidence of nuisance animals, and excess debris and sediment buildup.
- Fourteen (14) facilities rated at a '5'
  - Thirteen (13) of these facilities were not able to be accessed and assessed due to either construction activities in the area (two facilities) or because they were heavily overgrown (11 facilities).
  - One (1) facility was heavily deteriorated with major structural damage and was not functioning properly.
- In the previous reporting period, there were four (4) facilities rated at a '4' and none rated at a '5'. Any significant maintenance done is discussed below.

III. PART I.E.5.I. (3)

Provide a description of the significant maintenance, repair, or retrofit activities performed on publicly owned SMFs.

Currently, all routine and non-routine maintenance for public SMFs on Fort Belvoir are the responsibility of the Base Operations contractor under an overarching contract which includes the inspection of SMFs as well as regular/significant maintenance as required to maintain functioning SMFs per the General Plan for Stormwater Management Facility Inspection and Maintenance.

Aleut reported maintenance and repairs of varying complexity on 51 public SMFs during the 2022-2023 reporting period. This included:

- Repairs to side slopes due to animal burrows at two (2) SMFs
- Backfill and stabilization of eroded slopes or other areas at five (5) SMFs
- Removal of accumulated sediment/debris to restore capacity at 23 SMFs

- Removal of large trees, overgrowth, woody vegetation at 25 SMFs
- Tree replacement at a tree box filter at one (1) SMF

Per discussion with VADEQ on 20 January 2022, Fort Belvoir understands that VADEQ would like an indication of any enforcement taken regarding maintenance of SMFs during the reporting period.

During this reporting cycle, there were no enforcement actions taken regarding maintenance of SMFs.

IV. PART I.E.5.I. (4)

Provide a confirmation statement the SMF information was submitted through the Virginia Construction General Permit (CGP) database for land disturbing activities for which a VPDES permit for Stormwater Discharges was obtained.

All construction work on Fort Belvoir is completed by outside contractors and it is Fort Belvoir's policy that the contractor performing the work acquire their own VPDES CGP for their construction projects. Therefore, Fort Belvoir does not hold any CGPs. All CGP holders are required to submit as-built plans when submitting their Notice of Termination Form to VADEQ. As part of those as-builts, a certification statement as follows is required and is signed and sealed by a Professional Engineer (PE) or licensed surveyor:

"I hereby certify that the stormwater management facilities have been constructed in accordance with the approved plan."

Fort Belvoir hereby certifies that to the best of our knowledge, all SMFs have been entered into the CGP database by the contractors holding CGPs under our established Standard Operating Procedures. Fort Belvoir requires that all projects greater than one acre submit for and obtain a Construction General Permit with VADEQ and assumes that a CGP cannot be closed until all requirements are met. Please see the Fort Belvoir MS4 Program Bulletin #1, available online at the Fort Belvoir Environmental Division Webpage.

V. PART I.E.5.I. (5)

Provide a confirmation statement that best management practices (BMPs) were reported into the VADEQ BMP Warehouse per Part I.E.5.g of the MS4 General Permit.

Fort Belvoir confirms that as of 1 October 2023 all 39 BMPs that were added during the 2022-2023 reporting period have been entered into the BMP Warehouse.

- Seven (7) projects, resulting in a total of five (39) structural BMPs were completed during the 2022-2023 reporting period.
- Additionally, what should have been reported and corrected prior to 1 October 2022 did not occur, and thus Fort Belvoir retroactively:
    - Made corrections were made to the location coordinates of one (1) structural BMP previously reported 8009 (FTBEL-2021-00406850).
    - Entered three (3) projects, resulting in a total of five (5) structural BMPs (7871, 7872, 7884, 7900, and 7901) which were completed during the 2021-2022 reporting period.
    - Entered one (1) project, resulting in a total of five (5) structural BMPs (7891, 7893, 7894, 7895, and 7896) which was completed in 2013, where SMFs were not captured in the database but were identified during a field investigation on 26 March 2022. A document search in Fort Belvoir's project library identified as-built record drawings from 2013 which were then used to complete reporting.

Fort Belvoir has also uploaded annual Street Sweeping BMPs information into the BMP Warehouse and has updated reporting for Stream Restorations to account for the protocol and reductions as specified in the latest guidance for reporting BMPs with multiple measurements. This should capture the full scope of BMPs used by Fort Belvoir in the management of Stormwater quality and to meet TMDL requirements.

VI. REVIEW OF MCM#5 PROGRAM EFFECTIVENESS

For the reporting period, 1 July 2022 – 30 June 2023, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on 1 November 2018:

- Required new construction projects to comply with Virginia Stormwater Management Program quantity and quality regulations.
- Required new construction projects resulting in land disturbance equal to or greater than one (1) acre to obtain VADEQ stormwater management plan approval.
- Used a Virginia Certified SWM Inspector to conduct periodic stormwater management facility inspections during construction to ensure that a facility was constructed in accordance with the approved plan.
- Field verification and updates to the Stormwater Structure database and associated information tables for MS4 outfalls and SMFs were completed throughout the permit cycle, with the last update occurring on 29 June 2023. The updates included all Outfalls and SMFs brought online and/or identified on 9 September 2022, 17 October 2022, 2 May 2023, 16 May 2023, 30 May 2023, and 13 June 2023 as required by Part I.E.3.a.(1), (2) and Part I.E.5.d.(1) – (9).
- Fort Belvoir conducted inspections on 263 publicly owned and 69 privately owned stormwater management facilities to determine maintenance requirements and ensure efficacy.
- Conducted routine maintenance on publicly owned SMFs located throughout Fort Belvoir.
- Conducted maintenance and repairs of varying complexity on 35 publicly owned SMFs and 35 privately owned SMFs.
- Reported new structural BMPs added during the reporting period, reported annual street sweeping information, corrected information reported for one (1) structural BMP, reported structural BMPs which should have been reported during the previous reporting period, and updated stream restorations entries to match current reporting guidelines.

All BMPs (BMP 5.1 and 5.2) for the Post-Construction Runoff Control MCM continue to remain effective and meet permit requirements. Implementation of each BMP needs to be evaluated since they are reliant on other entities, such as the Base Operations Contractor, performing their duties. The Program Plan called for conducting inspections and maintenance of SMFs in accordance with the *General Plan for Stormwater Management Facility Inspection and Maintenance*, dated September 2019; reporting new and annual SMFs, inspections, and maintenance to the BMP Warehouse; and coordinating with tenant commands/FBRC to ensure maintenance is completed for privately owned SMFs noted as deficient. How Fort Belvoir achieved compliance with these goals is discussed below.

BMP 5.1 CONDUCT ANNUAL INSPECTIONS AND MAINTENANCE OF SMFS

For post-construction management of SMFs, Fort Belvoir implements an inspection and maintenance program as per Part I.E.5.b. All procedures developed to ensure adequate long-term operation and maintenance of SMFs are documented in *General Plan for Stormwater Management Facility Inspection and Maintenance*, dated September 2019.

In general, all Fort Belvoir SMFs owned or operated by DPW are considered “publicly owned” and are covered under the DPW O&M contract that is valid for five years (2018-2023). Per the contract, these public SMFs should

be inspected annually as per Part.I.E.5.b.(2) and are maintained by the O&M contractor. Some Fort Belvoir tenant commands and the privatized housing partner, FBRC, have SMFs that are not owned or operated by DPW. These SMFs are considered "privately owned" and are not fully covered under the DPW O&M contract. These private facilities are inspected by DPW under the O&M contract at least once every 5-years per Part.I.E.5.c.(1).(a). These separate entities are required to perform their own maintenance of SMFs within their secure facilities/ground lease areas.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to conduct inspections and maintenance in accordance with the General Plan for SMF inspection and maintenance was partially met.

- Within Fort Belvoir's MS4, there are 108 privately owned and operated SMFs and 265 publicly owned and operated SMFs for a total of 373 SMFs. During the reporting period 337 SMFs were inspected by either the Base Ops contractor, FBRC, or DPW-Environmental.
- The Base Ops Contractor was responsible for implementation of annual SMF inspections at all publicly owned facilities and a quarter of the privately owned facilities as called for in the plan.
    - Operational inspections required by the plan were completed by the Base Ops Contractor using certified personnel for 240 publicly owned SMFs during the reporting cycle.
    - Additionally, the Base Ops Contractor inspected 42—more than a quarter—of the privately owned facilities.
- FBRC was responsible for completing periodic inspections for the privately owned SMFs within their jurisdiction.
    - Operational inspections required by the plan were completed by the FBRC Contractor using certified personnel for 30 SMFs during the reporting cycle.
- All inspections completed by the Base-ops contractor and FBRC during the 2022-2023 reporting period were completed following protocols in the *Fort Belvoir's General Plan for Stormwater Facility Inspection and Maintenance* dated September 2019.
    - Inspections were documented using the forms developed for each type of SMFs and contained in the plan.
    - The inspection results for all 337 inspections were then reviewed, and an overall condition rating, as shown in Table 4, was generated for each SMF to assist in prioritizing maintenance. Maintenance for SMFs that received condition ratings of 4 or 5 were prioritized.
        - 25 inspections were completed on the same SMF by both the Base Ops Contractor and FBRC.
- The majority, 321 (or 95.3%), of the 337 facilities inspected received a rating of Conditions 1, 2, or 3 where at most they were due for preventative maintenance. Under the Fort Belvoir Base Operations Contract, Aleut must perform routine preventative maintenance on all public facilities that receive a rating of 1, 2, or 3.
- Sixteen (16) (or 4.7%) of the 337 facilities inspected received a 4 or 5 rating and were recommended for non-routine maintenance.
    - One (1) of these facilities are privately owned, and FBRC has plans to conduct maintenance activities during the next reporting period.
    - Fifteen (15) of these facilities are publicly owned, and based on the Plan and Contract requirements, once an inspection was completed the Base-Ops contractor was responsible for submitting work orders, or DMOs, immediately if non-routine maintenance was required.
- The sequence of inspection to maintenance was not performed as described in the plan due to changes in personnel and misunderstanding of the process. While some maintenance requests were submitted by the Base-Ops contractor, this did not occur for all facilities.

  - One (1) of these facilities had maintenance performed shortly after the inspection to remove vegetative growth and restore access.
  - Fifteen (15) of the facilities need to have work orders entered for maintenance to occur during the 2023-2024 reporting period. Identified maintenance needs included work such as:
    - Removal of sediment/debris,
    - Removal of woody vegetation,
    - Re-establishment of access,
    - Cleaning of inlet/outlet structures or riprap, and
    - Repair of erosion and stabilization.
- The Inspection and Maintenance plan, inspection and maintenance logs, and BMP location maps are available upon request.
- Fort Belvoir also continuously monitors work requests submitted during previous reporting periods to ensure SMF maintenance is occurring as soon as possible.
  - A total of eight (8) historical work requests were open at the beginning of the 2022-2023 reporting period.
  - All eight (8) of these work requests were completed during the 2022-2023 reporting period.
  - No historical work requests remain open for completion during the 2023-2024 reporting period; however, there are work requests that need to be submitted for maintenance work.

The measurable goal to electronically report, by 1 October of each year, all SMF inspection and maintenance completed during the reporting period using the DEQ BMP Warehouse was met.

- Reporting of completed inspections and maintenance for the 2021-2022 reporting period to the BMP Warehouse was completed by 30 September 2022.
- Reporting for the 2022-2023 reporting period is scheduled to be completed by 30 September 2023.

The measurable goal to coordinate with tenant commands and FBRC to ensure maintenance is completed for privately owned SMFs noted as deficient was met.

- Fort Belvoir inspects a quarter of the privately owned SMFs during each reporting period and inspects each privately owned SMF at least once every five (5) years to ensure that proper maintenance is being conducted by FBRC.
  - A total of 42 inspections were conducted by DPW at the FBRC Villages during this reporting period. Of the 42 inspections, 15 SMFs were noted as requiring minor maintenance.
- In addition to the SMF inspections conducted by DPW, FBRC contracted Blue Heron Leadership Group, LLC to inspect and maintain SMFs to include detention and/or bio-retention ponds and underground detention and filtration systems located within housing areas operated by FBRC.
  - The FBRC conducted inspections of 30 facilities and performed maintenance and repairs on 35 of the facilities.
  - An additional one (1) SMF was identified as requiring maintenance scheduled to be completed in during the 2023-2024 reporting period.
  - FBRC supplies DPW-Environmental an after-action report detailing all inspections completed and maintenance conducted as well as a schedule for implementation the following year.

BMP 5.2 MAINTAIN AN ELECTRONIC DATABASE OF SMFS THAT DISCHARGE INTO THE MS4

Part I.E.5.d requires Fort Belvoir to maintain an electronic database or spreadsheet of all known SMFs (both public and private) that discharge into the MS4. The database shall also include all BMPs implemented to meet the Chesapeake Bay TMDL load reductions. Fort Belvoir led a large effort during the 2018-2019 reporting cycle

to evaluate available GIS data, review project site plans to incorporate into the database, and field verify structure locations. A GIS compatible shapefile and information table was developed to meet all requirements of Part I.E.5.d.(1)-(9).

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to update the database of SMFs within 30 days of a new SMF being brought online, a new BMP being implemented to meet a TMDL load reduction, or an existing SMF being discovered per Part I.E.5.e was met.

- The databases, GIS, and information tables were updated within 30 days for all new facilities brought online during the reporting cycle, with the last update completed on 29 June 2023.
    - Updates were completed to capture all 39 SMFs brought online on 9 September 2022, 17 October 2022, 2 May 2023, 16 May 2023, 30 May 2023, 13 June 2023, and 26 June 2023.
    - A total of 39 facilities, as shown in Table 3 and Appendix B, were added to the system and assigned new facility numbers during the reporting period.

The measurable goal to electronically report, by October 1 of each year, any SMFs and/or BMPs implemented during the reporting period using the DEQ BMP Warehouse, per Part I.E.5.g was not met.

- Updates to the BMP Warehouse were completed on 30 September 2022 and included:
    - Reporting completed inspections and maintenance for the 2021-2022 reporting period.
    - Reporting annual street sweeping completed throughout the installation.
    - Updating stream restorations entries to match current reporting guidelines.
- Updates to the BMP Warehouse to capture changes from the 2022-2023 reporting period are scheduled to be completed by 30 September 2023 and will include:
    - Reporting 39 new SMFs installed during the 2022-2023 cycle.
    - Reporting annual street sweeping completed throughout the installation.
    - Reporting ten (10) SMFs installed and/or discovered during the 2021-2022 cycle (7871, 7872, 7884, 7891, 7893, 7894, 7895, 7896, 7900, and 7901)
    - Correcting information for one (1) SMF previously reported to the BMP Warehouse (8009)

F. MCM#6 – Pollution Prevention/Good Housekeeping for Municipal Operators

I. Part I.E.6.q. (1)

Provide a summary of operational procedures developed or modified per Part I.E.6.a during the fiscal year.

Written procedures for facilities with the potential to impact stormwater have been incorporated into the Fort Belvoir Master Combined ISW and MS4 SWPPP which became effective on 31 March 2017, in the form of BMP Fact Sheets. The Fact Sheets received major updates in 2019 and are reviewed annually to identify any required updates. The Master SWPPP identifies 12 MS4 High Priority Facilities found to have the potential to impact stormwater quality. BMP Factsheets were developed and distributed as a part of the site-specific SWPPPs developed for these facilities.

The BMP Fact Sheets are also distributed on an as needed basis to other individuals and/or tenant commands when issues are noted during inspections or additional guidance is requested. The BMP Fact Sheets make it easy to distribute to various O&M contractors, tenant commands, privatized housing and others performing operations and maintenance functions on Fort Belvoir. Each fact sheet contains a description of the activity, guidelines that identify best management practices for stormwater pollution prevention, any maintenance, if required, and spill response procedures.

When O&M activities not covered under an existing BMP fact sheet are discovered to be contributing to stormwater pollution, fact sheets are developed for a particular activity. During the 2022-2023 reporting cycle these BMP factsheets were reviewed, and updates to POCs and contact information were made in April 2023. No new BMP Fact Sheets were developed. All current Fact Sheets are available on the Fort Belvoir Environmental Division Webpage under the Programs and Documents. To date, fact sheets have been developed that address the following activities:

- Good Housekeeping
- Spill Preparedness & Response
- Secondary Containment
- Above Ground Storage Tanks
- Outdoor Storage and Handling of Materials and Waste
- Outdoor Storage and Handling of Raw Materials and Waste
- Salt Storage and Loading
- Salt Application
- Aircraft, Vehicle, and Equipment Washing and Degreasing Activities
- Wash Rack Usage Guide (Wall Poster)
- Aircraft, Vehicle and Equipment Fueling
- Aircraft, Vehicle and Equipment Maintenance and Repair Activities
- Waste Handling and Disposal
- Marina Activities
- Fats, Oils and Grease (FOG) Handling
- FOG Management Guide (Wall Poster)
- Firefighting Activities
- Brine Mixing
- Aircraft Deicing Operations
- HVAC Coil Cleaning & Maintenance
- Dewatering Activities
- PCB Awareness
- Outdoor Pressure Washing
- Blasting & Painting Activities
- Landscaping/Ground Maintenance
- Portable Toilets
- Dumpster Management
- Animal Waste

Written procedures for the application, storage, transport, and disposal of pesticides, herbicides and fertilizers are incorporated in the Integrated Pest Management Plan that is reviewed annually.

II. PART I.E.6.Q. (2)

Provide a summary of new SWPPPs developed in the fiscal year per Part I.E.6.c of the MS4 General Permit.

Fort Belvoir's Combined Master SWPPP for Industrial and MS4 permits was completed and became effective on 31 March 2017. The 2017 SWPPP identified twelve (12) locations that were not covered under a separate permit, and which met the definition of High Priority Facilities (HPF) as defined in 9VAC25-890-1 or where an illicit discharge has been reported or there is a high potential for spills, leaks, or unauthorized discharges. This included a Motorpool, three laydown areas, a horse stable, a golf cart maintenance facility, the auto skills center, and some dining facilities. These HPFs were each assigned a MS4 HPF Identifier (ID) from HPF-001 through HPF-012.

As required by Part I.E.6.e, HPFs are to be evaluated annually to determine whether a SWPPP is required based on site operations and conditions. A modified Virginia DEQ No Exposure Certification Form is used to document exposure conditions at each facility as compared to the evaluation criteria spelled out in permit Part I.E.6.c.(1) – (9). The permit states that if the facility is determined to be a high-priority facility with a ***high potential*** to discharge pollutants, the permittee shall develop a SWPPP meeting the requirements of Part.I.E.6.d no later than December 31 of that same year.

- Based on the evaluations completed during the 2022-2023 reporting period it was determined that nine (9) facilities classify as a high priority facility with the potential to discharge pollutants and four (4) facilities met all conditions of non-exposure.
- Eight (8) facilities determined to need a SWPPP already had one, and development of a SWPPP for one (1) facility, HPF-002B, occurred in December 2022.
- No additional or new facilities were found to require a facility specific SWPPP.

III. PART I.E.6.Q. (3)

Provide a Summary of SWPPPs modified per Part I.E.6.f of the MS4 General Permit or the rationale for de-listing high-priority facilities per Part I.E.6.h of the MS4 General Permit.

Overall recommendations from the 2022-2023 HPF evaluation discussed above included continuing the more frequent facility inspections at AAFES as well as providing additional training/guidance to commercial facilities and distributing informational materials to handout or place around these facilities to educate employees of BMPs. Major findings from this year's evaluation that resulted in or will result in SWPPP modifications/closure included:

- One (1) facility, AAFES which was formerly HPF-002, was split into two separate HPFs (HPF-002A and HPF-002B) due to differing management groups and distinct areas of responsibility. Even though this split occurred, both HPFs continued to have non-compliance issues even after training and an increase of inspection frequency.
    - HPF-002A includes operations occurring at the AAFES Exchange (PX) out of Building 2321 and HPF-002B includes operations at the AAFES Commissary at Building 2325.
- One (1) facility, the Auto Skills Center (HPF-006), ceased operations and closed in July 2021. Therefore, the facility was de-listed, and the SWPPP for the facility was closed per Part I.E.6.h.
- One (1) facility, the Bowling Alley (HPF-009), was closed for operations on 31 September 2021, but continued to store equipment and materials outdoors. The previous evaluation recommended review and reissuance of the SWPPP once the facility re-opens, which occurred on 17 November 2022.
    - The annual evaluation occurring on 31 May 2023 and showed this facility and its operations were found to meet all criteria for non-exposure.
    - The SWPPP for this facility was recommended for closure.

- One (1) facility, the Community Hospital (HPF-010), had previously been noted to have cleanliness issues with the use of a trash compactor and spills associated with the unloading of dumpsters, therefore a SWPPP was issued in December 2020.
    - In 2021, multiple meetings were held with hospital personnel to delineate areas of responsibility since the issues noted were being caused by the installation's solid waste contractor.
    - DPW recognized that since the issues were being caused by a different party, issuance of a SWPPP to the Hospital itself would be ineffective in achieving compliance. Therefore, after the 2021-2022 evaluation resulted in minimal findings, the SWPPP for the facility was closed.
    - The facility's loading dock will continue to be monitored via windshield inspections via route 4, and training of hospital personnel was expanded to include facilities personnel responsible for the loading dock.
- One (1) vehicle maintenance facility, Precision Auto Tune Up, opened on 18 April 2022 and was assigned a new ID (HPF-013). This facility and its operations were evaluated and found to meet all criteria for non-exposure; therefore, no SWPPP was recommended.

Although the evaluation showed that four (4) facilities which currently hold a SWPPP now meet criteria for non-exposure requirements, Fort Belvoir determined that the SWPPP had an impact on facility operations and therefore chose to require the facilities to continue to maintain their current SWPPP to prevent backsliding by facility operators. Table 5 below summarizes the findings, recommendations, and major modifications, if any, made to each HPF SWPPP.

Table 5: HPF SWPPP Modifications, De-Listing, and Justification

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
MS4 HPF-001	Golf Course (Building 2920)	No	Complete	The site is located outside of the regulated MS4 area and therefore no SWPPP is required. The facility also feeds to grass swales allowing for infiltration before entering a storm pond preventing pollutants from directly discharging to waterways.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status. **Note:** Portions of the Golf Course are currently covered under another VPDES permit. This SWPPP may require expansion in the future to cover these areas.
MS4 HPF-002A	AAFES PX (Building 2321)	Yes	Complete	The facility currently has a SWPPP, but site has been found out of compliance with requirements even after multiple rounds of training, increased inspections, and Grease Management and Spill Response Guides being posted around Facility.	**No Major Modifications to SWPPP** Maintain increased inspection schedule and routine windshield inspections of the area.
MS4 HPF-002B	AAFES Commissary (Building 2325)	Yes	Complete	The facility currently has a SWPP, but site has been found out of compliance with requirements even after multiple rounds of training and increased inspections.	**SWPPP Developed, No Major Modifications to SWPPP** Maintain increased inspection schedule and routine windshield inspections of the area.
MS4 HPF-003	DLA Contract Yard	No	Complete	The facility currently has a SWPPP and has remained compliant with its requirements. Due to the lack of construction currently ongoing, site has had minimal materials.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status and to cover any upcoming construction projects.
MS4 HPF-004	AMSA 91 Motorpool (Building 2292)	No	Complete	The facility currently has a SWPPP and has remained compliant with its requirements. The facility is also fitted with an OWS that feeds to sanitary and all runoff is captured by a storm pond preventing pollutants from directly entering waters of the state	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status.

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
MS4 HPF-005	Caisson Stables (Building 3045)	Yes	Complete	The facility currently has a SWPPP. Site personnel are aware of proper manure storage and disposal process.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status.
MS4 HPF-006	Auto Skills Center (Building 1462)	No	Complete **CLOSED** **July 2021**	The facility ceased Operations in June 2021 and was vacated in July 2021. All materials were removed from the site, which is no longer a self-service auto center and has new management.	**SWPPP CLOSED** Operations ceased and therefore Facility specific SWPPP has been closed and archived. Master SWPPP updated to reflect Facility Closure.
MS4 HPF-007	Theote Road Housing Storage Yard	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status.
MS4 HPF-008	Housing Annex (Building 1108)	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	**No Major Modifications to SWPPP** Maintain SWPPP to encourage current compliance status.
MS4 HPF-009	Bowling Alley (Building 1199)	No	Not Required	Although grease is managed outside in a dedicated storage location away from any inlets, no spills were noted at the facility and the probability of a spill entering the storm sewer system is low. All conditions of non-exposure were met.	**SWPPP CLOSED** **Continue Training** as prescribed in the Training Plan focused on grease management and outdoor storage requirements.
MS4 HPF-010	Fort Belvoir Community Hospital	No	Not Required	Although grease is managed outside, no spills associated with the unloading of dumpsters and trash compactors were noted at the facility. The facility is also fitted with multiple structural BMPs including sand filters and storm ponds preventing the direct discharge of pollutants to waterways.	**SWPPP CLOSED** **Continue Training** as prescribed in the Training Plan focused on illicit discharges and targeting both Medical and Facilities personnel. **Continue Monitoring** area via windshield inspection route 4.
MS4 HPF-011	Burger King	No	Not Required	All grease is managed internally within the facility and pumped out regularly; the potential for pollutants to enter state waters is extremely low due to the oil/water/grit separator and infiltration basin available at the site. Additionally, any discharge from the infiltration basin enters an earthen channel over 500 ft long before entering any waterway.	**Continue Training** as prescribed in the Training Plan focused on grease management. Consider expanding training for connected AAFES shop focusing on spills and outdoor storage.
MS4 HPF-012	Community Club (Building 1200)	No	Not Required	Although grease is managed outside, there is a dedicated storage location away from any inlets. Sheet-flow from the area enters a heavily wooded area and could infiltrate prior to reaching any waterway.	**Continue Training** as prescribed in the Training Plan focused on grease management and outdoor storage requirements.
MS4 HPF-013	Precision Auto Tune Up Shop	No	Not Required	Although vehicle maintenance occurs on site, all source material is located under cover. Therefore, all conditions of non-exposure were met.	**Continue Training** as prescribed in the Training Plan focused on preventative maintenance and material management.

IV. PART I.E.6.Q.(4). (A) AND (B)

Provide a summary report on new turf and landscape nutrient management plans (NMPs) developed to include: the location and total acreage of each land area and the dates of each approved NMP.

Originally, approximately 380.4 acres of managed turf were identified for the five-year MS4 permit cycle (1 July 2018 – 30 June 2023) that are required to be addressed by nutrient management plans. Management Plans are valid for three years. One (1) Nutrient Management Plan was updated in February 2023, which included an acreage increase from 119.0 to 232.08 acres. This increased the total acreage of areas covered under Nutrient Management Plans to 493.48 acres. Three (3) Nutrient Management Plans are currently expired and need to be updated. Table 6 below shows all current NMPs implemented by Fort Belvoir.

Table 6: Nutrient Management Plan Summary

Approval Date	Location	Acreage
28 June 2022	Fort Belvoir Residential Communities Initiative – A (Cedar Grove, Colyer, Gerber, Herryford, Lewis, Vernondale Villages)	61.0 acres
28 June 2022	Fort Belvoir Residential Communities Initiative – B (Belvoir, Jadwin, Fairfax, Park, Rossell Villages)	54.0 acres
9 February 2023	Fort Belvoir Golf Club	232.08 acres
18 March 2020	EXPIRED: Missile Defense Agency Headquarters	4.4 acres
19 March 2020	EXPIRED: DLA/DCAA Headquarters Complex	33.0 acres
20 March 2020	Fort Belvoir Residential Communities Initiative – C (Dogue Creek, Washington, River, Woodlawn Villages)	70.0 acres
18 March 2020	EXPIRED: National Geospatial-Intelligence Agency Campus East	39.0 acres

V. PART I.E.6.Q.(5). (A) - (C)

Provide a list of training events conducted in accordance with Part I.E.6. of the MS4 General Permit to include: the date of training event, number of employees in attendance, and the objective.

A total of 388 civilians, military, and contractor employees were trained during the reporting period. Table 7 shows a summary of all training events conducted; training materials and sign-in sheets are available upon request. Complete definitions for levels of training may be found in the *U.S. Army Garrison Fort Belvoir Virginia Stormwater Pollution Prevention Training Plan*, dated April 2023, and are summarized in Appendix F. In general, Level 1 – ISW SWPPP; Level 2 – MS4 SWPPP; Level 3 – General Stormwater Pollution Prevention; Level 4 – Illicit Discharge; Level 5 – Pre-Construction; Level 6 – Corrective Action; Level 7 – Chloride TMDL.

Table 7: Training Event Summary

Date	Organization	Audience	Attendees	Level of Training
7/18/2022	Hospital Staff	Corrective Actions	8	3, 4, & 6
8/10/2022	Various – RCRA 40/24	Spill Response Personnel	24	3 & 4
8/11/2022	Various – RCRA Refresher	Spill Response Personnel	10	3 & 4
8/15/2022	Hospital Staff	Corrective Actions	14	3, 4 & 6
9/20/2022	SM-1 Decommissioning Subcontractor (Muller)	Pre-Construction Training - RLD	8	5
9/20/2022	12th Aviation A & D Company	Maintenance Personnel	3	1 & 4
9/22/2022	Aleut	Public Works Facilities Personnel	1	1 & 4
9/26/2022	DAAF NVESD	Maintenance Personnel	1	1 & 4
9/26/2022	249th Engineering Battalion (RO-15, Building 190)	Maintenance Personnel	2	1 & 4
9/27/2022	MCTID	Maintenance Personnel	1	1 & 4

Date	Organization	Audience	Attendees	Level of Training
9/27/2022	12 Aviation B Company	Maintenance Personnel	1	1 & 4
9/27/2022	300 Area Marina	Recreational Facility Personnel	1	1 & 4
9/29/2022	249th Engineering Battalion (RO-33)	Maintenance Personnel	2	1 & 4
9/29/2022	NGA	Maintenance Personnel	3	1 & 4
10/3/2022	DAAF Fire Station	Fire Department Personnel	1	1 & 4
10/3/2022	DPW Restoration	Public Works Facilities Personnel	1	1 & 4
11/1/2022	Aleut	Chloride/MS4	11	2, 3, 4 & 7
11/2/2022	DPW Restoration	Public Works Facilities Personnel	1	1 & 4
11/8/2022	ADF-E	Chloride/MS4	4	2, 3, 4 & 7
11/9/2022	DLA	Chloride/MS4	5	2, 3, 4 & 7
11/10/2022	NGA	Chloride/MS4	10	2, 3, 4 & 7
11/14/2022	AAFES - North Post	Food Service Facilities	1	1 & 4
11/14/2022	DAAF Fueling	Vehicle Fueling Operations	9	1 & 4
11/15/2022	Golf Course Maintenance	Maintenance Personnel	1	1 & 4
11/15/2022	DPW - O&M	Public Works Facilities Personnel	3	1 & 4
11/16/2022	Hanger 3145 - OSAA	Maintenance Personnel	2	1 & 4
11/16/2022	DAAF OSAA	Maintenance Personnel	2	1 & 4
11/17/2022	Housing	Chloride/MS4	5	2, 3, 4 & 7
11/18/2022	DAAF DCNG (Buildings 3121 & 3123)	Maintenance Personnel	2	1 & 4
11/21/2022	Hospital Staff	Corrective Actions	13	3,4 & 6
11/22/2022	Building 1124 - Fueling	Vehicle Fueling Operations	1	1 & 4
12/12/2022	Building 2304 – Arby's	Food Service Facilities	1	1 & 4
12/19/2022	Hospital Staff	Corrective Actions	4	3, 4 & 6
12/20/2022	FBNA Distribution Center	Pre-Construction Training - RLD	12	5
12/20/2022	DPW HazWaste	Public Works Facilities Personnel	4	1 & 4
1/11/2023	DAAF NVESD	Maintenance Personnel	1	1 & 4
1/16/2023	Hospital Staff	Corrective Actions	6	3, 4 & 6
1/17/2023	DES Fire	Fire Department Personnel	1	1 & 4
1/19/2023	LRC - Building 707	Maintenance Personnel	2	1 & 4
1/26/2023	Meade Road Contractor Lot	Public Works Facilities Personnel	3	1 & 4
1/27/2023	VARNG & 29th Infantry Division	Maintenance Personnel	7	1 & 4
1/31/2023	Dogue Creek Marina	Recreational Facility Personnel	3	1 & 4
2/2/2023	DES Fire	Fire Department Personnel	1	1 & 4

Date	Organization	Audience	Attendees	Level of Training
2/2/2023	Hospital Staff	Corrective Actions	5	3, 4 & 6
2/6/2023	DAAF 12th Aviation C Company	Maintenance Personnel	1	1 & 4
2/8/2023	Building 1124	Maintenance Personnel	1	1 & 4
2/9/2023	249th Engineering Battalion	Maintenance Personnel	1	1 & 4
2/15/2023	LRC-TMP	Maintenance Personnel	2	1 & 4
2/15/2023	300 Area Marina	Recreational Facility Personnel	3	1 & 4
2/16/2023	DPW O&M	Public Works Facilities Personnel	1	1 & 4
2/21/2023	DAAF DCNG	Maintenance Personnel	3	1 & 4
3/13/2023	300 Area NVESD	Maintenance Personnel	2	1 & 4
3/15/2023	GW Village Stream Restoration	Pre-Construction Training - RLD	10	5
3/15/2023	DPW HazWaste	Public Works Facilities Personnel	4	1 & 4
3/20/2023	Hospital Staff	Corrective Actions	5	3, 4 & 6
3/22/2023	Aleut	Public Works Facilities Personnel	2	1 & 4
4/4/2023	Mosby Reserve	Maintenance Personnel	3	1 & 4
4/4/2023	DLA, AMSA 91, Housing, Precision, & DPW Personnel (all HPFs)	Maintenance Personnel	13	2, 3 & 4
4/24/2023	Hospital Staff	Corrective Actions	18	3, 4 & 6
5/15/2023	Hospital Staff	Corrective Actions	4	3, 4 & 6
5/25/2023	Golf Course HPF	Maintenance Personnel	1	2, 3 & 4
6/9/2023	Various – RCRA Refresher	Spill Response Personnel	77	3 & 4
6/22/2023	Caisson Stables HPF	MS4 HPF due to Bacteria TMDL	1	2, 3 & 4
6/22/2023	MWR - Community Center HPF	Recreational Facility Personnel	1	2, 3 & 4
6/22/2023	Various – Spill Response Training	Spill Response Personnel	33	3 & 4
6/26/2023	Commissary HPF	Food Service Facilities	1	2, 3 & 4
		TOTAL:	**388**	

VI. REVIEW OF MCM#6 PROGRAM EFFECTIVENESS

For the reporting period, 1 July 2022 – 30 June 2023, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on 1 November 2018:

- HPF Evaluations were completed to identify facility changes and upgrades at 13 facilities previously identified as having the potential to impact stormwater quality and no (0) new facilities that began operations during the reporting period.
    - Out of the eight (8) facilities determined to need a SWPPP, seven (7) already had one and one (1) new SWPPP was developed (for HPF-002B) from the previous permit year recommendation of splitting a facility into two.
    - One (1) facility which formerly had a SWPPP, HPF-009 for the Bowling Alley, was reassessed and determined to meet requirements for non-exposure and thus the SWPPP was closed. This facility remains operational and will be assessed yearly as a HPF.
    - No minor changes were made to Facility SWPPPs to address changes in Personnel.

