

U.S. Army Garrison Fort Belvoir, Virginia

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VPDES) SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT **ANNUAL REPORT**

For

**Virginia General Permit for Small Municipal
Separate Storm Sewer Systems
VPDES Permit #VAR040093**

July 1, 2020 - June 30, 2021



September 30 2021

MCM5 and Chesbay TMDL Reporting Prepared By:
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MCM 1, 2, 3, 4, 6, Local TMDL, and Program Plan Reporting and
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**VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VDPES)
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT
FORT BELVOIR ANNUAL REPORT
JULY 1, 2020 - JUNE 30, 2021**

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

MS4 Permit Number: VAR040093

b. Annual Report Year: July 1, 2020 - June 30, 2021

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

The Acting Director of Public Works, Christopher Landgraf, has been replaced and Bradford D. Britain has been named the new Director. A delegation of signature authority is provided in Appendix A.

During the reporting period the Program Manager was primarily Ms. Yarelis Chiro; Ms. Laura Peters served a short tenure managing the program in June 2021. A New MS4 Program Manager, Calli Jane Kaufhold, will be coming onboard and can be reached at 703-806-0022.

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

There were six (6) new outfalls brought online during the reporting period July 1, 2020 - June 30, 2021 as a result of new construction projects. All newly added outfalls were within the Accotink Creek Watershed (PL30). Appendix B contains pertinent data for these outfalls.

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."



Bradford D. Britain
Director of Public Works

25-Sep-21

Date

VAR 040093

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 four (4) strategies listed in Table 1 of the MS4 General Permit including: traditional written materials, media materials, training 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 with TMDLs, to include bacteria, nutrients, sediment, chloride, and grease. Table 1 below summarizes activities conducted and the associated reporting data for the reporting period. Supporting documentation (newspaper articles, newsletters, brochures, etc.) are available upon request.

Due to the Coronavirus Pandemic (COVID-19), associated closures, and CDC guidance multiple events and speaking engagements that were scheduled to occur during this permit cycle were canceled. Fort Belvoir increased the amount of published articles, virtual events, and outreach activities to mitigate not being able to directly interact with the public.

Table 1: Education and Outreach Activities (July 1, 2019 – June 30, 2020)

Media Materials: Articles Published in The Belvoir Eagle Total number of newspapers printed/circulated = 19,000 ¹ Total Population = 35,072 ²				
Date	Issue	Theme	Name of Article	Topic
6-AUG-20	Sediment, Chloride	Pollution Prevention	Water flowing from hydrants is safe, necessary	Dewatering Operations: Use of Diffusers and dichlorination during water line flushing
13-AUG-20	Litter, Sediment	Pollution Prevention	Pollution Prevention saves a buck	Pandemic Related Stormwater pollution prevention, promoting EPA safer choice products, and reporting of construction site runoff
10-DEC-20	Bacteria, Chloride	Pollution Prevention	Winter Stormwater pollution Concerns	Fats, Oils, and Grease (FOG) disposal and how it can cause Sanitary Sewer Overflows; Winter salt storage and application
14-JAN-21	Sediment	Sharing information with the public, TMDL	Community Briefs	Lower Accotink Creek Sediment TMDL Action Plan Comment Period Notice
11-FEB-21	Nutrients, Bacteria, Sediment, PCBs	Pollution Prevention	Fort Belvoir follows "Pollution Diet"	TMDL Plans implemented on Belvoir and how to prevent and report pollution sources

Date	Issue	Theme	Name of Article	Topic
18-MAR-21	Litter, Sediment, Nutrients	Pollution Prevention	Responsible recreation on post: it's up to you	Pollution Prevention on Trails; Stormwater Management Facility purpose and safety.
15-APR-21	Chloride	Sharing information with the public, TMDL	Community Briefs	Chloride TMDL Action Plan Comment Period Notice
13-MAY-21	Sediment	Pollution Prevention	Sediment: A Pollution Carrier	Sediment Pollution
Media Materials: Facebook Posts				
A Stormwater Facebook post is made at an average of once per week with. Each post is monitored individually for the audience reached, See Appendix C.				
Date	Issue	Audience	Title	Topic
1-JUL-20 through 30-JUN-20	Various	~50 posts Average of 116 viewers	Various	A wide variety of stormwater topics: @FortBelvoirEnvironmental
Traditional Written Materials: Newsletters and Brochures				
DPW Newsletter Distributed to High-Priority Facility Personnel Via Email ³ and Posted on Facebook ⁴ for the General Public. Brochures handed out during applicable events. Resident Newsletter ⁵ Distributed to the Housing Communities Across Fort Belvoir.				
Date	Issue	Audience	Title	Topic
18-SEP-20	Oils and Grease, Chloride, Nutrients, Sediment	Email: 92 ³ Facebook: 36 ⁴	Fall Stormwater Newsletter	Winterizing Equipment, Painting and Blasting Activities, Dewatering Activities, Fall Landscaping, Spill Response Procedures
22-DEC-20	Oils and Grease, Chloride	Email: 82 ³ Facebook: 38 ⁴	Winter Stormwater Newsletter	Salt Management: Storage and Application; Aircraft, Vehicles, and Equipment Maintenance and Repair
16-FEB-21	Concrete	Email: 7,967 ⁵	February Resident Newsletter	Concrete Management: storage, handling, and disposal of concrete; Reporting pollution
25-MAR-21	Nutrients, Bacteria, Sediment, Oils and Grease, Litter	Email: 100 ³ Facebook: 53 ⁴	Spring Stormwater Newsletter	Spill Response Procedures and Unauthorized Discharges
11-MAY-21	PCBs	Posted at Hunting/Hiking kiosks and on the iSportsman website	PCB Awareness for Hikers and Hunters	Brochure: "PCBs and How to Keep Yourself Safe"
11-JUN-21	Bacteria, Sediment, Nutrients	Brochures: 60	Stormwater Pollution Prevention	Brochure: "Protect Our Local Waterways" and "Pet Waste and Water Quality: Are you cleaning after your pet?"

Date	Issue	Audience	Title	Topic
29-JUN-21	Sediment, Detergents, Oils, Litter	Email: 99 ³ Facebook: 28 ⁴	Summer Stormwater Newsletter	Reporting Construction Site Erosion and Sediment Tracking; Fort Belvoir Policies; BMP Fact Sheets; and Proper off-site disposal and recycling
Training Materials: Presentation				
Materials and Training provided to trade organization (Hazardous Waste handlers) on stormwater topics, reporting, and exposure minimization				
Date	Issue	Audience	Event	Materials Distributed
23-JUL-20	Oil and Grease	62 ⁶ students were in attendance	RCRA Refresher Training	Presentation: Pollution Prevention, Material Handling, Spill Response and reporting, Illicit Discharges
Speaking Engagements: Presentations				
Interactive Displays and Stormwater Awareness Brochures Distributed during Events				
Date	Issue	Audience	Event	Materials Distributed
19-23 APRIL 2021	Nutrients, Bacteria, Sediment, PCBs, Oils and Grease, Litter	Facebook ⁷ : a total of 2,537 views of all Water World postings	Earth Day (Virtual Event) Week 3: Our Water World contained	3 Videos, 5 Fliers, and 3 Links <i>Water Week Handouts:</i> Water Conservation, Stormwater Pollution Prevention, Total Maximum Daily Load, SW Management Facilities, Illicit Discharges and Reporting
¹ Belvoir Eagle circulation, listed on page 2 of volume 29 issue 64 dated April 15, 2021 ² Garrison population data: Fort Belvoir Army Stationing and Installation Plan (ASIP) Fiscal Year (FY20) Summary ³ Distribution list/delivery from Industrial Stormwater Program Manager			⁴ Facebook Interaction Report, shown in Appendix C ⁵ latest U.S. Census Bureau release, the 2019 American Community Survey. E mail from Wildlife Scientist, Tom Nocera ⁶ Attendance list from July 23, 2020 RCRA Refresher Training course ⁷ Earth Day 2021 Education Outreach Report, Natural Resources Branch, Environmental Division.	

A list of education and outreach activities planned for the next reporting period (July 1, 2021 – June 30, 2022) may be found in the most recent MS4 Program Plan. Once the new MS4 Program Manager assumes the position, The program plan may receive additional updates.

ii. Review of MCM#1 Program Effectiveness:

For the reporting period, July 1, 2020 - June 30, 2021, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 2018:

- The Education and Outreach activities, although virtual, maintained at a high level of public interaction due to a continued coordinated effort with Public Affairs Office (PAO). DPW Environmental maintained control over the home page which assisted in better control of posting information and plans. DPW Environmental also saw a wider distribution through the development of a general environmental outreach plan with weekly goals for posting of environmental topics on a dedicated Directorate of Public Works Environmental Division Facebook page. Efforts to publish articles on a quarterly basis in the Belvoir Eagle continued even during the transition of the newspaper from hardcopy publishing to an online publishing format.

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- Due to continued COVID-19 restrictions, in person speaking events opportunities were limited. A fully online Earth Day event was coordinated and executed, which spanned the entire month of April instead of a single in person event. Earth Day included a weeklong event, called “Water Week”, where educational videos, activities, and information were provided each day. Water Week handouts were posted on the Environmental Division Facebook page with educational information for adults and activities for children.
 - The Education and Outreach plan was found to be effective and easily adaptable even with the cancellation of all in person events to limit the spread of COVID-19.

BMP 1.1 for the Public Education and Outreach MCM continues to remain effective and utilizes various communication media (newspaper, Facebook, email mass notification, fact sheets, newsletters, speaking engagements) available within the Fort Belvoir organization. How Fort Belvoir achieved compliance with the measurable goals for MCM #1 based on the updated Program Plan is discussed below.

BMP 1.1 Implement a Public Education and Outreach Plan:

The measurable goal to annually conduct sufficient education and outreach activities designed to increase public’s knowledge on how to reduce stormwater pollution, placing priority on reducing impacts to impaired waters and other local water pollution concerns; increase the public’s knowledge of hazards associated with illegal discharges and improper disposal of wastes, including pertinent legal implications; and implement a diverse program with strategies that are targeted toward individuals or groups most likely to have significant stormwater impacts will be achieved by:

- (1) Clearly identifying three high priority water quality issues to meet the goal of educating the public;
- (2) Explaining the importance of high-priority stormwater issues;
- (3) Including measures or actions the public can take to minimize the impact of the high-priority stormwater issues;
- (4) Providing a contact and telephone number, website or location where the public can find out more information;
- (5) Utilizing two or more of the strategies listed in Permit Part I.E.1.d to communicate to the public the high-priority stormwater issues identified and how to reduce stormwater pollution; and
- (6) Annually reviewing and revising, as needed the Public Education and Outreach Plan.

These goals were met during the reporting period July 1, 2020- June 30, 2021 as follows:

- Four Seasonal Stormwater Newsletters were developed to cover high priority water quality topics like chloride, sediment, litter, and bacteria. The newsletter provided updates on permit compliance activities, trainings, and pollution prevention, including a seasonally appropriate topics (i.e. de-icing in January, lawn maintenance in June).
 - The newsletters, articles, and flyers explained the importance of preventing these 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 take to minimize stormwater runoff pollutants.