    - Table 5 summarizes the findings, recommendations, and major modifications, if any, made to each HPF SWPPP.
- Nutrient Management Plans were implemented for 493.48 acres of total managed turf. One (1) Nutrient Management Plan was updated in February 2023. Three (3) Nutrient Management Plans expired and need to be updated.
- MS4 SWPPP, Stormwater Pollution Prevention, Illicit Discharge/Good Housekeeping, and Pre-Construction training was conducted with 388 individuals trained throughout the reporting period.
- The written Training Plan, dated April 2023, was implemented throughout the reporting period and all planned trainings were completed. Minor updates such as updates to staff certifications and changes to operations were made.
- The Training Plan was reviewed, and updates were completed in August 2022 and April 2023, being finalized in April 2023. Updates included:
    - Incorporation of targeted training for critical audiences as listed in the Chloride TMDL Action Plan approved by VADEQ in February 2022.
    - Updates to training slides to include necessary new TMDL information and contact information.
    - Updates to the annual training list to include additional tenant agency personnel.

All BMPs (BMP 6.1, 6.2, 6.3, and 6.4) for the Pollution Prevention/Good Housekeeping MCM continue to remain effective and meet permit requirements. The BMPs for this MCM were reviewed and revised to reflect new permit requirements once the new MS4 permit was issued by VADEQ. The Program Plan called for maintaining BMP Fact Sheets and developing new ones within 90 days of discovering a new activity/operation that may affect stormwater quality, completion of annual HPF evaluations to determine need to modify or develop SWPPPs, maintenance of NMPs, and to revise and implement the Training Plan. How Fort Belvoir achieved compliance with the measurable goals for MCM #6 based on the updated Program Plan is discussed below.

BMP 6.1 WRITTEN PROCEDURES FOR OPERATIONS AND MAINTENANCE

As there is not one consolidated O&M Division operating on Fort Belvoir, DPW-Environmental has taken the approach of developing BMP Fact Sheets that can be distributed to various O&M contractors/tenant commands/privatized housing performing operations and maintenance functions on Fort Belvoir. BMP Factsheets for common operations are used to ensure proper guidance is being provided to assist tenants in making operational decisions that may help minimize exposure to stormwater. Each fact sheet contains a description of the activity, guidelines that identify BMPs for stormwater pollution prevention, any maintenance, if required, and spill response procedures. As described above, Fact Sheets are distributed to key facilities and personnel with a Site Specific SWPPP and are also distributed on an as needed basis when issues are noted during inspections or additional guidance is requested.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to annually review and update BMP Fact Sheets as needed was met.

- BMP factsheets were reviewed, and updates were made to POCs and contact information.

The measurable goal to develop new fact sheets within 90 days of discovering a new activity/operation that may affect stormwater quality to include information required by Part I.E.6.a was not applicable as no new operations were identified this reporting period.

The measurable goal to distribute and post new and/or updated BMP Fact Sheets on the webpage within 30 days of development was not met. While BMP Fact Sheets were updated in April 2023, they were not posted to the webpage until 20 June 2023.

BMP 6.2 WRITTEN PROCEDURES FOR OPERATIONS AND MAINTENANCE

Fort Belvoir completed an evaluation of facilities during the last permit cycle (2013-2018) and identified 12 facilities that are not covered under a separate VPDES permit and met the description of HPF defined in 9VAC25-890-1. As required by Part I.E.6.e, all HPFs will be reevaluated for the non-exposure exemption as well as their potential to discharge pollutants annually. Sites that are evaluated to have a high chance to discharge pollutants are assigned a MS4 HPF Identifier (ID), and a facility-specific SWPPP is developed no later than December 31, if one does not already exist.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to implement the facility specific SWPPPs and review and update after any unauthorized discharge, release, or spill was met.

- SWPPPs for nine (9) facilities were implemented for at least a portion of the reporting period.
    - No small changes were made to Facility SWPPPs to address changes in Personnel.
    - One (1) facility, the Bowling Alley (HPF-009), re-opened for operations on 17 November 2022. The evaluation showed the facility met all requirements for non-exposure and the SWPPP for the facility was closed.
- No unauthorized discharges or releases occurred at any HPF during this reporting period. No spills were noted this reporting period at any HPFs.

The measurable goal to complete the annual high-priority facility evaluation to identify any HPFs that have a high potential for discharging pollutants and develop a SWPPP by December that year was partially met.

- Based on the evaluations completed during the 2022-2023 reporting period, it was determined that eight (8) facilities classify as a high priority facility with the potential to discharge pollutants and five (5) facilities met all conditions of non-exposure.
- Out of the eight (8) facilities determined to need a SWPPP, seven (7) already had one and one (1) new SWPPP was developed (for HPF-002B) from the previous permit year recommendation of splitting a facility into two.
    - HPF-002A would refer to operations occurring at the AAFES Exchange (PX) out of building 2321 and HPF-002B would refer to operations at the AAFES Commissary at building 2325.
    - The existing SWPPP was reviewed and revised as needed to cover only the PX.
    - A separate SWPPP was developed for HPF-002B covering the Commissary and was issued in December 2022.

BMP 6.3 DEVELOP AND IMPLEMENT NUTRIENT MANAGEMENT PROGRAMS

Per Part. I.E.6.j, Fort Belvoir maintains and implements turf and landscape nutrient management plans that have been developed by a certified turf and landscape nutrient management planner in accordance with §10.1-104.4 of the Code of Virginia, for all lands where nutrients are applied to a contiguous area greater than one acre. Fort Belvoir currently has six Nutrient Management Plans that cover a total 261.4 acres in the MS4 service area and one Nutrient Management Plan (Fort Belvoir Golf Club) that covers a total of 232.08 acres in the unregulated service area.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to develop new Nutrient Management Plans, as needed, for lands where nutrients are applied to a contiguous area greater than one acre was not applicable as no new areas requiring a plan were identified.

- 100% of all identified managed turf acres currently have a Nutrient Management Plan developed.

The measurable goal to review and update existing Nutrient Management Plans every three years, as needed, for the term of the MS4 permit was not met.

- One (1) Nutrient Management Plan was updated in February 2023.
- Three (3) Nutrient Management Plans have expired as of March 2023 and have yet to be updated and approved. This is scheduled to be completed during the 2023-2024 reporting period and will be reported with next year's annual report.

BMP 6.4 IMPLEMENT AND MAINTAIN WRITTEN TRAINING PLAN

The Training Plan enforces the written procedures established in accordance with Part I.E.6.a. and has been written to ensure the following, per Part I.E.6.m:

1. Field personnel receive training in the recognition and reporting of illicit discharges no less than once per 24 months,
2. Employees performing road, street and parking lot maintenance receive training in pollution prevention and good housekeeping associated with those activities no less than once per 24 months,
3. Employees working in and around maintenance, public works, or recreational facilities receive training in good housekeeping and pollution prevention practices associated with those facilities no less than once per 24 months,
4. Employees and contractors who apply pesticides and herbicides are trained or certified in accordance with the Virginia Pesticide Control Act. Certification by the Virginia Department of Agriculture and Consumer Services Pesticide and Herbicide Applicator program shall constitute compliance with this requirement,
5. Employees and contractors serving as plan reviewers, inspectors, program administrators and construction site operators obtain the appropriate certifications as required under the Virginia Erosion and Sediment Control Law and its attendant regulations,
6. Employees and contractors implementing the stormwater program obtain the appropriate certifications as required under the Virginia Stormwater Management Act and its attendant regulations, and
7. Employees whose duties include emergency response have been trained in spill response. Training of emergency responders such as firefighters and law enforcement officers on the handling of spill releases as part of a larger emergency response training shall satisfy this training requirement and be documented in the training plan.

The Training Plan manages certifications for employees meeting the qualification described in (4)-(6) above. Spill Response training is provided and documented by the Spill Response Program Manager and Directorate of Emergency Services (DES). As per Part I.E.6.n, documentation of each training event conducted is also kept in the plan and includes the date of the training event, the number of employees attending the training event, and the objective of the training event. Training records and certifications are available upon request.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to implement the Training Plan was partially met.

- In accordance with the plan, a total of 388 individuals received training on stormwater pollution prevention (P2) which included in-person and virtual courses covering P2 topics and illicit discharge reporting, on-site one-on-one training for facilities with SWPPPs, pre-construction training covering ESC requirements, and stormwater general awareness.

HPF Training: Representatives from nine (9) of the 13 facilities defined to be HPFs (nine facilities had a SWPPP for at least a portion of the reporting period) were trained. Facilities where employees did not receive direct training included:

- AAFES – Post Exchange (HPF-002A) did not receive annual training as it should have.
- The Bowling Alley (HPF-009) did not receive annual training as it should have focused on grease management and outdoor storage requirements
- The Community Hospital (HPF-0010) did not receive annual training as it should have focused on illicit discharges and targeting for both Medical and Facilities personnel.
- Building 1135 – Burger King (HPF-011) did not receive annual training as it should have focused on grease management.

Target Audience Training:

- **DPW Personnel:** Fort Belvoir Directorate of Public Works (DPW) are trained in accordance with requirements specified in the MS4 General Permit. Fort Belvoir is required to provide biennial Level 3 & 4 training to applicable field personnel. All Fort Belvoir DPW employees are usually trained once a year in the recognition and reporting of illicit discharges. DPW personnel were trained this period on 4 April 2023.
- **Stormwater Program Team:** All team members performing ESC and/or SWM Inspections maintained active certifications with VADEQ for the entire reporting period.
- **RLDs:** All construction permitted under a Construction General Permit (CGP) must submit RLD certifications to DPW MS4 Stormwater Program Manager prior to the start of the project. All RLD Personnel and other pertinent site employees receive Level 5 training to address erosion and sediment control concerns before construction begins on-site. A total of 30 people associated with three (3) large construction projects received Level 5 – preconstruction training during the reporting cycle.
- **NMP:** The Fort Belvoir DPW-Environmental Forester maintained Commonwealth of Virginia Department of Conservation and Recreation (VDCR) certification as a Turf and Landscape Nutrient Management Planner in accordance with state requirements effective through 31 August 2023.
- **Pest Management:** The DPW Pest Management Program Manager is certified by DoD in multiple categories through 31 November 2025. The Fort Belvoir Pest management program currently has 45 Virginia Department of Agriculture and Consumer Services (VDACS) certified applicators that were certified throughout the reporting period.
- **Road, Street, and Parking Lot Maintenance:** Fort Belvoir DPW employs one Base Operations and Maintenance contractor who is responsible for all road, street, and parking lot maintenance across the installation including but not limited to: snow removal, deicing, and street sweeping. All Roads and Grounds employees receive a minimum of Levels 3, 4, and 7 of Training. A total of 35 people were trained for Stormwater Awareness Training.
- **Recreational Facilities:** Fort Belvoir Directorate of Family and Moral, Welfare and Recreation (DFMWR) manages several recreational facilities including pools, golf courses, marinas, car washes, restaurants, etc. Personnel from these facilities receive differing levels of training depending on site operations. A total of nine (9) employees working or responsible for key aspects of operations at these facilities received a combination of Levels 1, 2, 3, and/or 4 Training.

- **Maintenance and Public Works Facilities Personnel:** To support Fort Belvoir's needs, there are many maintenance and public works facilities across the installation. All employees responsible for operating such facilities are required to receive a minimum Levels 3 & 4 of Training conducted by Stormwater Program Personnel to ensure proper stormwater pollution prevention. These operations include those responsible for vehicle maintenance, fueling, communications, firefighting, and health and safety. A total of 52 people were trained in the category during this reporting period.
- **RCRA Hazardous Waste Handlers:** All industrial hazardous waste generated by garrison tenants (non-family housing residents) is removed utilizing services contracted by Defense Logistics Agency for proper disposal. Four (4) personnel from the Hazardous Waste <90 day facility were trained in Levels 1 and 4 this cycle. Additionally, 111 employees responsible for management of hazardous waste at satellite accumulation areas across the installation received Level 3 Training. This ensures that those handling hazardous materials and wastes are aware of water quality issues and preventative measures that can be taken at the facility.
- **Spill Response Personnel:** Oil Spill Response and Recovery Training classes are conducted annually at Fort Belvoir and cover Spill Response and Reporting procedures. Pollution Prevention/Illicit Discharge training is provided as a part of the First Responder Awareness Course, for personnel that work in or around fueling and petroleum distribution facilities. A total of 33 employees received Level 4 training during this cycle.

The measurable goal to review and revise the written training plan, as needed, was met.

- The written Training Plan was updated in both August 2022 and April 2023 and was implemented throughout the permit cycle. Updates to the plan included:
    - Incorporation of targeted training for critical audiences as listed in the Chloride TMDL Action Plan approved by VADEQ in February 2022.
    - Updates to training slides to include necessary new TMDL information and contact information.
    - Updates to the annual training list to include additional tenant agency personnel.

3. CHESAPEAKE BAY TMDL INFORMATION

Fort Belvoir submitted the Draft *Chesapeake Bay Phase II Total Maximum Daily Load (TMDL) Action Plan* dated May 2018 to VADEQ on 1 June 2018 in accordance with Section I.B. of the 2013-2018 MS4 General Permit. The plan was released for public comment on 14 May 2018 and comments were accepted for 30 days until 15 June 2018. No comments were received during the public comment period. Fort Belvoir completed additional updates to the Plan in October 2019, where a public comment period was open until 25 October 2019. No comments were received, and the Plan was finalized and submitted to VADEQ in a letter dated 28 October 2019, as required by Part II.A.11 of the 2018 – 2023 MS4 General Permit.

A. PART II.A.13.A

Provide a list of BMPs implemented during the reporting period but not reported to the VADEQ BMP Warehouse in accordance with Part I.E.5.g of the MS4 General Permit and the estimated reduction of pollutants of concern achieved by each BMP reported in pounds per year.

All BMPs being used for Chesapeake Bay (Chesbay) credits were reported on the VADEQ BMP Warehouse to include BMPs that were not previously reported and discovered during the reporting period.

B. PART II.A.13.B

Provide a statement that credits were acquired, if credits were acquired during the reporting period to meet all or a portion of the required reductions in Part II.A.3, A.4, or A.5 of the MS4 General Permit.

Based on the current Chesbay Plan, dated October 2019, no new credits are required for Fort Belvoir to achieve the required reductions by 2028. There were 39 SMFs shown in Table 3 brought online or discovered during the reporting cycle that would provide additional credits.

Information on these SMFs is provided in Appendix B and will be uploaded into the BMP Warehouse by 1 October 2023 as required by Part I.E.5.g. Additionally, inspections and maintenance completed on all historical SMFs will be uploaded into the BMP Warehouse as well.

C. PART II.A.13.C

Provide the progress, using the final design efficiency of the BMPs, towards meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids.

The Final TMDL Action Plan concluded that approximately 36,400 pounds of Total Nitrogen (TN), 2,050 pounds of Total Phosphorous (TP) and 1.18 million pounds of Total Suspended Solids (TSS) are loaded into the waterways from Fort Belvoir annually, based on the 2010 Census Urban Area. Fort Belvoir must reduce nutrient loads by approximately 2,500 pounds of TN, 236 pounds of TP and 184,000 pounds of TSS by the end of the third MS4 permit cycle on 31 October 2028.

Fort Belvoir met pollutant load reductions by street sweeping, stream and shoreline restoration, the installation of a regional stormwater management basin, and land use change BMPs.

Fort Belvoir did not calculate the credits earned through the installation of structural Stormwater Management Facilities into the TMDL Action Plan but does have over 300 SMFs reported within the DEQ BMP Warehouse. Implementation of the TMDL Action Plan, not including SMFs and using the qualifying lane mile methodology, resulted in the following cumulative reduction of pollutants of concern in the Potomac River Basin:

Table 8: Chesbay Cumulative Reductions Achieved

Pollutant of Concern	Required Reduction by 2028 (lb/yr)	Cumulative Reduction Achieved * (lb/yr)	Percentage of L2 Reduction Achieved	
			Based on 2000 Census Data	Based on 2010 Census Data
Total Nitrogen	2,495.81	2,949.08	126%	**118%**
Total Phosphorous	236.19	804.57	266%	**341%**
Total Suspended Solids	183,757.45	1,033,048.73	390%	**562%**
Note: The cumulative reductions achieved shown in this table and in the 2019 Phase II Chesbay Action Plan use Guidance Memo No. 15-2005.				

Fort Belvoir recognizes that based on updated Guidance Memo No. 20-2003 released on 6 February 2021 that changes in approved calculation methods may result in a lower achieved reduction. This is especially notable in the reductions currently achieved via street sweeping which are reported annually. Based on the new guidance, VADEQ states:

"Pollutant reduction calculations for street sweeping operations after 30 June 2022 must be reported using the new methodology. If an MS4 is short of the minimum 40% cumulative reduction requirements, this shortfall will need to be addressed with increased sweeping effort, or some other strategy(s)."

Table 9: Estimated Chesbay Cumulative Reductions Achieved Based on New Methodology

Pollutant of Concern	Reduction Achieved Qualifying Lane Mile Method (lb/yr)	Reduction Achieved based on New Methodology (lb/yr)	Estimated Cumulative Reduction Achieved* (lb/yr)	Percentage of L2 Reduction Achieved
				Based on 2010 Census Data
Total Nitrogen	2,068.26	452.87	1,333.60	**53%**
Total Phosphorous	322.33	130.54	612.78	**260%**
Total Suspended Solids	872,964.85	188,773.45	348,857.33	**190%**
Note: The cumulative reductions achieved shown in this table assumes the same amount of street sweeping in acres (post wide) and passes (SCP-4) as noted in the 2019 Phase II Chesbay Action Plan but uses new methodology in Guidance Memo No. 20-2003.				

Based on current calculations, the completed implemented projects exceed the L2 reduction requirements for TP and TSS when compared to existing loads based on 2010 Urban Census Data, as detailed in Tables 8 and 9 above. When new methodology is used to calculate street sweeping credits, Fort Belvoir falls behind on reduction goals for TN, as shown in Table 9, but notes that currently the Plan does not consider reductions from SMFs which are also reported to the BMP Warehouse. During the next Chesbay plan update, Fort Belvoir plans to include calculations and reductions achieved through installation of SMFs to evaluate whether it would accomplish the required reductions goals for 2028. The draft update for Phase III will be submitted to VADEQ prior to the 1 October 2023 due date.

D. PART II.A.13.D

Provide a list of BMPs that are planned for implementation during the next reporting period.

Table 10 below shows a summary of BMPs that are planned or will be brought online during the next reporting cycle.

Table 10: BMPs Planned for 2023-2024 Reporting Period

Planned BMPs	Project	Approximate BMP Extent
1 x MTD Hydrodynamic Separator 1 x Bioretention Level 1	ADFE Generator Project	6.54 acres
Monthly Street Sweeping	Sweeping within MS4 Area	1000+ acres

The Action Plan also notes that there are eight (8) stream restoration projects planned that would result in additional reductions.

- Two (2) of the additional stream restorations proposed in the Action Plan (Totten Road and Tracy Loop) have designs approved by VADEQ on 26 September 2017 and are currently awaiting funding.
- Funding was re-directed to the Outfall 015 Project that also includes implementation for the outfall requirements for the regional pond that was installed. The project is currently under design by the U.S. Army Corps of Engineers, Engineering Division.
- One (1) stream restoration project, not included in the Chesbay Plan, is planned for an unnamed tributary to Dogue Creek near George Washington Village and has plans approved by VADEQ on 24 November 2021. This project is currently under construction and expected to be completed during the 2023-2024 reporting period.

The only BMPs that are required to be conducted and reported annually to maintain the annual load reduction credit is street sweeping. Projected street sweeping for the 2023-2024 reporting period is shown in Table 9 above. Achieved street sweeping credits for 2022-2023 reporting period is shown in Table 15 below.

E. REVIEW OF CHESBAY ACTION PLAN EFFECTIVENESS

An assessment of the appropriateness of the best management practices that were identified in the Chesapeake Bay TMDL Action Plan and progress towards achieving the identified measurable goals are provided below. The BMPs for implementation of the approved 2019 Chesbay TMDL Action Plan have been incorporated into the MS4 Program Plan. As goals of the Phase I and Phase II WIPs were found to have already been met by Fort Belvoir, the 2019 Chesbay TMDL Action Plan focused on what should be done to maintain credits already achieved. This is reflected in the BMP CHESBAY.1 discussed below.

BMP CHESBAY.1 CHESAPEAKE BAY TMDL ACTION PLAN IMPLEMENTATION

Based on current calculations in the 2019 Chesbay Action Plan, completed implemented projects far exceeds the L2 reduction requirements for TN, TP and TSS when compared to existing loads based on both 2000 and 2010 Urban Census Data, as detailed in Table 11 below. Therefore, no additional BMPs were necessary to meet pollution load reduction goals and consequently, the Phase II TMDL Action Plan focuses on credit verification and maintenance. Below is a summary of the actual progress made towards achieving the identified measurable goals and a status report of how each goal was met and/or what is necessary to meet the minimum 40% cumulative reduction requirements.

Table 11: Actual Chesbay Cumulative Reductions Achieved Based on New Methodology

Pollutant of Concern	Required Reduction by 2028 (lb/yr)	Cumulative Reduction Achieved* (lb/yr)	Percentage of L2 Reduction Achieved	
			Based on 2000 Census Data	Based on 2010 Census Data
Total Nitrogen	2,495.81	901.20	38%	**36%**
Total Phosphorous	236.19	545.25	176%	**231%**
Total Suspended Solids	183,757.45	248,980.31	94%	**135%**
***Note:** The cumulative reductions achieved shown in this table is based on actual reductions achieved and discussed below.				

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to inspect and maintain the Regional Stormwater Pond and address any deficiencies noted during inspections within one year was met.

- The Regional Stormwater Management Basin was completed in July 2018.
- The pond treats a total of 59.42 acres, with 29.98 acres being pervious and 29.44 acres being impervious.
- Maintenance was noted being performed on 26 October 2022 to trim and remove woody vegetation.
- The Regional Pond was last inspected on 26 April 2023 and inspection noted no issues.
- Reductions achieved from the Regional Pond are summarized in Table 12 below.

Table 12: Credits and Verification of the Regional Stormwater Pond

BMP Name/Type	Year Completed	Inspection Date	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb./yr)
Regional Stormwater Pond Centralized Facility	2018	3/7/2022	159.65	12.00	23,852.49
Total Reductions			**159.65**	**12.00**	**23,852.49**

The measurable goal to inspect and verify functionality of the nine (9) stream restoration projects considered in the plan once every 5 years and address any deficiencies noted during inspections within one year was met.

- The nine (9) stream Best Management Practices were completed between 2009 and 2018.
- Verification of older stream restoration and shoreline management projects was completed by Fort Belvoir during the 2018-2019 and the 2020-2021 reporting periods.
    - Verification of long-term performance was completed for the Surveyor Rd, North Area, Hospital West, and Herryford stream restoration projects in 2019.
    - Verification of long-term performance was completed for Meade Road in 2020.
    - All assessments determined that the projects remain effective and can maintain credits for another five (5) years.
- Three (3) stream restoration verifications were completed for this reporting period, for American Water (AW) Stream Restorations 5a/5b, 7, and 8 during November and December 2022. All assessments determined the projects remain effective and can maintain credits for another five (5) years.
- For the next reporting period ADFE Culvert #3 and NMUSA stream restorations are due for verification.
- An additional stream restoration project was completed in 2019 and restored 210 linear feet using natural channel design near the NMUSA project site, resulting in additional reductions.
- A stream restoration for George Washington (GW) Village is currently under construction and is set to be completed during the 2023-2024 reporting period.
- Reductions achieved from the stream restoration projects are summarized in Table 13 below.

Table 13: Credits and Verification of Stream Restoration Projects

BMP Name/Type	Year Completed	Year Verified	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
Surveyor Rd Stream Restoration	2009	2019	121.88	110.50	24,586.25
North Area Stream Restoration	2011	2019	9.60	8.70	1,936.64
Meade Stream Restoration	2016	2020	52.13	47.26	10,515.35
Hospital West Stream Restoration	2010	2019	69.00	62.56	13,919.60
Herryford Stream Restoration	2011	2019	109.13	98.94	22,014.15
AW – 5a and 5b Stream Restoration	2017	2022	10.50	9.52	2,118.20
AW – 7 Stream Restoration	2017	2022	22.13	20.06	4,463.35
AW – 8 Stream Restoration	2017	2022	17.59	15.95	3,547.99
ADFE Culvert #3 Stream Restoration	2019	**Due 2024**	83.18	75.41	16,779.17
NMUSA Natural Channel Design	2019	**Due 2024**	15.75	14.28	3,177.30
GW Village Stream Restoration	**Due 2024**	-	-	-	-
Total Reductions			**510.89**	**463.18**	**103,058.00**

The measurable goal to inspect and verify functionality of the two (2) shoreline management projects considered in the plan once every 5 years and address any deficiencies noted during inspections within one year was met.

- The two (2) shoreline management projects were completed between 2010 and 2014.
- Verification of older stream restoration and shoreline management projects was completed by Fort Belvoir during the 2018-2019 reporting period.
    - Verification of long-term performance was completed for the 500 linear feet of shoreline at Tompkins Basin and for the 104 feet of seawall and 196-foot wave screen at the 300-Area marina in December 2018.
    - The Tompkins Basin Shoreline Restoration Project is functioning as expected and should continue to generate credits under the default value for the next five (5) year cycle.
    - The shoreline verification of the 300 Area Shoreline determined that the 104-foot seawall remained intact but only 98 linear feet of shoreline are adequately protected by the wave screen, versus the 196 linear feet that were originally assumed.
- For the next reporting period, both shoreline management projects are due for re-verification.
- Adjusted reductions achieved from the Shoreline Management Projects are summarized in Table 14 below.

Table 14: Credits and Verification of Shoreline Management Projects

BMP Name/Type	Year Completed	Year Verified	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
Tompkins Basin (500 linear feet)	2010	2018	6.09	4.30	21,000.00
300-Area Marina (104 linear feet seawall and 98-foot wave screen)	2014	2018	2.46	1.74	8,484.00
Total Reductions			**8.55**	**6.04**	**29,484.00**

The measurable goal to implement and document the street sweeping program as specified under the O&M contract was not met.

- Sweeping was to be completed monthly based on Technical Exhibit SA2 of the Base Operations Contract that specifies the locations to be swept and from which snow removal is to be completed.
    - The contract specifies 13,000,481 sq.yd. (2686 ac.) of land that should be swept monthly
    - During the 2020-2021 reporting period, DPW-Environmental calculated that of the total area swept, only 6,376,212 sq.yd. (1,317 ac.) or 49% fell within the regulated MS4 area.
    - Records of monthly street sweeping are available upon request.
- During this reporting period, the Fort Belvoir Operations and Maintenance contractor was not able to meet street and parking lot sweeping goals and reported:
    - No records were reported for December 2022, it is assumed that street sweeping did not occur during this month.
- Based on reported data to DPW, street sweeping practices for the 2022-2023 reporting period falls under scenario SCP-4 as listed in Guidance Memo No. 20-2003 which would achieve a removal rate of 6%, 1%, and 3% for TSS, TN, and TP, respectively.
    - Roads were swept an average of 11 times, North Lots were swept an average of nine (9) times, and South Lots were swept an average of nine (9) times.
    - A regenerative sweeper was used each time.
- Fort Belvoir relies on information within the Technical Exhibit for all street sweeping calculations and expects major changes which will require a re-evaluation of swept areas soon. Changes expected to impact the number of acres swept include:
    - Reissuance of the Fort Belvoir Industrial Stormwater Permit VA0092771 which is anticipated to cover less areas of Fort Belvoir effectively increasing the regulated MS4 area.
    - A new Base Operations contract that is scheduled to be awarded in late 2023 which may change the frequency and number of areas expected to be swept.
- Table 15 below shows the actual reductions achieved during the 2022-2023 reporting period.

Table 15: Annual 2022-2023 Total Street Sweeping Reductions

MS4 Area Sweeping					
Watershed	**Total Acres**	**MS4 Acres**	**TN Reduction (lb/yr)**	**TP Reduction (lb/yr)**	**TSS Reduction (lb/yr)**
Accotink Creek	2,222.25	1,089.92	183.76	52.97	76,598.71
Dogue Creek	447.86	219.66	37.03	10.68	15,437.53
Potomac River	15.94	7.82	1.32	0.38	549.58
Pohick Creek	0	0	0	0	0
Total Reductions:			**222.11**	**64.03**	**92,585.82**

BMP Assessment: BMP CHESBAY.1 identified in the Program Plan continues to remain effective and meet permit requirements even though shortcomings were encountered during street sweeping during this reporting period. Fort Belvoir continues to be on track to meet Phase II goals of 40% reduction even with performing street sweeping at a lower frequency than expected. Due to the new calculation methodologies, Belvoir saw a severe reduction in achieved credits and recognizes that additional measures will have to be put into place or assessed to achieve Phase III goals by 2028. As the current TMDL Plan does not take Urban Structural BMPs already in place into account, these will be looked at as the first potential method for meeting goals for Phase III.

4. LOCAL TMDL INFORMATION

A. POLYCHLORINATED BIPHENYL (PCB) TMDL

A PCB TMDL Schedule for Implementation was provided to Virginia Department of Conservation and Recreation (VADCR) in a letter dated 30 May 2012. The Final Fort Belvoir PCB TMDL Action Plan was completed in March 2013. This plan was accepted on 16 December 2015 by Virginia Department of Environmental Quality (VADEQ). The plan was reviewed for adequacy and revisions to address site changes and VADEQ comments received in February 2018. An additional three (3) sites were evaluated as a part of the revisions to the Plan. Only one (1) site within the MS4 service area (MP-13) was determined to have potential impacts to surface waters and will be monitored until Virginia's Water Quality Criteria is met.

Updates to the PCB TMDL Action Plan were completed in March 2020, the public comment period involved the posting of the Draft plan on the Fort Belvoir Home Page under Environmental Documents for Stormwater (http://www.belvoir.army.mil/environdocs.asp) on 16 March 2020. A Notice of Availability for the document was:

- Posted on the main Fort Belvoir Facebook page on 16 March and 18 March 2020.
- Published in the Fort Belvoir newspaper, *The Belvoir Eagle*, on 19 March and 9 April 2020.

Fort Belvoir provided for the public comment period to be open until 15 April 2020 allowing for at least 15 days for public comment as required under Part II.A.12. Fort Belvoir DPW did not receive any comments during this period; therefore, the Final 2020 PCB TMDL Action Plan was submitted to VADEQ on 28 April 2020. The PCB TMDL Plan has had minor updates to sections and appendices covering sample results and site statuses in May 2021. VADEQ reviewed the Plan and requested additional information in a letter dated 7 March 2022.

- VADEQ requested that Belvoir Indicate the effect of Resource Conservation and Recovery Act (RCRA) sites A-23, A-24, MP-11, and MP-13 to the MS4 service area.
- Fort Belvoir responded to the VADEQ request on 28 April 2022 and stated that the effect of each RCRA site on the MS4 is covered in Section 7 of the TMDL plan submitted in 2020. Belvoir noted that section 7 covers all historic PCB sites, many of which are outside of the MS4 area, and therefore, only MP-13 has direct effects to the MS4 area.
- VADEQ concurred and approved the Plan in a letter dated 23 May 2022 but required that Fort Belvoir notify VADEQ staff within 30 days of finding any previously unidentified significant source of PCBs within the MS4 service area.

Additional updates to the PCB TMDL Action Plan were completed in July 2023, due to requested information from VADEQ from the 2021-2022 Annual Report in comment letters.

- In a letter dated 30 January 2023 outlining comments for the 2021-2022 Annual Report, VADEQ requested under the Local TMDL Action Plans to indicate the monitoring plan and actions to be taken to mitigate PCB levels at MP13. Fort Belvoir submitted responses on 28 February 2023 noting that this was already included in the report and cited the verbiage and tables but will ensure this is more clearly stated for future reports.
- An additional comment letter was received via email on 17 March 2023. VADEQ requested the 15 April 2020 PCB TMDL Action Plan to be revised to include an updated monitoring and mitigation plan. This was due to an interpretation that annual monitoring at site MP-13 had been discontinued as last reported results were from 29 October 2021. In response, Fort Belvoir completed updates to the PCB TMDL Action Plan as requested and submitted to VADEQ on 13 June 2023. This update included additional sampling results for site MP-13 and clearer verbiage to indicate this site was still receiving annual

monitoring and will continue to receive annual monitoring to document the downward trend toward meeting the Water Quality Criterion.
- Final acceptance was received from VADEQ in a letter dated 26 June 2023 indicating that the revised plan is acceptable, with the caveat that the Plan has a disclaimer added to indicate site MP-011 is part of VPDES Permit No. VA0092771. Fort Belvoir completed final edits on 6 July 2023 to include the statement as requested.
- The plan was posted for public comment with a notice on the main Fort Belvoir page on 24 July 2023, and a notice posted to the Fort Belvoir Facebook page on 28 July 2023. Fort Belvoir kept public comment open until 13 August 2023 allowing for at least 15 days for public comment as required under Part II.A.12.
    - No comments were received during this period.

The PCB TMDL Action Plan recommended BMPs that can be addressed under the MS4 permit to eliminate and/or minimize discharges of PCBs as well as a sampling plan for outfalls that were identified as requiring monitoring. The complete PCB TMDL Action Plan is incorporated into the MS4 Program Plan by reference and is available upon request. An assessment of the appropriateness of the best management practices that were identified in the PCB TMDL Action Plan and progress towards achieving the identified measurable goals are as follows.

BMP PCB.1 DISTRIBUTE EDUCATIONAL MATERIALS ABOUT PCBS

PCB fact sheets and brochures were produced as a part of the PCB TMDL Action Plan to include basic information on PCBs, their hazards, identification of PCB containing equipment, and reporting procedures. Additionally, training slides on the PCB TMDL have been developed, highlighting identification, and reporting of possible PCB leaks, and have been incorporated into MS4 training materials.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to annually review and revise, as needed, the PCB educational materials was met.

- Educational materials were reviewed, and contact information provided in brochures was updated when there were changes in phone numbers or emails.

The measurable goal to annually distribute PCB Brochures to outdoor recreation by ensuring it is posted at trail heads and by maintaining posting on iSportsman Website was met.

- PCB Brochures, *The Dangers of PCBs, and How You Can Help: Learn how you can protect Yourself, your Family, and the Environment,* continue to be posted at six (6) environmental kiosks to provide information to hikers and hunters on how to identify and report potential PCB containing equipment (i.e., old transformers), especially in remote areas of the installation.
- The brochure *PCB Safety and Awareness* remains available online in the iSportsman website. The iSportsman website is the access portal for hunting, fishing, and watercraft recreation at Fort Belvoir. The fishing page displays the brochure to make fishermen aware of PCBs and fish consumption. Each license application is an opportunity for the public to interact with the brochure.

BMP PCB.2 IMPLEMENT PCB SAMPLING PLAN

The PCB TMDL Action plan included sampling at two outfalls associated with one historic PCB site, referred to as the Warren and Theote Road Laydown Area (MP-13), that was found to discharge into the MS4 system. The sampling plan calls for stormwater runoff monitoring annually until Virginia Water Quality Criterion (WQC) for

tPCB based on human health risks (640 ρg/L) are met for at least two sampling events or the site reaches RCRA closure. Additional historic PCB sites (A24a, MP11, MP12, MP13, and MP14) were evaluated but found to be in areas covered under a separate permit or do not have the potential to discharge to the MS4.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to implement the sampling plan for MP-13 throughout the 5-year permit cycle to monitor progress towards meeting water quality criteria at the site was met.

- MP-13 underwent a RCRA facility investigation and was found to meet requirements for No Further Action (NFA) under RCRA and received concurrence from VADEQ on 12 August 2021 but must maintain land use controls. The PCB GIS Layer will be updated to reflect new site status.
- Stormwater Sampling was last completed at MP-13 on 17 March 2022. Runoff from the area continues to be over WQC goals as summarized in Table 16 below.
- Sampling was not able to be completed during this reporting period. Although the site was visited multiple times during the reporting period, the visits were unsuccessful in collecting runoff. The next visit is scheduled for Q3 in 2023 and will be reported with the next annual report.
- It is believed that PCB laden sediment still exists within the culvert pipe where samples are taken at Warren-2. Sampling of surface soils within earthen conveyance channels and streambed sediment on the receiving water side of the site are planned to determine the extent of PCBs still present and available for transport to surface waters. A remediation project may be a follow on depending on the sampling results.
- Fort Belvoir intends to continue sampling and monitoring the site and will request funds for capping and/or complete remediation to include redevelopment.

Table 16: Summary of tPCB Sampling at MP-13

Sample Date	Warren-1 tPCBs (ρg/L)	Warren-2 tPCBs (ρg/L)	WQC for tPCBs (ρg/L)
8/7/2017	**692**	**2,468**	640
1/24/2019	**495**	**10,456**	640
5/22/2020	**11**	**39,526**	640
10/29/2021	-	**2,421**	640
3/17/2022	-	**22,415**	640

The measurable goal to monitor remediation efforts and status for active RCRA sites (A24a, MP-11, MP-12, and MP-14) until site closure is reached was met.

- Sites A24a, MP-11, MP-12, and MP-14 all underwent a RCRA facility investigation.
  - The RCRA Facility Investigation (RFI) Report Addendum for site A-24 was submitted to VADEQ on 17 April 2020 and subsequently approved by VADEQ on 11 June 2020. Sampling was done in the ephemeral creek bed and identified “hot spots” that are slated to be removed, once plans have been approved by VADEQ, by 2026.
  - Sites MP-11, MP-12, and MP-14 were found to meet requirements for No Further Action (NFA) under RCRA and received concurrence from VADEQ in a letter dated 12 August 2021. All three sites were closed under RCRA.
  - The PCB GIS layer will be updated to reflect new site statuses during next reporting period.

BMP PCB.MP13 MAINTAIN VEGETATIVE CAP AT HISTORICAL PCB SITE MP-13

In 2019, the Restoration Program completed an Interim Soil Removal at the Warren and Theote Road Yard (MP-13). The removal included the disposal of a large soil stockpile at the middle of the site, disposal of concrete debris across the site, and the disposal of the top 6 inches of soil from across the site. Following the removal, the site was regraded and stabilized to be a fully open grassed recreational area. Site investigations have shown that the regrading and stabilization of the site has led to less runoff and more infiltration. It is anticipated that the restoration of the site and its vegetative cover will encourage a downward trajectory of PCBs being transported in stormwater towards meeting the WQC.

The measurable goal to monitor the site for erosion and bare areas periodically through the windshield inspections completed under MCM3 was met.

- The site is monitored under the IDDE Program through windshield inspection route 5.
- During the reporting cycle, no issues with soil deposition or erosion was noted at MP-13, and therefore no corrective actions were implemented.
- The soil cap appeared to limit transport of PCBs evidenced by the substantial drop in tPCB detected in sampling results between May 2020 and October 2021; however, results from the most recent testing in March 2022 still indicated high levels. It is believed that there may still be PCB laden sediment located in the culvert pipe where samples are taken for Warren-2, and additional sampling activities are planned.

BMP Assessment: BMPs (BMPs PCB.1, PCB.2, and PCB.MP13) identified in the approved PCB TMDL Action Plan continue to remain effective and meet permit requirements. As mentioned above the actions taken have resulted in fluctuations in detectable tPCB being carried in stormwater off the site. Sampling planned in the conveyance channels and streambed sediment will be used to determine any further actions that should be taken. Fort Belvoir intends to continue sampling and monitoring the site and in the long term will request funds for capping and/or complete remediation to include redevelopment as appropriate.

B. BACTERIA TMDL FOR THE LOWER ACCOTINK CREEK

The Bacteria TMDL for the Lower Accotink Creek Watershed was issued in September 2008. A Fort Belvoir Bacteria TMDL Action Plan was developed and submitted on 30 September 2016 for VADEQ review and approval. VADEQ requested additional information on the action plan on 10 November 2016 and received Fort Belvoir's response and updated action plan on 7 December 2016. The Action Plan was submitted in accordance with Section I.B of the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). The Action Plan was approved and became an enforceable part of the Program Plan on 9 December 2016.

The MS4 General Permit #VAR040093 effective on 1 November 2018 requires that the permittee shall update the previously approved local TMDL Action Plans to meet the conditions of Part II.B.3 - 7 as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan. Updates to the Bacteria TMDL Action Plan for the Lower Accotink Creek were finalized in March 2020. The public comment period involved the posting of the Draft plan on the Fort Belvoir Home Page under Environmental Documents for Stormwater on 18 March 2020. A Notice of Availability for the document was:

- Posted on the main Fort Belvoir Facebook page on 18 March 2020
- Published in the Fort Belvoir newspaper, *The Belvoir Eagle*, on 19 March and 9 April 2020.

Fort Belvoir provided for the public comment period to be open until 15 April 2020 allowing for at least 15 days for public comment as required under Part II.A.12. Fort Belvoir DPW did not receive any comments during this period therefore, the Public Comment Section was the only section updated prior to submittal of the Final 2020 Bacteria TMDL Action Plan for the Lower Accotink Creek to VADEQ due on 8 April 2020.

VADEQ reviewed the Plan and requested additional information in a letter dated 7 March 2022.

- VADEQ stated that the TMDL Action Plan must clearly identify the significant sources of the pollutants of concern discharging to the MS4 not covered under a separate VDPES permit.
- Fort Belvoir responded to the VADEQ request on 28 April 2022 and stated that Fort Belvoir fully assessed all known bacteria sources in Section 4 of the TMDL plan submitted in 2020.
- VADEQ and Fort Belvoir had a conference call on 2 May 2022 to further discuss the significant sources that are discussed in the plan and where VADEQ believed the assessment was lacking
- A follow-up response was submitted to VADEQ on 18 May 2022 which detailed the additional potential bacteria sources that may occur during a sanitary sewer failure occurring within the area covered by the TMDL which would include two (2) facilities, NMUSA and DLA.
    - Fort Belvoir acknowledged that potential breaks or leaks in the sanitary sewer laterals coming from these facilities may be a potential source of bacteria. This source was not considered to be significant as the lines are owned and operated by American Water and the installation has set communication plans and processes in place to immediately address any potential breaks, leaks, and/or overflows.
- VADEQ concurred and approved the Plan in a letter dated 23 May 2022.

An assessment of the appropriateness of the best management practices that were identified in the Bacteria TMDL Action Plan for the Lower Accotink Creek Watershed and progress towards achieving the identified measurable goals are as follows.

BMP BAC.1 BACTERIA TMDL ACTION PLAN REVISION AND REPORTING

The Action Plan called for DPW-Environmental to review proposed projects and actions and consider potential bacteria sources for any occurring within the Lower Accotink Creek Watershed. If any actions are found to be a potential source of bacteria to the watershed, DPW would ensure that proper control measures/strategies are selected and implemented as required by Part II.B.4.b and detailed in Table 5 of the MS4 General Permit.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to update the Action Plan as needed to include new sources and controls was met.

- Projects were reviewed and none were found to pose any additional bacteria sources therefore, no revisions were made to the plan.
- It should be noted that a previously unidentified septic tank was discovered in July 2022 due to a high-water alarm and was reported to DPW which is performing investigations and tracking under the IDDE program.
    - The tank is scheduled to be pumped out and long-term plans are being made to remove it and connect the building to the sanitary sewer
    - Septic tanks were not considered a source of Bacteria in the current plan because none were previously documented to have existed on post.
    - Due to this finding, the Bacteria TMDL Action plan was undergoing an update in June 2023 and has not been finalized yet. It is set to be completed by August 2023 and a summary will be included with the next annual report.

BMP BAC.2 INCORPORATE BACTERIA TMDL INFORMATION INTO MS4 TRAINING PROGRAM

The Action Plan recommended BMPs that can be implemented under the MS4 permit to eliminate and/or minimize discharges of bacteria sources to the Lower Accotink. The focus of the BMPs selected for implementation are operational controls and involve educating Fort Belvoir tenants, partners, employees, and residents in the bacteria water quality issue and what their role is in mitigating and reporting.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to include information on the Accotink TMDL, common sources of bacteria, and strategies for bacteria reduction into Training Levels 1, 2, 3, and 5 was partially met.

- The Training Plan identifies seven (7) levels of training at different magnitudes of content with Level 1 being the most extensive. Bacteria TMDL information was included and presented in Training Levels 1 and 2 materials with a primary focus on grease since this is currently the most pressing contributor for sanitary sewer overflows (SSOs).
    - Due to a shortage of personnel, only Training materials for Levels 1 and 2 were able to be updated to incorporate the Bacteria TMDL information discussed above.
    - The other levels of training are planned to be updated during the 2023-2024 reporting period.
- Although not all levels of training were updated, Levels 1 and 2 are presented in most of the training courses held, as shown in Table 7.
    - Even though not all training covered the information, the program was still able to reach 120 people across 45 separate training sessions.

BMP BAC.3 PUBLIC EDUCATION AND OUTREACH

The Public Education and Outreach Program's main goal is to inform civilian and military personnel, residents and contractors about the steps that can be taken to reduce stormwater pollution to the maximum extent practicable (MEP). Due to this TMDL, bacteria are listed as one of the high-priority stormwater issues identified in the Public Education and Outreach program discussed under MCM 1.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to publish one article annually that discusses the bacteria water quality issue, sources of bacteria, reporting information and steps that can be taken to reduce bacteria sources was met.

- As of 15 April 2021, the *Fort Belvoir Eagle* is no longer being published in a hard copy format but continues publication online. Fort Belvoir will continue to periodically publish articles in the online version of the newspaper, but in general the Education and Outreach program has switched its focus toward publishing guest articles on the Fort Belvoir Resident Newsletter to meet these and other outreach requirements as of the 2022-2023 reporting period.
    - Fort Belvoir published four (4) articles in the resident newsletter with one (1) article on 27 September 2022 specifically focused on pet waste, bacteria, and stormwater.
    - DPW-Environmental will continue to coordinate with the housing group to have articles published in their Newsletters and distributed directly to residents and will ensure that at least one (1) article focusing on the Bacteria TMDL is published during the 2023-2024 reporting period.

The measurable goal to distribute Pet Waste brochures throughout the housing communities and at facilities operated by the Directorate of Moral, Welfare, and Recreation (MWR) was not met.

- Pet waste brochures "*Are You Cleaning Up After Your Pet?*" normally handed out during events were not used this reporting period.
    - The brochures were previously provided to MWR to be maintained and distributed in key recreational areas such as the Travel Camp where visitors and their families vacation with their pets. Due to change in staff that occurred during this reporting period, brochures were not made available at these locations. DPW-Environmental will coordinate with MWR to provide copies of applicable brochures for posting and distribution for the 2023-2024 reporting period.
    - The Pooch Plunge, an event held by housing in September, is the main opportunity for DPW-Environmental to reach the target audience for this brochure as pet owners visit the pools for one final swim prior to the end of pool season. DPW-Environmental was unable to coordinate attending this event and will coordinate with the housing group to participate in the upcoming event for the 2023-2024 reporting period.
- Although the brochures were not directly distributed, The Villages at Fort Belvoir requires all pets to be registered and all pet waste to be collected and removed promptly. This is outlined in "The Villages at Fort Belvoir Resident Responsibility Guide" that all residents receive as part of the moving in process.

BMP Assessment: BMPS (BMPs BAC.1 – BAC.3) identified in the approved Bacteria TMDL Action Plan continue to remain effective and meet permit requirements even though shortcomings were encountered during the reporting period. The Bacteria TMDL Action Plan and Training Plan will be reviewed and revised in accordance with the BMPs above to better achieve the goals in future reporting periods.

C. CHLORIDE TMDL FOR THE LOWER ACCOTINK CREEK

The Accotink Creek Chloride TMDL was approved by the State Water Control Board (SWCB) on 12 April 2018 and approved by the Environmental Protection Agency (EPA) on 23 May 2018. The Lower Accotink Creek Chloride TMDL Action Plan was completed as per Part II.B of the 2018- 2023 General Permit, which requires that the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II.B.3 – 7 as applicable no later than 30 months after the permit effective date. This Lower Accotink Creek Chloride TMDL Action Plan allowed for a public comment period by being posted on the Fort Belvoir Home Page under Environmental Documents for Stormwater in April 2021. A Notice of Availability for the document was:

- Posted on the Fort Belvoir Home Page on 7 April 2021.
- Posted on the Fort Belvoir Environmental Facebook page on 8 April 2021.
- Published in the Fort Belvoir newspaper, *The Belvoir Eagle* on 15 April 2021.

Fort Belvoir provided for the public comment period to be open until 30 April 2021 allowing for at least 15 days for public comment as required under Part II.B.7. Fort Belvoir DPW did not receive any comments during this period therefore, the Public Comment Section was the only section updated prior to submittal of the Final 2020 Chloride TMDL Action Plan for the Lower Accotink Creek to VADEQ due on 1 May 2021.

VADEQ approved the Chloride TMDL plan as is, with the adjusted targeted reduction values, in a letter dated 25 February 2022 and recommended:

- Removal of de-icing materials from affected roads and parking lots when they are no longer necessary to avoid an adverse impact to waterways. i.e. sweeping post storm.
- Fort Belvoir will take this into consideration during the annual post season assessment and will update the Plan accordingly.

The plan was undergoing revision in June 2023 and was finalized on 12 July 2023. It was posted for public comment on the Fort Belvoir Environmental Website on 24 July 2023, and a notice posted on the Fort Belvoir Facebook page on 28 July 2023. Fort Belvoir left the comment period open until 13 August 2023, allowing for at least 15 days for public comment as required under Part II.B.7. This section will be included with next year's annual report summarizing any comments received.

The overall goal of this Action Plan would be to achieve reductions using the adaptive iterative approach as recommended in the Virginia Salt Management Strategy, or SaMS. To accomplish this, a program evaluation for current processes and practices; baseline and target application rates; salt storage practices; and training, education, and outreach was completed. Based on the initial assessment of practices in place, the plan then provides recommendations for improvement and a method for conducting assessments annually to determine the efficacy of the program and to refine operations.

The Action Plan also recommended BMPs, that were identified in the Virginia SaMS, that can be implemented under the MS4 permit to eliminate and/or minimize discharges of chloride sources to the Lower Accotink. The recommendations were made based on the baseline assessment completed in 2021 of operations as well as a quantitative assessment of application data collected between 2017-2020. As the plan itself is based on only this initial assessment, annual assessments shall occur to determine efficacy of the program and implemented BMPs in meeting specified limits through an iterative process.

An assessment of the appropriateness of the best management practices that were identified in the Chloride TMDL Action Plan for the Lower Accotink Creek Watershed and progress towards achieving the identified measurable goals are as follows.

BMP CL.1 CONTINUED MAINTENANCE OF EXISTING PROGRAMS

Fort Belvoir has implemented and maintains several programs focused on training, education, and outreach. The initial assessment done in 2021 when developing the Chloride TMDL Action Plan found that the strategies outlined under the Training (MCM6), Education, and Outreach Programs (MCM1 and MCM2) have been effective at keeping salt usage at a minimum across Fort Belvoir. As the aspects of the current program have shown to be effective, continued maintenance to these programs and processes should remain in place.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to maintain existing MS4 program portions that were found to be effective in minimizing discharges of chloride was met.

- The Education and Outreach Plan outlines specific Pollutants of Concern (POC) to be targeted for educational materials, of which chloride is included.
- Chloride is the targeted POC in December for housing residents, military personnel, and civilian personnel through a published article. It is also targeted in January for Military personnel and civilian personnel through a Stormwater Newsletter. Posting on the Fort Belvoir Environmental Facebook page focuses on Chloride as the targeted POC in winter months. This includes tips and tricks for winter storage and application to directly engage the public.
    - A Winter article *Road Salt and Our Water* was distributed in December 2022 and covered harmful effects of road salt on local streams, basics of chloride and how pollution occurs, and provided tips for minimizing chlorides in stormwater runoff by using shoveling, sweeping, and proper application/storage.
- Fort Belvoir has several written procedural BMP Fact Sheets that are all posted publicly and widely distributed throughout the installation to pertinent tenant operations. While these fact sheets cover a variety of information, there are four that are specifically related to chloride products.
    - BMP Factsheet 4 – Salt Storage and Loading
    - BMP Factsheet 5 – Salt Application
    - BMP Factsheet 13 – Brine Mixing
    - BMP Factsheet 14 – Aircraft Deicing Operations
- Continuing the HPF SWPPP maintenance requirement under MCM6 provides an avenue for monitoring and controlling sites that are more likely to discharge chloride due to storage activities. Fort Belvoir monitors and trains several HPFs due to their salt storage activities.
    - HPF-003, 007, and 008 are known areas where salt storage occurs.
- The Current training plan, dated April 2023, includes TMDL Information as well as salt management practices. Storage and handling are specifically covered in both the ISW and MS4 SWPPP Training, as well as the General Stormwater Pollution Prevention Training.

BMP CL.2 REVISION OF PRACTICES AT DEFENSE LOGISTICS AGENCY (DLA)

DLA is an autonomous tenant of Fort Belvoir who is responsible for their own salt usage and management. Starting in the winter of 2020, prior to the completion of the Chloride TMDL, the MS4 program obtained information on salt application and quantity from DLA to determine baseline application rates. The analysis of information provided noted that the application frequency by DLA could be reduced as the agency was noted as applying Ice Melt Products immediately following another application date and when only trace or no snowfall occurred.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to revise current practices at DLA to adjust the frequency and application rates of Ice Melt Products that are being used within this Agency by 31 October 2023 was partially met.

- Fort Belvoir will work with DLA to update their Ice Melt application practices.
- Current practices were reviewed and discussed with facility managers during the targeted prewinter season meeting/training that occurred on 9 November 2022, however this was brief, and materials were neither provided to DLA nor did DLA confirm that they would be revising their practices.
- Current practices will again be reviewed and discussed with facility managers during the targeted prewinter season meeting/training set to occur in October 2023.

BMP CL.3 UPDATE BASE OPERATIONS CONTRACTOR SNOW PLAN

The Base Operations Contractor, Aleut, is responsible for removal of snow as well as anti- and de-icing procedures. A snow plan was developed as part of the contract with the Base Operations Contractor in November 2011. Policies, procedures, and equipment have been updated since this date, while the snow plan itself has not been updated since inception. The Chloride TMDL Action plan recommended that this Snow Plan be updated to better reflect the current standards and equipment used, as well as incorporate references to this Lower Accotink Creek Chloride TMDL Action Plan. It should also describe a clear strategy for when anti- or de-icing operations shall be conducted. A clear definition of conditions that are needed to trigger an anti- or de-icing event should be outlined within the Snow Plan.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal of updating the Snow Plan, developed in November 2011, that is a part of the contract with the Base Operations Contractor by 31 October 2023 was not yet achieved.

- Fort Belvoir will work with the Operations and Maintenance department to update the Base Operations Contractor Snow Plan in conjunction with the issuance of a Base Operations contract that is scheduled to be awarded in later 2023.
- Current practices were reviewed and discussed with facility managers during the targeted prewinter season meeting/training that occurred on 1 November 2022.

BMP CL.4 REVISE SALT BRINE MIXING RATES

The initial assessment in Chloride TMDL Action plan used historical salt application data to determine the average amount of treatment product used across the entirety of Fort Belvoir from 2017 to 2020. This data was used to determine the current salt treatment product application rate. The current mixing rate of brine at Fort Belvoir was determined to be approximately 8.34 lbs/gallon of Magnesium chloride. This was found to produce a brine which is much higher in salt percentage than necessary or recommended by SaMS.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to revise the current salt brine mixing practices at Fort Belvoir by 31 October 2023 was met.

- The MS4 Program will work with the O&M department to determine an effective mixing rate and revise current practices in conjunction with the issuance of a Base Operations contract that is scheduled to be awarded in later 2023.
- Current practices were reviewed and discussed with facility managers during the targeted prewinter season meeting/training that occurred on 1 November 2022.
- During this meeting, it was determined the new salt mixing rate would be revised to 2.5 lbs/gallon to aim to achieve a 23.3% salt solution which results in roughly 70% less salt than was formerly used for this practice.

BMP CL.5 ESTABLISH A CALIBRATION PROCESS

The initial assessment in Chloride TMDL Action plan showed there was no calibration protocols in place for salt application equipment used on Fort Belvoir. Establishing a calibration process could result in high potential cost savings as well as a more accurate picture of the amount of chloride containing products used at Fort Belvoir.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to establish a calibration protocol for salt equipment used on Fort Belvoir by 31 October 2023 was partially met.

- The MS4 Program will continue to work with O&M to establish and implement an equipment calibration process and have the requirements integrated into future winter maintenance contract specifications in conjunction with the issuance of a Base Operations contract that is scheduled to be awarded in later 2023. This still needs to occur.
- Current practices were reviewed and discussed with facility managers during the targeted prewinter season meeting/training that occurred on 1 November 2022.
- A calibration process for the brine mixer as well as salt and sand spreaders occur annually around the beginning of the winter season.
- Calibration of all equipment, calibration more than once per year, documentation processes, and calibration training still need to occur to satisfy this BMP.

BMP CL.6 TARGETED TRAINING

The MS4 Program developed a Salt Management Training that is focused on salt applicators, supervisors, and decision-makers. The topics the training focuses on are: Plowing Practices, Equipment Calibration, Level of Service and Clearing Priorities, Anti-Icing Brine Mixing, Application Practices, Varying Application Rates, Use of Deicers at Different Temperatures, Salt Storage and Handling, Winter Maintenance Planning (Weather Forecasting/Surface Temperature Information) and Tracking and Reporting.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to update the training plan to include additional salt management training that is particularly focused towards salt applicators, supervisors, and decision-makers by 31 October 2023 has been met.

- The Training Plan was reviewed and needed updates were completed in August 2022 and were used during the 2022-2023 reporting period. Updates included:
    - Incorporation of targeted training for critical audiences as listed in the Chloride TMDL Action Plan approved by VADEQ in February 2022.
    - An additional level of training, level 7, was added that specifically covers Chloride TMDL information.
- The training slides were reviewed and updated to ensure all aspects of the targeted training program listed in section 5.6 of Chloride TMDL Action Plan were captured. Updates occurred prior to the 2022 winter season.
- Salt Management Training was provided during the 2022-2023 reporting period to five (5) different agencies, training a total of 35 individuals.

BMP CL.7 ANNUAL ASSESSMENT AND REPORTING

The Chloride TMDL Action Plan was developed and submitted to VADEQ in early 2021. The plan assessed current practices to serve as the baseline analysis for the current program and will be utilizing the data as a comparison point moving forward. As a part of the iterative implementation process inherent to how the plan works, an annual assessment to determine the efficacy of the program as well as where improvements are necessary is completed. This self-assessment will continue to refine operations at Fort Belvoir and can be used to give both operators and supervisors an idea of how things currently run and common issues that arise. Through this annual evaluation, it will become clear where improvements can be made.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to complete an annual post-season assessment by no later than the end of the reporting period, 30 June of each year was met.

- DPW-Environmental used the self-assessment form to evaluate operations and determine areas for improvement on a scale from one (1) to four (4) with four being rated the best level. The assessment worksheet should be used as follows:
    - Identify categories of the worksheet where the facility rated below a level of 4.
    - For each of these categories, identify short-term and long-term actions that may be taken to improve in that category.
    - Define a proposed schedule of implementation for each action (BMP).
    - Define measurable goals for each action defined (e.g., ensure 100% of equipment is fitted with calibration units by year 5, ensure 100% of personnel are trained annually, etc.).
- The annual operational assessment was completed on June 30, 2022 and found that out of the 11 categories Fort Belvoir scored a:
    - 4 on two categories (use of liquids and training)
    - 3 on six categories (tracking usage; salt, mix, and liquid storage; summer storage; and plowing)
    - 2 on three categories (calibration, application rates, and use of non-chloride-based products)
    - 1 on no categories.
    - Table 17 below summarizes the categories, the scores, and the proposed action resulting from this operational assessment.
        - Focus for BMP implementation prioritizes lower rated categories (1s and 2s).

The measurable goal to post any updates or changes to the Chloride TMDL Action Plan on the Fort Belvoir webpage within 30 days of any updates was not applicable.

- The plan was undergoing revision in June 2023 and was finalized on 12 July 2023. It was posted for public comment on the Fort Belvoir Environmental Website on 24 July 2023, and a notice posted on the Fort Belvoir Facebook page on 28 July 2023. Fort Belvoir left the comment period open until 13 August 2023, allowing for at least 15 days for public comment as required under Part II.B.7. This section will also be included with next year's annual report.
- The 2022-2023 operational assessment discussed above will be used to adjust the current plan during the 2023-2024 reporting period.

The measurable goal to utilize the results of the annual assessment compared to the program goals to update the Chloride TMDL Action Plan to reflect new and achieved goals was met.

- Fort Belvoir completed the annual operational and application rate assessments as discussed above. Changes were underway in June 2023 to the Chloride TMDL Plan and were finalized on 12 July 2023.
- Table 17 below summarizes the results of the annual operational assessment and changes recommended to the action plan. Updates to the plan focus on lower rated categories first. Any updates or changes to the plan will be summarized within the 2023-2024 MS4 Annual Report.

Table 17: 2022-2023 Results from Annual Operational Assessment

Category	Rating	Defined Rating	Actions and Measurable Goals
Equipment Calibration	2	Equipment is calibrated at the start of each season but never checked OR Equipment is calibrated whenever the salt delivery system is serviced	DPW will continue to ensure equipment is calibrated at least annually at the beginning of the winter season. A calibration form and instructions have been developed. Will engage O&M to determine whether their use can be added as a deliverable in the Base Operations Contract. **Measurable Goal:** Ensure that 100% of salt application equipment is calibrated on a regular schedule and proper calibration records are kept by the following winter season (October 2023).
Material Application Rates	2	The application rates are estimated AND The amount of material applied is adjusted to suit conditions	Will engage O&M to update the Snow Plan to clearly define conditions needed to trigger an anti- or de-icing event. A Winter Weather Mobilizations Guidelines Table detailing salt application rates depending on weather forecasts has been developed to facilitate integration into existing contract language. **Measurable Goal:** Review Baseops SOP for determining what to use and how they adjust to different situation by the following winter season (October 2023).
Tracking Material Usage	3	Material use is tracked by event and location AND Material use is reviewed to assess compliance with BMPs	Continue annual assessment of actual practices to identify areas for improvement.
Use of Liquid Materials	4	Direct liquid application is used AND All solid salt is pre-wetted or pretreated	Continue current practices for pretreatment and liquid usage.
Use of Low or Non-Chloride based snow and Ice control Materials	2	Some low or non-chloride-based materials have been tried	Explore salt alternatives (to include cost consideration) for future integration into winter operations with Baseops contract. **Measurable Goal:** Implement use of alternatives and report changes/effectiveness in the annual report.

Category	Rating	Defined Rating	Actions and Measurable Goals
Salt Storage	3	All salt is stored on impermeable pad and covered by a roof	Continue current salt storage practices and explore possibility of capturing and disposing of impacted soils (none yet discovered).
Sand/Salt Mix Storage	3	All salt is stored on impermeable pad and covered by a roof	Continue current salt storage practices and explore possibility of capturing and disposing of impacted soils (none yet discovered).
Liquid Storage	3	All liquid is stored in a tank or totes on impermeable pad AND Collision protection is provided	Secondary containment is provided but does not seem to provide sufficient volume. Review plans with Baseops Contractor and the Contract Representative, current renovation is planned. **Measurable goal:** Implement adequate secondary containment for 100% of liquid storage areas by the following winter season (October 2023).
Summer Storage	3	All material is securely stored in tanks or on an impermeable pad covered with a roof.	Explore the ability and cost associated with removing all materials after the winter season.
Plowing	3	Plowing is used to remove accumulated snow before it becomes a hazard AND Plowing is usually planned to allow applied materials time to work	Explore the feasibility of stockpiling plowed snow to avoid meltwater.
Salt Management Training	4	Supervisors are trained in best salt management practices AND Operators are trained in best salt management practices AND Annual salt management refresher training is held AND Training records are maintained	Continue current training and documentation practices in place.

The measurable goal to use reported data to calculate the application rate for each product to see if goals were met or if additional BMPs are required to be implemented was met.

- Application data was tracked and submitted to DPW from three (3) key applicators on Fort Belvoir including Aleut, DLA, and NGA. All three are responsible for a portion of salt application within the Lower Accotink Creek watershed.
- Table 18 summarizes the target and actual application rates for the 2022-2023 winter season.

Table 18: 2021-2022 Annual Chloride Application Rates

Treatment Product	Target Application Rate	Application in Lower Accotink Creek	% Chloride	Average Number of Events	Actual Application Rate
DLA: Total Area treated = 29.54 acres					
Ice Melt	325 lbs/lane mile	2,000 lbs	98%	1	**66.35**
NGA: Total Area treated = 41.45 acres					
80/20 Magnesium Chloride (MgCl) and Sand Mixture	325 lbs/lane mile	12,000 lbs	80%	2	**115.80**
MgCl Brine	50 gal/lane mile	1,200 gallons	100%	1	**28.95**
Ice Melt	325 lbs/lane mile	0 lbs	98%	0	**0.00**

Treatment Product	Target Application Rate	Application in Lower Accotink Creek	% Chloride	Average Number of Events	Actual Application Rate
Aleut: Total Area treated = 1,317.40 acres Area within Lower Accotink Creek = 107.92 acres					
80/20 Magnesium Chloride (MgCl) and Sand Mixture	325 lbs/lane mile	0 lbs	80%	0	**0.00**
MgCl Brine	50 gal/lane mile	0 gallons	100%	0	**0.00**
Overall Application within the Lower Accotink Total Area Treated = 178.91 acres					
80/20 Magnesium Chloride (MgCl) and Sand Mixture	325 lbs/lane mile	12,000 lbs	80%	2	**26.83**
MgCl Brine	50 gal/lane mile	1,200 gallons	100%	1	**6.71**
Ice Melt	325 lbs/lane mile	2,000 lbs	98%	1	**10.96**

- Application rates are calculated and shown for each responsible party since each has different processes in place and can be targeted individually when developing BMPs.
- The 2022-2023 reporting season was relatively warm, and very minimal chloride was needed throughout the winter as indicated above by the low average number of events.
- **DLA:** Contrary to former years, application rates in areas completed by DLA were below target levels for ice melt usage. This can be attributed to the warmer temperatures.
- **Aleut:** Application rates in areas completed by Aleut were found to be below target rates for brine and salt/sand mix. Aleut did not apply any chloride during the 2022-2023 reporting season.
    - As the amount of salt used by Aleut is tracked on an installation wide basis and the Lower Accotink Creek only accounts for a portion of the area treated, the application rates for this area assumes the application is consistent throughout the installation.
- **NGA:** Application rates in areas completed by NGA was found to be below target rates for brine, ice melt, and for the salt/sand mix.
    - Based on tracking of usage completed during the 2021-2022 reporting period, it was noted that NGA is treating a significantly larger area than originally captured in the plan. This updated acreage has been included in the update to the Chloride TMDL Action Plan.

BMP Assessment: BMPs CL.1 through CL.7 identified in the Program Plan and Chloride TMDL action plan have not been fully implemented and therefore efficacy cannot be fully determined. Fort Belvoir will continue implementation of the current plan using annual assessments and the iterative process to identify and implement improvements.

D. SEDIMENT TMDL FOR THE LOWER ACCOTINK CREEK

The Lower Accotink Creek Sediment TMDL was approved by the State Water Control Board (SWCB) on 12 April 2018 and approved by the Environmental Protection Agency (EPA) on 23 May 2018. The Lower Accotink Creek Sediment TMDL Action Plan was completed as per Part II.B of the 2018- 2023 General Permit, which requires that the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II.B.3 - 7 as applicable no later than 30 months after the permit effective date. This Lower Accotink Creek Sediment TMDL Action Plan allowed for a public comment period by being posted on the Fort Belvoir Home Page under Environmental Documents for Stormwater in January 2021. A Notice of Availability for the document was:

- Posted on the Fort Belvoir Environmental Facebook page on 8 January 2021.
- Posted on the Fort Belvoir Home Page on 8 January 2021.
- Published in the Fort Belvoir newspaper, The Belvoir Eagle on 14 January 2021.

Fort Belvoir provided for the public comment period to be open until 15 February 2021 allowing for at least 15 days for public comment as required under Part II.B.7. Fort Belvoir DPW did not receive any comments during this period therefore, the public comment section was the only section updated prior to submittal of the Final Lower Accotink Creek Sediment TMDL Action Plan to VADEQ on 23 February 2021.

The overall goal of this Action Plan is to provide the means and methods and a general level of effort that will be needed for Fort Belvoir to meet the 55% Lower Accotink Creek TMDL reduction targets in the MS4 permit for sediment developed by the VADEQ. A Waste Load Allocation (WLA) of 235 tons/year as well as a Baseline Load of 519 tons/year was already given by VADEQ through the Volume II Sediment TMDLs for the Lower Accotink Creek Watershed. However, it was noted that regulated areas within the MS4 service area have significantly changed since publication of this document. Therefore, the baseline load for Fort Belvoir was re-evaluated as the removal of areas within the MS4 Service Area due to additional VPDES Permits has occurred. Based off this re-evaluation, an adjusted Baseline Load of 315.98 tons/year was calculated, with a new adjusted target reduction of 80.98 tons/year (or 161,960 pounds/year) of sediment to be achieved.

VADEQ approved the Sediment TMDL plan as is, with the adjusted targeted reduction values, in a letter dated 15 October 2021 but noted:

- The re-application process for the Ft. Belvoir Stormwater Industrial Permit (VA0092771) had commenced.
- When this permit is reissued, changes to the acreage in the MS4 and stormwater industrial areas will likely occur.
- Ft. Belvoir should submit a revised Sediment MS4 TMDL Action Plan to DEQ reflecting the updated MS4 area and the sediment removal calculations for stormwater management facilities, stream restorations, street sweeping, and land use conversions 180 days after reissuance of the Permit No. VA0092771.

Fort Belvoir considered all projects completed since the 2009 progress run for credits as described in VADEQ Guidance Memo No. 20-2003 which replaced Guidance Memo No. 15-2005 as guidance for meeting local TMDL waste load allocations for sediment. The strategies listed in the plan as available to meet the required reductions included Land Use changes, Urban Structural BMPs, Urban Stream Restoration, Street Sweeping, and Storm Drain Cleaning.

BMP TSS.1 SEDIMENT TMDL ACTION PLAN IMPLEMENTATION AND REPORTING

The Sediment TMDL Action Plan was developed in early 2021 and approved by VADEQ in October 2021. The plan assessed the current MS4 area and practices in place to serve as the baseline analysis for the current program and will be utilizing the data as a comparison point moving forward. The achieved reductions from each implemented BMP were compared to both the adjusted load reduction (80.98 tons/year) and original load reduction (519 tons/yr) to determine if goals for the WLA were met. Below is a summary of the actual progress made towards achieving the required reductions and a status report on the identified measurable goals necessary to meet the reduction requirements.