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- Newsletters were distributed to ISW permitted tenants, MS4 HPF tenants, and top 25 ECOs and published to the Environmental Division Facebook page.
 - Newsletters were published on September 18, 2020, December 22, 2020, March 25, 2021 and on June 29, 2021.
 - DPW Environmental worked with the Housing Group to develop another method to distribute articles and information directly to Fort Belvoir Residents during this reporting cycle. The Housing Group publishes monthly Newsletters that are distributed to all residents via email and are posted on the Villages Website. This was found to be a viable avenue to distribute information to a larger audience and will be considered further during the 2021-2022 permit cycle.
 - A Guest Article *Concrete: A Stormwater Pollutant* was published in “The Villages at Belvoir” Resident Newsletter, February 2021 edition, Vol 2, that covered proper concrete management, storage, and disposal and how to report issues with improper management to DPW.
 - Six articles were written and published by the Fort Belvoir Eagle newspaper about high priority water quality topics like chloride, nutrient, PCBs, bacteria, detergents, litter, and sediment.
 - The Belvoir Eagle was also used to post notices of open public comment periods for the newly developed Sediment and Chloride TMDL Plans for Fort Belvoir.
 - The Belvoir Eagle published its hardcopy on April 15, 2021 and moved to a fully virtual platform afterwards which is available here: [The Belvoir Eagle](#).
 - BMP Factsheets were reviewed and updated, as needed, during the 2020 - 2021 permit year to ensure proper guidance is being provided to assist tenants in making operational decisions that may help minimize exposure to stormwater.
 - All BMP Factsheets and Bulletins will be updated once the new Stormwater staff has on boarded to, at the minimum, update contact information.
 - The Facebook page, [@FortBelvoirEnvironmental](#) , was used about 50 times during this reporting period to address pollutant-specific topics with an average of 116 viewers per post throughout the year.
 - Posts also covered and thanked volunteers who participated in Clean the Bay Day event in order to encourage further public participation.
 - Due to COVID-19 closures and CDC guidance, all in person speaking events were cancelled and therefore, multiple Garrison wide events like Safety Day were cancelled.
 - DPW-Environmental decided to implement an all virtual Earth Day Celebration which lasted the whole month of April. The event consisted of one week, *Water Week*, focused on all water related topics. During this week educational videos and information were provided each day. A Water Week handout was posted on the Environmental Division Facebook page with educational information for all ages and activities for children.
 - Virtual Training provided to Hazardous Waste handlers was also used as an avenue to train target audiences with a high potential to impact stormwater discharges.

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- DPW Environmental teamed up with the conservation group and the Directorate of Moral, Welfare, and Recreation (MWR) to passively distribute Stormwater Pollution prevention brochures to the public.
 - DPW provided PCB information and reporting brochures, *PCBs and How to Keep Yourself Safe*, to the recreational department. The brochures were strategically placed at 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 *PCBs and How to Keep yourself safe* was also made 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.
 - DPW provided *Pet Waste Management* and *Stormwater Pollution Prevention* brochures to the recreational department. The brochures were to be strategically distributed to customers that rent and use the Travel and RV camps located at or near the waterfront.
 - MS4 Contact information is located on [The Fort Belvoir Environmental Division Webpage](#).
 - The website was updated each time a change in personnel occurred for the MS4 Program
 - The Website was updated with a Pollution Reporting Button that the public could use to directly notify the Stormwater Program of any potential issues.
 - The Public Education and Outreach Plan was reviewed during the 2020-2021 reporting period and was found to adequately meet all goals while remaining effective even with the cancellation of all in person events, therefore no additional changes were made.

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.

The MS4 Stormwater Program did not receive any comments on any version of the Program Plan posted on the website during the 2020-2021 permit cycle. Updates to the Program Plan were posted on October 1, 2020 and January 6, 2021.

The 2019-2020 Annual Report was posted on the website on September 30, 2020; No Comments were received from the public. VADEQ requested additional information, in a letter dated March 12, 2021, on maintenance and TMDL calculations. Fort Belvoir submitted a response to these requests to VADEQ on March 24, 2021. The response package covered:

- Significant maintenance performed on stormwater management facilities (SMFs) based on inspections to include supporting documentation
- Calculations used to determine nutrient and sediment removal resulting from street sweeping.

The MS4 Stormwater Program did not receive any comments the Sediment TMDL Action Plan for the Lower Accotink Creek posted on the website for public comment between: January 8, 2021 until February 15, 2021. The Finalized Plan was posted on February 23, 2021.

The MS4 Stormwater Program did not receive any comments on the Chloride TMDL Action Plan posted on the website for public comment between April 7, 2021 and April 30, 2021. The Finalized Plan was posted on May 1, 2021.

Revised Technical Bulletins detailing the Construction Site requirements were posted on the website on November 10, 2020, January 6, 2021, and May 3, 2021.

All Stormwater complaints received from the public are managed under the IDDE program discussed under MCM #3. Public complaints are characterized under the 'Direct Notification' category. On October 27, 2020 the website was updated to include a direct reporting button available for the public to anonymously report any potential stormwater pollution to DPW for investigation. Fourteen (14) complaints were direct notifications made by someone outside of DPW trained staff via a phone call or the new reporting button established on the Fort Belvoir Environmental homepage in October 2020. Incidents 21-04, 21-07, 21-08, 21-12, 21-15, 21-20, 21-22, 21-26, 21-27, 21-34, 21-35, 21-45, 21-47, and 21-48 are discussed below:

- **21-04:** On August 3, 2020 DPW received a notification that a spill had occurred in the roadway service lane on Liberty Drive heading to the back of the National Museum of the United States Army Building service and loading zone. The spill was reported as hydraulic fluid in the amount of approximately 40-50 gallons, from a Waste Management trash compactor truck. The spill was adequately contained using absorbent booms as well as absorbent litter. Spill made it approximately 30' from vehicle and investigations concluded that the spill had gone over a sanitary sewer manhole and that no hydraulic fluid made it to any storm sewer drains. The Fire Department, Fort Belvoir Hazardous Waste, and DES were contacted, and an NRC report was made (Incident No. 1283565). The spill was cleaned-up and all materials and/or residues were disposed of as hazardous waste. Incident was closed August 8, 2020.

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- **21-07:** On September 9, 2020 the MS4 Program Administrator received a phone call notification from a resident about a fire hydrant flushing for over two weeks near bldg. 81 by the Officers' Club on Sultan Loop. DPW Investigation found that there is a flushing unit (Hydro-Guard) connected to the fire hydrant that had a timer and de-chlorination tablets to discharge water daily to comply with Potable Water Requirements. DPW personnel confirmed that American Water (AW) was employing proper de-chlorination procedures. Incident was closed on September 9, 2020.
 - **21-08:** On October 7, 2020 DPW was notified by LRC that pump 5 at bldg. 1124 was leaking diesel fuel, more so than usual (i.e. there was a slow leak that had been occurring over time, where they were awaiting parts for repairs, but it was observed that the leak had increased). Pumps were shutdown to prevent further leakage. A work order (Emergency, Priority 1) was placed to repair pump and pumps were repaired. Incident was closed on October 13, 2020.
 - **21-12:** On November 13, 2020 DPW staff received a call stating that a Taxing C-26 aircraft experienced a suspected mechanical failure causing the aircraft to leave the runway. The nose and right rear struts left the runway and sunk into the adjacent soil. As a result of the sinking of the struts, the aircraft began to tilt toward the soil causing JP-8 to leak out of the vents on the right wing. Approximately 1-2 gallons of JP-8 leaked out of the aircraft and into the soil before the response personnel arrived on the scene. Spill was contained with absorbent materials. Aircraft was defueled and moved out of the scene. Contaminated topsoil was removed and treated as HazWaste. Topsoil was replenished and site was stabilized. Incident was closed on November 16, 2020.
 - **21-15:** On December 28, 2020 DPW Staff received a notification from a hunter of a landslide and water flowing along the old railroad 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. Water was seeping through making the road unstable and causing the landslide. Investigation Report with recommendations submitted to DPW Leadership on December 30, 2020. This incident was also included in the Maintenance schedule to be repaired when funding becomes available. DPW is tracking the work request, the incident will remain open until the pipe has been repaired.
 - **21-20:** On December 29, 2020 DPW received a phone call and email notification from NGA personnel that observed that water draining into Pond 8 (SMF 6208) at NGA had milky white in appearance. NGA Personnel were advised to close valve of pond 8 to contain any possible contaminants. At the time of the investigation there was no painting related activities going on in the area. The site was clean and only a very small amount of paint chips was observed near a storage truck on site. All the Stormwater Management Facilities were inspected for signs of paint residue. No signs of contamination was observed at any of the SMFs. It is believed that the paint has settled in the Stormwater management facility which is a bioretention level 2 designed to filtrate Stormwater runoff. DPW personnel recommended that NGA personnel monitor and ensure proper protection while conducting painting operations. Incident was closed on January 6, 2021.
 - **21-22:** On January 5, 2021 NGA personnel notified DPW personnel that they observed a sheen on standing water while inspecting the area just outside of the south gate along Heller Rd. DPW-Personnel visited the site and determined that the sheen appeared to be of organic nature. No other sources of contamination were found. Incident closed on January 5, 2021.

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- **21-26:** On January 30, 2021 a Belvoir Village Resident submitted a complaint via the Stormwater Pollution Reporting form located at Fort Belvoir Environmental Website. The resident reported a large amount of trash found in the wooded area in her neighborhood, she also reported that kids were building tree houses along the streams. MS4 Administrator reported the situation to leadership. This complaint had been reported to the Conservation Branch and DES in the past. A meeting was held on February 4, 2021 with DPW leadership to plan a way forward. A few of the things discussed in the meeting were: (1) it is hard to determine who is responsible for the trash. (2) This area is an environmental sensitive area. (3) It is a concern for residents to conduct their own clean up as they may disturb eagles' nest. (4) Trespassing concerns (5) Educational materials. Leadership decided that educating the public was the best way to address and prevent the issue from reoccurring. An educational article was published on the Eagle, Fort Belvoir's Newspaper to address these concerns on March 17, 2021. Incident was closed on March 17, 2021.
 - **21-27:** On February 3, 2021 DAAF personnel notified DPW personnel about a spill of about 10-15 gallons of fuel from an aircraft at the ramp to the northwest of Hangar 3151. Spill was contained by Spill response team. Spill occurred in an impervious surface and did not enter a storm drain or body of water. Incident was closed on February 3, 2021.
 - **21-34:** On March 11, 2021 DPW personnel was notified by Hospital personnel of a spill at HP-10. It was determined that the spill was from emptying the compactor, which requires the hydraulic hoses at the rear of the compactor be removed. When the hoses were removed, hydraulic fluid leaked out onto the concrete surface below. Response personnel contained and cleaned the spill. Bates's personnel was advised that this was not allowed, and it was agreed upon that each time the hoses are removed from all compactors on the Garrison, any leaks of hydraulic fluid must be wiped down with an absorbent cloth. Incident was closed on March 13, 2021.
 - **21-35:** On March 16, 2021 LRC personnel notified DPW that the operator of a government vehicle was filling up an external diesel tank in the bed of their truck. It is assumed that the tank was overfilled to the point where diesel fuel was leaking out into the truck bed and onto the concrete surface below. The operator of the vehicle continued to drive away from the fueling facility, eastbound down 16th Street and made a left onto northbound Gunston Road. The diesel spill was traced from the fueling facility on 16th Street to the Dunkin' Donuts on Gunston Road. Response personnel contained and cleaned up the spill using granular absorbent material. The granular absorbent material was cleaned up and placed into 55-gallon drums for proper disposal. It was determined that the spill did not reach the stormwater system. Incident was closed on March 17, 2021.
 - **21-45:** On May 4, 2021 a resident contacted DPW and reported a Hydraulic Fluid Spill near 5614 Pope Road. It was determined that a trash truck leaked hydraulic fluid while picking up trash. There was no indication that the hydraulic oil reached the storm drain. Outfall was screened no evidence of pollution was found at the time of inspection. Response team applied absorbent according to directions on the package and cleaned trash cans with household cleaner and paper towels. Incident was closed on May 4, 2021.
 - **21-47:** On May 14, 2021 a resident reported via email to the MS4 Program Manager that there is a large amount of trash in Colyer Village behind 5823 Peterson Loop. The MS4 Program will contact "The Villages at Fort Belvoir" to publish another Stormwater article in the "Belvoir Resident Newsletter" that addresses Stormwater pollution due to trash and

illicit discharges to achieve awareness of the resident population. This incident will be handled concurrently with incident 21-26 described above. Currently the 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. An article publication and restoration event for this area is still pending, the incident will remain open until a clean-up is completed.

- **21-48:** On May 24, 2021 DPW was notified of a leaking aboveground storage tank at Building 1412. During the investigation DPW observed a compromised 500 gallon tank containing diesel fuel. The Fire Department 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. The contaminated soils have been dug up and the soil has been tested and removed from the site to be disposed of at an approved disposal site. The excavated area is pending further testing to determine if additional material needs to be excavated. Coordination with VADEQ is on-going for the remediation efforts and reporting, the incident will remain open until remediation is complete.

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 will be posted on the [Fort Belvoir Environmental website](#) under the Programs and Documents, then MS4 Stormwater by October 1st of every year.

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. During the 2020-2021 permit cycle an on-line Pollution Reporting button was added to the Environmental website on October 27, 2020 to allow anyone on Fort Belvoir to report illicit discharges more easily.

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 or not the activities is beneficial to improving water quality.

Over four (4) public involvement activities were conducted during the 2020-2021 reporting cycle. Although limited in events that could be held due to COVID-19 restrictions and gathering guidelines, Belvoir was able to hold smaller cleanup events and tried to move all other public interaction to a virtual stage.

- All MS4 Program Documents are always posted (Public Comment) and available to the public. Facebook, newspaper, and webpage are used to notify the public.

- All clean-up events (Restoration) saw immediate results through the removal of trash already effecting water quality in streams.
- Earth Day (Educational event) was converted to a weeklong virtual campaign this permit cycle while other planned events like Installation Safety Day and MDA Take your Child to work Day were canceled due to COVID-19 restrictions. Although virtual, the event saw a total of 2,537 views throughout the week and therefore was found to still be an effective way to educated both adults and children on stormwater issues while promoting the use of residential BMPs.
- The addition of a ‘Pollution Reporting’ button (Public Participation) to the Environmental website where the public and anonymously report complaints about potential pollution sources was intended to empower them to submit concerns directly to DPW. Although not many complaints were received through this avenue during this cycle, Belvoir finds that this is due to the website and function being relatively new. Belvoir has been promoting the use of the Button through Facebook Posts, Newsletters, and Newspaper Articles and will hopefully see an increase in usage during future permit cycles.
- Articles Published and Pollution Prevention Brochures (Pollution Prevention) work to educate the public on stormwater issues, especially local concerns, while promoting the use of simple practices around the home that help protect our waterways. Articles and Brochures also provide information on how to report potential issues to DPW. At least four complaints received were from a housing resident or recreational customer which shows that the information is being disseminated and used as well as alerting DPW of potential concern areas.

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 (July 1, 2020- June 30, 2021)

Date	Name of Event/Activity	Category from Permit Table 2	Metric
13-AUG-20 10-DEC-20 11-FEB-21 18-MAR-21 13-MAY-21	Articles Published in the Local Paper Promoting Residential BMPs	Pollution Prevention	19,000 Newspapers distributed
1-OCT-20 6-JAN-21	MS4 Program Plan posted for Public Comment	Public Comment	Always open for Comment
27-OCT-20	Anonymous Online Pollution Reporting Form	Public Participation	Always open for Reporting
8-JAN-21 8-APR-21	Sediment TMDL Action Plan Chloride TMDL Action Plan	Public Comment	Comment Period: 37 days Comment Period: 22 days
22-JAN-21	Accotink Creek Unit Clean-Up	Restoration	Volunteers:3 2 Trash bags collected
30-MAR-21	1400 Area Warehouses Unit Clean-up	Restoration	Volunteers: 12 15 Bags of trash collected

Date	Name of Event/Activity	Category from Permit Table 2	Metric
19-23 APRIL 2021	Earth Day Celebration	Educational Event	3 Videos, 5 Fliers, 3 Weblinks; 5 Activity Handouts
15-MAY-21	Clean the Bay Day	Restoration	Volunteers: 33 12 Trash bags collected
11-JUN-21	Outdoor Recreation and Travel Camp Guides	Pollution Prevention	Pamphlets Distributed: 60
21-JUN-21	Recycling Center Unit Clean-up	Restoration	Volunteers: 8 7 truckloads collected

iv. **Part I.E.2.f (5)**

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, July 1, 2020 - June 30, 2021, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 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. An on-line Pollution Reporting Button was added to the Environmental website on October 27, 2020 to allow anyone on Fort Belvoir to report illicit discharges easily and anonymously.
 - DPW Received and responded to fourteen (14) reports of complaints and concerns from the public.
- 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).
 - MS4 Program Plan was updated to incorporate recommendations from the 2019-2020 Annual report on October 1, 2020 and program evaluation by a new manager on December 22, 2020. The updated MS4 Program Plan was posted to the website and made available for public comment.
 - Additionally, The Program Plan was updated concurrently with this Annual Report and will be posted on the Fort Belvoir Webpage by October 1, 2021.
- Fort Belvoir maintains a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention located here: [Fort Belvoir Environmental website](#) under the Programs and Documents, then MS4 Stormwater as required by Part I.E.2.b. 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.

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- The 2019-2020 Annual Report was posted on the Fort Belvoir website on October 1, 2020 as required by Part I.E.2.b.(3) of the permit.
 - The Sediment TMDL Action plan was posted for public comment, as required by Part II.B.7. Final Plan was posted on February 23, 2021 and is available to the public.
 - The Chloride TMDL Action plan was posted for public comment, as required by Part II.B.7. Final Plan was posted on May 1, 2021 and is available to the public.
 - Fort Belvoir conducted nine (9) public involvement activities as described above from three (3) 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. The BMPs in the Program Plan for this MCM were reviewed and updated, as needed, to ensure Belvoir met permit requirements with the available resources and restrictions in place. 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

A measurable goal was to maintain a webpage with the following information as required by Part I.E.2.b: the effective MS4 Permit and coverage letter, Current Program Plan, TMDL Action Plans, and annual reports for each year of the terms covered by the current permit.

- This goal was met with website updates occurring on September 30, 2020, October 28, 2020, January 6, 2021, January 8, 2021, February 23, 2021, April 8, 2021, and May 1, 2021.

Another measurable goal under this BMP is to update the MS4 Program Plan at a minimum once per reporting period by June 30th every year and post copies of the MS4 Program Plan and annual report on the Fort Belvoir webpage within 30 days of submittal to VADEQ.

- This goal was met through the plan updates that were completed on December 22, 2020 and posted to the website and made available for public comment on January 6, 2021. The 2019-2020 Annual Report was posted on September 30, 2020.
- Additionally, the website will be updated once again by October 1, 2021 to include a copy of the 2020-2021 Annual report and an updated Program Plan. Additional updates might be forthcoming when the new MS4 Program Manager assumes the position.

The last measurable goal under this BMP of providing contact information where the public can submit comments on the stormwater program documents including the MS4 Program Plan, TMDL Action Plans, and to report illicit discharges, improper disposal and spills to the MS4, complaints regarding land disturbing activities, and other potential stormwater concerns.

- U.S. Army Installation Management Command Enterprise Website Migration occurred in early 2019 and with the migration DPW-Environmental received additional access to control site content internally. This has allowed for easier implementation of goals listed in the program plan like the implementation of a complaint form that was made available online on October 27, 2020. This digital form allows the public to report any potential pollution directly to the MS4 program.
- The MS4 Stormwater group received fourteen (14) complaints, as discussed above, directly from the public which is attributed to contact information being posted on the website, on

Facebook posts, or other forms of print media distributed. One (1) of these complaints was received via the new digital Stormwater reporting form.

- Revised Technical Bulletins detailing the Construction Site requirements were posted on the website on November 10, 2020, January 6, 2021, and May 3, 2021.

BMP 2.2 Public Participation

A measurable goal was 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.

This goal was exceeded during the reporting period July 1, 2020 - June 30, 2021 with Fort Belvoir participating in eight (8) activities as 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 not been able to update the MS4 Map and GIS layers due to Information Technology (IT) access problems. However, The Information Table was updated, for all new, removed, and retrofitted structures for projects completed during the reporting cycle by October 1, 2021. This includes updates for additional structures associated with the four (4) construction projects listed in table 3 below. Due to lack of staff the database was only updated once at the end of the permit cycle to include all these projects. The updated information table sections 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
INSCOM SAOF Phase II-III	VAR10H364	1 x Rainwater Harvesting System 1 x Contech Hydrodynamic Separator Structure IDs: 8000, 8001	N/A Tied into existing system
AAFES North Post Express Diesel Addition	No CGP	1 x Bioretention Level 1 Structure ID: 8002	N/A Tied into existing system
Pet Grooming & Lodging Facility	VAR10J218	2 x Bioretention Level 2 Structure IDs: 8009, 8010	N/A Tied into existing system
NMUSA & Founders Hall	VAR10I753	9 x Infiltration Gallery Level 1 1 x Permeable Pavers Level 1 1 x Soil Compost Amendment Structure IDs: 9018, 9019, 9020, 9021, 9023, 9024, 9025, 9026, 9027, 9028, 9029	6 x Stormwater Outfalls Structure IDs: 8003, 8004, 8005, 8006, 8007, 8008

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

Provide the total number of outfalls screened during the reporting period

A total of 51 outfalls were screened during the reporting period July 1, 2020 - June 30, 2021. outfalls were scheduled to be screened under the Outfall Reconnaissance Inventory (ORI) using the permit year three (3) prioritization schedule developed as required by Part I.E.3.c.(2).(a). An additional seven (7) outfalls were picked to be re-screened based on finding the previous reporting period (2019-2020 permit cycle). Due to COVID-19 restrictions there were nine (9) outfalls from the year-4 prioritization schedule chosen to replace some year 3 outfalls located

within secure areas that were not able to be screened. The outfalls not captured from Year-2 or 3 screenings due to COVID-19 restrictions will be screened in Year-4. A summary of results from the screenings are discussed below and included in Appendix D.

2020-2021 Outfall Reconnaissance Inventory (ORI) Screening

Based on the outfall screenings completed between October 21, 2020 and June 7, 2021 DPW Personnel identified one (1) outfall with an obvious illicit connection (1715), three (3) outfalls as being Suspect of an illicit discharge (923, 984, 7274), and four (4) outfalls that had a Potential for illicit discharges (67, 150, 896, 884), and the other 43 outfalls were found to be Unlikely to have an illicit discharge. Some of the outfalls 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 identified with potential issues are:

- **923 (Dogue Creek Village):** Outfall was screened on April 19, 2021 at approximately 14:20 and was found to have a trickle flow. A sample was taken and the DPW MS4 Program Manager used test strips for pH, Ammonia, Free/Total Chlorine, Nitrates and Nitrites. Tests showed no elevated levels (pH 7, Ammonia 0.2 mg/L, Free Chlorine .2 mg/L, Total Chlorine .2, Nitrate 0.5 mg/L, Nitrite 0.5 mg/L) and none of the tests showed an exceedance of the illicit discharge threshold. The report noted that an oil sheen was noted in the stagnant pool. No point source of oil sheen was found. It is suspected that the oil may have come from nearby parking areas. Therefore, further monitoring was recommended.

Actions Taken/Recommended: No point source of oil sheen was found. It is suspected that the oil may have come from nearby parking areas. Therefore, further monitoring was recommended. It is recommended that this outfall be put on the screening list for the 2021-2022 permit cycle to determine if sheen was from natural decomposition or dumping.