Table 19: Actual Lower Accotink Creek Sediment TMDL Reductions Achieved 2022-2023

Pollutants Of Concern	BMP	Required Reduction (lbs. /yr.)	Reductions Achieved (lbs. /yr.)	% Of Required Reduction *(Original)*	% Of Required Reduction *(Adjusted)*
Total Suspended Solids	Urban Structural BMP's	*Original:* ***1,038,000*** *Adjusted:* ***161,960***	96,019.75	9.25%	59.29%
	Stream Restoration		5,113.94	0.49%	3.16%
	Street Sweeping		21,380.34	2.06%	13.20%
	Storm Drain Cleaning		0	0%	0%
	Land Use Change		15,742.23	1.51%	9.72%
TSS Reduction Achieved vs. WLA			***162,717.16***	***13.31%***	***85.37%***

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to inspect and maintain the 49 Urban Structural BMPs located within the Lower Accotink Creek Watershed and address any deficiencies noted during inspections within one year was met.

- The 49 SMFs located within the Lower Accotink were evaluated during this reporting cycle.
  - Three (3) of the facilities were found to be owned and operated by VDOT and therefore were removed from the list of urban structural BMPs available for credit during the previous reporting cycle 2021-2022, resulting in a loss of 8,668,78 lb./yr of TSS reductions.
  - Three (3) facilities were found to be temporary facilities associated with construction projects and will no longer be in place. Therefore, they were removed from the list of urban structural BMPs available for credit during the previous reporting cycle 2021-2022, resulting in a loss of 24,637.33 lb./yr of TSS reductions.
- 43 of the original SMFs located within the Lower Accotink remain in place and belong to Fort Belvoir.
  - 42 were inspected during the reporting period and inspections noted that no significant maintenance was required. Minor maintenance suggested replacement of mulch in areas, removal of vegetation or trash, or removal of sediment accumulation as required.
  - Two (2) had maintenance performed on them during the reporting period.
  - Only one (1) SMF (structure 161 or VAFY263) was not inspected, therefore maintenance requirements are unknown.
  - If significant maintenance had been required, the deficiencies will need to be addressed by 30 June 2024 or credits for the facilities would have been lost.
- An additional 11 SMFs came online, associated with the NMUSA project.
  - All 11 of these SMFs were inspected during the reporting period and inspections noted no significant maintenance required.
  - Nine (9) SMFs fell into the BMP#12 – Urban Infiltration Practices – with sand/veg no underdrain category which has a 95% sediment removal efficiency.

        - The nine (9) new SMFs treat a total of 22.07 acres and achieve a combined reduction of 17,247.87 lb./yr.
    - Two (2) of these facilities did not have an equivalent ChesBay Program BMP # and therefore no additional credits were taken.
- An additional five (5) SMFs were discovered during the 2021-2022 reporting period and added to the system. These were legacy SMFs which were originally not included, but have now been added to the Warehouse and were associated with the Davison Army Airfield (DAAF) Fire Station Expansion Project from 2013:
    - All five (5) of these SMFs were inspected during the reporting period and inspections noted no significant maintenance required
    - One (1) SMF (structure 7891) is permeable pavement, however, it is unknown the soil conditions and does not line up well with an equivalent ChesBay Program BMP #, therefore, no additional credits were taken.
    - One (1) SMF (structure 7893) is a bioretention level 1, falling into the BMP#1 – (Bioretention/Raingardens) category which has an 80% sediment removal efficiency.
        - This structure treats a total of 0.93 acres and achieves a reduction of 740.90 lb./yr.
    - Three (3) SMFs (structures 7894, 7895, and 7896) are dry extended detention ponds, falling into BMP#8 – Dry Extended Detention Ponds which has a 60% sediment removal efficiency.
        - These three (3) SMFs treat a total of 1.37 acres and achieve a combined reduction of 977.53 lb./yr.
- Fort Belvoir will ensure that all 59 existing facilities, new and old belonging to Fort Belvoir, will be inspected during the 2023-2024 reporting period to ensure credits can be maintained.
- Reductions achieved from new and old SMFs based on findings from the 2022-2023 reporting cycle are summarized in Table 20 below.

Table 20: Credits from SMFs within the Lower Accotink Creek Watershed

BMP Name/Type	Year Completed	Chesbay Program BMP #	Sediment Removal Efficiency	Acres Treated	TSS Reduction (lb./yr)
49 Original SMFs considered in the plan	2009-2020	Various	Various	312.48	110,359.56
VDOT SMFs (VAFY17-587, 588, and 589)	N/A	Various	Various	-18.07	-8,668.78
Removed Facilities (VAFY17-577, 624, and 1316)	N/A	Various	Various	-52.44	-24,637.33
Nine (9) x Infiltration Galleries at NMUSA	2021	12	95%	22.07	17,247.87
Four (4) SMFs at DAAF Fire Station Expansion	2013	Various	Various	2.30	1,718.43
			Total Reductions	**266.34**	**96,019.75**

The measurable goal to inspect and verify functionality of the two (2) stream restoration projects considered in the plan once every 5 years and address any deficiencies noted during inspections within one year was met.

- The two (2) stream restoration projects were completed between 2011 and 2019.
    - Verification of long-term performance for the North Area project was completed by Fort Belvoir in 2019 and determined that the project remains effective and can maintain credits for another five years.
- Reductions achieved from the Stream Restoration Projects are summarized in Table 21 below.

Table 21: Credits from Stream Restoration Projects within the Lower Accotink Creek Watershed

BMP Name/Type	Year Completed	Year Verified	Removal Rates (lbs/ft)	Linear Feet Restored	TSS Reduction (lb./yr)
North Area Natural Channel Design	2011	2019	15.13	128	1,936.64
NMUSA Natural Channel Design	2019	**Due 2024**	15.13	210	3,177.3
			Total Reductions	**338**	**5,113.94**

The measurable goal to perform and document the street sweeping program as specified under the O&M contract was met.

- Sweeping was to be completed monthly based on Technical Exhibit SA2 of the Base Operations Contract that specifies the locations to be swept.
    - The contract specifies 2,686 acres of land that should be swept monthly of which 304.22 acres falls within the regulated MS4 area in the Lower Accotink Creek Watershed.
- Based on reported data to DPW, street sweeping practices for the 2022-2023 reporting period falls under scenario SCP-4 as listed in Guidance Memo No. 20-2003 which would achieve a removal rate of 6% for TSS.
- Table 22 below shows the actual reductions achieved during the 2022-2023 reporting period.

Table 22: Annual 2021-2022 Street Sweeping Within Lower Accotink Creek

MS4 Area Sweeping – Lower Accotink Creek				
Street Sweeping Practice #	**TSS Removal Rate**	**Sq. Yd.**	**Acres**	**TSS Reduction (lb/yr)**
SCP-5 Regenerative sweeper 6+ pass/yr	6%	1,472,447	304.22	21,380.34
			Total Reductions	**21,380.34**

The measurable goal to perform and document the Storm Drain Cleaning as specified under the O&M contract was not met.

- Sediment is to be removed from the storm drain systems on Fort Belvoir Property by the Base Operations Contractor. Collected sediment is taken to two (2) dumpsters and then are allowed to dry prior to sampling and disposal. At the disposal time, the dry weight is recorded in a waste disposal manifest.
- The dry weight of material collected is inclusive of the entirety of Fort Belvoir therefore, to calculate reductions within the Lower Accotink Creek Watershed a ratio to the total MS4 area is used. The Lower Accotink Creek Watershed has a total of 1,429.5 acres within the MS4 Service Area, making up for 44.64% of the total MS4 Service Area.
- During the 2022-2023 reporting period the Base Operations contractor did not dispose of any collected debris from storm drain cleaning. Therefore, no data on the dry weight of materials collected was available and Fort Belvoir assumes no reductions were achieved using this strategy.

BMP TSS.2 EDUCATION AND TRAINING

The goal of Fort Belvoir's Education and Outreach and Training Programs is to inform civilian and military personnel, residents and contractors about the steps that can be taken to reduce stormwater pollution to the maximum extent practicable (MEP). As such, Sediment is listed as one of the high-priority stormwater issues

discussed under MCM 1 and is one of the most common topics covered in the Training program discussed under MCM6.

During the reporting period from 1 July 2022 – 30 June 2023, the following goals are set forth in the Program Plan.

The measurable goal to publish one article and/or stormwater newsletter annually that discusses the sediment transport and water quality issue, proper erosion and sediment control (ESC) measures, reporting information, and steps that can be taken to reduce sediment sources was met.

- The 2023 third quarter article was published through housing in April 2023 and covered sediment specifically, and went over the basics of sediment, how it pollutes our water resources and storm sewer system, and tips of what residents can do to help.

The measurable goal to provide specialized training focused on proper construction site sediment and erosion control, importance of Stormwater BMPs and storm sewer maintenance, implementation, and benefits of urban stream restoration with target audiences being construction projects, Engineering Division and the Operations and Maintenance Division, including the Base Operations Contractor was met.

- The Training Plan identifies seven (7) levels of training at different magnitudes of content with Level 1 being the most extensive. Erosion & Sediment Control Basics is covered in Training Levels 1, 2, 3, 5, and 6.
- All construction permitted under a Construction General Permit (CGP) must have a RLD and all RLD Personnel and other pertinent site employees receive Level 5 training to address erosion and sediment control concerns before construction begins on-site. A total of 30 people associated with three large construction projects received Level 5 – preconstruction training during the reporting cycle.
- Fort Belvoir DPW employees are usually trained using Level 3 & 4 training once a year to applicable field personnel. DPW personnel were trained this period on 4 April 2023.

BMP Assessment: BMPs TSS.1 and TSS.2 identified in the Program Plan and Sediment TMDL Action Plan have not been fully effective in achieving the goals of the TMDL as only approximately 85% of the adjusted load reduction required was achieved. Fort Belvoir recognizes that ensuring that street sweeping is done at least frequently enough to meet requirements of SCP-4 is the fastest and easiest way to meet the required load reductions and will work to ensure this occurs during the next reporting period. A revision of the Accotink Creek Sediment TMDL Action Plan is set to occur with the new permit cycle and is scheduled for 2024.

5. CHANGES TO THE MS4 PROGRAM PLAN

Part I.D.2.e of the MS4 General Permit requires an evaluation of the MS4 Program Plan Implementation. Each portion of the Program Plan was evaluated individually in Sections 2, 3, and 4 above. Table 23 shows a summary of changes made to the Program Plan throughout the 2022-2023 reporting period and as a part of the evaluation of its implementation. Below is a succinct list detailing the major changes made to the MS4 Program Plan during the 2022-2023 reporting period or recommended for the 2023-2024 reporting period.

Implementation of the MS4 Program continues to evolve and be refined as is the intent of the iterative process. Overall, changes made to the Program Plan during this reporting period reflect refinements to clarity, adaptations that were prompted by external changes, such as the use of new communication avenues or addition of TMDL plans, or lessons learned during implementation that have prompted adjustments. As such, MS4 Program implementation remains adaptable and effective as Fort Belvoir strives to reduce pollutant loading and protect water quality to the maximum extent practicable.

Table 23: Changes to the Program Plan as of 30 June 2023

Date	Change	Location
28 June 2023	Revised all dates to Army formatting, ex. 1 October 2022	All
28 June 2023	Updated Revision date to June 2023.	Cover
28 June 2023	Updated acronyms and abbreviations to include all references throughout document.	Page iv – vi
28 June 2023	Updated VDOT Permit cycle dates to new permit dates.	Section 3.4
28 June 2023	Updated to state that policy memorandum #28 is not currently in effect but has been staffed for signature with the Garrison Commander.	Section 4.13
28 June 2023	Updated to state that policy memorandum #71 is not currently in effect but has been staffed for signature with the Garrison Commander.	Section 4.14
28 June 2023	Updated to state that policy memorandum #73 is not currently in effect but has been staffed for signature with the Garrison Commander.	Section 4.15
28 June 2023	Added statement on how Aleut is also responsible for winter road maintenance and salting.	Section 5.1
28 June 2023	Environmental Support – Removed reference to Aerostar as environmental support, re-phrased to “contract personnel from private consulting firms.” Updated reference to Table 1 from 2021-2022 to 2022-2023 reporting period.	Section 5.1
28 June 2023	Revised funding status for contractor support table to reflect current operations.	Section 5.1
28 June 2023	Updated section to reference newest delegation of authority from Garrison Commander memorandum dated February 2023.	Section 5.2
28 June 2023	Updated all plan reference dates to new versions, if applicable.	Section 5.3
28 June 2023	Table 2 – Updated Impaired Surface Waters Table from Final 2022 Report from Final 2020 Report, removed A16E-01-BZOKFL as no longer listed.	Section 7
28 June 2023	Input on the MS4 Program Plan – Updated email reference to correct email.	Section 8.2
28 June 2023	Updated reference to IDDE plan to new plan date.	Section 8.3
28 June 2023	Removed references to Joshua SeGraves and replaced with verbiage describing that current policy memo #71 is in staffing with new Garrison Commander.	BMP 3.2
28 June 2023	Added backup NOAA DAAF weather station description and link.	BMP 4.2
28 June 2023	Updated list of BMP Fact Sheets to include any new fact sheets.	BMP 6.1
29 June 2023	Re-created Appendix A, was not included as part of previous MS4 Program Plan, included newest version of Delegation of Authority from current Garrison Commander dated February 2023.	Appendix A

Date	Change	Location
29 June 2023	Re-created Appendix B, was not included as part of previous MS4 Program Plan, included newest versions of MS4 Program Bulletin #1 and ESC Technical Bulletins #1-4.	Appendix B
29 June 2023	Re-created Appendix C, was not included as part of previous MS4 Program Plan, included current ESC/SWM Inspection form.	Appendix C

A. DETAILED PLAN REVISIONS AND JUSTIFICATIONS

Plan Purpose and Revisions

No significant changes were made to this section.

Facility Background and MS4 Regulated Service Area

No significant changes were made to this section.

Properties Not Covered under the Fort Belvoir MS4 Permit

No significant changes were made to this section.

Legal Authorities

Fort Belvoir Policy Memorandum #28, Environmental Policy

Fort Belvoir updated to state that this policy is not currently in place, describes why, and indicates the path forward and that the policy has been staffed for signature with the Garrison Commander.

Fort Belvoir Policy Memorandum #71, Prohibition of Illicit/ Unauthorized Discharges into the MS4 and Waterways

Fort Belvoir updated to state that this policy is not currently in place, describes why, and indicates the path forward and that the policy has been staffed for signature with the Garrison Commander.

Fort Belvoir Policy Memorandum #73, Stormwater Pollution Prevention Plan Requirements

Fort Belvoir updated to state that this policy is not currently in place, describes why, and indicates the path forward and that the policy has been staffed for signature with the Garrison Commander.

Program Administration

Organizational Structure (Permit Part I.C.1.a)

Contract support responsibilities and funding status for BASEOPS and Environmental Support for the 2022-2023 reporting period were updated, as needed, in the narrative and on Table 1.

Delegation of Signature Authority (Permit Part III, K.2.)

Newest delegation of signature authority dated February 2023 from Garrison Commander memorandum referenced.

Documents Incorporated by Reference (Permit Part I, C.1.d.)

All plan dates were updated based on most recent revisions.

Impaired Waters

Fort Belvoir updated 305/303 impaired waters information in Table 2: *Impaired Surface Waters Receiving Discharge from USAG Fort Belvoir* based on the VADEQ Final 2022 305(b)/303(d) Water Quality Assessment Integrated Report approved by EPA on October 21, 2022.

Minimum Control Measures

MCM#1: Public Education and Outreach on Stormwater Impacts

No significant changes were made to this section.

BMP 1.1 Implement a Public Education and Outreach Plan

No significant changes were made to this section.

MCM#2: Public Involvement/ Participation

The stormwater email was updated to reference the correct email.

BMP 2.1 Maintain a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention

No significant changes were made to this section.

BMP 2.2 Public Involvement Activities

No significant changes were made to this section.

MCM#3: Illicit Discharge Detection and Elimination

No significant changes were made to this section.

BMP 3.1 Maintain an Accurate MS4 Map and Information Table

No significant changes were made to this section.

BMP 3.2 Prohibit Unauthorized Non-Stormwater Discharges into the MS4

BMP 3.2 was updated to reflect the status as of June 2023 regarding Fort Belvoir Policy Memorandum #71, *Prohibition of Illicit/Unauthorized Discharges into the MS4 and Waterways*. The measurable goal was changed to get a new policy memorandum approved and signed by the Garrison Commander. Then,

once in place, the goal is to review, revise, and update the policy memorandum as needed to maintain the policy in place whenever there is a change in command. The annual reporting goal was updated to provide narrative on any changes to the memorandum and its status as active or not. Updates to specific responsibilities were made in the Responsible Party section.

BMP 3.3 Maintain and Implement U.S. Army, Fort Belvoir, Virginia Illicit Discharge Detection and Elimination (IDDE) Plan

No significant changes were made to this section.

MCM#4: Construction Site Stormwater Runoff Control

No significant changes were made to this section.

BMP 4.1 Communicate the Requirements of the MS4 Program

No significant changes were made to this section.

BMP 4.2 Erosion and Sediment Control (ESC) Site Inspections

A backup NOAA DAAF weather station was added to be used in the event that the main weather station is nonfunctional, to include a description and link.

BMP 4.3 Progressive Compliance and Enforcement Strategy

No significant changes were made to this section.

MCM#5: Post-Construction Runoff Control

No significant changes were made to this section.

BMP 5.1 Conduct Annual Inspections and Maintenance of Stormwater Management Facilities

No significant changes were made to this section.

BMP 5.2 Maintain an Electronic Database or Spreadsheet

No significant changes were made to this section.

MCM#6: Pollution Prevention/Good Housekeeping for Municipal Operations

No significant changes were made to this section.

BMP 6.1 Written Procedures for Operations and Maintenance Activities

The list of BMP fact sheets was updated to include additional fact sheets developed which were previously not captured.

BMP 6.2 Develop and Implement Stormwater Pollution Prevention Plans (SWPPP)

No significant changes were made to this section.

It is recommended that the High Priority Facility table is updated to accurately reflect any changes to SWPPPs, development status, and current operating procedures to date. This was not completed during this current reporting period 2022-2023 and therefore needs to be evaluated and updated with the next reporting period 2023-2024.

BMP 6.3 Implement Nutrient Management Plans

No significant changes were made to this section.

BMP 6.4 Revise and Implement Written Training Plan

No significant changes were made to this section.

Chesapeake Bay TMDL for Nitrogen, Phosphorus and Sediment

No significant changes were made to this section.

BMP CHESBAY.1 Chesapeake Bay TMDL Action Plan Implementation

No significant changes were made to this section.

Local TMDL Action Plans

Bacteria TMDL for the Lower Accotink Creek Watershed

No significant changes were made to this section.

Polychlorinated Biphenyls (PCB) TMDL for the Potomac River

No significant changes were made to this section.

Sediment TMDL for the Lower Accotink Creek

No significant changes were made to this section.

Chloride TMDL for the Lower Accotink Creek

No significant changes were made to this section.

2023

APPENDIX A

2023 DELEGATION OF SIGNATURE AUTHORITY

FORT BELVOIR 2022-2023 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

AMIM-BVP-E

August 17 2023

MEMORANDUM FOR Ms. Sybille R. Vega, Chief, Environmental Division, Directorate of Public Works, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116

SUBJECT: Delegation of Signature Authority for the Municipal Separate Storm Sewer System (MS4) Virginia Pollutant Discharge Elimination System (VPDES) Permit #VAR040093 for Routine Correspondence

1. You are authorized to sign all routine correspondence related to the Installation's MS4 VPDES Permit #VAR040093, effective upon submission of this delegation memorandum to the Virginia Department of Environmental Quality (VADEQ) as required by 9VAC25-870-370.B.3 and 9VAC25-890-40, Part III.K.2. All correspondence signed must comply with the provisions of AR 25-50, paragraph 6-2, concerning authority.

2. Fort Belvoir's storm water management program is performed in accordance with the Clean Water Act (33 USC Sec.1251), Virginia Storm Water Management Act (Virginia (VA) Code Sections (Secs) 62.1-44.15:24 et seq.), Virginia Erosion and Sediment Control Law (VA Code Secs 62.1-44.15:51 et seq.), Virginia Storm Water Management Regulations (9VAC25-870-10 et seq.; 9VAC25-880-1 et seq.; 9VAC25-890-1 et seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840-10 et seq.; 9VAC25-850-10 et seq.).

3. Routine correspondence includes:

a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.

b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, VADEQ.

c. Correspondence related to transmittal of Erosion and Sediment Control and Stormwater Management Plans to VADEQ for review and approval.

d. Land Disturbance Letters issued to construction contractors to signify that construction commencement is approved.

4. Signatory authority for submittal of MS4 VPDES Permit registration statement remains with the Garrison Commander.

5. Submittal of routine correspondence described in; 9VAC25-870-370 Part A.3 and Part B, and 9VAC25-890-40 Part 3.K.1.a shall include certification of reports or other information required under the aforementioned.

6. This delegation may be withdrawn at any time. Notice of withdrawal will be provided to the VADEQ.

7. Authority: AR 25-50 (Preparing and Managing Correspondence), paragraph 6-1, 10 October 2020.

JOSEPH V. MESSINA
COL, AG
Commanding

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

AMIM-BVP-E

MEMORANDUM FOR Mr. Micah E. Boersma, Director of Public Works, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116

SUBJECT: Delegation of Signature Authority for the Municipal Separate Storm Sewer System (MS4) Virginia Pollutant Discharge Elimination System (VPDES) Permit #VAR040093 for Routine Correspondence

1. You are authorized to sign all routine correspondence related to the Installation's MS4 VPDES Permit #VAR040093, effective upon submission of this delegation memorandum to the Virginia Department of Environmental Quality (VADEQ) as required by 9VAC25-870-370.B.3 and 9VAC25-890-40, Part III.K.2. All correspondence signed must comply with the provisions of AR 25-50, paragraph 6-2, concerning authority.

2. Fort Belvoir's storm water management program is performed in accordance with the Clean Water Act (33 USC Sec.1251), Virginia Storm Water Management Act (Virginia (VA) Code Sections (Secs) 62.1-44.15:24 et seq.), Virginia Erosion and Sediment Control Law (VA Code Secs 62.1-44.15:51 et seq.), Virginia Storm Water Management Regulations (9VAC25-870-10 et seq.; 9VAC25-880-1 et seq.; 9VAC25-890-1 et seq.) and Virginia Erosion and Sediment Control Regulations (9VAC25-840-10 et seq.; 9VAC25-850-10 et seq.).

3. Routine correspondence includes:

a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.

b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, VADEQ.

c. Correspondence related to transmittal of Erosion and Sediment Control and Stormwater Management Plans to VADEQ for review and approval.

d. Land Disturbance Letters issued to construction contractors to signify that construction commencement is approved.

4. Signatory authority for submittal of MS4 VPDES Permit registration statement remains with the Garrison Commander.

5. Submittal of routine correspondence described in; 9VAC25-870-370 Part A.3 and Part B, and 9VAC25-890-40 Part 3.K.1.a shall include certification of reports or other information required under the aforementioned.

6. This delegation may be withdrawn at any time. Notice of withdrawal will be provided to the VADEQ.

7. Authority: AR 25-50 (Preparing and Managing Correspondence), paragraph 6-1, 10 October 2020.

JOSEPH V. MESSINA
COL, AG
Commanding

2023

APPENDIX B

NEW STORMWATER MANAGEMENT FACILITIES AND MS4 OUTFALLS INSTALLED AND/OR DISCOVERED DURING 2022-2023 REPORTING PERIOD

FORT BELVOIR 2022-2023 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

PROJECT NAME:	Sailfish - Site E, Pad I Whitespace Expansion (No CGP)			1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Dogue Creek	DISTURBED AREA =	0.21 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	0.21 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
A2	MTD Hydrodynamic - ADS Barracuda S4	Water Quality	0.24	0	0.24	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'03.88"N 77°09'13.89"W	9/9/2022	9030	9/9/2022
2	MTD Filtering - Stormtech SC-740 UDS w/ Isolator Row	Water Quality	0.24	0	0.24	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'03.90"N 77°09'14.20"W	9/9/2022	9031	9/9/2022

PROJECT NAME:	Dogue Creek Village Renovations (VAR10N532)			1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Dogue Creek	DISTURBED AREA =	6.77 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	6.77 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
1	Bioretention - Level 1	Water Quality	0.49	0.24	0.25	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'48.25"N 77°07'44.42"W	10/17/2022	9032	10/17/2022
2	MTD Filtering - Stormtech #1	Water Quality	0.69	0.24	0.45	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'54.76"N 77°07'49.41"W	10/17/2022	9033	10/17/2022
3	MTD Filtering - Stormtech #2	Water Quality	0.38	0.13	0.25	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'46.68"N 77°07'43.23"W	10/17/2022	9034	10/17/2022
4	MTD Filtering - 10'x6' Filterra	Water Quality	0.37	0.2	0.17	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'51.65"N 77°07'48.14"W	10/17/2022	9035	10/17/2022
5	MTD Filtering - 10'x6' Filterra	Water Quality	0.36	0.2	0.16	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'51.47"N 77°07'47.98"W	10/17/2022	9036	10/17/2022

PROJECT NAME:	Building 2297 Drainage Corrections (No CGP)			1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	0.9 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	0.9 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
BMP-1	Bioretention - Level 1	Water Quality	0.17	0.1	0.07	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'50.46"N 77°09'18.02"W	5/2/2023	9037	5/2/2023

PROJECT NAME:	Sailfish - Site E, Pad III, Phase 2 Duct Bank (No CGP)									1 JULY 2022 - 30 JUNE 2023		
DISTURBED AREA (DA) WITHIN WATERSHED(S):												
Watershed 1	Dogue Creek	DISTURBED AREA =	0.87	acres								
Watershed 2		DISTURBED AREA =		acres								
		TOTAL DISTURBED AREA =	0.87	acres								
Stormwater Management Facilities												
Facility ID Shown in Plan	**Facility Type**	**Purpose**	**Acres Treated**	**Pervious Acres Treated**	**Impervious Acres Treated**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Coordinates**	**Date Facility Brought Online**	**MS4 ID**	**Most Recent Inspection Date**
1	Dry Swale - Level 1	Water Quality	0.39	0.28	0.11	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'34.94"N 77°09'06.62"W	5/16/2023	9038	5/16/2023

PROJECT NAME:	Sailfish - Site E, Pad III (VAR10O350)									1 JULY 2022 - 30 JUNE 2023		
DISTURBED AREA (DA) WITHIN WATERSHED(S):												
Watershed 1	Dogue Creek	DISTURBED AREA =	4.98	acres								
Watershed 2		DISTURBED AREA =		acres								
		TOTAL DISTURBED AREA =	4.98	acres								
Stormwater Management Facilities												
Facility ID Shown in Plan	**Facility Type**	**Purpose**	**Acres Treated**	**Pervious Acres Treated**	**Impervious Acres Treated**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Coordinates**	**Date Facility Brought Online**	**MS4 ID**	**Most Recent Inspection Date**
A3	MTD Hydrodynamic - Contech Jellyfish	Water Quality	1.83	0.04	1.79	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'05.36"N 77°09'08.02"W	5/16/2023	9039	5/16/2023
B10	MTD Hydrodynamic - Contech Jellyfish	Water Quality	0.5	0	0.5	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'08.47"N 77°09'08.36"W	5/16/2023	9040	5/16/2023
B4	MTD Hydrodynamic - Contech Jellyfish	Water Quality	1.52	0.16	1.36	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'08.27"N 77°09'07.99"W	5/16/2023	9041	5/16/2023
Stormtech MC-3500	MTD Filtering - Stormtech MC-3500 UDS w/ Isolator Row	Water Quality & Quantity	1.83	0.04	1.79	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'05.90"N 77°09'07.86"W	5/16/2023	9042	5/16/2023
Stormtech MC-4500	MTD Filtering - Stormtech MC-4500 UDS w/ Isolator Row	Water Quality & Quantity	2.02	0.16	1.86	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'08.33"N 77°09'09.10"W	5/16/2023	9043	5/16/2023
Bioretention #1	Bioretention - Level 1	Water Quality & Quantity	2.01	0.22	1.79	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'04.31"N 77°09'07.67"W	5/16/2023	9044	5/16/2023
Bioretention #2	Bioretention - Level 1	Water Quality & Quantity	2.19	0.33	1.86	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'07.94"N 77°09'07.67"W	5/16/2023	9045	5/16/2023

PROJECT NAME:	American Water Aqueous Sulfide Building (No CGP)									1 JULY 2022 - 30 JUNE 2023		
DISTURBED AREA (DA) WITHIN WATERSHED(S):												
Watershed 1	Dogue Creek	DISTURBED AREA =	0.23	acres								
Watershed 2		DISTURBED AREA =		acres								
		TOTAL DISTURBED AREA =	0.23	acres								
Stormwater Management Facilities												
Facility ID Shown in Plan	**Facility Type**	**Purpose**	**Acres Treated**	**Pervious Acres Treated**	**Impervious Acres Treated**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Coordinates**	**Date Facility Brought Online**	**MS4 ID**	**Most Recent Inspection Date**
1	Micro-Bioretention - Level 2	Water Quality	0.12	0.07	0.05	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°42'34.46"N 77°08'36.75"W	5/30/2023	9046	5/30/2023

PROJECT NAME:	Woodlawn Village Infill ADA Units (VAR10O153)			1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):				
Watershed 1	Accotink Creek	DISTURBED AREA =	4.2 acres	
Watershed 2		DISTURBED AREA =	acres	
		TOTAL DISTURBED AREA =	4.2 acres	

Stormwater Management Facilities

Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
Bio 1	Bioretention - Level 1	Water Quality	0.23	0.12	0.11	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'48.27"N 77°07'48.92"W	6/13/2023	9047	6/13/2023
Bio 2	Bioretention - Level 1	Water Quality	0.19	0.11	0.08	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'50.48"N 77°07'49.48"W	6/13/2023	9048	6/13/2023
Bio 3	Bioretention - Level 1	Water Quality	0.4	0.14	0.26	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'04.72"N 77°07'49.80"W	6/13/2023	9049	6/13/2023
Bio 4	Bioretention - Level 1	Water Quality	0.68	0.4	0.28	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'09.50"N 77°07'45.65"W	6/13/2023	9050	6/13/2023
Bio 5	Bioretention - Level 1	Water Quality	0.6	0.38	0.22	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'08.12"N 77°07'46.13"W	6/13/2023	9051	6/13/2023
Bio 6	Bioretention - Level 1	Water Quality	1.04	0.77	0.27	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'11.73"N 77°07'39.61"W	6/13/2023	9052	6/13/2023
Biopod 1	MTD Filtering - BioPod	Water Quality	0.22	0.15	0.07	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'43.78"N 77°07'52.45"W	6/13/2023	9053	6/13/2023
Biopod 2	MTD Filtering - BioPod	Water Quality	0.44	0.29	0.15	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'44.18"N 77°07'52.75"W	6/13/2023	9054	6/13/2023
Biopod 3	MTD Filtering - BioPod	Water Quality	0.12	0	0.12	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'43.93"N 77°07'53.00"W	6/13/2023	9055	6/13/2023
Biopod 4	MTD Filtering - BioPod	Water Quality	0.21	0.13	0.08	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'04.43"N 77°07'52.90"W	6/13/2023	9056	6/13/2023
Biopod 5	MTD Filtering - BioPod	Water Quality	0.38	0.17	0.21	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'10.13"N 77°07'47.01"W	6/13/2023	9057	6/13/2023
Biopod 6	MTD Filtering - BioPod	Water Quality	0.09	0	0.09	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'10.21"N 77°07'47.38"W	6/13/2023	9058	6/13/2023
Biopod 7	MTD Filtering - BioPod	Water Quality	0.24	0.09	0.15	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'11.10"N 77°07'36.85"W	6/13/2023	9059	6/13/2023
Biopod 8	MTD Filtering - BioPod	Water Quality	0.66	0.31	0.35	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'10.99"N 77°07'37.13"W	6/13/2023	9060	6/13/2023
Biopod 9	MTD Filtering - BioPod	Water Quality	0.44	0.29	0.15	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'06.39"N 77°07'35.41"W	6/13/2023	9061	6/13/2023
Biopod 10	MTD Filtering - BioPod	Water Quality	0.24	0.07	0.17	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°44'06.31"N 77°07'35.76"W	6/13/2023	9062	6/13/2023
Biopod 11	MTD Filtering - BioPod	Water Quality	0.41	0.33	0.08	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'51.16"N 77°07'28.70"W	6/13/2023	9063	6/13/2023

PROJECT NAME:	Woodlawn Village Infill ADA Units (VAR10O153)									1 JULY 2022 - 30 JUNE 2023		
DISTURBED AREA (DA) WITHIN WATERSHED(S):												
Watershed 1	Accotink Creek	DISTURBED AREA =	4.2	acres								
Watershed 2		DISTURBED AREA =		acres								
		TOTAL DISTURBED AREA =	4.2	acres								
Stormwater Management Facilities												
Biopod 12	MTD Filtering - BioPod	Water Quality	0.42	0.32	0.1	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'51.02"N 77°07'28.70"W	6/13/2023	9064	6/13/2023
Biopod 13	MTD Filtering - BioPod	Water Quality	0.2	0.1	0.1	38.730853	Unnamed Tributary to Dogue Creek	PL27	38°43'51.07"N 77°07'28.95"W	6/13/2023	9065	6/13/2023
Biopod 14	MTD Filtering - BioPod	Water Quality	0.44	0.13	0.32	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'50.90"N 77°07'28.88"W	6/13/2023	9066	6/13/2023
Biopod 15	MTD Filtering - BioPod	Water Quality	0.39	0.26	0.13	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'45.84"N 77°07'30.25"W	6/13/2023	9067	6/13/2023
Biopod 16	MTD Filtering - BioPod	Water Quality	0.31	0.14	0.17	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°43'45.58"N 77°07'30.16"W	6/13/2023	9068	6/13/2023

PROJECT NAME:	Sailfish - Site E, Pad I Whitespace Expansion (No CGP)						1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):							
Watershed 1	Dogue Creek	DISTURBED AREA =	0.21	acres			
Watershed 2		DISTURBED AREA =		acres			
		TOTAL DISTURBED AREA =	0.21	acres			
Stormwater Outfall Locations							
Outfall ID Shown in Plan	**Contributing Area (Acres)**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Approximate Latitude & Longitude of Outfall**	**Comments**	**MS4 Structure ID**
A5	0.24	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'03.69"N 77°09'14.48"W	Outfall from Stormtech SC-740, 15" RCP	9069

PROJECT NAME:	Dogue Creek Village Renovations (VAR10N532)						1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):							
Watershed 1	Dogue Creek	DISTURBED AREA =	6.77	acres			
Watershed 2		DISTURBED AREA =		acres			
		TOTAL DISTURBED AREA =	6.77	acres			
Stormwater Outfall Locations							
Outfall ID Shown in Plan	**Contributing Area (Acres)**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Approximate Latitude & Longitude of Outfall**	**Comments**	**MS4 Structure ID**
34	0.49	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'49.24"N 77°07'43.82"W	Outfall from Bioretention Unit, 12" HDPE	9070

PROJECT NAME:	Sailfish - Site E, Pad III, Phase 2 Duct Bank (No CGP)						1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):							
Watershed 1	Dogue Creek	DISTURBED AREA =	0.87	acres			
Watershed 2		DISTURBED AREA =		acres			
		TOTAL DISTURBED AREA =	0.87	acres			
Stormwater Outfall Locations							
Outfall ID Shown in Plan	**Contributing Area (Acres)**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Approximate Latitude & Longitude of Outfall**	**Comments**	**MS4 Structure ID**
A2	0.39	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'34.60"N 77°09'06.24"W	Outfall from Dry Swale, 15" RCP	9071