- **7274 (Hurley Road):** Outfall was screened on April 19, 2021 at approximately 10:24 and was found to have a moderate flow. A sample was taken and the DPW MS4 Program Manager used test strips for pH, Ammonia, Free/Total Chlorine, Nitrates and Nitrites. Tests showed no elevated levels (pH 8, Nitrate 0.25 mg/L). Iron floc, Suds, bacteria film and downstream erosion observed.

Actions Taken/Recommended: No sources of illicit discharges were found within the drainage area for the outfall. Upstream construction site and storm water management facilities were surveyed but no evident source of flow and suds was found during investigation. It is recommended that this outfall be put on the screening list for the 2021-2022 permit cycle. Outfall will 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.

- **150 (George Washington Village):** Outfall was screened on June 2, 2021 at approximately 13:45 and was found to have a trickle flow at the time of inspection but not enough to collect a sample. The origin of flow is unknown and may be from ground water seepage no other source noted during inspection. Area upstream of this outfall had shown groundwater seepage issues.

Actions Taken/Recommended: Source tracking showed No sources of illicit discharges were found within the drainage area for the outfall. . It is recommended that this outfall be put on the screening list for the 2021-2022 permit cycle to determine the source of flow.

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- **896 (Dogue Creek Village):** Outfall was screened on October 28, 2020 at approximately 12:49 and 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.

Actions Taken/Recommended: Source tracking showed no sources of illicit discharges were found within the drainage area for the outfall. . It is recommended that this outfall be put on the screening list for the 2021-2022 permit cycle to determine the source of ammonia and if the outfall is groundwater influenced.

- **884 (Dogue Creek Village):** Outfall was screened on October 28, 2020 at approximately 12:15 and was found to have moderate flow at the time of inspection. A sample was collected and showed a relatively low pH (6) and nitrate at 1 mg/L. The flow was highly turbid and had orange/brown algae, thought to be iron floc.

Actions Taken/Recommended: Source tracking showed no sources of illicit discharges were found within the drainage area for the outfall. . It is recommended that this outfall be put on the screening list for the 2021-2022 permit cycle to determine the source of flow and to determine if the outfall is groundwater influenced.

- **984 (Dogue Creek Village):** Outfall was screened on June 7, 2021 at approximately 9:10 and was found to have moderate flow at the time of inspection. A sample was not collected as the outfall was inaccessible at the time.

Actions Taken/Recommended: Source tracking showed no overland sources of flow were found during the investigation but at inlet 988 an underground pipe discharging that was not shown in the SW map. It is recommended that this outfall be put on the screening list for the 2021-2022 permit cycle to determine the source of flows into inlet 988, if they are consistent, and if an illicit connection exists.

Continued Outfall Monitoring for 2020-2021 Reporting Period

Five outfalls (67, 288, 1715, 4470, 6951) from a previous reporting periods had outstanding corrective actions that were followed up on under the periodic screening program during the 2020-2021 reporting year. The History of investigations and actions taken to close the incidents are described below.

MS4 Structure ID 1715:

Status: Unresolved; Re-screen outfall once the corrective action (re-routing) is completed.

- During the 2015 – 2016 ORI initial screening was on November 24, 2015 a trickle flow was present. DPW ED 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 daylighted 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.

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- 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 design submission was submitted by American Water during this reporting period. Currently waiting for approval of submission to disconnect the illicit connection from the MS4.
 - During the 2019-2020 reporting period, American Water completed field screening and design for rerouting to sanitary sewer, plans for building remodel were at 65%, coordination for Lab Closure and Rerouting are ongoing. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.
 - During the 2020 – 2021 permit cycle 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 May 25, 2021 American Water (AW) stated that Storm water 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. AW is also still awaiting revised contract from DLA. On June 14, 2021 a site visit determined that rerouting has not yet been completed and that Aleut re-routing of roof drains had also stagnated. Screening and Monitoring of the outfall should continue until the rerouting is completed. Once work has been completed, this outfall will be re-screened to confirm that the source has been eliminated.

MS4 Structure ID 67:

Status: Unresolved; Investigate outfall to determine if sheen was from natural decomposition or dumping

- During the 2019-2020 reporting period, outfall 67 was found to have a There was a heavy sheen in pool and channel. No upstream source found for sheen.
- During the 2021 – 2021 reporting period, a sheen was noted in the pool in front of the outfall although no upstream sources were located. It is recommended that the outfall be revisited the next permit cycle 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.

MS4 Structure ID 288:

Status: Resolved; sampling showed no significant change in detections of nutrients that indicate improper use of fertilizer.

- During the 2019-2020 reporting period, sampling at outfall 288 showed that phosphate was detected at high levels. It is recommended that this outfall be screened during the winter and then spring to determine if fertilizer application is the source.
- During the 2020 – 2021 permit cycle, water samples were taken in March and May, however, no significant change was noted that could indicate incorrect fertilizer use. Although phosphate and algae was still detected at high levels, the outfall is in a wetland area where natural decomposition is likely the main contributor. the overall outfall characterization was determined to be Unlikely to be an illicit discharge.

MS4 Structure ID 4470:

Status: Resolved; sampling showed no significant change in detections of nutrients that indicate improper use of fertilizer.

- During the 2019-2020 reporting period, sampling at outfall 4470 showed that phosphates and nitrates was detected at high levels. It was recommended that this outfall be screened during the winter and then spring to determine if fertilizer application is the source. It is also recommended that the nutrient management plan be reviewed and the Housing Group, RCI, be trained on the plan to ensure proper application.
- During the 2020 – 2021 investigation a trickle flow was present, and a water quality sample taken. Although nitrates were still detected at high levels, the overall outfall characterization was determined to be Unlikely to be an illicit discharge.

MS4 Structure ID 6951:

Status: Unresolved; Investigate outfall to confirm suds are from natural decomposition

- 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 permit cycle and will be reinvestigated in the 2021 – 2022 permit cycle. Outfall will be screened to confirm that suds are from natural decomposition, by using a detergent test.

New Investigations for 2021 – 2022 Reporting Period

There are six (6) new outfalls (150, 884, 896, 923, 984, 7274) added to the screening list requiring further investigations for the 2021 – 2022 reporting period based on 2020 – 2021 ORI results. The history of the outfall and anticipated closure requirements are discussed below.

MS4 Structure ID 150:

Status: Unresolved; Investigate outfall further to determine the source of flow.

- During the 2020-2021 outfall inspection noted a trickle flow at the time of inspection but not enough to collect a sample. The origin of flow is unknown and may be from ground water seepage no other source noted during inspection. Therefore, further monitoring was recommended to determine the source and frequency of the discharge.

MS4 Structure ID 884:

Status: Unresolved; Investigate outfall further to determine the source of flow and if the outfall is groundwater influenced.

- During the 2020-2021 outfall inspection noted a moderate flow at the time of inspection along with a pH of 6. The origin of flow is unknown and may be from ground water seepage, no other source noted during inspection. Therefore, further monitoring was recommended to determine the source and frequency of the discharge.

MS4 Structure ID 896:

Status: Unresolved; Investigate outfall further to determine the source of ammonia and to determine if the outfall is groundwater influenced.

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- During the 2020-2021 outfall inspection it was and 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.

MS4 Structure ID 923:

Status: Unresolved: Investigate outfall to determine the source of the sheen.

- During the 2020-2021 outfall inspection the report noted that an oil sheen was noted in the stagnant pool. No point source of oil sheen was found. It is suspected that the oil may have come from nearby parking areas. Therefore, further monitoring was recommended to determine if sheen was from natural decomposition, a leak or dumping

MS4 Structure ID 984:

Status: Unresolved; Investigate further to determine the source of the flow into inlet 988.

- During the 2020-2021 outfall inspection it 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 but at inlet 988 an underground pipe discharging that was not shown in the SW map. It is 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.

MS4 Structure ID 7274:

Status: Unresolved; Investigate further to confirm suds are from natural decomposition and to determine the source and frequency of the flow.

- 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 observed. Upstream construction site and storm water management facilities were surveyed but no evident source of flow and 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.

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.

SCF performed a review of documents left after the MS4 personnel departed and found that a total of 65 incidents were handled during the 2020-2021 permit cycle. Illicit discharges were discovered utilizing windshield inspections, direct reporting, and DPW inspections. A total of 57 new reports of potential illicit discharges were investigated during the reporting period July 1, 2020 - June 30, 2021. In addition, eight (8) other incidents originally reported during previous permit cycles were followed up on during this reporting period. A summary of each investigation including the required details is provided in Appendix E, full incident records for illicit discharges are available upon request. The Status of the 65 found incidents is as follows:

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- Forty-five (44) incidents were closed
 - Forty (40) were new incidents
 - Four (4) were incidents reported during previous permit cycles
 - Twenty-one (21) incidents remained open at the end of the 2020-2021 reporting cycle; these will require further actions in the 2021-2022 permit year.
 - Fourteen (14) were new incidents
 - Three (3) incidents had no documentation in the files associated with them
 - Four (4) were incidents reported during previous permit cycles

23 (40%) 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. Corrective actions were still taken for 16 of these incidents in the form of spill clean-up, training, investigations, or guidance.

34 (60%) of the new investigated discharges were found to be valid reports (potential or actual illicit discharges). Corrective Actions were taken for eighteen (18) of these incidents and they were closed during the reporting cycle. Sixteen of these (16) Monitoring and/or corrective actions are ongoing at each of these sites.

iv. **Review of MCM#3 Program Effectiveness**

For the reporting period, July 1, 2020 - June 30, 2021, Fort Belvoir completed the following actions to maintain compliance with permit conditions of MS4 General Permit that became effective on November 1, 2018:

- The *U.S. Army, Fort Belvoir, Virginia Illicit Discharge Detection and Elimination Plan* became final on March 23, 2020. During the reporting cycle it was reviewed and updated to include:
 - The prioritization schedule for years 2 and 3 were updated to reflect changes in screening due to COVID-19 restrictions as discussed above.
 - The windshield inspection schedules were updated to require the 8 routes to be completed once quarterly vs. every two months.
- ORI was conducted on 51 outfalls prioritized for year 3 screening as required under Part I.E.3.c.(2).(c), however, some outfalls from years 2 and 4 were also completed in exchange for some year-3 outfalls that were in secure areas and inaccessible due to COVID-19 restrictions.
- 57 new suspected illicit discharge were investigated, 40 were tracked to completion as required under Part I.E.3.c.(2) – (6), and 14 remained open and awaiting corrective actions. Additionally, eight (8) incidents from previous reporting periods were follow-up up on and four (4) were closed during the reporting period.
- At the beginning of the reporting period, six (6) weekly windshield inspections were conducted by SCF Contract staff, while there was still a contract in place. Once the Contract ended there was a lack of staff to complete regular inspections and therefore, the IDDE plan was updated such that windshield inspection routes were to be completed once per quarter.
 - Due to limited supporting personnel and turnover time between Program managers, weekly windshield inspections scheduled were missed from August 10th through December 25th.

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- A Memorandum for Record (MFR) dated 11 January 2021 serves as an acknowledgement of the missed inspections. The MFR also states that the Program Plan and IDDE Plan were changed to reflect the change in schedule.
 - During the remaining quarters (2, 3 and 4) of the reporting period, Routes 1 - 8 were inspected and corrective actions were issued as necessary.
 - A link “Report Stormwater Pollution” was added to the website ([Environmental Division : FORT BELVOIR \(army.mil\)](https://www.army.mil)) to allow the population on Fort Belvoir to report illicit discharges online anonymously.
 - Illicit discharge education was conducted as required under Part I.E.1.b;
 - Eight (8) construction projects were completed during the reporting cycle, four (4) of which resulted in changes to the stormwater system. As-builts of all new structures was 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 June 24, 2019 in the format requested in a letter dated June 3, 2019 as required by Part I.E.3.a.(3).
 - The MS4 map was not updated due to IT and staffing issues, however, the database was updated by October 1st as per Part I.E.3.a.(4).

Even with the staffing, IT, and COVID-19 restriction issues encountered during the permit cycle, all BMPs (BMP 3.1 and 3.3) for the Illicit Discharge Detection and Elimination MCM continue to remain effective and meet permit requirements. The BMPs in the Program Plan for this MCM were reviewed and updated to meet new permit requirements in September of 2019 and again in December 2020 to adjust to staffing changes. How Fort Belvoir achieved compliance with the measurable goals for MCM #3 based on the updated Program Plan is discussed below.

BMP 3.1 Develop and Maintain an Accurate MS4 Map and Information Table:

The measurable goal to review and update existing MS4 map and associated information table and submit to VADEQ a GIS-compatible shapefile of the MS4 map or a map as a PDF document (Permit#VAR040093, Part I.E.3.a.(3)) no later than July 1, 2019 was met during the reporting period July 1, 2019 - June 30, 2020.

- Fort Belvoir led a large effort that was completed on December 30, 2018 to evaluate available GIS data for errors and data gaps, review of project site plans to be incorporated into the database, and field verification of structure locations. A GIS-compatible shapefile and information table was developed to meet all requirements listed in Part I.E.3.a.(1) and (2). The information was then compiled and formatted to meet requirements set forth in a VADEQ letter dated June 3, 2019 and was then submitted to VADEQ on June 24, 2019, ahead of the July 1, 2019 deadline set by Part I.E.3.a.(3). Must be updated by October 1 every year.

The measurable goal to update the storm sewer system map and outfall information table to include any new outfalls constructed or TMDLs approved or both during the immediate reporting period. (Permit#VAR040093, Part I.E.3.a.(4)), no later than October 1 of each year was met during the 2020 – 2021 reporting year.

- An update of the storm sewer system map could not be completed; however, the database has been updated to capture all new Outfalls and BMPs that came on-line as well as new TMDLs approved for the Accotink Creek.

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 prohibits unauthorized discharges into the MS4 as per Part I.E.3.b of the permit. The measurable goal to review, revise, and as needed obtain Garrison Commander signature for policy approval when a new Commander takes command was not achieved this reporting cycle.

- 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 has not yet been put back into place. 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.

In addition to prohibiting discharges, Fort Belvoir's privatized waste-water/water partner, American Water (AW), also has ongoing efforts to discover any connections of the sanitary sewer to the storm sewer system.

BMP 3.3 Maintain and Implement Illicit Discharge Detection and Elimination (IDDE)**Plan:**

The measurable goal to review and revise the IDDE Plan in year two (2) was and implement the plan using the prioritization schedule developed as per Part I.E.3.c.(2).(a) was achieved during the reporting period July 1, 2019 - June 30, 2020. The IDDE Plan was reviewed and updated during the 2019-2020 permit cycle and was finalized in March 2020.

The measurable goal to implement the five year IDDE plan and review and revise as needed was met for the July 1, 2020 - June 30, 2021 permit cycle. The IDDE Plan was reviewed and updated during the 2020-2021 permit cycle and was finalized in December 2020. IDDE Plan revisions and updates included:

- Weekly windshield inspection schedule was updated to quarterly inspections.
- Due to COVID-19 some outfalls in secure areas could not be visited and in their place other facilities for the upcoming year were exchanged in their place.

Implementation of the plan involved completion of an outfall reconnaissance inventory (ORI) of 50+ identified outfalls to detect illicit discharges as discussed in Section 2.c.ii of this annual report. The U.S. Army, Fort Belvoir, Virginia 2020 - 2021 Outfall Reconnaissance Inventory Final Report is available upon request, a summary of findings for the 51 outfalls screened for the ORI is provided in Appendix D.

Windshield inspections along eight (8) defined routes, developed in 2019, were implemented during the reporting period. The inspection schedule was changed from weekly to quarterly to account for reduced staff. The change in schedule still allowed for each route to be visited at least once per quarterly but reduced the overall number of inspections from 7 to 4 per route. These inspections resulted in fourteen (14) deficiencies being noted. All deficiencies noted during windshield inspections were recorded in the IDDE tracker and corrective action forms created and issued to 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.

Fort Belvoir hopes to obtain better funding for the IDDE program in the future so it can return to the full implementation that the original IDDE Plan envisioned.

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. Inspections of smaller sites are done via the windshield inspections discussed under MCM#3.

ii. Part I.E.4.d.(1)**Confirmation Statement that all land disturbing projects were conducted in accordance with the approved standards and specifications.**

Because 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 467 inspections were conducted during the reporting period July 1, 2020 - June 30, 2021 for regulated land disturbing activities. 304 inspections occurred at sites disturbing one acre and over, 128 inspections occurred at projects disturbing 10,000 square feet to less than an acre. 35 inspections were conducted for non-regulated linear utility projects working under independent standards and specs.

- *Total number of regulated land-disturbing activities:* There were 22 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 July 1, 2020 - June 30, 2021.
 - Fourteen (14) projects involved land disturbance of one acre and greater, ten (10) of which required VADEQ issuance of a CGP, and four (4) of which had variances approved (DEQ SWM # 2019-0274, 2020-0144, 2020-0241, and 2020-0292).
 - Eight (8) projects involved land disturbance that was between 10,000 sf and one acre, and no CGP's were required for these projects.
- *Total number of acres disturbed:* There were 167.57 acres of total regulated (defined as 10,000 square feet and greater) land disturbance during the reporting period July 1, 2020 - June 30, 2021.

iv. Part I.E.4.d.(3)**Provide the total number and type of enforcement actions implemented**

Enforcement actions were initiated on seven (7) total projects during the reporting period.

As a first action, after three repeat violations, an Erosion & Sediment Control (ESC) Warning Letter is issued to the Construction Manager and Contract Officer Representative (COR) for a project. A total of seven (8) 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 was sent to the Construction Manager and COR. No Notice of Non-Compliance Letter was 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. The MS4 Program Manager, Yari Chiro, sent one (1) Compliance Assistance email on February 10, 2021 to VADEQ regarding non-compliance for a construction site beginning construction without VADEQ approved plans. VADEQ performed a site visit and although Fort Belvoir was not cited for the action, VADEQ did require the project site to take corrective actions as mitigation.

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 a site inspection for VAR100350 on February 25, 2021. VADEQ also performed Notice of Termination (NOT) inspections for VAR10H964, VAR10I753, VAR10L342, VAR10J218, VAR10I954, and VAR10I172 on March 31, 2021.

v. Review of MCM#4 Program Effectiveness

For the reporting period, July 1, 2020 - June 30, 2021, Fort Belvoir completed the following actions to maintain compliance with permit conditions of MS4 General Permit that became effective on November 1, 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 stormwater management (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.
- The *Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: SWM and ESC Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during Construction* was reviewed and revised, as needed, to reflect minor internal process changes.
- Quick reference guides to MS4 Bulletin # 1 were created to highlight the main steps to SWM and ESC plan approval and provide an estimated timeline for the process so that project proponents can easily reference and prepare.
- 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 and 4.3) for the construction site stormwater control MCM continue to remain effective and 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:

The measurable goals to distribute MS4 permit requirements to designers during initial planning phases of construction projects, conduct pre-construction meetings, and post any revised program bulletins on the website within 30 days of updates was met during the reporting period July 1, 2020 - June 30, 2021.

The Fort Belvoir Directorate of Public Works, Municipal Separate Storm Sewer System (MS4) Program Bulletin #1: *Stormwater Management (SWM) and Erosion and Sediment Control (ESC) Design, Review and Plan Approval Procedures and SWM and ESC Compliance Procedures during Construction* is used to communicate the requirements and process for project approval. This Bulletin was reviewed and revised, as needed, and was distributed to all project proponents at the concept design phase of the project. A copy of this bulletin is available online on the MS4 Program Webpage under Technical Bulletins on the [Environmental Page](#).

DPW ED distributed MS4 Bulletin #1 to designers for all projects with greater than 2,500 square feet of land disturbance. 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. The Bulletin is distributed during the project design phase and during dig permit review meetings.

MS4 Program staff, tracked projects greater than 2,500 square feet during the internal project review and dig permit review projects to ensure that they obtained the proper level of permitting from VADEQ prior to construction commencement.

Eleven (11) 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. Four (4) projects were completed during the reporting year as shown on Table 3

Pre-construction Training was provided to ten (10) project proponents and trained 28 individuals which initiated construction under a CGP during the reporting cycle from July 1, 2020 – June 30, 2021. 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. Fort Belvoir currently has the following Bulletins for distribution and posted on the MS4 Program Page:

- **MS4 Technical Bulletin #1:** *Stormwater Management & Erosion and Sediment Control (ESC) Design, Review, and Plan Approval Procedures for Land Disturbance (Revised November 10, 2020, January 6, 2021, and April 30, 2021)*
- **ESC Technical Bulletin #1:** *Dewatering Operations (Revised November 10, 2020 and April 30, 2021)*
- **ESC Technical Bulletin #2:** *Construction Site Stormwater Pollution Prevention Plan Requirements (Revised November 10, 2020 and April 30, 2021)*

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- **ESC Technical Bulletin #3:** *ESC Requirements for Utility Installation (Revised November 10, 2020 and April 30, 2021)*
 - **ESC Technical Bulletin #4:** *Stormwater Pollution Prevention Requirements for Small Projects & Renovation Projects (Revised November 10, 2020 and April 30, 2021)*

BMP 4.2 Erosion and Sediment Control (ESC) Site Inspections:

The measurable goal to conduct site inspections for 100% of active construction sites that involve land disturbance of 10,000 square feet or greater was met during the reporting period July 1, 2020- June 30, 2021.

Erosion and Sediment Control inspections were conducted once every two weeks and within 48 hours of a storm event that produced greater than 0.5" precipitation on all construction projects involving land disturbance of 10,000 square feet and greater. A total of 467 Erosion and Sediment Control inspections were conducted on Fort Belvoir.

BMP 4.3 Progressive Compliance Enforcement Strategy:

The measurable goal to implement the compliance and enforcement strategy when construction contractors have repeat non-compliance findings on bi-weekly erosion and sediment control inspections on an active construction site was met during the reporting period July 1, 2020 - June 30, 2021.

Enforcement actions were initiated on seven (7) projects during the reporting period. A total of eight (8) warning letters 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 81 SMFs that are privately-owned and operated by Fort Belvoir Residential Communities LLC (FBRC), under a public-private partnership. 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 on a monthly rotation and submits summaries to DPW-Environmental. During the 2020-2021 permit cycle FBRC:

- completed inspections of 48 SMFs,
- performed maintenance on 6 SMFs, and
- identified 3 SMFs that required maintenance.

DPW-Environmental inspects these privately-owned SMFs once every five (5) years to confirm that proper maintenance is being conducted by FBRC. A total of 61 inspections were conducted by DPW-Environmental at the FBRC Villages this reporting period. Of the 61 inspections, 6 SMFs were noted as requiring 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 had 244 publicly owned and operated SMFs within the borders of the Garrison which include SMFs not within the MS4 regulated area. Under the new Base Operations contract, the contractor, Aleut, is responsible for both the inspections and maintenance of all SMFs.

During the July 1, 2020 to June 30, 2021 reporting cycle DPW-Environmental performed inspections of 281 SMFs located within the MS4 regulated service area (based on 2010 census data). The Base Ops contractor completed 260 of those inspections, NGA completed 17 of the inspections and FBRC completed 4 of those inspections.