PROJECT NAME:	Sailfish - Site E, Pad III (VAR10O350)						1 JULY 2022 - 30 JUNE 2023
DISTURBED AREA (DA) WITHIN WATERSHED(S):							
Watershed 1	Dogue Creek	DISTURBED AREA =	4.98	acres			
Watershed 2		DISTURBED AREA =		acres			
		TOTAL DISTURBED AREA =	4.98	acres			
Stormwater Outfall Locations							
Outfall ID Shown in Plan	**Contributing Area (Acres)**	**Watershed**	**Receiving Waters**	**VAHU6 Code**	**Approximate Latitude & Longitude of Outfall**	**Comments**	**MS4 Structure ID**
A7	2.01	Dogue Creek	Unnamed Tributary to Piney Run	PL27	38°44'03.66"N 77°09'06.58"W	Outfall from Bioretention #1, 18" HDPE	9072

2023

APPENDIX C

SOCIAL MEDIA POSTINGS AND INTERACTION REPORT

FORT BELVOIR 2022-2023 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

2022-2023 Social Media Interaction Report

The Purpose of this document is to summarize the Published posts for the Fort Belvoir Environmental Division Facebook Page as they relate to Stormwater, Water Quality, and Pollution Prevention. The below shows all posts related to education, outreach, and public involvement from 1 July 2022 through 30 June 2023. For each post there is information on the content of the post, The reach (how many people viewed the post); and engagement (defined as post clicks, reactions, and shares)

Caption	Post Date	Content Type	Reach	Likes	Link Clicks	Comments	Shares
Fort Belvoir is located within the Chesapeake Bay Watershed, therefore we are required to help protect and restore the Bay. There are 63 other installations that are in the watershed, that are also required to work towards this goal. The DoD works closely with the Chesapeake Bay Commission and in FY 2020 the two established a Chesapeake Bay Program Installation Status Report. Below is a summary of the efforts from FY 2021 (the full report can be found here https://www.denix.osd.mil/.../DIGITAL_FY21%20Annual...) The DPW – Environmental Team will be exploring some of the efforts that other installations have done to do our part. If you have any question or comments about the Chesapeake Bay Watershed or the Municipal Stormwater program please reach out to Calli Kaufhold at (703)-806-0022 or Calli.J.Kaufhold.Civ@Army.Mil.	25-Jul-22	Facebook Post	79	2	0	0	0
Check out our Stormwater Pollution Solutions for easy ways that you can do to protect our waters!	15-Aug-22	Facebook Post	78	2	0	0	0
The Northern Virginia Clean Water Partners has been involved in a TV and radio ad campaign. The aim of the campaign is to expand our message of protecting the health of bodies of water in the Northern Virginia area and, in turn, the health of the Northern Virginia Community. If you would like more information about Northern Virginia Clean Water Partners visit their page https://www.onlyrain.org/northern-virginia-s-water-quality They have graciously allowed us to re-post some of their videos here as a part of our Stormwater outreach.	12-Sep-22	Facebook Post	63	1	0	1	0
The first video we are sharing with you from the Northern Virginia Clean Water Partners. This is a great overview of many stormwater issues. Pet waste, litter. fertilizer and yard waste. Enjoy and feel free to reach out if you have any questions.	12-Sep-22	Facebook Post	77	3	0	0	0
The second video we are sharing with you from the Northern Virginia Clean Water Partners. This is a great look at yard waste and fertilizer just two stormwater issues we face here at Fort Belvoir, and where ever you call home. Enjoy and feel free to reach out if you have any questions.	14-Sep-22	Facebook Post	1019	3	0	0	1
The third video we are sharing with you from the Northern Virginia Clean Water Partners. This is a cute look at the videos from earlier this week. Enjoy and feel free to reach out if you have any questions.	16-Sep-22	Facebook Post	73	5	0	0	0
The Stormwater Pollution Prevention Quarterly Newsletter is here! In this quarters edition, you'll be able to read about winterizing equipment, sand blasting, painting, dewatering activities and important dates for MS4 and ISW Facilities to keep track of! We want to ensure everyone is helping Fort Belvoir stay in compliance with all our stormwater permits. Thank you for your time! Let us know if you have any questions.	21-Sep-22	Facebook Post	67	3	0	0	0
Fall is here and with it brings all the things we love about the change of seasons including the return of the pumpkin spice latte (yes please!), crisp autumn hikes, spooky pumpkin carving, and enjoying the changing colorful landscape as the leaves provide a beautiful show of red, purple, yellow, and orange. As those leaves begin to fall, paired with an increase in stormy wet weather, they can become a combination that leads to clogged storm drains causing water to back up and flood neighborhood streets and sidewalks. Leaves in housing will be taken care of in one of two ways. If the leave cover is light, they will be mulched in place to help return nutrients to the ground. If thee are big piles then vac truck will come by to pic up the plies. Fort Belvoir's BaseOps contractor will be removing leaves from the rest of the post. Please feel free to reach out to the Stormwater Team here or via their e-mail usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil	17-Oct-22	Facebook Post	124	4	0	0	0
Here's a video of a flooded five lane highway caused by leaves & trash. While this isn't Fort Belvoir it will give you an idea of how quick a blocked inlet can cause problems. The video is from ABC13 out of Houston, Texas from 1 Nov 2018, but this could happen anywhere.	20-Oct-22	Facebook Post	66	1	0	0	0
Many of our local streams suffer the effects of too much salt. Road salt (sodium chloride) is most commonly used to remove ice from roads, parking lots, and sidewalks. As snow and ice melt, road salt is carried into our lakes, streams, and wetlands, where just one teaspoon can permanently pollute five gallons of water. Chloride from road salt is a major threat to water quality in Accotink Creek, the Potomac River, and other areas of the country where de-icing occurs. Since chloride is not easily filtered from water in the natural environment, it builds up over time in the soil and water. Because of this, chloride levels in streams can remain elevated throughout the year – even into the summer. Road salt provides benefits y preventing roadway accidents, but can also have negative impacts on our environment and drinking water sources. When large amounts of road salt get into our drinking water sources it can contaminate it so that we can't drink it. An excessive amount of salt is hard and expensive for water treatment facilities to remove. With winter weather on its way, we will all be breaking out the road salt, so it is extremely important to control salt at the source by beaing strategic about when, where, and how salt is applied. For any addition question, comments or concerns please feel free to reach out to Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil	16-Nov-22	Facebook Post	87	1	0	0	0
It's the holiday season and it's time for one of my favorite holiday movies about stormwater. Okay, it's not about stormwater but National Lampoon's Christmas Vacation does have a very important stormwater lesson. If you've seen the movie you will remember Cousin Eddie and his RV. While the explosive end to Eddie emptying his RV's waste tank into the stormwater system is impossible it is funny. It's also a reminder that the only thing that should go down the storm drain is stormwater. Litter, yard waste, cooking grease, sanitary waste and automotive oils are all common pollutants that have been found in stormwater systems. None of these belong in the stormwater system. These pollutants decrease the life span of the stormwater system and pollute our waterways. All these wastes have a proper way of disposal. Please dispose of your wastes properly, and don't be an Cousin Eddie. For any addition question, comments or concerns please feel free to reach out to Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil	16-Dec-22	Facebook Post	95	4	0	0	0
The Stormwater Pollution Prevention Quarterly Newsletter is here! In this quarters edition, you'll be able to read about salt storage and salt application. There are some notes on when ISW facilities should notify DPW, and how to prepare your site for construction. If you have any Industrial Stormwater question please send them to ashley.c.mcmahon2.civ@army.mil	21-Dec-22	Facebook Post	88	2	0	0	0
As you may be aware, Fort Belvoir is responsible for managing stormwater runoff in order to protect the environment and health of our community. This includes preventing discharge of pollutants into local waterways, protecting against flooding and erosion, and maintaining the overall quality of our water resources. One of the primary ways that we manage stormwater on base is through a system of catch basins, swales, and detention ponds, known as Stormwater Management Facilities (SMFs). These structures capture and filter or detain stormwater as it flows over our property, removing pollutants and debris prior to releasing the water into local waterways. In order to be effective, these SMFs require regular maintenance and upkeep. This includes cleaning out debris from catch basins, removing accumulated sediment, and ensuring all structures are functioning properly as designed. Another important aspect of stormwater management on Fort Belvoir is preventing pollutants from entering our stormwater system in the first place. This includes things like properly disposing of hazardous materials, properly maintaining vehicles and equipment, and taking steps to prevent soil erosion. As residents of Fort Belvoir, you can play an important role in helping us manage and maintain our stormwater infrastructure. Here are a few things you can do to help: - Properly dispose of any hazardous materials, such as oil, pesticides, or batteries. - Use fertilizers, pesticides, and other chemicals responsibly, and in accordance with manufacturer specifications on the label. - Keep your vehicles and equipment well-maintained and free of leaks. - Help prevent soil erosion by properly maintaining landscaping and minimizing the use of heavy equipment and machinery in sensitive areas. - Report any spills or other incidents as soon as possible by using our convenient anonymous online reporting system: https://home.army.mil/.../stormwater-pollution-reporting. By working together, we can help protect our local waterways and maintain the overall health and quality of our community. If you have any questions or concerns about stormwater management on Fort Belvoir, please do not hesitate to reach out to our stormwater management team for more information at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil. Thank you for your cooperation and support in this important effort!	26-Jan-23	Facebook Post	73	2	0	0	0
Attention all residents! Have you ever heard of a TMDL? TMDL stands for Total Maximum Daily Load, which is a calculation of the maximum amount of a pollutant that a body of water can receive and still meet water quality standards. In other words, it's a way to measure and manage the amount of pollution in our waterways. Did you know that Fort Belvoir is covered under five different TMDLs? That's right! Water quality is very important at Fort Belvoir, and the Directorate of Public Works Environmental Division is responsible for managing stormwater runoff to protect the environment and health of our community. Below is an overview of each TMDL: - Sediment TMDL: Focuses on managing the amount of sediment, or dirt, that enters our waterways from construction sites, agricultural activities, and other sources. Sediment may contain all sorts of ingredients, and this TMDL is important for maintaining healthy habitats for aquatic life. - Chloride TMDL: Focuses on managing the amount of chloride, such as from road salt, that enters our waterways. Chloride can cause damage to aquatic life, degrade water quality, and contribute to corrosion of infrastructure. Keep our fresh water fresh! - Bacteria TMDL: Focuses on managing the amount of bacteria, such as from pet waste or sanitary sewer systems. This is important for protecting human health and recreational uses of waterways. Nobody wants to be near bacteria-laden water! - PCB TMDL: Focuses on managing the amount of polychlorinated biphenyls (PCBs) that enter our waterways. PCBs are a toxic chemical that can harm fish and other aquatic life, as well as human health. They also bioaccumulate, being stored in fatty tissue and building up over a lifetime. - Chesapeake Bay TMDL: A specific TMDL which deals in managing the amount of pollutants that ultimately enter the Chesapeake Bay from sources such as agriculture, urban/suburban runoff, and wastewater treatment plants. This is important for restoring the health of the Chesapeake Bay and the many species that call it home. The Chesapeake Bay TMDL covers almost all pollutants and sets even stricter requirements for water quality. As a community, it is important for us to be aware of these TMDLs and do our part in reducing pollution in our waterways. By taking small actions like properly disposing of waste and using eco-friendly alternatives, we can make a big difference in protecting our environment and the health of our community. If you have any questions or concerns about stormwater management at Fort Belvoir, please do not hesitate to reach out to our stormwater management team for more at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil.	8-Feb-23	Facebook Post	127	2	0	0	1
As the weather starts to warm up and our operations start to make their way outside, so do the sources of stormwater pollutants. This quarters newsletter focuses on information your facility should consider when it comes to outdoor storage, secondary containment, and requirements for vehicle/equipment washing operations. This is especially important while the Tactical Wash Rack on Gunston and Meade Road will be closed for repairs.	29-Mar-23	Facebook Post	167	0	0	0	2

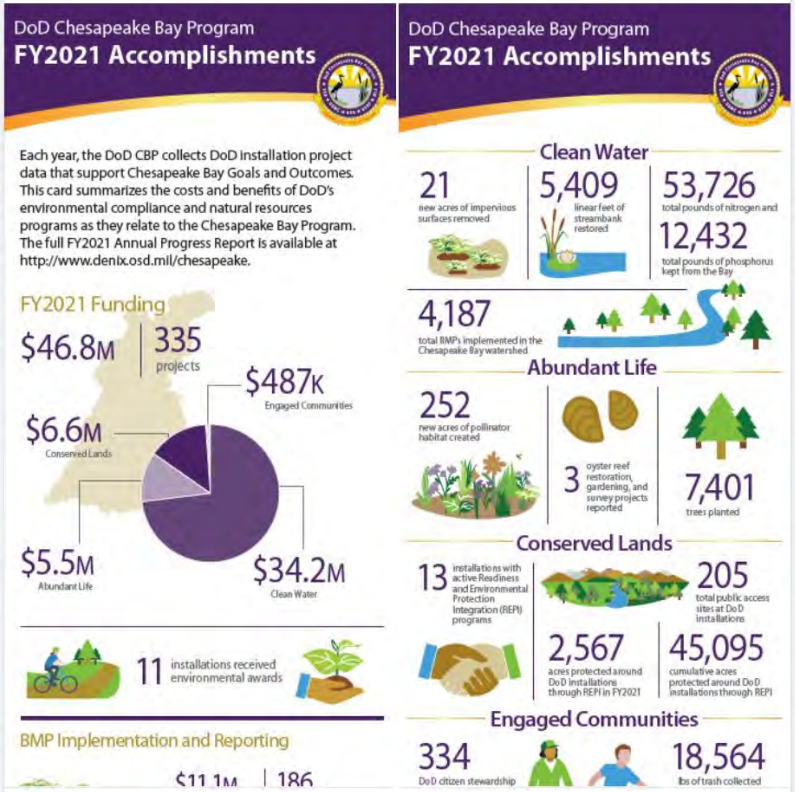
2022-2023 Social Media Interaction Report

The Purpose of this document is to summarize the Published posts for the Fort Belvoir Environmental Division Facebook Page as they relate to Stormwater, Water Quality, and Pollution Prevention. The below shows all posts related to education, outreach, and public involvement from 1 July 2022 through 30 June 2023. For each post there is information on the content of the post, The reach (how many people viewed the post); and engagement (defined as post clicks, reactions, and shares)

Caption	Post Date	Content Type	Reach	Likes	Link Clicks	Comments	Shares
Sediment: With the chill wearing off, it's landscaping time! Mowing, mulching, and planting are in full effect, and this can mean increased sediment in our stormwater systems. These along with other human land use activities introduce loose sand, clay, silt and other soil particles which settle at the bottom of a body of water degrading our water quality in many ways. The potential for flooding, stunted vegetation growth, blue-green algae toxins harmful to swimmers, and food chain disruption all increase when sediment is allowed to flow into rivers, streams, lakes and reservoirs. So what can you do to help? - Sweep sidewalks and driveways instead of hosing them off to minimize runoff. - Use compost or weed free mulch to prevent erosion in your garden. - Avoid mowing within 10-25 feet from the edge of a stream or creek to create a buffer zone minimizing erosion and naturally filtering stormwater. - Use a straw erosion control blanket if restarting or tilling a lawn and weed free mulch when reseeding bare spots. Every creek, stream, river or lake eventually flows to the ocean. They also support plants, wildlife and even some of our favorite recreation activities! Together as a community we can protect the quality of our water and the life it sustains for the next generation to come. For any additional questions, comments or concerns, please feel free to reach out to the Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil	4-Apr-23	Facebook Post	83	0	0	0	0
NO CAPTION - PICTURE	5-Apr-23	Facebook Post	63	0	0	0	0
The Missions Command Technologies Integration Detachment (MCTID) is committed to keeping our beaches clean! MCTID spent yesterday afternoon tidying up Gunston Cove, collecting litter and debris from the nearby beach. Every piece of trash that is taken away to be recycled or deposited in a landfill means there is one less dangerous piece entering our environment. Thank you to the MCTID for reducing pollution and keeping our environment clean! What are you doing to prevent pollution from entering the environment? If you would like to schedule or lead a cleanup and would like to share photos, please email ashley.c.mcmahon2.civ@army.mil.	11-Apr-23	Facebook Post	72	2	0	2	0
Outdoor grilling, potato salad, and ice cream cones are on the horizon. These classics have one thing in common (aside from being delicious, of course): fats, oils, and grease (FOGs). FOGs come from food like cooking oil, lard, shortening, meat fats, sauces, gravy, mayo, butter, ice cream, and soups to name a few. Wastewater from sinks and dishwashers, as well as hood and floor cleaning, can also be sources of FOG. Improper disposal can block sanitary sewers increasing the potential for wastewater to spew from sewer manholes onto private property and streets. Leaking and overfilled outdoor grease bins can contaminate stormwater with FOG. Both pollute our streams, the Potomac River, and the Chesapeake Bay. Some of the best ways to dispose of FOGs are: - Wiping off dishes, pots, pans and utensils before rinsing or washing. - Collecting waste cooking oils for recycling. (Pst! You can take them to one of Fairfax County's disposal facilities. No fats and grease, please!) - "Can the grease" and dispose of it in the trash. You can help minimize impacts to the environment and maintenance of the sanitary and stormwater systems by managing FOG at home. For any additional questions, comments or concerns, please feel free to reach out to the Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil	12-Apr-23	Facebook Post	96	2	0	0	0
NO CAPTION - PICTURE	18-Apr-23	Facebook Post	89	3	0	0	3
Come celebrate with us Earth Day today and tomorrow!	21-Apr-23	Facebook Post	60	0	0	0	0
A huge thank you to for those that joined us to celebrate Earth Day and came out to help in our annual Potomac River Watershed Cleanup. Could have not done without you!	8-May-23	Facebook Post	132	5	0	0	0
		Average:	**131**			**Total:**	**7**

Fort Belvoir Environmental Division
July 25, 2022 ·

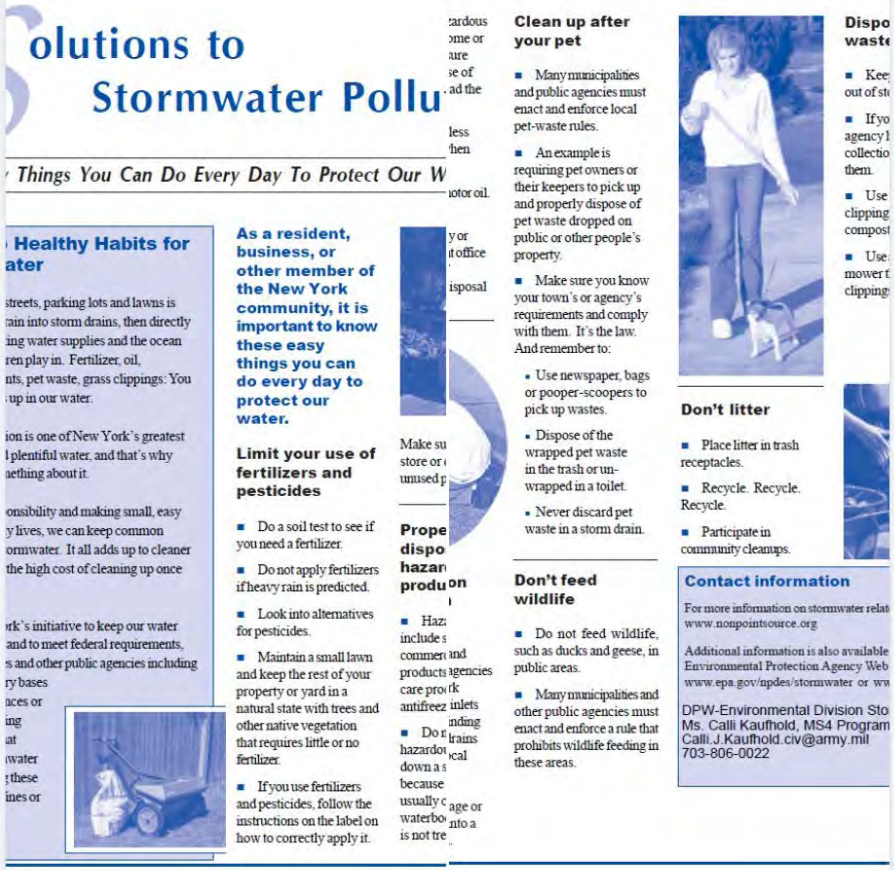
Fort Belvoir is located within the Chesapeake Bay Watershed, therefore we are required to help protect and restore the Bay. There are 63 other installations that are in the watershed, that are also required to work towards this goal. The DoD works closely with the Chesapeake Bay Commission and in FY 2020 the two established a Chesapeake Bay Program Installation Status Report. Below is a summary of the efforts from FY 2021 (the full report can be found here https://www.denix.osd.mil/.../DIGITAL_FY21%20Annual...)
The DPW – Environmental Team will be exploring some of the efforts that other installations have done to do our part. If you have any question or comments about the Chesapeake Bay Watershed or the Municipal Stormwater program please reach out to Calli Kaufhold at (703)-806-0022 or Calli.J.Kaufhold.Civ@Army.Mil.



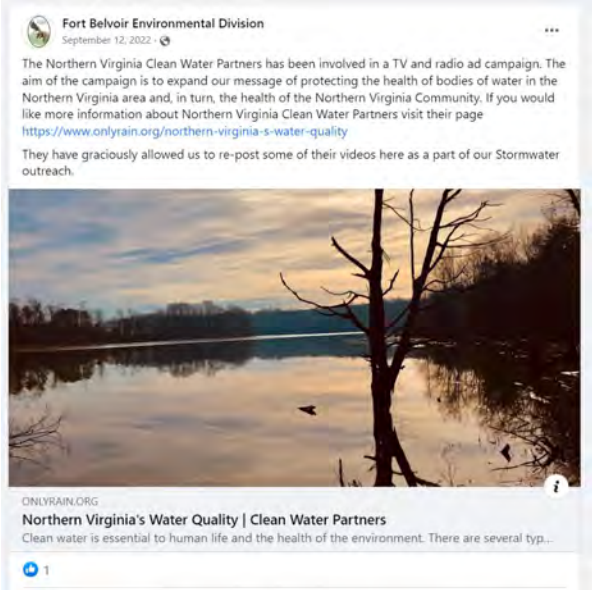
2

Fort Belvoir Environmental Division
August 15, 2022 ·

Check out our Stormwater Pollution Solutions for easy ways that you can do to protect our waters!



2


Fort Belvoir Environmental Division
September 12, 2022 ·
The Northern Virginia Clean Water Partners has been involved in a TV and radio ad campaign. The aim of the campaign is to expand our message of protecting the health of bodies of water in the Northern Virginia area and, in turn, the health of the Northern Virginia Community. If you would like more information about Northern Virginia Clean Water Partners visit their page
https://www.onlyrain.org/northern-virginia-s-water-quality
They have graciously allowed us to re-post some of their videos here as a part of our Stormwater outreach.
ONLYRAIN.ORG
Northern Virginia's Water Quality | Clean Water Partners
Clean water is essential to human life and the health of the environment. There are several typ...
1

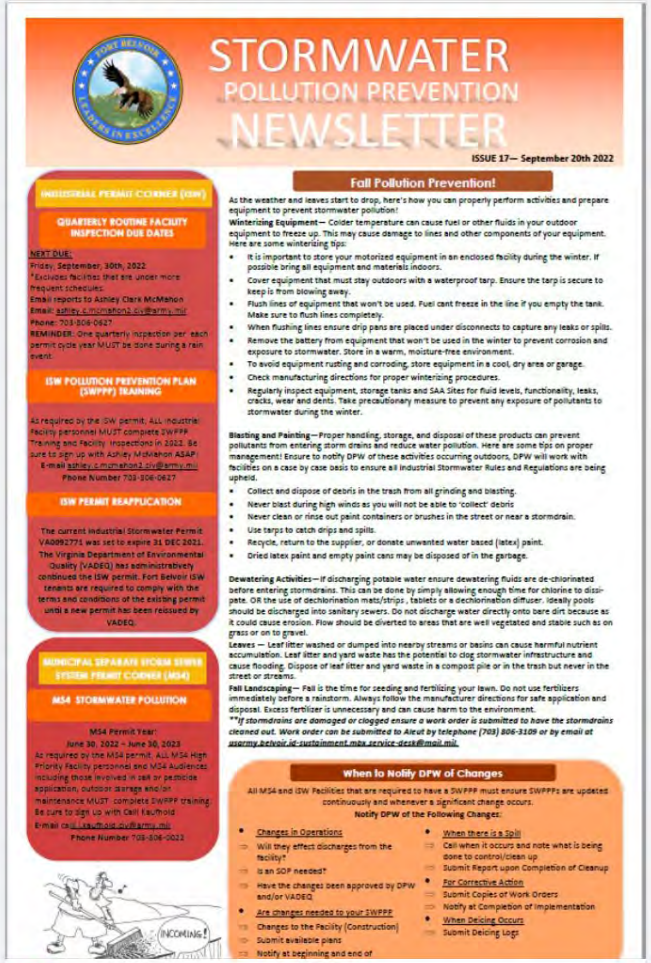

Fort Belvoir Environmental Division
September 12, 2022 ·
The first video we are sharing with you from the Northern Virginia Clean Water Partners.
This is a great overview of many stormwater issues. Pet waste, litter. fertilizer and yard waste. Enjoy and feel free to reach out if you have any questions.
Wilamena Grady Harback and 2 others


Fort Belvoir Environmental Division
September 14, 2022 ·
The second video we are sharing with you from the Northern Virginia Clean Water Partners.
This is a great look at yard waste and fertilizer just two stormwater issues we face here at Fort Belvoir, and where ever you call home. Enjoy and feel free to reach out if you have any questions.
Wilamena Grady Harback and 2 others
1 share


Fort Belvoir Environmental Division
September 16, 2022 ·
The third video we are sharing with you from the Northern Virginia Clean Water Partners.
This is a cute look at the videos from earlier this week. Enjoy and feel free to reach out if you have any questions.
8-0-8 Fertilizer
5

Fort Belvoir Environmental Division
September 21, 2022 ·

The Stormwater Pollution Prevention Quarterly Newsletter is here! In this quarters edition, you'll be able to read about winterizing equipment, sand blasting, painting, dewatering activities and important dates for MS4 and ISW Facilities to keep track of! We want to ensure everyone is helping Fort Belvoir stay in compliance with all our stormwater permits. Thank you for your time! Let us know if you have any questions.



STORMWATER
POLLUTION PREVENTION
NEWSLETTER

ISSUE 17— September 20th 2022

INDUSTRIAL PERMIT CORNER (ISW)

QUARTERLY ROUTINE FACILITY INSPECTION DUE DATES

NEXT DUE:
Friday, September, 30th, 2022
*Excludes facilities that are under more frequent schedules.
Email reports to Ashley Clark McMahon
Email: ashley.c.mcmahon2.civ@army.mil
Phone: 703-806-0627
REMINDER: One quarterly inspection per each permit cycle year MUST be done during a rain event.

ISW POLLUTION PREVENTION PLAN (SWPPP) TRAINING

As required by the ISW permit, ALL industrial Facility personnel MUST complete SWPPP Training and Facility Inspections in 2022. Be sure to sign up with Ashley McMahon ASAP!
E-mail ashley.c.mcmahon2.civ@army.mil
Phone Number 703-806-0627

ISW PERMIT REAPPLICATION

The current industrial Stormwater Permit VA0092771 was set to expire 31 DEC 2021. The Virginia Department of Environmental Quality (VADEQ) has administratively continued the ISW permit. Fort Belvoir ISW tenants are required to comply with the terms and conditions of the existing permit until a new permit has been reissued by VADEQ.

MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT CORNER (MS4)

MS4 STORMWATER POLLUTION

MS4 Permit Year:
June 30, 2022 – June 30, 2023
As required by the MS4 permit, ALL MS4 High Priority Facility personnel and MS4 Audiences including those involved in salt or pesticide application, outdoor storage and/or maintenance MUST complete SWPPP training. Be sure to sign up with Cait Kaufhold
Email cait.l.kaufhold.civ@army.mil
Phone Number 703-806-0022

Fall Pollution Prevention!

As the weather and leaves start to drop, here's how you can properly perform activities and prepare equipment to prevent stormwater pollution!

Winterizing Equipment— Colder temperature can cause fuel or other fluids in your outdoor equipment to freeze up. This may cause damage to lines and other components of your equipment. Here are some winterizing tips:

- It is important to store your motorized equipment in an enclosed facility during the winter. If possible bring all equipment and materials indoors.
- Cover equipment that must stay outdoors with a waterproof tarp. Ensure the tarp is secure to keep is from blowing away.
- Flush lines of equipment that won't be used. Fuel cant freeze in the line if you empty the tank. Make sure to flush lines completely.
- When flushing lines ensure drip pans are placed under disconnects to capture any leaks or spills.
- Remove the battery from equipment that won't be used in the winter to prevent corrosion and exposure to stormwater. Store in a warm, moisture-free environment.
- To avoid equipment rusting and corroding, store equipment in a cool, dry area or garage.
- Check manufacturing directions for proper winterizing procedures.
- Regularly inspect equipment, storage tanks and SAA Sites for fluid levels, functionality, leaks, cracks, wear and dents. Take precautionary measure to prevent any exposure of pollutants to stormwater during the winter.

Blasting and Painting— Proper handling, storage, and disposal of these products can prevent pollutants from entering storm drains and reduce water pollution. Here are some tips on proper management! Ensure to notify DPW of these activities occurring outdoors, DPW will work with facilities on a case by case basis to ensure all Industrial Stormwater Rules and Regulations are being upheld.

- Collect and dispose of debris in the trash from all grinding and blasting.
- Never blast during high winds as you will not be able to 'collect' debris
- Never clean or rinse out paint containers or brushes in the street or near a stormdrain.
- Use tarps to catch drips and spills.
- Recycle, return to the supplier, or donate unwanted water based (latex) paint.
- Dried latex paint and empty paint cans may be disposed of in the garbage.

Dewatering Activities—If discharging potable water ensure dewatering fluids are de-chlorinated before entering stormdrains. This can be done by simply allowing enough time for chlorine to dissipate. OR the use of dechlorination mats/strips , tablets or a dechlorination diffuser. Ideally pools should be discharged into sanitary sewers. Do not discharge water directly onto bare dirt because as it could cause erosion. Flow should be diverted to areas that are well vegetated and stable such as on grass or on to gravel.

Leaves — Leaf litter washed or dumped into nearby streams or basins can cause harmful nutrient accumulation. Leaf litter and yard waste has the potential to clog stormwater infrastructure and cause flooding. Dispose of leaf litter and yard waste in a compost pile or in the trash but never in the street or streams.

Fall Landscaping— Fall is the time for seeding and fertilizing your lawn. Do not use fertilizers immediately before a rainstorm. Always follow the manufacturer directions for safe application and disposal. Excess fertilizer is unnecessary and can cause harm to the environment.

If stormdrains are damaged or clogged ensure a work order is submitted to have the stormdrains cleaned out. Work order can be submitted to Aieut by telephone (703) 806-3109 or by email at usarmy.belvoir.id-sustainment.mbx.service-desk@mail.mil.

When to Notify DPW of Changes

All MS4 and ISW Facilities that are required to have a SWPPP must ensure SWPPPs are updated continuously and whenever a significant change occurs.

Notify DPW of the Following Changes:

- Changes in Operations
  - Will they effect discharges from the facility?
  - Is an SOP needed?
  - Have the changes been approved by DPW and/or VADEQ
- Are changes needed to your SWPPP
  - Changes to the Facility (Construction)
  - Submit available plans
  - Notify at beginning and end of
- When there is a Spill
  - Call when it occurs and note what is being done to control/clean up
  - Submit Report upon Completion of Cleanup
- For Corrective Action
  - Submit Copies of Work Orders
  - Notify at Completion of Implementation
- When Deicing Occurs
  - Submit Deicing Logs

Wilamena Grady Harback and 2 others

Fort Belvoir Environmental Division
October 17, 2022 ·

Fall is here and with it brings all the things we love about the change of seasons including the return of the pumpkin spice latte (yes please!), crisp autumn hikes, spooky pumpkin carving, and enjoying the changing colorful landscape as the leaves provide a beautiful show of red, purple, yellow, and orange. As those leaves begin to fall, paired with an increase in stormy wet weather, they can become a combination that leads to clogged storm drains causing water to back up and flood neighborhood streets and sidewalks.

Leaves in housing will be taken care of in one of two ways. If the leave cover is light, they will be mulched in place to help return nutrients to the ground. If thee are big piles then vac truck will come by to pic up the plies. Fort Belvoir's BaseOps contractor will be removing leaves from the rest of the post.

Please feel free to reach out to the Stormwater Team here or via their e-mail usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil

4


Fort Belvoir Environmental Division
October 20, 2022 ·
Here's a video of a flooded five lane highway caused by leaves & trash. While this isn't Fort Belvoir it will give you an idea oh how quick a blocked inlet can cause problems. The video is from ABC13 out of Huston, Texas from 1 Nov 2018, but this could happen anywhere.
abc13
HIGHWAY HERO
SINGLEHANDEDLY SAVES DRIVERS
YOUTUBE.COM
HIGHWAY HERO: Faced with flood, man single-handedly saves motorists
ABC13 reporter Deborah Wrigley captured the man who was already working to get a drain cl...
1


Fort Belvoir Environmental Division
November 16, 2022 ·
Many of our local streams suffer the effects of too much salt. Road salt (sodium chloride) is most commonly used to remove ice from roads, parking lots, and sidewalks. As snow and ice melt, road salt is carried into our lakes, streams, and wetlands, where just one teaspoon can permanently pollute five gallons of water. Chloride from road salt is a major threat to water quality in Accotink Creek, the Potomac River, and other areas of the country where de-icing occurs. Since chloride is not easily filtered from water in the natural environment, it builds up over time in the soil and water. Because of this, chloride levels in streams can remain elevated throughout the year – even into the summer.
Road salt provides benefits y preventing roadway accidents, but can also have negative impacts on our environment and drinking water sources. When large amounts of road salt get into our drinking water sources it can contaminate it so that we can't drink it. An excessive amount of salt is hard and expensive for water treatment facilities to remove.
With winter weather on its way, we will all be breaking out the road salt, so it is extremely important to control salt at the source by beaing strategic about when, where, and how salt is applied.
For any addition question, comments or concerns please feel free to reach out to Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil
Tips for Winter Snow Removal
SHOVEL
SPREAD
Follow Salt Application Directions
1 lb of salt fits in a 12oz coffee mug and is enough to treat 10 sidewalk squares or 20 feet of driveway. The salt also needs to be spread a few inches apart and should not be laid down in piles or clumps.
SWEEP
More Salt Does Not Mean More Melting
Excess salt does not help melt ice! If you see leftover salt on the ground after the ice melts, then you have used too much. Sweep up any leftover salt to be reused and to keep it away from our rivers and streams
STORE
1

Fort Belvoir Environmental Division
December 16, 2022 ·

It's the holiday season and it's time for one of my favorite holiday movies about stormwater. Okay, it's not about stormwater but National Lampoon's Christmas Vacation does have a very important stormwater lesson.

If you've seen the movie you will remember Cousin Eddie and his RV. While the explosive end to Eddie emptying his RV's waste tank into the stormwater system is impossible it is funny. It's also a reminder that the only thing that should go down the storm drain is stormwater.

Litter, yard waste, cooking grease, sanitary waste and automotive oils are all common pollutants that have been found in stormwater systems. None of these belong in the stormwater system. These pollutants decrease the life span of the stormwater system and pollute our waterways. All these wastes have a proper way of disposal. Please dispose of your wastes properly, and don't be an Cousin Eddie.