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/functionally deficient or inaccessible. Facilities earning a '1', '2', or '3' 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. The inspection results found:

- 19 facilities rated at a '4' and two (2) facilities rated at a '5'. One of the two facilities with a rating of '5' was completely inaccessible. Work orders for these facilities will be entered and maintenance should occur during the next reporting cycle (2021-2022)

Sixteen (16) new SMFs, as shown in Table 3, were brought online during the reporting period July 1, 2020 - June 30, 2021. Appendix B contains pertinent data for these facilities.

iii. Part I.E.5.i.(3)**Provide a Description of the significant maintenance, repair, or retrofit activities performed on publicly owned SMFs**

Aleut completed repairs to a riser structure at a SMF on March 18, 2021 and did not report any other significant maintenance but did perform regular maintenance on multiple SMFs during the 2020-2021 reporting period.

FBRC completed significant maintenance on 6 tree box filters to include the replacement of filter media and vegetation during the 2020-2021 reporting period.

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 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 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 are required to submit for and obtain a Construction General Permit with VADEQ and assume 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 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 October 1, 2021 all sixteen (16) BMPs that were brought online during the 2020-2021 reporting period have been entered into the BMP Warehouse. It was noted that eleven (11) of these newly installed BMPs were already in the BMP warehouse system. To avoid double reporting Fort Belvoir only corrected information on these based on the as-builts.

Additionally, Fort Belvoir has uploaded annual Street Sweeping BMPs information into the warehouse and has made a note that reporting for Stream Restorations has changed and will need to be updated next permit cycle. This should capture the full scope of BMPs used by Fort Belvoir in the management of Stormwater quality and to meet TMDL requirements.

Fort Belvoir also worked with William (Bill) Keeling from VADEQ to correct issues with previously uploaded BMP data to ensure that BMPs in the system are attributed to Fort Belvoir. Bill was able to update the BMP Warehouse to where all appropriate BMPs are now attributed to Fort Belvoir.

vi. Review of MCM#5 Program Effectiveness

For the reporting period, July 1, 2020 - June 30, 2021, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 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 stormwater management facilities (SMFs) were completed on September 22, 2021. The updates included all Outfalls and SMFs brought online on October 13, 2020, October 27, 2020, December 1, 2020, and May 20, 2021 as required by Part I.E.3.a.(1) and (2) and Part I.E.5.d.(1) – (9).
- Conducted inspections on 281 stormwater management facilities to determine maintenance requirements.
- Conducted significant maintenance on six (6) SMF located in the FBRC housing villages. Repairs were also made to one (1) riser at a DPW owned/operated facility.
- Conducted routine maintenance on publicly owned SMFs located throughout Fort Belvoir
- Reported new BMPs brought online during the reporting period, reported annual street sweeping information, and corrected information reported for eleven (11) SMFs already in the warehouse.
- Worked with William Keeling from VADEQ to correct issues with previously reported data in the BMP warehouse not being attributed to Fort Belvoir. The issue was resolved during this permit cycle.

All BMPs (BMP 5.1 and 5.2) for the Post-Construction Runoff Control 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 a BMP tracking database, updating the database within 30 days of a facility coming on-line, reporting of new BMPs to the VADEQ BMP Warehouse, review and revising the BMP inspection and Maintenance plan, and implementing the SMF inspection and maintenance procedures. How Fort Belvoir achieved compliance with the measurable goals for MCM #5 based on the updated Program Plan is discussed below.

BMP 5.1 Maintain an Electronic Database or Spreadsheet

The measurable goal to update database of SMFs to include information required by Part I.E.5.d.(1)-(9) and update the database within 30 days of a facility brought online was not met for the reporting period July 1, 2020 – June 30, 2021 due to personnel constraints.

Although the databases and information tables were not updated within 30 days due to personnel constraints, they were updated for all new facilities brought online during the cycle on September 22, 2021. The updates included all SMFs brought online on October 13, 2020, October 27, 2020, December 1, 2020, and May 20, 2021. A total of 16 facilities, shown in table 3 and Appendix B were added to the system and assigned new facility numbers during the reporting period.

The measurable goal of electronically reporting SMFs and BMPs implemented between July 1, 2020 and June 30, 2021 was completed this reporting cycle in coordination with William (Bill) Keeling from VADEQ. As a part of this process:

- five (5) new SMFs were reported,
- eleven (11) SMFs were found to already be in the system so only corrections were made based on as-builts, and
- annual street sweeping numbers were reported for the permit cycle.

Updates to the BMP warehouse was completed on September 30, 2021.

BMP 5.2 Conduct Annual Inspections and Maintenance of SMFs

The measurable goal to maintain written inspection and maintenance procedures by reviewing and revising, as necessary, the General Plan for Stormwater Management Facility Inspection and Maintenance (VPDES Permit #VAR040093, Part I.E.5.b.(1)) was met for the reporting period July 1, 2020 – June 30, 2021.

- *Fort Belvoir's General Plan for Stormwater Facility Inspection and Maintenance*, dated September 2019, was reviewed and no changes were made during this reporting cycle.

The measurable goal to conduct inspections and maintenance in accordance with the General plan was partially met during the 2020-2021 reporting cycle, due to changes in personnel and misunderstanding of the process. .

- The Base Ops Contractor was responsible for implementation of 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 260 SMFs between June 30, 2020 and July 1, 2021.
 - The Base-Ops contractor was also responsible for completing the inspections of the SMFs located at Fort Belvoir North Area NGA Facility, however, they did not complete the inspections. An NGA representative, not a certified as an ESC or SWM Inspector, completed the inspections of 17 SMFs instead.
- 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 preventative or non-routine maintenance was required.

- This sequence of inspection to maintenance was not performed as described in the plan due to changes in personnel and misunderstanding of the process. Therefore, only maintenance requests submitted directly by DPW-Environmental were accomplished during this permit cycle.

Inspections completed by the Base-ops contractor during the 2020-2021 reporting period were completed as per 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 281 inspections were then reviewed, and an overall condition rating was generated for each SMF to assist in prioritizing maintenance, 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 or trash and debris.
3	Acceptable	Acceptable/Anticipated Structural and Functional Deterioration. Operating effectively. Preventative or non-routine maintenance required. This includes needing tree or 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.

The majority 260 (or 92.5%) of 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 facilities that receive a rating of 1, 2, or 3.

Twenty-one (7.5%) of the facilities inspected received a 4 or 5 rating and were recommended for preventative and/or non-routine maintenance. Maintenance needs were identified for all the SMFs. Maintenance for SMFs that received condition ratings of 4 or 5 were prioritized.

Work requests were submitted for 15 SMFs that received bad ratings, four (4) of which were completed during the permit cycle leaving eleven (11) open for completion during the 2021-2022 permit cycle. Identified maintenance needs included work such as:

- Removal of sediment/debris,
- Removal of woody vegetation,
- cleaning of inlet/outlet structures or riprap, and
- Repair of erosion and stabilization.

Fort Belvoir is also continuously monitors work requests submitted during previous permit cycles to ensure SMFs maintenance are occurring as soon as possible.

- A total of 55 historical work requests were open at the beginning of the 2020-2021 permit cycle
- 48 of these work requests for sediment/debris removal, clearing of vegetation, repairing animal burrows, and repairing erosion were completed during the 2020-2021 permit cycle
- Seven (7) historical work requests remained open for completion during the 2021-2022 permit cycle.

Fort Belvoir will continue to track progress on the eighteen (18) open work requests during the 2021-2022 permit cycle and will report accordingly in the next annual report.

In addition to the SMF inspections conducted by DPW, FBRC contracted Apex Companies, 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 Fort Belvoir Residential Housing Community (FBRC).

- The FBRC conducted inspected of 48 facilities and identified three (3) that required significant maintenance during the permit cycle.
- FBRC reported significant maintenance was completed in six (6) facilities that were identified during last cycle's (2019-2020) inspections.

Inspection and maintenance plan, inspection and maintenance logs, and a BMP location maps are available upon request.

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 March 31, 2017. The 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 ten (10) facilities of these facilities and are distributed as needed basis to other individuals and/or tenant commands. During the 2020-2021 reporting cycle these BMP factsheets were reviewed and updated as needed.

The BMP Fact Sheets make it easy to be distributed to various O&M contractors/tenant commands/privatized housing 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. 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
- 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
- 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**

The Fort Belvoir's Combined Master SWPPP for Industrial and MS4 permits was completed and became effective on March 31, 2017. The 2017 SWPPP identified eight (8) High Priority Facilities (HPF) that were not covered under a separate permit for stormwater discharges and had the potential for materials or activities to effect stormwater discharges based on conditions found onsite. This included a Motorpool, three laydown areas, a horse stable, a golf cart maintenance facility, the auto skills center, and a dining facility. These eight (8) HPFs and four (4) additional facilities were identified for evaluation under Part I.E.6.c due to known grease storage areas being located outside. The determination of whether a SWPPP is required is determined based on site evaluations completed annually of these 12 facilities.

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 in March 2020 the development of two (2) new SWPPP were recommended to cover the Bowling Alley located on south post (HPF-009) and to the Fort Belvoir Community Hospital Loading Dock area (HPF-010). New SWPPPs were developed and issued to these two facilities in December 2020.

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 2019-2020 HPF evaluation discussed above included continuing the more frequent facility inspections at AAFES and providing additional training or guidance to commercial facilities and distributing informational materials to handout or place around the facility to educate employees of best management practices (BMPs). The stormwater program already has developed materials for training, outreach, and education on issues that were noted during this evaluation. These materials should be distributed and posted at facilities. Table 5 below summarizes the modifications, if any, made to each HPF SWPPP. Although the evaluation showed that at least two (2) which currently hold a SWPPP now meet 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.

Oil and Grease/Trash was found to be the most common issues found at the facilities evaluated. It is recommended that grease management guidance developed during the 2019-2020 permit cycle be given and posted at all commercial facilities where there is food service. Although proper grease management should be enforced for facility personnel all grease containers are handled by outside contractors, who picks up grease from Fort Belvoir and either disposes of it or recycles it off-site. The most prominent findings were proper maintenance of disposal equipment and use of trash compactor equipment.

The hospital had seen multiple incidents of illicit discharges even though a large portion of the floor crews received training. It is recommended that this training be expanded to the Operations and Maintenance portion of the hospital to encourage similar compliance in the load dock area where illicit discharges are most frequent.

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 changes to SWPPP; However it was recommended that the SWPPP be closed under MS4; expand ISW SWPPP for the Golf Course (RO-009) to cover the entire facility
MS4 HPF-002	AAFES (Building 2321)	Yes	Complete	The facility currently has a SWPPP, but site personnel have remained inattentive to requirements even after multiple rounds of training. Inspections have been increased to quarterly after the 2019-2020 permit cycle and the facility continued to have repeat violations.	The facility SWPPP was expanded to include both the Food Court (HPF-002A) and the Commissary (HPF-002B) to increase accountability. The SWPPP was also updated with new POCs and to add materials and drainage maps for the Commissary Loading Dock area 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 changes to SWPPP; Maintain SWPPP as is to cover any upcoming 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 the waterways	No major changes to SWPPP; Updated facility contacts Maintain to encourage current compliance status
MS4 HPF-005	Caisson Stables (Building 3045)	Yes	Complete	The facility currently has a SWPPP and site conditions have significantly improved since the last inspection. Site personnel were aware of proper manure storage and disposal process.	No changes to SWPPP Maintain to encourage current compliance status
MS4 HPF-006	Auto Skills Center (Building 1462)	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements. The facility discharges to a grassed swale preventing pollutants from directly entering waterways	No major changes to SWPPP; Updated facility contacts Maintain to encourage current compliance status
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 changes to SWPPP; Updated facility contacts Maintain to encourage current compliance status

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
MS4 HPF-008	Housing Annex (Building 1108)	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	No major changes to SWPPP; Updated facility contacts Maintain to encourage current compliance status
MS4 HPF-009	Bowling Alley (Building 1199)	Yes	Recommended based on 2019-2020 Inspection Completed during 2020-2021 Permit Cycle	Grease is managed outside, in a dedicated storage location away from any inlets, but Grease and trash management continue to be an issue and may be transported through the stormwater system.	A Facility SWPPP was Developed SWPPP was issued to the facility in December 2020. Provided Facility with Placards for Grease and Trash Management. Reviewed Grease/Trash Management Procedures and provided Training,
MS4 HPF-010	Fort Belvoir Community Hospital	Yes	Recommended based on 2019-2020 Inspection Completed during 2020-2021 Permit Cycle	Although grease is managed outside only small spills associated with the unloading of dumpsters 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.	A Facility SWPPP was Developed SWPPP was issued to the facility in December 2020. Continue Training as prescribed in the Training Plan focused on illicit discharges. cleanliness issues with trash compactor contractor, follow up with contractor recommended
Potential MS4 HPF-011	Burger King AAFES	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; Expand training for connected AAFES shop focusing on spills and outdoor storage.
Potential 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 can infiltrate prior to reaching any waterway.	Continue Training as prescribed in the Training Plan focused on grease management and outdoor storage requirements.