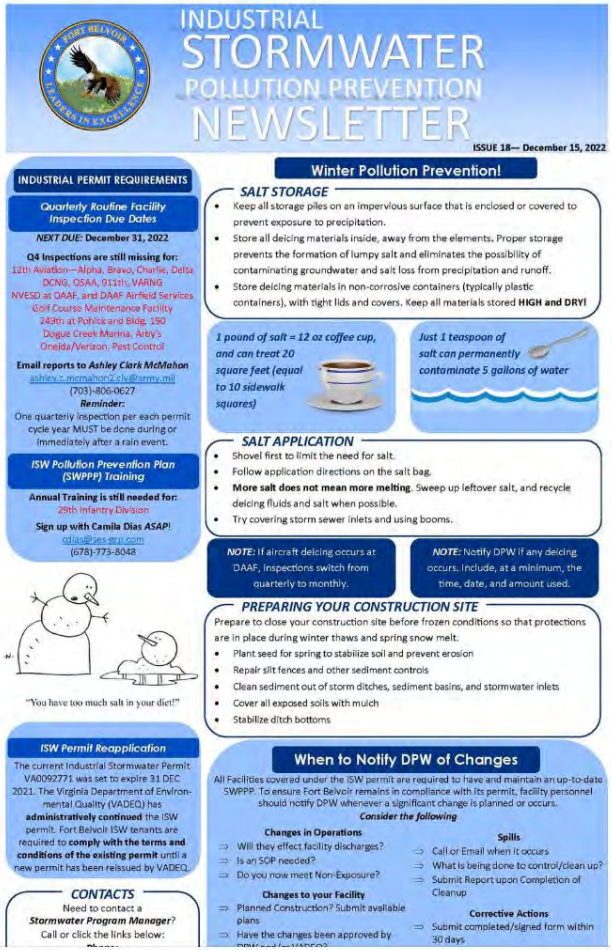
For any addition question, comments or concerns please feel free to reach out to Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil

4

Fort Belvoir Environmental Division
December 21, 2022 ·

The Stormwater Pollution Prevention Quarterly Newsletter is here! In this quarters edition, you'll be able to read about salt storage and salt application. There are some notes on when ISW facilities should notify DPW, and how to prepare your site for construction.

If you have any Industrial Stormwater question please send them to ashley.c.mcmahon2.civ@army.mil



2

Fort Belvoir Environmental Division
January 26 ·

As you may be aware, Fort Belvoir is responsible for managing stormwater runoff in order to protect the environment and health of our community. This includes preventing discharge of pollutants into local waterways, protecting against flooding and erosion, and maintaining the overall quality of our water resources.

One of the primary ways that we manage stormwater on base is through a system of catch basins, swales, and detention ponds, known as Stormwater Management Facilities (SMFs). These structures capture and filter or detain stormwater as it flows over our property, removing pollutants and debris prior to releasing the water into local waterways.

In order to be effective, these SMFs require regular maintenance and upkeep. This includes cleaning out debris from catch basins, removing accumulated sediment, and ensuring all structures are functioning properly as designed.

Another important aspect of stormwater management on Fort Belvoir is preventing pollutants from entering our stormwater system in the first place. This includes things like properly disposing of hazardous materials, properly maintaining vehicles and equipment, and taking steps to prevent soil erosion.

As residents of Fort Belvoir, you can play an important role in helping us manage and maintain our stormwater infrastructure. Here are a few things you can do to help:

- Properly dispose of any hazardous materials, such as oil, pesticides, or batteries.

- Use fertilizers, pesticides, and other chemicals responsibly, and in accordance with manufacturer specifications on the label.

- Keep your vehicles and equipment well-maintained and free of leaks.

- Help prevent soil erosion by properly maintaining landscaping and minimizing the use of heavy equipment and machinery in sensitive areas.

- Report any spills or other incidents as soon as possible by using our convenient anonymous online reporting system: https://home.army.mil/.../stormwater-pollution-reporting.

By working together, we can help protect our local waterways and maintain the overall health and quality of our community. If you have any questions or concerns about stormwater management on Fort Belvoir, please do not hesitate to reach out to our stormwater management team for more information at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil.

Thank you for your cooperation and support in this important effort!

2

Fort Belvoir Environmental Division
February 8 ·

What is a TMDL?

Attention all residents! Have you ever heard of a TMDL? TMDL stands for Total Maximum Daily Load, which is a calculation of the maximum amount of a pollutant that a body of water can receive and still meet water quality standards. In other words, it's a way to measure and manage the amount of pollution in our waterways.

Did you know that Fort Belvoir is covered under five different TMDLs? That's right! Water quality is very important at Fort Belvoir, and the Directorate of Public Works Environmental Division is responsible for managing stormwater runoff to protect the environment and health of our community. Below is an overview of each TMDL:

- Sediment TMDL: Focuses on managing the amount of sediment, or dirt, that enters our waterways from construction sites, agricultural activities, and other sources. Sediment may contain all sorts of ingredients, and this TMDL is important for maintaining healthy habitats for aquatic life.

- Chloride TMDL: Focuses on managing the amount of chloride, such as from road salt, that enters our waterways. Chloride can cause damage to aquatic life, degrade water quality, and contribute to corrosion of infrastructure. Keep our fresh water fresh!

- Bacteria TMDL: Focuses on managing the amount of bacteria, such as from pet waste or sanitary sewer systems. This is important for protecting human health and recreational uses of waterways. Nobody wants to be near bacteria-laden water!

- PCB TMDL: Focuses on managing the amount of polychlorinated biphenyls (PCBs) that enter our waterways. PCBs are a toxic chemical that can harm fish and other aquatic life, as well as human health. They also bioaccumulate, being stored in fatty tissue and building up over a lifetime.

- Chesapeake Bay TMDL: A specific TMDL which deals in managing the amount of pollutants that ultimately enter the Chesapeake Bay from sources such as agriculture, urban/suburban runoff, and wastewater treatment plants. This is important for restoring the health of the Chesapeake Bay and the many species that call it home. The Chesapeake Bay TMDL covers almost all pollutants and sets even stricter requirements for water quality.

As a community, it is important for us to be aware of these TMDLs and do our part in reducing pollution in our waterways. By taking small actions like properly disposing of waste and using eco-friendly alternatives, we can make a big difference in protecting our environment and the health of our community.

If you have any questions or concerns about stormwater management at Fort Belvoir, please do not hesitate to reach out to our stormwater management team for more at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil.

Wilamena Grady Harback and 1 other

1 share

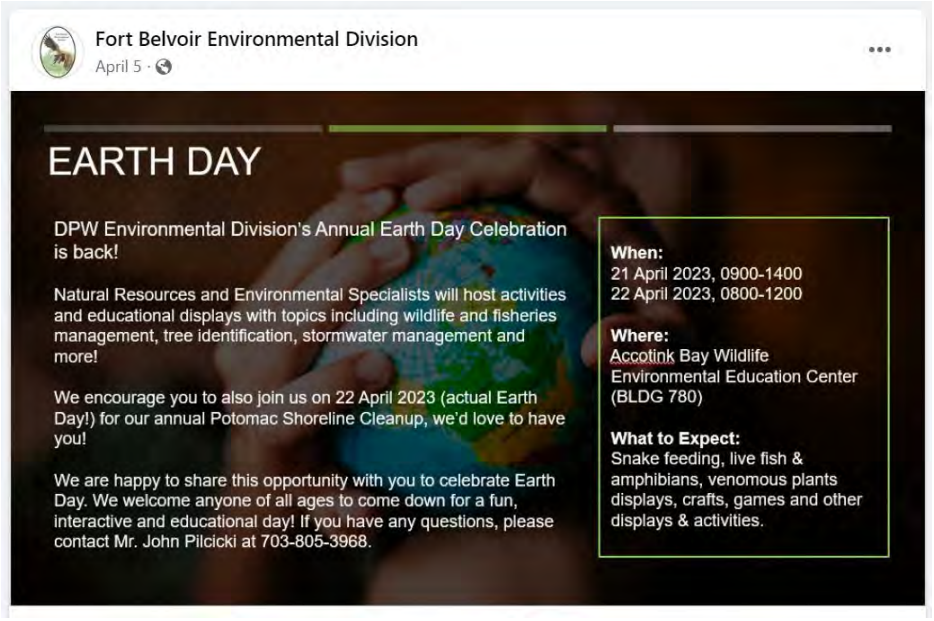
Fort Belvoir Environmental Division
March 29 ·

As the weather starts to warm up and our operations start to make their way outside, so do the sources of stormwater pollutants. This quarters newsletter focuses on information your facility should consider when it comes to outdoor storage, secondary containment, and requirements for vehicle/equipment washing operations. This is especially important while the Tactical Wash Rack on Gunston and Meade Road will be closed for repairs.

1 share

Fort Belvoir Environmental Division
April 4 ·

Sediment:
With the chill wearing off, it's landscaping time! Mowing, mulching, and planting are in full effect, and this can mean increased sediment in our stormwater systems. These along with other human land use activities introduce loose sand, clay, silt and other soil particles which settle at the bottom of a body of water degrading our water quality in many ways. The potential for flooding, stunted vegetation growth, blue-green algae toxins harmful to swimmers, and food chain disruption all increase when sediment is allowed to flow into rivers, streams, lakes and reservoirs.
So what can you do to help?
- Sweep sidewalks and driveways instead of hosing them off to minimize runoff.
- Use compost or weed free mulch to prevent erosion in your garden.
- Avoid mowing within 10-25 feet from the edge of a stream or creek to create a buffer zone minimizing erosion and naturally filtering stormwater.
- Use a straw erosion control blanket if restarting or tilling a lawn and weed free mulch when reseeding bare spots.
Every creek, stream, river or lake eventually flows to the ocean. They also support plants, wildlife and even some of our favorite recreation activities! Together as a community we can protect the quality of our water and the life it sustains for the next generation to come.
For any additional questions, comments or concerns, please feel free to reach out to the Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil


Fort Belvoir Environmental Division
April 5 ·
EARTH DAY
DPW Environmental Division's Annual Earth Day Celebration is back!
Natural Resources and Environmental Specialists will host activities and educational displays with topics including wildlife and fisheries management, tree identification, stormwater management and more!
We encourage you to also join us on 22 April 2023 (actual Earth Day!) for our annual Potomac Shoreline Cleanup, we'd love to have you!
We are happy to share this opportunity with you to celebrate Earth Day. We welcome anyone of all ages to come down for a fun, interactive and educational day! If you have any questions, please contact Mr. John Pilcicki at 703-805-3968.
When:
21 April 2023, 0900-1400
22 April 2023, 0800-1200
Where:
Accotink Bay Wildlife Environmental Education Center (BLDG 780)
What to Expect:
Snake feeding, live fish & amphibians, venomous plants displays, crafts, games and other displays & activities.


Fort Belvoir Environmental Division
April 11 ·
The Missions Command Technologies Integration Detachment (MCTID) is committed to keeping our beaches clean! MCTID spent yesterday afternoon tidying up Gunston Cove, collecting litter and debris from the nearby beach. Every piece of trash that is taken away to be recycled or deposited in a landfill means there is one less dangerous piece entering our environment. Thank you to the MCTID for reducing pollution and keeping our environment clean! What are you doing to prevent pollution from entering the environment? If you would like to schedule or lead a cleanup and would like to share photos, please email ashley.c.mcmahon2.civ@army.mil.
2
2 comments

Fort Belvoir Environmental Division
April 12 ·

Outdoor grilling, potato salad, and ice cream cones are on the horizon. These classics have one thing in common (aside from being delicious, of course): fats, oils, and grease (FOGs). FOGs come from food like cooking oil, lard, shortening, meat fats, sauces, gravy, mayo, butter, ice cream, and soups to name a few. Wastewater from sinks and dishwashers, as well as hood and floor cleaning, can also be sources of FOG.
Improper disposal can block sanitary sewers increasing the potential for wastewater to spew from sewer manholes onto private property and streets. Leaking and overfilled outdoor grease bins can contaminate stormwater with FOG. Both pollute our streams, the Potomac River, and the Chesapeake Bay.
Some of the best ways to dispose of FOGs are:
- Wiping off dishes, pots, pans and utensils before rinsing or washing.
- Collecting waste cooking oils for recycling. (Pst! You can take them to one of Fairfax County's disposal facilities. No fats and grease, please!)
- "Can the grease" and dispose of it in the trash.
You can help minimize impacts to the environment and maintenance of the sanitary and stormwater systems by managing FOG at home. For any additional questions, comments or concerns, please feel free to reach out to the Stormwater Team at usarmy.belvoir.imcom-atlantic.mbx.dpw-enrd-stormwater@army.mil

Wilamena Grady Harback and 1 other

Fort Belvoir Environmental Division
April 18 ·

Accotink Bay Wildlife Refuge Environmental Education Center Bldg 780

Earth Day Displays April 21 09:00—14:00
Shoreline Cleanup April 22 08:00—12:00

Celebrate Earth Day

On 21 April at 09:00-14:00 at BLDG.780 join Fort Belvoir's experts to learn about how Fort Belvoir strives to protect the planet while remaining mission ready. There will be displays, crafts, games and live snake feedings.
Come back on April 22 at 08:00-12:00 at BLDG. 780 and do your part by joining us for our annual spring Potomac River Watershed Cleanup.

We look forward to seeing you there!

John Pilcicki 703-805-3968
John.L.Pilcicki.civ@Army.Mil

Wilamena Grady Harback and 2 others 3 shares

Fort Belvoir Environmental Division
April 21 ·

Come celebrate with us Earth Day today and tomorrow!

Accotink Bay Wildlife Refuge Environmental Education Center Bldg 780

Earth Day Displays April 21 09:00—14:00
Shoreline Cleanup April 22 08:00—12:00

Celebrate Earth Day

On 21 April at 09:00-14:00 at BLDG.780 join Fort Belvoir's experts to learn about how Fort Belvoir strives to protect the planet while remaining mission ready. There will be displays, crafts, games and live snake feedings.
Come back on April 22 at 08:00-12:00 at BLDG. 780 and do your part by joining us for our annual spring Potomac River Watershed Cleanup.

We look forward to seeing you there!

John Pilcicki 703-805-3968
John.L.Pilcicki.civ@Army.Mil

Fort Belvoir Environmental Division
May 8 ·

A huge thank you to for those that joined us to celebrate Earth Day and came out to help in our annual Potomac River Watershed Cleanup. Could have not done without you!

Wilamena Grady Harback, Ashley McMahon and 3 others

2023

APPENDIX D

OUTFALL INSPECTION SUMMARY

FORT BELVOIR 2022-2023 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

Outfall Information		Outfall Description and Conditions								Flow Characterization																		Physical Indicators at Flowing Outfalls							
Outfall ID	Illicit Discharge Characterization	Outfall Type	Pipe Material	Pipe Shape	Number of Pipes	Pipe Dimensions	Submerged in Water?	Buried in Sediment?	Amount of Water/Sediment	Flow Present?	Sample Taken?	Sample Taken From?	Flow Measurement	Volume (mL)	Time to fill (sec)	Flow depth (in)	Length (in)	Width (in)	Time of Travel (sec)	Flow Rate (cfs)	Water Temp	pH	Ammonia (mg/L)	Fluoride (mg/L)	Phosphorus (mg/L)	Free Cl (mg/L)	Total Cl (mg/L)	Nitrate	Nitrite	Indicators in Flow?	Odor	Odor Severity	Color	Color Severity	Turbidity	Floatables	Floatables Severity
984	Obvious	Closed Pipe	RCP	Circular	Single	30"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25"	12"	4"	1.4	0.00496	52.5	7.52	0.05	0.80	1.32	0.14	0.03	1.40	0.005	-	-	-	-	-	-	-	-
1715	Obvious	Closed Pipe	Steel	Circular	Double	A: 18", B: 18"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	-	-	-	-	-	-	-	-	-	7.11	0.07	0.60	0.21	0.04	0.04	1.30	0.002	-	-	-	-	-	-	-	-
67	Potential	Closed Pipe	RCP	Circular	Single	36"	Partially Submerged	Not Buried	~6.5" water	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	46.3	6.41	0.06	0.20	0.05	0.01	0.01	0.00	0.000	-	-	-	-	-	-	-	-
884	Potential	Closed Pipe	RCP	Circular	Single	30"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.375"	12"	5"	1.52	0.00857	45.4	4.31	0.04	0.10	0.05	0.04	0.03	0.30	0.000	Odor	Other, must smell coming from pipe	Easily Detected	-	-	-	-	-
2490	Potential	Closed Pipe	RCP	Circular	Single	18"	Partially Submerged	Partially Buried	~4.5" water, 1" sediment	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	51.9	5.6	0.07	0.20	0.26	0.01	0.03	1.00	0.001	-	-	-	-	-	-	-	-
2519	Potential	Closed Pipe	RCP	Circular	Single	18"	Not Submerged	Not Buried	-	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	42.6	5.32	0.49	0.20	0.18	0.03	0.04	0.50	0.005	-	-	-	-	-	-	-	-
5050	Potential	Closed Pipe	Steel	Circular	Single	30"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25"	12"	5"	0.65	0.01335	45.8	5.66	0.15	0.10	0.06	0.29	0.03	0.80	0.002	-	-	-	-	-	-	-	-
6791	Potential	Closed Pipe	RCP	Circular	Single	53"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.375"	12"	8.5"	1.53	0.0145	38.8	6.69	0.06	0.00	0.07	0.04	0.03	0.00	0.001	-	-	-	-	-	-	-	-
6849	Potential	Closed Pipe	RCP	Circular	Triple	A: 4", B: 18", C: 4"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25"	12"	5"	0.8	0.0109	42.3	6.82	0.08	0.00	0.08	0.09	0.07	0.80	0.002	Color	-	-	Orange	Faint color in bottle	-	-	-
6935	Potential	Closed Pipe	RCP	Circular	Single	21"	Partially Submerged	Not Buried	~5" water	No	Yes	Pool	-	-	-	-	-	-	-	-	49	5.62	0.07	0.10	0.06	0.06	0.05	0.10	0.003	-	-	-	-	-	-	-	-
6951	Potential	Closed Pipe	RCP	Circular	Single	36"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.375"	12"	6.5"	0.59	0.0286	44.5	7.13	0.07	0.10	0.07	0.08	0.12	0.70	0.001	-	-	-	-	-	-	-	-
266	Unlikely	Closed Pipe	HDPE	Circular	Single	24"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
681	Unlikely	Closed Pipe	CMP	Circular	Single	15"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
686	Unlikely	Closed Pipe	RCP	Circular	Single	24"	Not Submerged	Not Buried	-	Trickle	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
849	Unlikely	Closed Pipe	RCP	Circular	Single	12"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
896	Unlikely	Closed Pipe	RCP	Circular	Single	18"	Not Submerged	Not Buried	-	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	44.1	6.81	0.06	0.10	0.09	0.11	0.32	0.50	0.004	-	-	-	-	-	-	-	-
968	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
971	Unlikely	Closed Pipe	CMP	Circular	Single	24"	Not Submerged	Partially Buried	~4" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
978	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1725	Unlikely	Closed Pipe	RCP	Circular	Single	Unknown	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1943	Unlikely	Closed Pipe	RCP	Circular	Single	15"	Not Submerged	Partially Buried	~2.5" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2063	Unlikely	Closed Pipe	RCP	Box	Single	48" W by 55" T	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.125"	12"	48"	2.27	0.01836	52.8	7.38	0.06	0.10	0.04	0.08	0.04	1.00	0.005	-	-	-	-	-	-	-	-

Outfall Information		Physical Indicators at Flowing and Non-Flowing Outfalls				Maintenance Tracker		
Outfall ID	Illicit Discharge Characterization	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes	Work Order Number	Date Submitted	Status
984	Obvious	Outfall Damage	Structural Damage	Broken sections and undercutting of headwall present.	Outfall exhibited severe erosion and undercutting. Flow sample taken.			
1715	Obvious	No indicators	-	-	Outfall is in good condition with two pipes, and pipe B was flowing at the time of inspection. Pipes are only visible at low tide and are otherwise submerged. Source tracking indicates a known illicit connection from Bldg 357 that feeds into this outfall, so it is usually flowing. Flow sample was taken and flow rate was too dangerous to determine without risk of falling into water. Outfall was rescreened on 5/17/2023 to determine if illicit connection was fixed. Water is still flowing from both pipes indicating an illicit connection is still present. A wet weather inspection was performed on 6/21/2023 and confirmed heavy flow is due to rain water. Another trunk investigation was performed on 6/30/2023 and indicated flow is coming from somewhere in or around building 309.	-	-	No Repairs Required
67	Potential	Outfall Damage, Deposits/Stains, Poor Pool Quality, Benthic Growth	Spalling, Cracking, Chipping, Flow Line, Sheen	Cracking of pipe end section present, visible flow line present, sheen on water surface present, iron floc present.	Outfall observed to have about 6.5" of standing water. Sheen was present and re-coalesces when disturbed, possibly indicating the presence of hydrocarbons. Outfall concrete pipe has some chipping occurring structurally. A sample was taken from the pool within the pipe. No hydrocarbons were detected after testing was performed on 3/17/23.			
884	Potential	No indicators	-	-	Outfall in good condition. Musty smell emanating from pipe, most likely mold. Outfall was sampled again on 4/18/2023 to retest for pH as it fell below the benchmark of 6 to 9 S.U. Testing resulted in a pH value of 6.29 which is within the benchmark. Outfall characterization changed from potential to unlikely.	-	-	No Repairs Required
2490	Potential	Blockage	Sediment	About 1" of sedment in pipe.	Outfall observed to have 4.5" of standing water and 1" of sediment. Pool sample taken. No pictures due to security constraints. Outfall was sampled again on 4/18/2023 to retest for pH as it fell below the benchmark of 6 to 9 S.U. Testing confirmed pH was below the benchmark with a value of 5.6. This changed the outfall characterization from unlikely to potential.			
2519	Potential	Outfall Damage, Poor Pool Quality, Pipe Benthic Growth	Structural Damage, Sheen, Orange	Severe erosion and undercutting, sheen that does not re-coalesce when disturbed present in pool, iron flocculate present.	Outfall observed to have severe erosion and undercutting. Sheen was present that does not re-coalesce when disturbed indicating possible presence of iron oxidizing bacteria. No photos taken due to security constraints. Outfall was resampled on 4/18/2023 to retest for pH as it fell below the benchmark of 6 to 9 S.U. Testing confirmed pH was below the benchmark with a value of 5.34. This changed the outfall characterization from unlikely to potential.			
5050	Potential	Pipe Benthic Growth	Orange	Iron flocculate	Iron flocculate was present in pool, outfall in good condition otherwise. Flow sample was taken. No photos were taken due to security constraints. Outfall was resampled on 4/18/2023 to retest for pH as it fell below the benchmark of 6 to 9 S.U. Testing resulted in a pH value of 6.06 which is within the benchmark. Outfall characterization remains as unlikely.	-	-	No Repairs Required
6791	Potential	Poor Pool Quality, Pipe Benthic Growth	Suds, Sheen, Orange	Suds present and sheen that re-coalesces when disturbed, iron flocculate.	Outfall structure in good condition. Iron flocculate, suds, and sheen that re-coalesces when disturbed present. Detergents testing was performed on 3/30/23. No detergents were detected.	-	-	No Repairs Required
6849	Potential	Deposits/Stains, Pipe Benthic Growth	Flow Line, Colors, Suds, Orange	Orange color to flow line, suds present, iron flocculate	Outfall observed to have iron flocculate with a bacterial sheen (sheen that does not re-coalesce when disturbed) and some suds present. Flow sample taken and will be tested for presence of detergents. No detergents detected after testing was performed on 3/30/23.	-	-	No Repairs Required
6935	Potential	No indicators	-	-	About 5" of standing water present at outfall opening, otherwise in good condition. Outfall was resampled on 4/18/2023 to retest for pH as it fell below the benchmark of 6 to 9 S.U. Testing confirmed pH was below the benchmark with a value of 5.95. This changed the outfall characterization from unlikely to potential.			
6951	Potential	Poor Pool Quality, Pipe Benthic Growth	Spalling, Cracking, Chipping, Tree Litter	Suds present in pool, iron flocculate	Iron flocculate, suds, and sheen that re-coalesces when disturbed present in pool. No oil/fuel smell present. Additional testing for hydrocarbons and detergents. No detergents indicated after testing that was performed on 3/30/23, though the hydrocarbons testing performed on 3/17/23 indicated the presence of diesel range organics.	-	-	No Repairs Required
266	Unlikely	Poor Pool Quality, Blockage	Other, Tree Litter	Brownish sludge observed along flow line and excess tree litter blocking pipe opening.	Sludge residue around the outfall opening was present.	-	-	No Repairs Required
681	Unlikely	Outfall Damage	Structural Damage	Outfall headwall is damaged and exhibits severe undercutting	Outfall exhibits erosion and undercutting, and is missing riprap.			
686	Unlikely	No indicators	-	-	Outfall in good condition. Trickle flow and too slow to collect adequate sample.	-	-	No Repairs Required
849	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
896	Unlikely	Deposits/Stains	Flow Line, Paint	Dry paint observed on opening of outfall and brownish-orange color of flow line.	Outfall structure in good condition. Brownish-orange stain observed following flow path. Dry paint was observed right above outfall opening, potentially due to someone dumping paint directly into outfall.			
968	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
971	Unlikely	No indicators	-	-	Outfall observed to have 4" of sediment.			
978	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
1725	Unlikely	Outfall Damage	Corrosion	Pipe displaying corrosion.	Outfall had no flow coming from pipe and is accessible during low tide, otherwise the pipe is fully submerged. Pipe has severe corrosion and no sample was taken.	-	-	No Repairs Required
1943	Unlikely	No indicators	-	-	Outfall is a culvert and is in good condition. There was 2.5" of sediment at the opening of the pipe.	-	-	No Repairs Required
2063	Unlikely	Poor Pool Quality	Sheen	Sheen does not re-coalesce when disturbed.	Outfall observed to have iron flocculate and a heavy sheen that does not re-coalesce when disturbed, which indicates bacterial oxidation of iron.	-	-	No Repairs Required

Outfall Information		Outfall Description and Conditions								Flow Characterization																			Physical Indicators at Flowing Outfalls							
Outfall ID	Illicit Discharge Characterization	Outfall Type	Pipe Material	Pipe Shape	Number of Pipes	Pipe Dimensions	Submerged in Water?	Buried in Sediment?	Amount of Water/Sediment	Flow Present?	Sample Taken?	Sample Taken From?	Flow Measurement	Volume (mL)	Time to fill (sec)	Flow depth (in)	Length (in)	Width (in)	Time of Travel (sec)	Flow Rate (cfs)	Water Temp	pH	Ammonia (mg/L)	Fluoride (mg/L)	Phosphorus (mg/L)	Free Cl (mg/L)	Total Cl (mg/L)	Nitrate	Nitrite	Indicators in Flow?	Odor	Odor Severity	Color	Color Severity	Turbidity	Floatables	Floatables Severity
2201	Unlikely	Closed Pipe	RCP	Circular	Single	12"	Not Submerged	Partially Buried	~7" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2650	Unlikely	Closed Pipe	RCP	Circular	Single	24"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2653	Unlikely	Closed Pipe	RCP	Circular	Single	18"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2742	Unlikely	Closed Pipe	RCP	Circular	Single	26"	Not Submerged	Not Buried	-	Trickle	Yes	Pool	Time of Movement	-	-	-	-	-	-	-	43.6	6.8	0.07	0.00	0.12	0.07	0.07	0.90	0.001	-	-	-	-	-	-	-	-
2838	Unlikely	Closed Pipe	RCP	Circular	Double	A: 36" B: 12"	Not Submerged	Partially Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3235	Unlikely	Closed Pipe	RCP	Circular	Single	36"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5189	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5200	Unlikely	Closed Pipe	HDPE	Circular	Single	18"	Not Submerged	Partially Buried	~12.5" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5294	Unlikely	Closed Pipe	PVC	Circular	Single	12"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5295	Unlikely	Closed Pipe	PVC	Circular	Single	18"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5581	Unlikely	Closed Pipe	RCP	Circular	Single	24"	Partially Submerged	Partially Buried	~7" water, 5" sediment	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5619	Unlikely	Closed Pipe	HDPE	Circular	Single	18"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5702	Unlikely	Closed Pipe	RCP	Circular	Single	24"	Partially Submerged	Partially Buried	~0.5" water, 4" sediment	No	Yes	Pool	-	-	-	-	-	-	-	-	40.3	6.61	0.06	0.20	0.24	0.01	0.03	1.00	0.003	-	-	-	-	-	-	-	-
6078	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6095	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6733	Unlikely	Closed Pipe	RCP	Circular	Triple	A, B, and C: 36"	Partially Submerged	Partially Buried	50% sed; 2" water	Moderate	Yes	Flow	Time of Movement	-	-	1"	12"	34"	1.83	0.129	44.6	6.39	0.06	0.10	0.06	0.03	0.03	0.70	0.003	-	-	-	-	-	-	-	-
6782	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7144	Unlikely	Closed Pipe	RCP	Circular	Single	24"	Fully Submierged	Not Buried	Fully submerged	No	Yes	Pool	-	-	-	-	-	-	-	-	42.3	6.82	0.05	0.00	0.15	0.09	0.05	0.03	0.003	-	-	-	-	-	-	-	-
7145	Unlikely	Closed Pipe	RCP	Circular	Single	30"	Partially Submerged	Not Buried	~4.5" water	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	48	6.74	0.05	0.00	0.07	0.02	0.06	0.00	0.003	-	-	-	-	-	-	-	-
7197	Unlikely	Closed Pipe	RCP	Circular	Single	18"	Partially Submerged	Not Buried	~4.5" water	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7274	Unlikely	Closed Pipe	RCP	Circular	Double	A: 36", B: 8"	Not Submerged	Not Buried	-	Moderate	Yes	Flow	Time of Movement	-	-	0.25"	12"	5"	0.53	0.0164	46.7	6.76	0.07	0.10	0.06	0.04	0.04	0.20	0.001	-	-	-	-	-	-	-	-
7278	Unlikely	Closed Pipe	A: RCP, B: Steel	Circular	Double	A: 15" RCP, B: 21"	Partially Submerged	Partially Buried	~6" sediment	Trickle	Yes	Pool	-	-	-	-	-	-	-	-	49.7	7.4	0.06	0.00	0.10	0.01	0.04	0.80	0.001	-	-	-	-	-	-	-	-
7318	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Partially Submerged	Not Buried	~2.5" water	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7321	Unlikely	Closed Pipe	HDPE	Circular	Single	15"	Partially Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7798	Unlikely	Closed Pipe	RCP	Circular	Single	24"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7799	Unlikely	Closed Pipe	Steel	Circular	Double	A: 36", B: 6"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7856	Unlikely	Closed Pipe	RCP	Circular	Single	18"	Not Submerged	Not Buried	-	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7857	Unlikely	Closed Pipe	RCP	Circular	Single	18"	Partially Submerged	Not Buried	~2.5" water	No	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Outfall Information		Physical Indicators at Flowing and Non-Flowing Outfalls				Maintenance Tracker		
Outfall ID	Illicit Discharge Characterization	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes	Work Order Number	Date Submitted	Status
2201	Unlikely	Blockage	Sediment, Tree Litter	Pipe is inundated with sediment and tree litter.	Outfall was buried in approximately 7" of sediment and only a small sliver of the pipe was visible. Was hard to find as is was covered with tree litter.			
2650	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
2653	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
2742	Unlikely	No indicators	-	-	Outfall was observed to have trickle flow and was too slow to measure. Pool sample was taken. Good condition.	-	-	No Repairs Required
2838	Unlikely	Outfall Damage, Blockage	Structural Damage, Sediment, Tree Litter	Headwall is damaged, pipe inundated with sediment and tree litter.	The outfall has obvious deterioration of the headwall and is potentially clogged with debris.			
3235	Unlikely	No indicators	-	-	Outall is in good condition.	-	-	No Repairs Required
5189	Unlikely	No indicators	-	-	Outfall in good condition. No photos taken due to security constraints.	-	-	No Repairs Required
5200	Unlikely	Blockage	Sediment	12.5" of sediment in pipe opening.	Outfall observed to have 12.5" of sediment. No photos taken due to security constraints.			
5294	Unlikely	No indicators	-	-	Outfall is in good condition. No photos taken due to security constraints.	-	-	No Repairs Required
5295	Unlikely	No indicators	-	-	Outfall is in good condition. No photos taken due to security constraints.	-	-	No Repairs Required
5581	Unlikely	Blockage	Sediment	5" sediment blocking pipe opening.	Outfall observed to have 7" of standing water and 5" of sediment.			
5619	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
5702	Unlikely	Blockage	Sediment, Tree Litter	Leaf litter accumulation	Outfall was observed to have 0.5" of standing water and 4" of sediment. Pool sample was taken.			
6078	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
6095	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
6733	Unlikely	Poor Pool Quality, Blockage	Sheen, Sediment	The sheen re-coalesces when disturbed, 50% sed.	Outfalls were observed to have light iron flocculate and were inundated with approximately 50% sediment with 2" of standing water. Sheen was observed to re-coalesce when disturbed, indicating potential hydrocarbons.			
6782	Unlikely	No indicators	-	-	Outfall in good condition.	-	-	No Repairs Required
7144	Unlikely	Blockage	Other	Outfall completely submerged	Outfall is fully submerged. Adjacent pond feeds directly into outfall. Possible flow emanating from outfall, hard to tell.			
7145	Unlikely	Abnormal Vegetation	Excessive	Excessive algal growth in pool.	4.5" of standing water and pool exhibited excess algal growth. Can hear flow but not visible. Pool sample taken.			
7197	Unlikely	No indicators	-	-	4" of standing water. Otherwise in good condition.			
7274	Unlikely	Pipe Benthic Growth	Orange	Iron flocculate	Iron flocculate present and signs of groundwater flow coming from pipe. Otherwise in good condition. Detergents testing was performed on 3/30/23. No detergents were detected.	-	-	No Repairs Required
7278	Unlikely	Blockage	Sediment	Outfall pipe B inundated with about 6" of sediment.	Outfall was displaying trickle flow and was too slow to measure. Pipe A appears to be in good condition. Pipe B showed signs of corrosion and was inundated with about 6" of sediment and 0.25" standing water. Pool sample taken.			
7318	Unlikely	Outfall Damage	Structural Damage	Outfall short circuited and level spreader is non-functional.	The outfall structure and adjacent level spreader is non-functional and has short circuited. Approximately 2.5" of standing water present.			
7321	Unlikely	No indicators	-	-	Outfall is in good condition. Some standing water was observed.			
7798	Unlikely	No indicators	-	-	Outfall in good condition.	-	-	No Repairs Required
7799	Unlikely	No indicators	-	-	Outfall in good condition.	-	-	No Repairs Required
7856	Unlikely	No indicators	-	-	Outfall is in good condition.	-	-	No Repairs Required
7857	Unlikely	No indicators	-	-	Outfall observed to have 2.5" of standing water. Otherwise in good condition.	-	-	No Repairs Required