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.

Three hundred eighty-two (382) 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. Table 6 below shows all current NMPs implemented by Fort Belvoir.

Table 6: Nutrient Management Plan Summary

APPROVAL DATE	LOCATION	ACREAGE
June 29, 2019	Fort Belvoir Residential Communities Initiative – A (Cedar Grove, Colyer, Gerber, Herryford, Lewis, Vernondale Villages)	61.0 acres
June 29, 2019	Fort Belvoir Residential Communities Initiative – B (Belvoir, Jadwin, Fairfax, Park, Rossell Villages)	54.0 acres
June 29, 2019	Fort Belvoir Golf Club	119.0 acres
March 18, 2020	Missile Defense Agency Headquarters	4.4 acres
March 19, 2020	DLA/DCAA Headquarters Complex	33.0 acres
March 20, 2020	Fort Belvoir Residential Communities Initiative – C (Dogue Creek, Washington, River, Woodlawn Villages)	70.0 acres
March 18, 2020	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 291 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 May 2019. 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.

Table 7: Training Event Summary

Date	Organization	Audience	Number of Attendees	Level of Training
7/8/2020	3231 Hangar	Maintenance Personnel	3	1 & 4
7/15/2020	DCNG-DAAF	Maintenance Personnel	2	1 & 4
7/23/2020	Various	RCRA Hazardous Waste Handlers	62	3 & 4
8/11/2020	Bates	Public Works Facilities Personnel	2	1 & 4
8/14/2020	ADF-E Sailfish	RLDs	9	5
8/18/2020	DPW O&M	Public Works Facilities Personnel	1	1 & 4
8/25/2020	LRC Maintenance	Maintenance Personnel	3	1 & 4
9/2/2020	911th Motorpool	Maintenance Personnel	1	1 & 4
9/2/2020	Arby's	Food Service Facilities	1	1 & 4
9/2/2020	Mosby Reserve	Maintenance Personnel	1	1 & 4
9/28/2020	Various	RLDs	6	5
10/21/2020	DAAF Airfield Services and Fueling	Public Works Facilities Personnel	9	1 & 4
10/27/2020	ADFE	Public Works Facilities Personnel	3	1 & 4
10/27/2020	Caisson Stables	Recreational Facilities	1	2 & 4

Date	Organization	Audience	Number of Attendees	Level of Training
11/4/2020	Aleut	Road, Street, and Parking Lot Maintenance (Salt Management)	10	Chloride TMDL
11/4/2020	Poe Road Bridge Scour	RLDs	7	5
11/9/2020	Fire Department (South Post)	Fire Department Personnel	1	1 & 4
11/10/2020	AMSA-91 Motorpool	Maintenance Personnel	9	2 & 4
11/12/2020	VARNG	Maintenance Personnel	4	1 & 4
12/2/2020	DPW Restoration	Public Works Facilities Personnel	1	1 & 4
12/3/2020	DAAF Asphalt and Wash Rack Repair	RLDs	2	5
12/7/2020	Fort Belvoir Community Hospital	Public Works Facilities Personnel	4	3 & 4
12/8/2021	LRC Fueling Facility	Maintenance Personnel	1	1 & 4
12/9/2021	1301st Marina	Recreational Facilities	8	1 & 4
12/9/2020	Various (TMG, ADFF, Parking Lot DEMO)	RLDs	6	5
12/29/2020	249th Motorpool	Maintenance Personnel	2	1 & 4
1/12/2021	Fort Belvoir Residential Communities	Public Works Facilities Personnel	7	2, 3, & 4
1/20/2021	OSA-A at DAAF	Maintenance Personnel	2	1 & 4
1/28/2021	DPW - Hazardous Waste Program	Public Works Facilities Personnel	4	1 & 4
2/3/2021	12th Aviation - Delta and Charlie	Maintenance Personnel	4	1 & 4
2/9/2021	DPW - Pest Management	Pest Management	3	1 & 4
2/11/2021	Golf Course	Recreational Facilities	2	1 & 4
2/11/2021	Dogue Creek Marina	Recreational Facilities	2	1 & 4
3/2/2021	AAFES PX	Food Service Facilities	2	2 & 4
3/10/2021	DCNG Bldg 2297	RLDs	7	5
3/15/2021	Aleut- Roads and Ground	Road, Street, and Parking Lot Maintenance	44	1,2,3,4
3/11/2021	12th Aviation - Bravo	Maintenance Personnel	1	1 & 4
3/18/2021	249th Motorpool	Maintenance Personnel	3	1 & 4
3/18/2021	Meade Road Contractor Lot	RLDs	6	1 & 4
3/23/2021	Night Vision at DAAF	Maintenance Personnel	2	1 & 4
4/14/2021	Golf Course	Recreational Facilities	1	2 & 4
4/15/2021	Cullum Wood	RLDs	5	5
4/16/2021	Infiltration Course	RLDs	6	5
4/28/2021	Burger King	Food Service Facilities	1	3 & 4
4/28/2021	Auto Skills Center	Maintenance Personnel	4	2 & 4
5/3/2021	South Post Express	Food Service Facilities	1	3 & 4
5/4/2021	Community Center	Food Service Facilities	4	3 & 4
5/11/2021	Golf Course Maintenance	Maintenance Personnel	1	2 & 4
5/13/2021	Commissary	Food Service Facilities	4	2 & 4

Date	Organization	Audience	Number of Attendees	Level of Training
5/28/2021	Bowling Center	Recreational Facilities	1	2 & 4
6/8/2021	Verizon/Onieda	Public Works Facilities Personnel	6	1 & 4
6/11/2021	Aleut - Dewatering	Recreational Facilities	1	4
6/14/2021	Night Vision at 300 Area	RCRA Hazardous Waste Handlers	3	1 & 4
6/17/2021	Fire Department at DAAF	Fire Department Personnel	2	1 & 4
6/30/2021	DC - National Guard	Maintenance Personnel	2	1 & 4
6/30/2021	DPW - O&M Division for Washracks	Public Works Facilities Personnel	1	1 & 4
TOTAL:			291	

vi. Review of MCM#6 Program Effectiveness

For the reporting period, July 1, 2020 - June 30, 2021, Fort Belvoir completed the following actions to maintain compliance with permit conditions of both the old and new MS4 General Permit that became effective on November 1, 2018:

- Development and implementation of daily operational procedures (BMP fact sheets) were reviewed, revised, and distributed as necessary.
- HPF Evaluations were completed to identify facility changes and upgrades at 12 facilities identified as having the potential to impact stormwater quality.
- Facility-Specific SWPPPs were implemented and revised, as detailed in table 5, for the eight (8) identified High Priority Facilities; two (2) new SWPPPs were developed; one (1) facility SWPPP was updated to increase the SWPPP coverage area and define management responsibilities between the AAFES Commissary and AAFES PX.
- Nutrient Management Plans were implemented for 382 acres of total managed turf.
- Stormwater Pollution Prevention/Illicit Discharge/Good Housekeeping training was conducted; over 290 individuals were trained throughout the reporting period
- The written training plan received small updates throughout the permit cycle to include updates to staff certifications, updates to contacts in training slides, and modification of training schedule/protocols due to COVID-19 gathering restrictions. The plan was implemented throughout the reporting period and all planned trainings were completed.
- Due to Covid-19 gather restrictions virtual training was used for pre-construction (level 5) meeting conducted and appeared to have been successful. The average number of personnel trained for each project remained the same as in previous years therefore this was determined to be an effective avenue.

All BMPs (BMP 6.1 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 a 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

The measurable goal to annually review and update BMP Fact Sheets and 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 met for the reporting period July 1, 2020– June 30, 2021.

All previously available BMP Fact sheets were reviewed and updated as needed. DPW ED also updated spill response information and posted *Spill Response Procedure* placards in strategic locations which provide information on what to do in case of a spill.

BMP 6.2 Develop and Implement Stormwater Pollution Prevention Plans:

The measurable goal to re-evaluate high-priority facilities and identify which HPFs have a high potential for discharging pollutants within 12 months of permit coverage (31 October 2019) was completed during the 2018-2019 permit cycle. For all HPFs identified, review existing SWPPPs to determine if all SWPPP requirements specified in Permit #VAR040093, Part I.E.6.d. are addressed, was met for the reporting period July 1, 2020 - June 30, 2021.

Twelve (12) individual facilities were evaluated for their potential to discharge effluents to the MS4 or surface waters, as shown on table 5. The facilities inspected included the eight (8) facilities where a SWPPP was previously developed and two (2) facilities where new SWPPP were developed and issued during the 2020-2021 permit cycle. Two (2) other facilities were evaluated for their potential exposure due to the outdoor storage of grease but were found not to require SWPPPs.

Additionally, one (1) existing SWPPP was expanded to cover a larger area and updated to distinguish areas of responsibilities between two groups responsible for managing the site. Minor changes were made to four (4) Facility SWPPPs to address changes in Personnel.

BMP 6.3 Develop and Implement Nutrient Management Programs:

The measurable goal to have 100% of all identified managed turf acres covered by nutrient management plans and review and update existing plans every three years was met for the reporting period July 1, 2020 - June 30, 2021.

Fort Belvoir completed all required Nutrient Management Plans ahead of the MS4 General Permit effective date. Currently, 100% (382/382) of the total managed turf is covered by nutrient management plans.

BMP 6.4 Revise and Implement Written Training Plan:

The measurable goal to revise and implement a written training plan was met for the reporting period July 1, 2020 - June 30, 2021.

The Fort Belvoir Stormwater Pollution Prevention Training Plan was revised in May of 2019 to account for new MS4 General Permit requirements. Training was implemented throughout the permit cycle in accordance with the plan. A total of 291 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 courses.

HPF Training: 11 of the 12 facilities considered to be HPF (10 of which currently have a SWPPP) were trained during the reporting cycle. The only facility that did not receive training was the DLA Contract Yard (HPF-003) as the facility has been closed and vacant throughout the cycle.