2023

APPENDIX E

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) INCIDENT TRACKING TABLE

FORT BELVOIR 2022-2023 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
16-10	11/24/2015	ORI	1715	During the ORI initial screening on November 24, 2015 a trickle flow was present. DPW ENRD and contractor staff conduct a follow-up source investigation on April 4, 2016. . It was suspected that there was a potable water leak in the area.	The outfall was re-screened during the 2016 – 2017 ORI and the flow was found to have increased. An Illicit Discharge investigation began on November 14, 2016 and resulted in a finding that there is a connection from the mechanical room in building 357 which feeds directly into the storm sewer. Plans for Corrective Actions to be taken are currently underway. During the source tracking investigation, it was also noted that this illicit discharge originally daylights at outfall structure ID 1728 which is now covered under the new Industrial Stormwater (ISW) Major Permit under Representative Outfall 021. Future Investigations and Corrective Actions will continue to be tracked under the ISW Permit VA0092771. This MS4 outfall will be re-screened to confirm that the source has been eliminated. IJO submitted to reroute to the sanitary sewer (FE-18541-8-J). Once rerouting is complete and no flow is noted the incident can be closed 1/3/2019: Received response from Fred Carter that Jason from AW is expecting pricing on January 8, 2019. Email correspondence in binder. Following up monthly during the AW meeting; offered to coordinate access on their behalf. In early 2019, There were several unknown field conditions that altered the scope of work since original attempt to perform this task. Awaiting revised contract modification. 6/4/2020: Received plans for the renovation of Building 357. 7/27/2020: O&M stated that they had received funding for re-routing project 5/25/2021: AW stated that stormwater from the roof drains are not yet separated from the mechanical room floor drain piping system. This needs to occur prior to AW completing the project. Also still awaiting revised contract from DLA. 6/14/2021: Site visit determined that rerouting has not yet been completed and that Aleut re-routing of roof drains had also stagnated. O&M Contact: Jason Chan 1/17/2022: Follow up email sent to Fred Carter (DPW O&M AW COR), Anhhuy Huynh (DPW O&M AW COR NEW), George DiCarlo (AW), and Marvin Bowman (AW) 4/7/2022: Follow up email sent from Ashley Clark regarding IJO #FE-18541-8-J on issue. 5/2/2022: Jason Chan Responded, 2 IJO's put in for project NV-22030-2J (repair and connect 3 gutter downspouts to stormwater drain) and NV-22031-2J (reroute boiler/cooling tower drains to sanitary sewer). 8/25/2022: Follow up email sent to Jason Chan, and Ashley McMahon regarding the two IJO's to check on status. 10/03/2022: DIG Permit 22-230 Submitted to re-route cooling tower drains to "sewer." Map issue denoting routing to storm, corrected by Ashley McMahon to ensure routing to sanitary sewers	Valid Report/Illicit Discharge/Corrective Action Required	Closed	4/3/2023
19-09	8/10/2018	Direct Notification	4895, 4889	This is an ISW SWPPP facility. No illicit discharge reported, but facility personnel showed concern about the potential for trench drains running along the hangar bay doors for Building 3126 to be connected to the storm sewer system	Dye testing was conducted and an IJO was drafted along with the report findings. Tenant needs to submit an IJO to connect all building drains to the sanitary sewer. 4/26/22: Follow up email sent to ISW Program Manager about IJO. 5/27/22: PWO DA4283 NV-22035-2J draft created and submitted to project proponent for signature. 6/7/22: PWO DA4283 NV-22035-2J submitted by project proponent to DPW. 6/27/22: PWO DA4283 NV-22035-2J design approved and signed. Project Work Manager assigned, Edwin Brown, Edwin.l.brown66.civ@army.mil. 8/25/22: Follow up email sent to Edwin Brown to check on status of project, Mr. Brown responded and stated the PWO has been submitted to Aleut and is waiting on an estimate to come back. 10/1/22: Follow up email sent to Edwin Brown to check on status of project. Edwin Brown Responded 10/11/22 stating that we are still waiting on estimate to come back from Aleut. 1/3/23: Follow up email sent to Edwin Brown to check on status of PWO NV 22035-2J. Response received stating estimate is nearing final stages and should be completed in the coming weeks. 5/15/23: Sent follow up email to Edwin Brown, he stated the estimate from Aleut was received. We are waiting on final confirmation from Aleut so AW can begin work.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Open	
20-26	3/19/2020	DPW Inspector	6279	During a high priority facility inspection there was an inlet observed that had tar dumped in it. The tar was visible at the bottom of the inlet structure and had dried already.	Hospital staff has been trained on preventing and cleaning spills and about illicit dumping. They were informed to report any dumping they observe to DPW. Training on Illicit discharges should continue as per the corrective actions in the Training Plan. Workers at the hospital should be observant and report any dumping. Training Plan currently requires Training for the Hospital Medical Staff (ECOs) but does not train all Hospital Staff. Training Plan should be updated, and Operations and Maintenance Staff should be trained as they are responsible for the loading dock area. *See 2020 HPF Evaluation. 4/26/22: Reminder email sent to MS4 Program Manager. 8/5/22: Training Plan updated to include Hospital O&M Staff for Level 3, 4, and 6 Training 4/12/23: Notification received from Acting MS4 Program Manager that Training Plan had been updated, was not aware until this time, action may now be closed.	Valid Report/Illicit Discharge/Corrective Action Required	Closed	4/13/2023
20-30	6/3/2020	Windshield Inspection	BMP 2535	AAFES: Discharge of a gray, turbid, liquid with a strong odor, leaking from dumpster. Liquid is a mix of liquids and garbage after being compacted. The spill flowed directly east away from the building down the ramp through a curb cut and into BMP 3251 via rip-rap pre-treatment. Liquid was thin and entered the Bioretention Unit. The liquid had a very strong rancid odor.	This is the second illicit discharge originating from this dumpster in less than a month (12-May-2020). Ensure that all leaked liquid is soaked up with absorbent pads and disposed of properly. Ensure that boom is place across curb cuts to BMP to ensure no further contamination. Area should be washed clean once all leaked liquid is soaked up with absorbent. Repair or replace leaking trash compactor. 6/8/20: Multiple options provided to facility to prevent future discharges. 6/12/20: Pig Absorbent mats provided to facility for use. 2/8/21: Liquids are still being tossed into compactor and leaking towards SMFs. 3/13/21: Liquids are still being tossed into compactor and leaking towards SMFs. Facility personnel is provided training and additional guidance. 3/25/21: Facility is issued another corrective action and additional information/guidance on proper liquids disposal. 6/23/21: Windshield inspections showed Liquid from trash waste (suspected to be residual milk waste) was leaking from the trash compactor. 6/24/21: Compactor was inspected and is set to be replaced by Solid Waste Contractor. The Solid Waste COR is investigating when the compactor will be replaced and getting specifications for the new compactor so that Commissary personnel will know what types of wastes can be placed in the compactor. 7/1/21: Contractor visited site and found that drain in compactor had no plug, contractor made a makeshift drain plug. 7/13/21: A possible second leak was observed as fluid was noted near the back of the compactor. 5/27/22: Compactor leaking issue noted during windshield inspection. 8/24/22: Compactor leaking issue noted during windshield inspection. 10/28/22: Compactor leaking issue noted during windshield inspection. 2/16/23: Compactor leaking issue noted during windshield inspection. 4/12/23: Notifications sent to solid waste COR (Vijay Ivatury) about leaking dumpster, contractor notified of issue. 4/17/23: Notification received that compactor will be removed from the site for repairs this week, and replaced with four 8-cubic-yard dumpsters in the interim while repairs are being made. 5/11/23: During a routine windshield inspection for route 6, area behind compactor was inspected for waste leaking into bioretention unit. There was a small pool of rotten milk, but there was no obvious flow of liquid from compactor to bioretention unit. 5/24/23: Follow up inspection was performed and liquid was found leaking from the compactor down to the bioretention pond	Valid Report/Illicit Discharge/Corrective Action Required	Open	
21-15	12/28/2020	Direct Notification	3011	Landslide Old railroad tracks behind Bldg 1457. DPW Staff received a notification from a hunter of a landslide and water flowing along the old rail road tracks behind Bldg 1457. During DPW staff investigation a broken stormwater pipe/conveyance (Outfall 3011) that goes under the road was found to be broken and water is seeping through making the road unstable and causing the landslide.	Investigation Report with recommendations submitted to DPW Leadership on 30 Dec 2020. This incident was also included in the Maintenance schedule to be repaired when funding becomes available. 4/26/22 – Follow up email sent to ISW Program Manager about IJO. 5/4/22 – IJO FE-22058-2J Work Order submitted to DPW-BOID for review. 5/20/22: IJO Signed and assigned project manager of: Haider Alrubaye (703-806-3812). 10/10/22: Follow up email sent to Haider Alrubaye requesting status, response received 10/12/22 stating that project is pending cost estimate and SOW. 1/3/23: Follow up email sent to Haider Alrubaye requesting status. Response received 1/4/22 stating still waiting on cost estimate and SOW. 4/19/23: Follow up inspection of the site performed by DPW Environmental contractor Daniel Schlobach around 1200. Weather was clear and temperature was around 65 degrees F. No signs of any work has been performed at the site. Flow was observed to be coming from the broken outfall 3011. Conditions have remained the same with additional collapse noted.	Valid Report/Illicit Discharge/Corrective Action Required	Open	

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
21-31	3/2/2021	DPW Inspector	3022	During quarterly inspections 1. improperly stored nitrogen fertilizer was observed 2. Improperly installed silt fence 3. High amount of trash throughout building grounds 4. Improperly stored hazardous materials that could become in contact with stormwater	AAFES personnel addressed the corrective action form items 2-4 26 March 2021: another set of improperly stored Nitrogen fertilizer was found on site. Another corrective action form was issued. During follow up inspections it was confirmed that the nitrogen fertilizer concern has been addressed, however the mismanagement of trash and materials continues. 11 May 2021: Site visit showed that issues with trash and material management persist at the facility. Noted issues included leftover stakes from silt fences, trash throughout building grounds, and improperly stored materials. 11 May 2023: During a routine windshield inspection of Route 6, trash was still found around loading docks and within two bioretention ponds. An uncovered dumpster and some loose trash was in the process of being removed upon inspection. Trash needs to be properly contained and disposed of before entering any SW BMPs.	Valid Report/Illicit Discharge/Corrective Action Required	Open	
21-37	3/17/2021	DPW Inspector	6284	While conducting a follow up site visit DPW inspector observed cigarette butts dumped into the storm drain and oil residue by trash compactors (ongoing issue from incident 20-26)	Hospital staff has been trained on preventing and cleaning spills and about illicit dumping. They were informed to report any dumping they observe to DPW. Training on Illicit discharges should continue as per the corrective actions in the Training Plan. Workers at the hospital should be observant and report any dumping. Training Plan currently requires Training for the Hospital Medical Staff (ECOs) but does not train all Hospital Staff. Training Plan should be updated, and Operations and Maintenance Staff should be trained as they are responsible for the loading dock area. 3/16/21: Meeting with FBCH Staff to discuss ongoing issues and 2020 HPF inspection findings. No meeting minutes were found. 4/29/21: Follow-up email sent to FBCH staff noting areas of responsibilities and facility requirements to comply with Stormwater Pollution Prevention policies and practices. 4/26/22: Reminder email sent to MS4 Program Manager. 8/5/22: Training Plan updated to include Hospital O&M Staff for Level 3, 4, and 6 Training 4/12/23: Notification received from Acting MS4 Program Manager that Training Plan had been updated, please see attached sheets.	Valid Report/Illicit Discharge/Corrective Action Required	Closed	4/13/2023
21-42	3/31/2021	Windshield Inspection	N/A	Various items were found dumped at the intersection of Kingman and Fairfax County Parkway.	3/31/21 - Corrective action from was created however no responsible party was identified. A PWO will be put in to have Aleut clean the area. 12/9/21 – Follow Up Inspection occurred, trash still present as well as additional trash found. Follow Up email sent to Ashley Clark and Sybille Vega to see about a PWO. 1/17/22 – Follow up email sent to Ashley Clark and Sybille Vega to see about a PWO. 4/26/22 – Follow up email sent to ISW Program Manager about IJO. 5/4/22 – IJO FE-22057-2J Work Order submitted to DPW-BOID for review. 5/23/22 – IJO Signed by DPW-BOID and assigned project manager: Vijay Ivatury. 8/24/22 – Follow Up Inspection shows that no trash remains and all has been cleaned up, issue may now be closed. PWO was cancelled and a DMO was assigned to this project instead, see attached documents for records.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	8/24/2022
21-45	5/14/2021	Direct Notification	N/A	A resident reported via email to the MS4 Program Manager that there is a high amount of trash in Colyer Village behind 5823 Peterson Loop and all the way east down the ravine. It is clear that a couple of people have pushed car engines down that hill rather than dispose of them properly.	Recommendation is to update the education and outreach plan to include regular articles in the Resident newsletter to increase awareness in the housing districts and to coordinate more cleanup events with the housing community. 4/26/22: Reminder email sent to MS4 Program Manager. 5/27/22: Follow up inspection shows that trash and car engines are still located in the woods and woods line within the area. 5/31/22: Explanation emails sent to MS4 Program Manager on required corrective actions that should be taken, along with location of articles that could be sent to housing to include in Housing Newsletter. Asked about seeing if housing is already talking about illegal dumping in the Housing Newsletter. Tried to arrange meeting with Jennifer Hudson with Housing but nothing came through, gave housing requested asset number for ravine as requested.	Valid Report/Illicit Discharge/Corrective Action Required	Open	
21-46	5/24/2021	Direct Notification	2986	DPW-Personnel was notified of a leaking aboveground storage tank at Building 1412. On site, DPW personnel observed a compromised 500 gallon tank containing diesel fuel. The FBFD had utilized a golf tee to plug a small hole at the bottom of the tank to stop the leakage. Granular absorbent material and spill pads were utilized to contain the spill, but there was evidence that the spill had reached the surrounding soils.	There was an adjacent stormwater drop inlet approximately 60 feet to the northeast of the compromised tank/spill area. The stormwater inlet was checked periodically for the duration of the spill event for any observable sheens. No sheens were observed, therefore, it is assumed that no fuel reached any water bodies. Spill was contained and currently remediation efforts are still ongoing. 12/8/21: Contaminated soil has been dug up for proper disposal. Contractor set to drain pit week before Christmas 2021 and take samples, samples will be analyzed and results sent to VADEQ, VADEQ will provide direction if backfill may occur to close out. 1/17/22: Follow up email sent to Sam Johnson 1/18/22: Contractor unable to complete work before holidays, scheduled to start 1/18/22, should take 2-ish days to complete work. 3/17/22: Follow up email sent to Sam Johnson 3/21/22: Sam Johnson responded verifying site has been drained, sampled, sample results sent to VADEQ 2/15/22, VADEQ responded 2/15/22, response sent to VADEQ 3/14/22, DA4283 (FE-22032-2J) initiated to begin restoring the site and approved on 3/16/22. 4/28/22: VADEQ notice of closure of case received from Sam Johnson. O&M currently working on restoration project hopefully to begin within the next couple of weeks. 8/10/22: DIG Permit 22-188 Submitted to fill leftover hole to complete project. A follow up inspection occurred this day to document conditions prior to filling the hole, see photos from this day. 10/10/22: Follow up inspection shows that work has been completed on filling the hole, and the area has been appropriately seeded and mulched to stabilize with adequate grass growth present. This issue may now be closed out.	Valid Report, Illicit Discharge, Corrective Action Required	Closed	
21-49	6/3/2021	Windshield Inspection	N/A	Two (2) roll offs that were not in use and not covered at bldg 220 and 221.	As of July 16, 2021: No responsible party has been found 1/19/22: Follow up inspection noted that both dumpsters were still present. 3/17/22: Follow up inspection noted that dumpster is still there, no personnel on site. 7/8/22: Follow up inspection noted that all dumpsters are gone, and this issue will now be closed out.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Closed	7/13/2022
21-55	6/23/2021	Windshield Inspection	BMP 2535	PX trash compactor had trash packed under that had come out through chute.	Pursue obtaining additional trash dumpsters and/or additional compactor pick-ups through AAFES contracting. Instruct personnel to not overfill compactor. June 30 2021: Request sent to Solid Waste COR in O&M 1/17/22: Follow up email sent to Sybille requesting email, as well as Vijay about what is occurring. 1/21/22: Follow up inspection shows area is still overflowing with lots of trash and has not been cleaned up. 5/11/2023: Follow up inspection during windshield route 6 shows area still overflowing with lots of trash and has not been cleaned up. 5/24/23: Follow up inspection noted that excess trash is still accumulating on top of the storm drain and trash bags found next to the dumpster and not inside.	Valid Report/ Potential Illicit Discharge/Corrective Action Required	Open	
22-26	2/11/2022	Windshield Inspection	1715	A silt fence is leftover around a culvert inlet just southwest of Building 337 off of Wilson Road. This is a re-issue report from a leftover report dated 5/14/2020.	Ensure that the leftover silt fence is removed and disposed of properly. 8/15/22: Follow up email sent, work order has been created and was signed by Wilamena Harback on 8/15/2022 to proceed to the main office for approval and funding. 10/10/22: Follow up email sent to Ryan Maisano to determine project status. Ryan Maisano responded 10/11/22 indicating that the silt fence removal was completed on 9/22/22. 10/11/22: A Follow up inspection verified that this issue has been addressed and may now be closed out.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	10/12/2022
22-28	2/14/2022	Windshield Inspection, DPW Inspector	N/A	Various instances of trash being dumped at dumpsters around Fort Belvoir from illegal dumping activities. There is no avenue for residents to dispose of large trash items, and so an increase of illegal dumping has been seen across the installation. Rather than open up an individual report each time this occurs, this Illicit Discharge Tracking # shall be utilized to compile any illegal dumping at dumpster issues seen.	All excess trash outside dumpsters and around the installation needs to be removed and disposed of properly. 4/27/23: DPW Environmental Contractor Daniel Schlobach followed up on all instances of illegal dumping documented in this report. Several sites still have trash remaining and several have had the trash removed (see updated report for reference).	Invalid Report/No Illicit Discharge/Corrective Actions Required	Open	

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
22-33	3/31/2022	DPW Inspector	N/A	A hydraulic fluid spill occurred at the activated barrier just outside of Farrar Gate to Davison Army Airfield. The spilled material is Envirologic 132 Hydraulic Fluid (see attached SDS). The rupture occurred at the control box for the activated barrier and spilled hydraulic fluid into the grassy area adjacent as well as filled up the observation well within the activated barrier.	Area will need to have all affected soils removed and disposed of properly. Hydraulic Control Station will need to be repaired. Additional hydraulic fluid in activated barrier will need to be removed and disposed of properly. All disturbed areas will need to be seeded and mulched to re-stabilize. 4/1/22: An emergency DIG Permit 22-111 has been submitted to address this issue. The area has absorbent booms installed downhill in the flow path and also the area has been covered with tarps to prevent contact with rainwater until the DIG Permit is approved. 5/3/22: Spill Report from Mr. Doo Lee (DPW Haz Waste Program Manager) received. Spill not yet cleaned up. 8/24/22: Follow up inspection confirms that this action has not been addressed, see photos for documentation. 10/10/22: Follow up email sent to Sybille Vega and Doo Lee requesting status of cleanup and for initiation of process if not started. 10/11/22: Response from Sybille Vega stating it has not been addressed. 10/18/22: Follow up email sent to Ryan Maisano and Mr. Doo Lee to ask that situation is brought to Mike Wolfe for funding and prioritization. 10/19/22: Ryan Maisano asked Mr. Mike Wolfe if project can be funded, no response received. 1/3/23: Follow up email sent to Ryan Maisano, Mike Wolfe, Sybille Vega, Lee Doo, and Ashley McMahon on project status. Ashley McMahon responded to say that she saw seed and straw being placed on area. 1/12/23: Follow up inspection occurred, did not see any seed or straw in area and all tarps and coverings have been removed with black oil-like stain on soil still very visible. Report updated and sent to Ashley McMahon. 1/13/23: Email from Ryan Maisano requesting that the area is at least covered with a tarp until another work order can occur. 4/19/23: Follow up inspection of the impacted area showed the contaminated soil has not been removed yet. 4/20/23: Follow up email from Ashley McMahon to COR Vijay Ivatury asking for update. DIG Permit has not been funded yet, falls under service requirement funding as compared to repair/construction funding so issues with acquiring funding still occurring.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Open	
22-41	6/14/2022	ORI	984	Suspected illicit connection leading ultimately to Outfall 984. An unknown 4" pipe is seen coming into Area Inlet 988, not shown in Stormwater map book, suspected to come from Building 247 roof drains. This outfall was screened as part of the 2020-2021 Outfall Reconnaissance Inventory and this incident was discovered during a dry weather screening.	2/15/22: During the first ORI inspection conducted on 2/15/2022 @1337, A sample was collected from the flow and Hach Water Testing was used to test for pH, Ammonia, Free/Total Chlorine, Nitrates, Nitrites, Fluoride, and Phosphates. Tests showed elevated levels of Ammonia, Phosphate, and Fluoride in the sample (pH 7.34, Ammonia 0.65 mg/L, Free Chlorine .00 mg/L, Total Chlorine .15 mg/L, Nitrate 0.3 mg/L, Nitrite 0.006 mg/L, Fluoride 0.48 mg/L, Phosphate .46 mg/L), but none of the tests showed an exceedance of the illicit discharge threshold. 6/14/22: A trunk investigation was conducted on 6/14/22 @1340, temperature was 79 degrees F and there was 0.49" of rainfall within the past 48 hours. The entire storm drain system leading to Outfall 984 investigated which included structures 984 through 993. Structure 984 was found to be flowing. No noticeable roof drains were seen on the exterior of Building 247 and the roof is flat, so it is believed that if roof drains exist they are inlets on top of the roof that go through the interior of Building 247. Water was seen flowing into area inlet 993 during the inspection from an unknown 4" pipe, see Photo 3. During the past 2020-2021 ORI an inspection of area inlet 988 by a former MS4 Program Manager, Yari Chiro, indicated that an unknown pipe was located flowing into area inlet 988. During this initial field investigation, it was field verified there was no additional pipe seen within this area inlet 988. It is believed that this was a mistake, and Yari Chiro meant area inlet 993. It should also be noted that this unknown pipe is not pointing directly at Building 247, but rather across the street towards Building 269. 4/19/23: Follow up inspection was performed by DPW Environmental contractor Daniel Schlobach at around 1130. Weather was clear and temperature was around 61 degrees F. Outfall 984 was found to be flowing at time of inspection. A trunk investigation was performed again, looking at all MS4 structures in the immediate area that feed into outfall 984. Inlets 985, 986, 988, 989, 991, and 993 were inspected to look for any signs of flow. Inlet 993 contained some standing water at base of inlet, however the unknown 4" pipe identified on the 6/14/22 inspection was not flowing. See attached photos for further reference.	Valid Report/Illicit Discharge/Corrective Actions Required	Open	
23-01	7/11/2022	Windshield Inspection	N/A	During a Windshield Inspection, work was seen being performed at Building 206 (5830 19th Street). It was determined that a DIG Permit was not on file for this project. Additionally, silt fence was seen to be inadequate as well as down in several areas, sanitary facilities were seen located too close to stormwater inlets, several concrete spills were seen on site with no concrete washout areas, no inlet protection was seen on any adjacent stormwater inlets, soil stockpiles were seen that were unprotected, and dumpsters were seen that were uncovered, please see all photos. POC's for this project determined on site were James "Drew" Driggers as the Senior Project Manager, 202-631-1346, james.driggers@chenega.com, and Brad Mackenzie as the Construction Manager, 571-358-7843, bradford.mackenzie@chenega.com.	First, a DIG Permit must be submitted for this project before any other land disturbing work may continue. All sanitary facilities must be re-located to be at least 25' away from any stormwater feature. All concrete spills must be scooped up and disposed of properly and a concrete washout must be used for all concrete pouring activities. Silt fence must be repaired where down and be extended around the entire project site to prevent erosion from any disturbed area around the building. Inlet protection must be placed on all inlets that are adjacent and receive drainage from the building and construction area. Soil stockpiles must be either covered or temporarily seeded and mulched to stabilize. Dumpsters must be covered on the project site to prevent contact with rainwater. See attached specifications and photographs for additional details. 7/26/22: DIG Permit 22-166 submitted and reviewed at DPW. 8/9/22: Notification email received from Bradford Mackenzie with some photographs showing that all deficiencies have been addressed. Follow up inspection scheduled for 8/10/2022. 8/10/22: Follow up inspection performed showing that all issues have been addressed except for the silt fence not being installed properly. Silt fence is still flapping in the wind and is not entrenched, and needs to be entrenched appropriately around the entire project site. Report re-written and sent to contractor, Silt Fence specifications re-sent to contractor. 10/10/22: Follow up phone conversation with Drew Driggers regarding project status, site inspection scheduled for Friday 10/14/22 as no personnel on site today. 10/13/22: Complaint received from Camila Dias on ESC issues at project site. 10/14/22: Follow up inspection shows issues at site still present. Full ESC Inspection and report occurred with Mr. James "Drew" Driggers. Site added to standard ESC Inspection schedule until under control. 10/28/22: Follow up inspection shows all site issues have been addressed, and no remaining issues were present. All silt fence replaced with sediment filter bags or compost filter socks, please see all photos. This issue is now recommended for closeout.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	
23-02	7/15/2022	DPW Inspector	N/A	A previously unknown Septic Tank at the golf course maintenance building 2990 was found to be overflowing. The tank is estimated to be at 6,000 gallons in size and there is an alarm panel in the Manager Office with the high level warning light on and the alarm silenced. The tank is dripping out of the manhole slowly.	Not captured in Bacteria TMDL and we specifically stated that we have no septic tanks to worry about, plan will need to be updated or it will need to be removed. Why is facility not connected to sanitary sewer. Talk to Ryan Maisano and get more of a story from him. 8/15/2022: Follow up email sent to Ryan Maisano to obtain additional information. Figured out tank has been cleaned out and O&M has been advised to abandon tank and connect to sanitary system. PWO DC-22047-2J submitted and approved on 7/18/22 for cleaning out the septic system. 10/10/2022: Follow up email sent to Ryan Maisano, Calli Kaufhold, and Jason Chan requesting status update and if Bacteria TMDL has been updated. 10/11/2022: Email chain shows that tank (holding tank) is not to be abandoned, but to be replaced with a larger holding tank to be maintained by AW and pumped on a regular schedule. Email shows that tank was "forgotten about" for approximately two (2) years, could have been discharging this entire time, no one has a solid answer. Tank is approximately 6,000 gallons in size and fills up in about three (3) months time. See emails for additional information. 10/26/2022: Follow up email questions on tank sent to Jason Chan. Calculated worst case scenario at 48,000 gallons of raw sewage discharge. Recommended that VADEQ Pollution Report is filed as well as to contact the Virginia Department of Health due to nature of the discharge. 1/3/2023: Follow up email sent to request status of where issue is with inspection, permitting, replacement, work orders, any new overflows, etc… Response received from Ashley McMahon stating O&M has not provided a response and to bring this issue up during staff call. 2/13/2023: Per a conference call with Ashley McMahon (Acting MS4 Program Manager) a meeting occurred on February 1st with the assigned Project Manager (Vijay Ivatury), the Golf Course staff, and American Water (AW). A PWO was put in to pump the septic tank as well as perform an investigation. The current plan is that if the tank is in good condition, the tank is to remain and it will be determined what permit may be necessary, if it is grandfathered, who will submit for the permit, and what funds would be necessary. If the tank is not in good condition, it will be abandoned in place and temporarily replaced with port-a-johns, and a new sanitary line will ultimately be connected to tie into the mains adjacent to Walker Gate. AW is providing an estimate for this work currently. Additional investigation will be completed to determine if the soil is contaminated, and if lime needs to be put down as well as if the Department of Health needs to be notified. 5/15/23: Follow up inspection showed site conditions appear to be the same as the initial inspection, which was done in July of 2022.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Open	

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
23-03	7/18/2022	Windshield Inspection	N/A	At Building 359, silt fence throughout the project site is down or not installed properly/not entrenched. Dumpster located on project site has no cover to protect from rainfall. (DIG Permit found on file, Permit #22-113)	Ensure that all silt fence that is currently down is repaired to a functional state. Ensure that silt fence is maintained around the project site construction area to prevent sediment from leaving the project site. Ensure that a cover is brought in for the dumpster unit and it is covered at the end of each work day as well as for any storm event to prevent dumpster contents from coming in contact with stormwater. 8/15/2022 – Follow up email sent to contractor regarding issue. Contractor responded with photos documenting that issue was completed late in the evening. 8/16/2022 – Issue closed out with report.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	8/16/2022
23-04	7/20/2022	Direct Notification	N/A	Resident complained about sewage in their back yard from American Water staff jetting a sewage line to clear buildup that was reported. Manhole is noted as shallow. Mist began to come up out of the manhole from jetting activities, suspected illicit discharge is the mist from jetting activities.	Resident's trampoline may have incurred some mist from jetting activities, AW operations supervisor talked to resident to clean any mist on trampoline. Pollution Report filed with VADEQ, report #305753 (see attached). No further actions necessary.	Invalid Report/No Illicit Discharge/Corrective Actions Taken	Closed	7/21/2022
23-05	7/26/2022	Windshield Inspection	N/A	Leftover silt fence and construction materials noted from the Dogue Creek Bridge Construction Project noted along Mount Vernon Road.	Leftover silt fence and construction materials noted from the Dogue Creek Bridge Construction Project along Mount Vernon Road need to be removed and disposed of properly. Report distributed to contractor responsible for project (Allan Myers, Inc., Brian Lawn brian.lawn@allanmyers.com and bcl5040@gmail.com) as well as USACE Project Managers (Nhat Tran nhat.q.tran@usace.army.mil and Marion Dye marion.dye@usace.army.mil). 8/15/22 – Follow up email sent to Noah Sirbaugh (noah.sirbaugh@allanmyers.com) and Jerry Rush (jrush@blhalbert.com). 8/16/22 – Contractor (Noah Sirbaugh) responded, stating that this issue would be addressed by the end of this week, 8/19/22, follow up then with a re-inspection if nothing is heard. 10/10/22: Follow up inspection shows that the remaining leftover silt fence was removed and the area seeded and mulched to stabilize. This issue may now be closed out.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	10/10/2022
23-06	8/10/2022	DPW Inspector	N/A	Water was seen in parking lot of Building 211, coming from pipe running under sidewalk at back of building adjacent to parking lot. Pipe appears to come from roof drain, but no water was coming down the downspout. Water was measured with temperature gun and was a good 20 degrees colder than surrounding asphalt, indicating potential A/C condensate. Invalid Report with Corrective Actions Required. Building 211 downspout from roof feeds to a PVC pipe which is clearly the same pipe as the one that comes under the sidewalk. Water seen in pipe, but no water coming from the roof. Water had a trickle flow from the discharge point, it is believed to be A/C condensate from a tie-in within the building. Water was clear, but there was a buildup of red to reddish-pink algae which was not disturbed easily with a stick but did produce some fluffy pieces when scraped. Wasps were seen in the area drinking the liquid.	Condensate pumps can grow algae if not properly maintained. It is recommended to check the A/C Units exterior and interior to the building, as well as flush and clean out the condensate pipe and condensate pump. It is believed that the red/red-pink substance is algae from continuous flow and systems requiring maintenance. Report sent to Mr. Brian Marron, Contractor Performance Specialist with DPW O&M Utilities (brian.marron.civ@army.mil, 703-806-0035). 10/10/22: Follow up email sent to Brian Marron requesting project status. 10/11/22: Unclear email stated that the issue was investigated and would be completed under Preventative Maintenance to occur possibly in September? 10/18/22: Follow up email sent to try to figure out more information. 10/19/22: Brian Marron stated area was inspected and no further algae present. A follow up inspection was conducted at 1353, weather was cloudy and temperature was around 56 degrees. Inspection shows that no further condensate water is leaving the storm pipe and the issue has been cleaned up, recommend closure of issue.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	10/20/2022
23-07	7/20/2022	DPW Inspector	N/A	Spill of Diesel Fuel occurred on C2S Pad 3 Between Generators 4 and 5 in suspected amount of 50 gallons. Located on a secure site within ADF-E where no photographs are allowed, GPS coordinates not provided (approximate GPS coordinates given below). Report was not given to MS4 Program until Tuesday, 8/30/2022, so this report is written after the fact.	Spill ended up being closer to 15-20 gallons of fuel rather than the original estimation of 50 gallons. When spill was noticed, ADF-E Security and then Safety was called immediately, and was then reported to DPW, and then Fort Belvoir Fire Department was called and responded to the scene. Fuel transfer was stopped and the leaking union was tightened, and clean up commenced immediately. Sand was used to absorb the spill along with spill pads and was removed and placed in drums for disposal, please see attached reports and information.	Invalid Report/No Illicit Discharge/Corrective Actions Taken	Closed	8/30/2022
23-08	8/30/2022	DPW Inspector	5012	Located at the Remote Inspection Facility (RIF) at the ADF-E Inspection gate, leaking red radiator fluid in an approximate 140' long stretch of road leading up to and going underneath the RIF overhang.	Safety and Security was notified immediately of spill. Mr. David Greenspan was already within the secure area for other inspections with Safety, so was able to respond to the spill immediately. Absorbent litter was placed immediately in area to prevent any flow off of the concrete. Spill did touch the trench drain at the RIF, but it was extremely minimal, so there is the potential for an illicit discharge. The truck was researched and found to have a total of 11 gallons of radiator fluid within it, but less than half of this was spilled, estimated at just below 5 gallons total. The majority of the spill was in a covered overhang area. Pictures are set to be sent of the cleanup by ADF-E Safety once they clear Security (no photos were cleared). 10/10/22: Follow up email sent to John Barnett for ADF-E Report and close-out verification. 10/25/22: Conference Call with ADF-E Safety (John Barnett), ADF-E Spill Incident Report Form received, spill verified as cleaned up, no photos due to secure area, issue may now be closed out.	Valid Report/No Illicit Discharge/No Corrective Actions Required	Closed	
23-09	10/3/2022	DPW Inspector	N/A	Notification was received from Mr. William Brown with DPW-Environmental on 10/3/22 at 1437 that a stockpile of sand was seen at the golf course in a parking lot adjacent to the Fort Belvoir Golf Club. Upon the initial inspection, the stockpile was verified to be at coordinates 38.730133, -77.161955. The stockpile is uncovered and unprotected, and is eroding fine sand pit sand into the parking lot.	Storage of erodible materials such as sand must be stored in a covered location. Either ensure that this pile is covered to prevent erosion of sand or move the stockpile to exist within the designated Golf Course Maintenance area. Report distributed to Golf Course Club House Manager Tim Coolican (tim.j.coolican.naf@army.mil) and Golf Course Maintenance Area POC Kevin Boynton (kevin.l.boynton.naf@army.mil) on 10/7/22. 10/10/22: Follow up inspection shows that the sand stockpile was removed and the area cleared. This issue may now be closed out.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	10/10/2022
23-10	10/18/2022	DPW Inspector	N/A	Notification received from Ms. Camila Dias regarding excess trash at and around the Markham School Dumpster.	Ensure that all excess trash is removed, bagged, and disposed of properly. Report distributed to Iraida Declet (Program Director, iraida.m.declet.naf@army.mil). 10/19/22: Iraida Declet responded that trash has been removed and that a Dumpster Area Check has been added to the building open and close checklist. A follow up inspection was conducted at 1408, weather was cloudy and temperature was around 57 degrees. Inspection shows that all trash has been cleaned and removed from the area as requested.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	10/20/2022
23-11	10/21/2022	DPW Inspector	4217	An unknown CMP pipe was seen within a Wet Pond (BMP #4064) during a meeting on 10/4/22 discussing maintenance requirements with FBRC. During the inspection for this report, it was determined that the pipe is a leftover temporary outlet from the original construction of the Wet Pond. The unknown pipe appears to be CMP on the side of the pond, connected to RCP at the outlet location. The riser structure was assessed, and it is DPW-Environmental's opinion that the pond/riser structure is correctly designed for a wet pond with an adequate outfall and inflow, and that the leftover CMP/RCP combo pipe does not meet the original design intent of this location.	It is recommended that the leftover pipe is capped on each end and abandoned in place. Alternatively, the pipe may also be removed. The erosion that is occurring on each side will need to be filled in and graded to match existing grade, as well as seeded and mulched to stabilize. Report sent to FBRC BMP maintenance contractors Ken Eyre (keyre@blueheronlg.com) and Stephen Aitcheson (saitcheson@blueheronlg.com) as well as FBRC Eric Caminiti (ecaminiti@tmo.com). 11/17/22 – Site meeting with Blue Heron, FBRC, Ryan Maisano (DPW), Calli Kaufhold (DPW), and David Greenspan (DPW). To go over historical data and get eyes on the issue. 11/18/22 – Proposed maintenance plan for BMP provided by housing for area. 11/22/22 – Notes provided to Calli Kaufhold on BMP issue, everyone is in agreement to move forward. 12/5/22 – Concurrence received from FBRC to install adjustable control orifice to monitor water levels during first two quarters of 2023 when maintenance performed on BMP 4064, see email	Invalid Report/No Illicit Discharge/Corrective Actions Required	Open	
23-12	11/2/2022	DPW Inspector	5889	Three (3) storm drains within Building 1114 were observed which feed to one (1) storm drain just outside the bay doors for Building 1114. Storage of various chemicals and materials occur within Building 1114. It was confirmed by Bethany Baldwin (Paragon/Aleut) that the inlets inside the building are still connected to the MS4 system. This is a re-issue of former Corrective Action Report 17-52, which was closed as the drains were temporarily covered. It was determined that these drains were existing, Building 1114 was constructed on top of them, and they were never removed.	Short term: The three (3) drains within Building 1114 must be covered to prevent any liquids from entering the storm sewer system (recommend PIG Mats). This covering must be maintained. The one (1) drain outside the building must have an oil filter installed on it and maintained, to be routinely maintained under the SWPPP for Aleut (RO-015) Long term: The three (3) interior drains must be permanently capped (compression cap or approved alternative), and abandoned in place. The one (1) exterior drain oil filter will remain to be maintained. It is recommended from the ISW Program Manager that dye testing is performed to confirm that inlets drain to Structure 5889. It is ultimately recommended that re-grading/paving for the parking lot occur to ensure slope is away from Building 1114 to prevent any ponding issues, and that the one (1) exterior drain is also permanently capped and abandoned in place. 4/20/23: Received email confirmation from Camila that the floor drains are no longer in use and that the issue can be closed out.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	4/24/2023

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
23-13	11/2/2022	DPW Inspector	N/A	The secondary containment for the brine operations is estimated to hold around 2,000 gallons, while the current brine tanks equate to 4,000 gallons (1x1,000 gallon tank & 1x3,000 gallon tank). The secondary containment is undersized for this operation, and the material used (asphalt for the berm) is not completely impervious. There is additionally evidence of stormwater and sediment in the containment area.	A properly sized secondary containment must be installed, sized at 110% capacity (4,400 gallons) if stormwater is removed within 24 hours of a storm, or 125% (5,000 gallons) capacity if not. Ensure that the new secondary containment is fully impervious to contain any leaks or spills, and is kept free of stormwater, sediment, and debris. It is recommended that a covered overhang is provided to prevent contact and contamination with rainwater. 12/19/22 - Confirmed that a PWO has been placed but not yet funded, PWO FE-23010-3J. 2/28/23 – Project review for Bldg 1114 Brine Storage (ENV23-138) distributed to DPW-Environmental for review 3/21/23 – New PWO for project confirmed, FE-23021-3J, project files updated with additional information 3/22/23 - Follow-up inspection occurred and confirmed no work have been initiated. The facility is in the process of de-mobilizing winter maintenance supplies and equipment. It is recommended that the Brine Tanks be drained as a part of the demobilization and that containment structures be prepared for implementation prior to the next winter season (October 2023). 4/4/23 - Facility requested guidance from DPW on draining brine from tanks and cleaning. 4/10/23 - VADEQ noted during site visit that they agreed with the need for additional containment capacity and waiting until next winter season for implementation. 4/20/23 - Email from Camila stating that the Brine tank containment has been going around for review, but Aleut is still awaiting feedback on brine disposal.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Open	
23-14	7/19/2022	DPW Inspector	ISW RO-032	Concrete from a sidewalk installation/repair project was noted on the road, on top of area inlet grates, and surrounding grassed areas. Concrete washout is an unauthorized discharge and a source of heavy metals, pH, and solids that may result in clogging of drains. Area is a secure area, no photographs allowed. Concrete washout was clearly washed out into inlets. While this incident occurred on 7/19/2022, it was not relayed to the MS4 Program until 11/15/2022 so this report is being written after the fact. It is unknown the amount of concrete washout that made it into the storm drains.	Corrective Actions Required: Facility should ensure contractor for sidewalk project is using proper controls during project and area is properly cleaned to not allow concrete washout to enter storm drains and cause clogging to . VADEQ recommends the following: Concrete washout and cement waste – Direct concrete wash water into a leak-proof container or leak-proof settling basin that is designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Corrective Actions Taken as of 10/3/2022: Construction activities involving sidewalk repair/rebuild has since been completed; verified with project manager. Materials have been removed from site. All future contractors that may have similar materials will be directed to store materials on secondary containment/alternate storage method (to be approved by the NCE Safety Office) prior to project start. All washout activities will be prohibited, unless contained in a manner where they cannot seep to the environment/drainage system.	Valid Report/Illicit Discharge/Corrective Actions Taken	Closed	11/21/2022
23-15	7/19/2022	DPW Inspector	ISW RO-032	An oil-like substance was seen at the bottom of a central storm drain during an ISW Stormwater audit. It was determined that this substance was tar from recent maintenance performed on the parking lot, and was less than one pint in volume. Area is a secure area, no photographs allowed. While this incident occurred on 7/19/2022, it was not relayed to the MS4 Program until 11/15/2022 so this report is being written after the fact.	Amentum's maintenance supervisor was informed of the leak/spill at the time of discovery, and by 1200 the same day a crew opened the drain to sample the material. At that time, it was determined it was tar, and the excess was cleaned up from the stormwater structure. The tar was the result of an over-pour and had hardened within the stormwater structure. Please see attached spill report and map.	Valid Report/Illicit Discharge/Corrective Actions Taken	Closed	11/21/2022
23-16	11/21/2022	Direct Notification	N/A	Call received from Fire Department at 0900 in regard to spill near Officer's Club. American Disposal's garbage truck experienced a mechanical failure in its hydraulic arm and spilled less than 4 gallons of hydraulic fluid on to the pavement near 10160 Belvoir Drive. POC - Fire Department Captain Estes - 703-906-2968 American Disposal (Truck Driver) Jose Ulloa 571-428-1399	When spill response personnel arrived on scene, spill had not entered the storm/sewer system and had been contained. American Disposal personnel had deployed their own spill kit (granular absorbent, absorbent sheets, and booms) and the Fort Belvoir Fire Department was en-route to help with remaining clean up. Additional spill supplies (absorbent sheets) were provided per Mr. Lee's (DPW HW Program Manager) instruction. Later that same day, American Disposal's personnel had removed their spill kit materials. By 11/23/22, all materials had been removed by base operations contractor, Aleut, no additional actions necessary.	Invalid Report/No Illicit Discharge/Corrective Actions Taken	Closed	11/28/2022
23-17	11/21/2022	DPW Inspector	N/A	During a routine SAA inspection, water was observed coming out of a pipe at the foundation of Building 215. Water did not smell of chlorine and was flowing into a grassy area where it was pooling and then infiltrating the soil, was not running off site.	Flow was found to be an authorized non-stormwater discharge under 9VAC25-890-20, no corrective actions required.	Invalid Report/No Illicit Discharge/No Corrective Actions Taken	Closed	11/28/2022
23-18	11/18/2022	Direct Notification	N/A	At 1110, Environmental Specialist Frank Burbank (frank.burbank.ctr@nga.mil) was contacted by HVAC Technician Jay Viands about a leak in the VCC Parking lot. Earlier that morning it was identified that a security vehicle parked in the lot was leaking transmission fluid. A tow truck was called and the vehicle was removed from the facility for repairs. Upon arrival of the environmental specialist (1120), the spill had mostly dried due to sun and steady winds. The main puddle of the fluid was about 2.5 feet by 6 feet. A line of fluid spots extended from the main puddle in the parking spot out into the roadway. This was caused from the tow truck lifting and moving the leaking vehicle. The line of spots extended about 14 feet from the main puddle. The spill was estimated to be in the amount of no more than two pints. No photos, secure area. This spill was not reported until 11/22/22.	Using a spill response kit brought to the site, the Environmental Specialist used loose absorbent material and matts to absorb the remaining wet fluid from the leak. The excess absorbent was then swept up and placed into storage pending disposal. The vehicle was taken out of service and removed from the site for repairs.	Invalid Report/No Illicit Discharge/Corrective Actions Taken	Closed	11/23/2022
23-19	11/28/2022	Direct Notification	ISW RO-016	A strong diesel smell and film of fuel was seen at the boat ramp at the Dogue Creek Marina by someone coming in from fishing on 11/28/22. Notification for this incident was received on 11/29/22 @1758. Photographs of the incident were provided. Spill is estimated at or below one (1) gallon of most likely diesel fuel.	Spill was reported immediately by discoverer (Steve Scherer, sscherer@cox.net) to MPs who called the Fort Belvoir Fire Department. Fire Department responded and placed floating booms around the spill to try to contain and absorb the spill. Booms had been removed by follow up inspection on 11/30/2022 and no additional sheen or smell was detectable. It is likely that the spill resulted from putting a boat out or taking it out of the water and was not the result of maintenance work after hours, as nearby boats in the vicinity were surveyed and no point source of the spill was determined. It is recommended that a spill kit for public use is provided at the boat ramp in case of emergency, as the Marina Office was closed and inaccessible during the follow up inspection. VADEQ as well as NRC was notified of this incident, case number 1353807.	Valid Report/Illicit Discharge/Corrective Actions Taken	Closed	11/30/2022
23-20	12/6/2022	Windshield Inspection	N/A	Oil sheen found in the parking lot of the Civil Air Patrol building during the Route 7 Windshield Inspection. Sheen was concentrated by a dumpster and appeared to slowly encroach towards the woods. Spill is estimated to be petroleum, and less than one (1) cup of fluid.	12/9/22: Contacts for Bldg 3123 were notified of the spill via this report and asked to perform clean up, contacts included: Daniel Fulford (202-685-9719, daniel.b.fulford.civ@army.mil), Willie Faconer (202-685-8818, willie.d.faconer3.nfg@army.mil), CW3 Melinda Herder (703-806-7703, melinda.l.herder.mil@army.mil), and CW4 Rendell Long (361-961-6489, rendell.l.long.mil@army.mil). 1/3/23: Follow up email sent to all above to try to determine status of incident, no response received from first email. 1/11/23: Follow up email sent to above and additional contacts as no response has been received. Ashley McMahon tagged onto email as well to elicit response from personnel. 1/12/23: Response received from Kemba Jones, confirming receipt and that they are awaiting a response from their contractor and are working on correcting this issue now. 5/15/23: Follow up inspection showed oil spill was properly cleaned up.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Closed	5/15/2023
23-21	12/6/2022	Windshield Inspection	N/A	Open dumpster at golf course with trash spread over the surrounding area. The dumpster lid is broken and needs to be replaced/repaired.	Properly dispose of the trash around the dumpster and ensure that the dumpster lid is replaced/repaired to prevent stormwater contamination. Report distributed to Tim Coolican (timothy.j.coolican.naf@army.mil), Fritz Diekmann fritz.diekmann2.naf@army.mil), and Benjamin Ellis (benjamin.r.ellis6.naf@army.mil). 1/3/23: Follow up email sent to all POC's to determine status, no response received to original email. 1/11/23: Follow up email sent to above and additional contacts as no response has been received. Ashley McMahon tagged onto email to forward to James Burnett to notify of issue and elicit a response. 1/12/23: Response received from James Ladebush stating that the COR from DPW has been notified about replacing the dumpster and that it has been put on a waiting list, and that trash will be picked up in the interim time. An additional email was distributed to Vijay Ivatury (DPW POC) to ask about a replacement dumpster and if an adequate container is required in the trash contract, as the current dumpster is not adequate. 1/13/23 Response received from Vijay Ivatury stating dumpsters are in short supply, and as soon as one is available it will be replaced. 5/5/23: Vijay confirmed an additional dumpster was added to the parking lot as requested on 5/1. 5/15/23: Follow up inpsection showed the second dumpster was placed in the parking lot, however one dumpster is still missing one of the lids and needs to be repaired. Trash is overflowing from the broken dumpster. 5/24/23: Follow up inspection noted that excess trash has been cleaned up, however the dumpster lid is still missing from one of the dumpsters and needs to be replaced.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Open	

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
23-22	12/6/2022	Windshield Inspection	N/A	Uncovered dumpster filled with trash and uncovered bulk furniture observed in the parking lot of the Civil Air Patrol Building 3123. Update: furniture has been removed though an uncovered dumpster sits in the parking lot and will need to be covered.	Dumpster will need to be properly covered and the furniture will need to be secured and covered while awaiting disposal to prevent contact with stormwater and reduce illicit discharge potential. Report distributed to Daniel Fulford (202-685-9719, daniel.b.fulford.civ@army.mil), Willie Faconer (202-685-8818, willie.d.faconer3.nfg@army.mil), CW3 Melinda Herder (703-806-7703, melinda.l.herder.mil@army.mil), and CW4 Rendell Long (361-961-6489, rendell.l.long.mil@army.mil). 1/3/23: Follow up email sent to all above to try to determine status of incident, no response received from first email. 1/11/23: Follow up email sent to above and additional contacts as no response has been received. Ashley McMahon tagged onto email and sent BMP22 for Dumpster Management Fact sheet as well. 1/12/23: Response received from Kemba Jones, confirming receipt and that they are awaiting a response from their contractor and are working on correcting this issue now. 2/27/23: Furniture removed from parking lot, however an uncovered dumpster was discovered during the R7 windshield inspection and a corrective action issued to the same POCs listed above. 3/8/2023: Report was sent back by Kemba Jones stating a roll off cover was ordered Environmental is in the process of assigning an ECO to monitor the covering of the dumpster.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Closed	3/10/2023
23-23	1/5/2023	DPW Inspector	N/A	Indications of sewage fungus was observed in two electrical manholes. These manholes undergo scheduled pumping regularly which should be avoided until a source of the fungus is found and remediated.	Investigate the other 2 electrical manholes located up-hill to determine if sludge build-up is observed uphill to try to narrow the area of potential infiltration. Continue up the trunk until no sludge build-up is noted. Investigate plans for nearby sanitary sewer to identify possible crossings with the electrical lines observed. Contact Fairfax County for further investigation if a line with potential damage is found. Avoid pumping out of manholes (currently scheduled quarterly) until source is found. 5/15/23: Follow up email was sent to John B regarding the status of this issue.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Open	
23-24	1/27/2023	Windshield Inspection	N/A	Uncovered dumpster filled with trash in the parking lot of the Army Modeling and Simulation Office seen without any cover nearby. Dumpster presents potential for illicit discharge if left uncovered.	The dumpster must be covered to prevent contact with stormwater at the end of each work day, and prior to any anticipated rain event. Ensure that a cover is acquired and used as specified. 2/8/2023: follow-up inspection shows that the dumpster was properly covered with tarp.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	2/8/2023
23-25	1/27/2023	Windshield Inspection	N/A	Trash was observed scattered around the dumpster and in the woods in the parking lot of the Markham School Age Center.	The trash scattered around the area needs to be picked up and properly disposed of. The area around the dumpster needs to be kept free of trash accumulation. Recommend to implement additional checklist measures as this issue has come up several times recently.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	2/28/2023
23-26	1/30/2023	Direct Notification	6284	Wilburn, a waste disposal subcontractor at Fort Belvoir Community Hospital (FBCH), was removing waste when a large roll off containing compacted cardboard ripped the power pack for the compactor loose of its fittings and dragged it out into the pavement behind the Soil Loading Dock. The power pack contained roughly 2 gallons of hydraulic fluid which then drained onto impervious pavement and into the adjacent storm conveyance system. Spill occurred in the parking lot behind Building 1230 (Fort Belvoir Community Hospital), east of Doerr Road. Hospital identifies this area as the Soil Loading Dock. The spill occurred at the exact lat/lon listed above. Very small amount of hydraulic fluid ran along the impervious pavement and dripped into the storm drain and entered the storm conveyance system. Spill happened during dry weather and no flow conditions were observed within the storm conveyance system. Fluid was contained within storm drain system at point of entrance.	DPW ENV personnel arrived on-site, hospital personnel had placed absorbent sheets and a booms around the storm drain to intercept and keep additional hydraulic fluid from entering the storm water conveyance system. FBCH personnel pulled up the grate on the storm drain and had placed two (2) absorbent pillows within the system to collect any additional liquid drips. DPW ENV personnel provided a bag of granular absorbent to begin addressing the rest of the spill. At 0945 Bates Trucking/Trash Removal, a subcontractor to Wilburn, arrived on-site. Bates Trucking/Trash Removal then deployed additional granular absorbent to the pavement and into the storm conveyance, ground it down, and then swept it up. Bates Trucking/Trash Removal then packaged the spill waste and transported off Fort Belvoir for disposal.	Valid Report/No Illicit Discharge/Corrective Actions Completed	Closed	1/31/2023
23-27	1/30/2023	Direct Notification	N/A	An Aleut street sweeper truck was performing contract duties when a hydraulic line broke and spilled approximately 1-2 gallons of hydraulic fluid. The spill was located on impervious asphalt and did not reach the storm system. Spill occurred in the parking lot to the east of Middleton Road across from the skate park where some RV's are currently located. This is the parking lot for Building 1189. The spill occurred at the exact lat/lon listed above.	Loose absorbent was placed to absorb the spill twice, and was swept up and deposited into 55-gallon drums for disposal. Absorbent booms were placed at nearby stormwater inlets to prevent any hydraulic fluid from entering the storm sewer system. The leak was repaired on site to prevent further leakage and full work was completed later in the day. Aleut sent the attached photographs to document the spill and the cleanup.	Invalid Report/No Illicit Discharge/Corrective Actions Completed	Closed	1/31/2023
23-28	2/16/2023	Online SW Pollution Report Form	405	Spill was reported via the anonymous online reporting portal by Mr. Jackson Bleckley above. Spill was reported to be a dark brown, almost black and odorous discharge coming from outfall that drains directly into Dogue Creek. Discharge had a strong sewage/hazardous smell, and a visible plume made its way to other side of creek and moved with the tide. Mr. Bleckley reported that he fishes the area frequently and has never seen a discharge like this come from this outfall.	2/17/23 - Initial investigation concluded that there is no remaining evidence of an illicit discharge, however, reported information indicates there was a potential illicit discharge. This outfall has been added to follow up on the next Windshield Route 3, when driven, to check up on any evidence. Additionally, a trunk investigation shall be performed as well to determine if any evidence of an illicit discharge exists at any contributing inlets within George Washington Village. 4/4/23 - Follow up inspection was performed and no further evidence of an illicit discharge was observed, in addition to a trunk investigation. The discharge was most likely decayed organic matter that was flushed out of the pipe during a large rain event.	Valid Report/Potential Illicit Discharge/Corrective Actions Required	Open	4/4/2023
23-29	11/1/2022	Direct Notification	N/A	Bldg 2109A drain pipe in crawl space was broken and flooded crawl space. This was not reported to DPW until a work order was filed on 1/31/2023.	Upon inspection on 2/22/2023, there were no obvious signs of sewage entering the storm system. Spill was contained to the crawl space under the building. This incident is being closed out due to the follow on project. Contractor will pump the remaining sewage out of crawl space and remove from site. Once removed, 750 pounds of powdered lime will be applied to the soil to serve as a disinfectant and covered with a 6 mm membrane. Removal and repair of the broken sewage line has been completed. Please see the attached work order documents and emails.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	2/28/2023
23-30	2/27/2023	Windshield Inspection	N/A	Uncovered dumpster found outside of building 1416.	Ensure dumpster is properly covered when not in use and prior to a rain event. Report issued to Terrance Bates (terrance.d.bates.mil@mail.mil) and Nestor Garavito (nestor.a.garavito.mil@mail.mil). 3/8/2023: During a follow-up inspection, the dumpster outside the building was gone.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	3/10/2023
23-31	1/6/2023	DPW Inspector	N/A	High levels of PCE have been reported from a monitoring well clsoe to Bldg 767 and 768. An inspection was conducted to determine if the elevetated levels of PCE in groundwater is a result of activities in those two buildings	An exterior inspection of both buildings and the surrounding storm system was conducted on 2/27/2023. There was no evidence of a PCE spill making it into the storm system. Warehouse storage list was provided no items on list are known to contain PCEs.	Invalid Report/No Illicit Discharge/No Corrective Actions Required	Closed	2/28/2023
23-32	3/13/2023	Direct Notification	N/A	Service line was hit at building 927 during excavation of the area.	Inspection was performed on 3/14/2023 and no evidence of water from the broken pipe was found around the several MS4 structures surrounding buildng 927.	Invalid Report/No Illicit Discharge/Corrective Actions Completed	Closed	3/14/2023
23-33	3/22/2023	Direct Notification	920 & 921	Service line behind building 913 near Dogue Creek was hit and approximately 300 gallons of potable water made it to two area inlets behind the building.	Inspection was performed on 3/23/2023 and all of the water that made it to the two area inlets behind bldg 913 has dried up, with the service line already repaired. No evidence of additional water making it to the forebays was observed upon inspection.	Valid Report/Illicit Discharge/Corrective Actions Completed	Closed	3/23/2023
23-34	4/10/2023	Direct Notification	3439	Sewage smell was observed to be emanating from several storm inlets near Building 2110, specifically the McCree Barracks. It is believed the sewage system is tied in with the storm system causing sewage to flow through and giving off an obvious smell. Outfalls and inlets near the amphitheater were inspected and a strong methane smell was present.	At least three buildings are affected (Bldgs 2102, 2103 and 2109). The first-floor common areas of all three buildings have been verified to have the sanitary lines tied into the storm drain; some buildings have one common area, some have two. It is believed that none of the building suites are affected. The buildings are residential barracks and are currently occupied. A renovation project for the McCree Barracks has been underway, and work was completed on the common areas for these buildings approximately two years ago, so the discharge has been present for at least this long. Grunley Construction is the company responsible for the work, with project manager Mike Stigliano (mikestigliano@grunley.com). The work was overseen by USACE, with a COR of Mr. Jerry Williams (jerry.d.williams@usace.army.mil). Please see more detailed attached write-up for inforrmation about this event and corrective actions taken.	Valid Report/Illicit Discharge/Corrective Actions Required	Open	
23-35	4/17/2023	Windshield Inspection	N/A	Dumpster next to Markham School is open and trash is scattered around the dumpster.	4/19/23: Report sent to proponents to ensure Markham School stays on top of the dumpster issue. This is not the first time trash accumulation has been spotted in the woods and creek next to the school. Dumpster will need to be closed when not in use to reduce potential for an illicit discharge during a rain event, and will prevent excess trash from falling out of the dumpster and into the woods. Markham SAC O&M staff have been added to the annual Fort Belvoir Stormwater Pollution Prevention Training Plan list to receive Levels 3, 4, and 6 training to prevent this recurring issue. 5/15/23: Follow up inspection showed trash around dumpster was cleared and dumpster is properly closed when not in use.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Closed	5/15/2023
23-36	4/21/2023	Direct Notification	N/A	Notification received from Fort Belvoir Fire Department that a motor oil release occurred while The Army Aviation Brigade (TAAB) was transporting a forklift tractor. Description included that approximately 40 gallons of motor oil was released onto the roadway and some dirt areas leaving a trail which was several hundred feet long.	Spill was contained to roadways and dirt areas and did not reach any storm drains, please see corrective actions taken to address the spill below. 1050: The Fort Belvoir Fire Department is called to contain the motor oil release. Daniel Wedding directed the firefighters during the containment operation. The release is successfully contained. 1200: DPW Hazardous Waste Program Manager Doo Lee and AECOM contractors David Munoz and Chuck Sherman arrive on site. AECOM contractors begin gathering data and assisting with remediation coordination. 1300: Aleut contractors arrive on site to begin remediation operations. Granular absorbents are deployed to remove free liquid from the roadway. Impacted absorbents are collected and containerized using hand tools. 1400: TAAB personnel begin removing and containerizing oil impacted soil using hand tools. 1500: Aleut and TAAB personnel complete remediation efforts.	Invalid Report/No Illicit Discharge/Corrective Actions Completed	Closed	4/24/2023

Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status	Date Closed
23-37	5/3/2023	Direct Notification	N/A	Notificaion received from Sam Ford from American Water regarding a service line leak near the trailer park by Bldg 688. Approximately 200 gallons of water made its way from the service line break down to the gravel parking lot and into a vegetated area. Spill did not reach state waters.	Spill was contained to the gravel parking lot and did not reach any storm drains, please see the corrective actions taken to address the spill below: Sam Ford from American Water was notified at 1332 of the service line leak at Bldg 688. By 1352 American Water had turned off the water (the building had the water turned off for the winter and was turned on that day). No more than 200 gallons leaked with most of the water pooling in the gravel parking lot. American Water tested the water for chlorine and results came back negative. The water was contained within the gravel parking lot and didn't make it to state waters. DPW Environmental Contractor Daniel Schlobach arrived to the spill at 1440 and documented the spill. The remaining water should easily evaporate and no further action is needed.	Invalid Report/No Illicit Discharge/Corrective Actions Completed	Closed	5/4/2023
23-38	5/15/2023	DPW Inspector	N/A	Large uncovered dumpster containing bulk furniture, and bulk furniture in the parking lot of the CAP Bldg 3123 was found during a follow up inspection of the area. This has been a recurring issue.	5/15/23: The dumpster and bulk furniture will need to be covered to minimize exposure to rain and thus preventing an illicit discharge. Report distributed to Daniel Fulford (202-685-9719, daniel.b.fulford.civ@army.mil), Willie Faconer (202-685-8818, willie.d.faconer3.nfg@army.mil), CW3 Melinda Herder (703-806-7703, melinda.l.herder.mil@army.mil), and CW4 Rendell Long (361-961-6489, rendell.l.long.mil@army.mil). 5/24/23: Follow up inspection noted that dumpster containing bulk furniture is still uncovered. Bulk furniture in the parking lot was appriopriately removed.	Invalid Report/No Illicit Discharge/Corrective Actions Required	Open	
23-39	5/17/2023	Direct Notification	1418	Water Tower 589 was found to be flowing through the overflow in the early morning hours of 5/17/2023. Approximately 35,000 gallons of water was released and spill made it to area inlet 1418.	5/17/23: AW responded to the spill at immediately began draining and dechlorinating the tank to bypass the overflow at around 0030. The tank stopped draining around 0100. AW staff performed Cl2 testing and results came back negative. No more water was found flowing from the overflow moving into the early morning hours of the 17th. No wildlife impact was reported and a DEQ report was filed under the designation 309307. The DEQ report and site maps from AW have been attached for reference. See photos below for documentation and a site map for flow path. 5/22/23: VADEQ Pollution Report 309307 was closed out, indicating this issue has been resolved.	Valid Report/Illicit Discharge/Corrective Actions Required	Closed	6/5/2023
23-40	5/17/2023	DPW Inspector	N/A	Backflow preventers were found leaking directly into the bay during an inspection of the Marina. The most northern preventer was leaking approximately 80 gallons/day, but this one has been subsequently shut off. The southern preventer was leaking around 10 gallons/day	5/17/23: Inspection of the Marina found both backflow preventers were leaking right into the bay - the northern most preventer was shut off at around 1300. See photos below for documentation of the leak. 5/18/23: Issue was reported to VADEQ under report number 309326, which is attached to this report for reference. A follow up inspection shows significant work has been done, and only the southern most preventer is leaking. The water was left on as the 4283 has been approved. See attached 4283 for reference. 5/23/23: Follow up inspection performed by MS4 Program Manager Ashley McMahon shows that repairs have been performed to stop the leak from the southern most preventer. A work order has been submitted to install a backflow preventer (see attached email from Ashley confirming the leak has stopped and the work order has been submitted). The 5 day report was submitted to DEQ by Ashley McMahon, which is attached to the report for reference. Waiting on confirmation from Aleut that a certified inspector is available.	Valid Report/Illicit Discharge/Corrective Actions Required	Open	
23-41	5/23/2023	DPW Inspector	N/A	During the annual high profile facility inspection of the DFMWR Community Center, a grease trap was found tippped over on its side and leaking. The grease trap is located on the West side of the facility inside a fenced-in area. Due to the large amount of grease, the containment berm did not properly contain the grease and it overflowed south along the pavement towards a grass channel. Spill did not make it into the storm system or state waters.	5/24/23: Call was made to Aleut to determine if they are cleaning up the spill. Ashley McMahon outlined the proper equipment used to clean up this type of spill (i.e., providing BMP Factsheet 18, powerwashing guidance, Belvoir Grease Guide, obtaining spill response equipment). 5/25/23: Zach Whitman and James Burnett met at the site of the spill for further assessment and what exactly needs to be done to clean up the spill and powerwash the impacted area.	Invalid Report/Potential Illicit Discharge/Corrective Actions Required	Open	
23-43	5/23/2022	Direct Notification	N/A	Samuel Johnson reported between 5 and 45 gallons of JP-8 leaked from a generator. The leak made it into the grass, but did not extend into any water or storm drains.	5/23/22: Samuel Johnson reported a fuel spill at the 249th Motor Pool and generated a spill report documenting the spill (spill report is attached for reference). A 4283/Work Order was submitted to remove the contaminated soil from the spill site. Aleut responded to the spill and covered and sandbagged the area. 6/12/22: Several photos to document the remediation progress were taken. 7/14/22: Soil samples were received by the lab for hydrocarbons analysis. 6/5/23: DPW Environmental Division Petroleum & Spill Response Program Manager Zach Witman inquired about the issue and received some background information on the spill (email chain attached to report). 6/12/23: DPW Environmental Division Petroleum & Spill Response Program Manager Zach Witman obtained soil test results and had Aleut containerize the soil and had a turn in request form filled out so containerized soil could be delivered to the Hazardous Waste facility. DPW Environmental Contractor Daniel Schlobach along with Zach Witman responded to the spill scene to obtain more photos. 6/20/23: DPW Environmental Contractor Daniel Schlobach obtained the soil test results displaying the presence of diesel range organics (DRO) and oil range organics (ORO) in the soil samples sent for analysis (lab report and results are attached to report).	Invalid Report/Potential Illicit Discharge/Corrective Actions Required	Open	
23-44	6/23/2023	DPW Inspector	N/A	DPW Environmental Contractor Daniel Schlobach noticed large amounts of illegally dumped furniture found in and around the dumpsters by the thrift store. It was raining at time of observation.	DPW Environmental Contractor Daniel Schlobach discovered bulk furniture illegally dumped in the dumpsters next to the Belvoir Thrift Shop when driving through the installation after performing Erosion and Sediment Control (ESC) post-rain inspections.	Invalid Report/Potential Illicit Discharge/Corrective Actions Required	Open	
23-45	6/23/2023	DPW Inspector	N/A	DPW Environmental Contractor Daniel Schlobach noticed several oil slicks on the asphalt near the dumpsters by the thrift store. Due to the rain, the oil was flowing from the asphalt to the dumpsters and into a grassy area just next to the one of the dumpsters. The oil did not make it into the storm system.	Oil slicks were found on the asphalt just north of the dumpsters by the Belvoir Thrift Shop. The oil was found flowing from the asphalt into the grassy area adjacent to one of the dumpsters. The oil is most likely motor oil that leaked from someones car while it was idle. Approximately 1 gallon of oil was spilled.	Invalid Report/Potential Illicit Discharge/Corrective Actions Required	Open	
23-46	5/17/2023	DPW Inspector	1715	Upon inspecting outfall 1715 on 5/17/2023 to confirm the illicit connection from Bldg 357 was fixed, the outfall was found to have a heavy flow coming from pipe A and a trickle flow coming from pipe B.	5/17/23: Inspection of the outfall determined there is still an illicit connection. An Outfall Reconnaissance Inventory Report was generated for this outfall. 6/21/23: A wet weather inspection of a section of the trunk that discharges into a small stream (consists of the large parking lot just south of Burbeck Road), which eventually feeds into another trunk that discharges ultimately at outfall 1715. See attached word document summarizing this investigation. 6/30/23: A trunk investigation consisting of the storm systems around buildings 305, 309, and 357 was conducted to determine source of illicit discharge. Flow was determined to be coming from in or around building 309, further investigation of this building will occur.	Valid Report/Illicit Discharge/Corrective Actions Required	Open	
Total	**61**					**61**	**61**	

2023

APPENDIX F

TRAINING LEVELS FROM FORT BELVOIR TRAINING PLAN, DATED APRIL 2023

FORT BELVOIR 2022-2023 MS4 ANNUAL REPORT
PERMIT NO. VAR040093

Fort Belvoir Stormwater Pollution Prevention Training Plan

3. LEVELS OF TRAINING

Table 1 outlines the Levels of Training conducted by DPW Environmental Division Stormwater Personnel. See Section 4 for training requirements for all Fort Belvoir personnel applicable to Stormwater Management. All personnel may receive Level 6 Training at any time.

Table 1. Levels of Training

Level of Training	Type of Training	Content of Training
1	ISW SWPPP	▪ Stormwater Basics ▪ Applicable Regulations ▪ ISW Basics ▪ Stormwater Impacts on Waterways ▪ SWPPP Basics ▪ Illicit Discharge Basics ▪ Applicable TMDLs ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Inspection Information ▪ Applicable Structural and Operational Controls ▪ Erosion & Sediment Control Basics ▪ Stormwater Sampling/Monitoring Information ▪ Required Reporting
2	MS4 SWPPP	▪ Stormwater Basics ▪ Applicable Regulations ▪ MS4 Basics ▪ Stormwater Impacts on Waterways ▪ SWPPP Basics ▪ Illicit Discharge Basics ▪ Applicable TMDLs ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Inspection Information ▪ Applicable Structural and Operational Controls ▪ Erosion & Sediment Control Basics ▪ Stormwater Monitoring Information ▪ Required Reporting

Fort Belvoir Stormwater Pollution Prevention Training Plan

Level of Training	Type of Training	Content of Training
3	General Stormwater Pollution Prevention	▪ Stormwater Basics ▪ Applicable Regulations ▪ Stormwater Impacts on Waterways ▪ Illicit Discharge Basics ▪ Applicable TMDLs ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Applicable Operational Controls ▪ Erosion & Sediment Control Basics
4	Illicit Discharge	▪ Illicit Discharge Basics ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Procedures for Reporting Illicit Discharges
5	Pre-Construction	▪ Stormwater Basics ▪ Applicable Regulations ▪ SWPPP Basics ▪ Erosion & Sediment Control Basics ▪ On Site Sediment and Erosion Control Requirements ▪ Materials Storage Information ▪ Illicit Discharge Basics ▪ Industrial Stormwater Outfall Information ▪ Site Closure Procedure
6	Corrective Action	▪ Stormwater Basics ▪ Applicable Regulations ▪ Stormwater Impacts on Waterways ▪ Illicit Discharge Basics ▪ Good Housekeeping & Preventative Maintenance ▪ Spill Prevention/Response ▪ Applicable BMPs ▪ Erosion & Sediment Control Basics ▪ Corrections to specific reported unauthorized action(s)
7	Chloride TMDL	▪ Stormwater Basics ▪ Chloride TMDL Basics ▪ Impacts on drinking water ▪ Applicable BMPs ▪ Salt Tracking and Data Sheets