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 utilizing the DPW All Hands meeting forum in the recognition and reporting of illicit discharges. Due to COVID-19 the scheduled All Hands meeting was canceled. Instead smaller groups responsible for projects that may affect stormwater discharges were trained separately. This included DPW Operations and Maintenance Department personnel responsible for overseeing the use of washracks and roads, streets, and parking lot maintenance (August 18, 2020; November 4, 2020; and June 30, 2021). Additionally DPW personnel responsible for overseeing pesticide application, Hazardous waste/material management, and restoration of historical contamination sites also received training (December 12, 2020; January 28, 2021; and February 9, 2021).
- **Stormwater Program Team:** All team members performing ESC and/or SWM Inspections maintained active certifications with VADEQ for the entire permit cycle.
- **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 receive Level 5 training to address erosion and sediment control concerns before construction begins on-site. A total of 54 people received level 5 – preconstruction training during the reporting cycle,
- **NMP:** The Fort Belvoir DPW ED 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 August 31, 2021.
- **Pest Management:** The DPW Pest Management Program Manager is certified by DoD in multiple categories. The Fort Belvoir Pest management program currently has two (2) Virginia Department of Agriculture and Consumer Services (VDACS) certified applicators.
- **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 Levels 3 & 4 of Training. A total of 44 people were trained for Stormwater Awareness Training and 8 people received additional training on proper salt management prior to the winter season.
- **Recreational Facilities:** Fort Belvoir Directorate of Family and Morale, 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 28 employees working or responsible for key aspects of operations at these facilities received a combinations of levels 1, 2, 3, and 4 Training.

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- **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 Levels 3 & 4 of Training conducted by Stormwater Program Personnel to ensure proper stormwater pollution prevention. These operations includes those responsible for solid waste pick up, vehicle maintenance, fueling, communications, firefighting, and health and safety. A total of 85 people were trained in the category during this permit cycle.
 - **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. A Stormwater Pollution Prevention/Illicit Discharge awareness training was given to Hazardous Waste Handlers during their RCRA annual refresher training. Training session was held on July 23, 2020 (4-hour Refresher), for a total of 62 personnel in attendance. This ensures that those most likely to be handling hazardous materials and wastes are aware of water quality issues and preventative measures that can be taken at their facilities. In addition, Pollution Prevention/Illicit Discharge training is provided as a part of the First Responder Awareness Course, for personnel that working in or around fueling and petroleum distribution facilities.
 - **Spill Response Personnel:** Oil Spill Response and Recovery Training classes are conducted annually at Fort Belvoir and cover Spill Response and Reporting procedures. This course was not held this permit cycle due to COVID restrictions.

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 June 1, 2018 in accordance with Section I.B. of the 2013-2018 MS4 General Permit. The plan was released for public comment on May 14, 2018 and comments were accepted for 30 days until June 15, 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 October 25, 2019. No comments were received, and the Plan was finalized and submitted to VADEQ in a letter dated October 28, 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 ChesBay credits were reported on the VADEQ BMP Warehouse to include BMPs that were not previously reported. The completed/implemented projects far exceed 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 9 below. Therefore, no additional BMPs were necessary to meet pollution load reduction goals. The nine (9) stream and one (1) shoreline restorations and land use change Best Management Practices were completed between 2009 and 2018. The Regional Stormwater Management Basin was completed in July 2018. Street Sweeping is performed monthly on Fort Belvoir and is reported annually to the BMP Warehouse. Table 8 below summarizes the historical BMPs that were added to the BMP Warehouse.

Table 8: Historic BMPs Entered into BMP Warehouse for Credits

BMP Name/Type	Year Completed	Year Verified	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
Regional Stormwater Pond Centralized Facility	2018	N/A	159.65	12.0	23,852.49
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	Due 2021	52.13	47.26	10,515.35
AW - 5a and 5b Stream Restoration	2017	Upcoming Due 2022	10.50	9.52	2,118.20
AW – 7 Stream Restoration	2017	Upcoming Due 2022	22.13	20.06	4,463.35
AW – 8 Stream Restoration	2017	Upcoming Due 2022	17.59	15.95	3,547.99
ADFE Stream Restoration	2018	Upcoming Due 2023	83.18	75.41	16,779.17
Hospital west Stream Restoration	2010	2019	69.00	62.56	13,919.60

BMP Name/Type	Year Completed	Year Verified	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
Herryford Stream Restoration	2011	2019	109.13	98.94	22,014.15
Gunston Cove Shoreline Management	2010/2014	2019	8.55	6.04	29,484.00
Land Use Changes	Varies	N/A	217.51	15.30	6,866.70
Street Sweeping	Annually	N/A	2,068.26	322.33	872,964.85
Total Reductions			2,949.11	804.57	1,033,048.74

Verification of long-term performance for stream restoration and shoreline management projects must occur every 5 years, according to the Chesapeake Bay Program Stream Restoration/Shoreline Management BMP verification Guidance. 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 Surveyor Rd, North Area, Hospital West, and Herryford stream restoration projects and for the 300-area marina shoreline management project, to maintain credits for another 5 years.

No stream restoration verifications were completed for this permit cycle, however, for the next permit cycle the Mead Road Stream restoration project will be due since 5 years will have elapsed from the time the restoration was complete. Additionally Fort Belvoir has made note of the upcoming changes to reporting of stream restoration project in the BMP warehouse and is prepared to make the appropriate adjustments during the next reporting cycle.

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

Although based on the current Chesbay Plan, dated October 2019, no new credits are required for Fort Belvoir to achieve the required reductions by 2027, there were sixteen (16) SMFs, shown in Table 3 brought online during the reporting cycle that would provide additional credits. Information on these SMFs have been uploaded into the BMP Warehouse. Additionally, inspections and maintenance completed on all historical SMFs have also been uploaded into the BMP warehouse.

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 the 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 in 2027.

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 Best Management Practices (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, has resulted in the following cumulative reduction of pollutants of concern in the Potomac River Basin:

Table 9: ChesBay Cumulative Reductions Achieved

Pollutant of Concern	Cumulative Reduction Achieved (lb/yr)	Percentage of L2 Reduction Achieved	
		Based on 2000 Census Data	Based on 2010 Census Data
Total Nitrogen	2,949.08	126%	118%
Total Phosphorous	804.57	266%	341%
Total Suspended Solids	1,033,048.73	390%	562%

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 2021-20221 Reporting Period

Planned BMPs	Approximate BMP Extent
Building 315 Renovation (Dry Swale Lvl 1)	0.29
91 st Cyber Brigade (2 x Bio-retention basins)	4.20
DLA Ground Fuel Facility (2 x Bio-retention basins)	1.59
ADFE Sailfish (2 x Bio-retention basins)	4.12
Monthly Street Sweeping	2000+ 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 September 26, 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. An additional Restoration project is planned for an unnamed tributary to Dogue Creek and currently has plans at VADEQ for review and approval.

The only BMPs that are required to be conducted annually to maintain the annual load reduction credit is street sweeping and ensuring that all structural BMPs are maintained. Street sweeping was done monthly during the permit cycle. The street sweeping schedule for the upcoming month is received by the assigned Contract Performance Specialist in the Operations and Maintenance Division and random quality assurance checks are performed to ensure that the required street sweeping occurs.

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.

BMP CHESBAY.1 Chesapeake Bay TMDL Action Plan Implementation:

The measurable goal to finalize the Phase II Chesbay TMDL Action Plan by October 31, 2019 and implement the action plan in permit years 2 through 5 was met for the reporting period July 1, 2020 - June 30, 2021.

The Fort Belvoir Phase II Chesbay TMDL Action Plan was put out for Public Comment on October 3, 2019 and received no comments by the final comment date of October 25, 2019. The Plan was made final and submitted to VADEQ in a letter dated October 28, 2019.

The measurable goal to conduct a street sweeping program to sweep 2,686 acres per year to meet 2,068.22 lbs/yr of total nitrogen reduction, 322.32 lbs/yr of total phosphorous reduction and 872,964.85 lbs/yr of total suspended solids reduction was exceeded for the reporting period July 1, 2020 - June 30, 2021. Sweeping is 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 over 2,000 acres of land that should be swept monthly.

During this reporting period, the Fort Belvoir Operations and Maintenance contractor reported total street sweeping within the MS4 service area of approximately 6,376,212 acres:

Table 11: Annual 2020-2021 Total Street Sweeping

MS4 Area Sweeping		
Surface Type	Measurement	Area
Road Surface	Acre	4,447,845
Parking Area	Acre	1,928,367
Total Area Swept during the permit cycle:		6,376,212
Note: The new PX and Commissary Lots are not included in these calculation as they have not yet been formally included in the contract.		

Records of monthly street sweeping is available upon request in the contract file, of the Contract Performance Specialist, Directorate of Public Works, Operations and Maintenance Division.

4. Local TMDL Information

a. Polychlorinated Biphenyls (PCBs) TMDL

A PCBs TMDL Schedule for Implementation was provided to Virginia Department of Conservation and Recreation (VADCR) in a letter dated May 30, 2012. The Final Fort Belvoir PCB TMDL Action Plan was completed in March 2013. This plan was accepted on December 16, 2015 by Virginia Department of Environmental Quality (VADEQ). The plan was reviewed for adequacy and revisions to address site changes and VADEQ comments were completed in February 2018. An additional three (3) sites were evaluated as a part of the revisions to the Plan. Only one (1) site 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/envirodocs.asp>) on March 16, 2020. A Notice of Availability for the document was:

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

Fort Belvoir provided for the public comment period to be open until April 15, 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, this is the only section updated prior to submittal of this Final 2020 PCB TMDL Action Plan to VADEQ on April 28, 2020. The PCB TMDL Plan had minor updates to Sections covering samples and closure of sites MP-11 and MP-13 in May 2021. No further updates were made during the permit cycle as the Restoration Program was awaiting comments from VADEQ regarding the final disposition of the site.

The PCB TMDL Action plan also 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:

The measurable goal to annually review and revise, as needed the PCB educational materials and distribute, as needed was met for the reporting period July 1, 2020 - June 30, 2021.

PCB Factsheets, brochures, and slides were developed as a part of the Plan to include basic information on PCBs, their hazards, the identification of PCB containing equipment, and reporting procedures. These could be used for distribution and to be added to trainings as appropriate

- Educational materials were reviewed but no changes were required during this reporting period.
- Factsheets were included in both MS4 HPF and ISW facility SWPPPs.
- PCB training slides were included in Training Presentation for levels 1, 2, 3, and 5.

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- DPW coordinated with the Hunting Program, to get the brochures distributed to hunters and hikers by posting the information at six (6) environmental kiosks, as abandoned PCB transformers in non-frequented areas were identified as the prime source for potential pollutants.
 - The PCB brochure is also posted under the fishing tab on the Garrison's iSportsman website.
 - Due to the COVID restrictions, no material was distributed in person.

BMP PCB.2 Implement PCB Sampling Plan:

The measurable goal to implement the sampling plan was met for the reporting period July 1, 2020 - June 30, 2021.

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). During the reporting period no sampling was completed because the site achieved residential screening criteria and an internal decision document was sent to VADEQ for review and concurrence.

1. Maintaining a GIS PCB Data layer was recommended in the plan
 - No reported changes were made to the GIS layer during this reporting cycle, as concurrence from VADEQ occurred after the reporting period.
 - The GIS layer will be updated based on the determination of No Further Action (NFA) and implementation of Land Use Control Implementation Plan for SWMU MP-13 as concurred to by VADEQ on August 19, 2021.
2. The Plan called for tracking of progress at other PCB sites currently managed under the Restoration Program
 - Active sites MP11, MP12, MP13, and MP14 are all under the RCRA facility investigation phase. The MS4 program kept track of the process but no actions occurred during the reporting period. The following actions occurred outside the permit cycle but prior to this report being finalized:
 - MP-11, MP-12, and MP-14 the internal decision document for NFA was signed by Col. SeGraves on August 20, 2021 and were closed.
 - MP-13 received concurrence from VADEQ for NFA, but with a land use control to prohibit groundwater usage due to a copper reading in the groundwater on August 23, 2021.

BMP Assessment: BMPS (BMPs PCB.1 – PCB.2) identified in the approved PCB TMDL Action Plan continue to remain effective and meet permit requirements. Based on current and foreseen closure of historical PCB sites The PCB TMDL Action Plan will be reviewed and revised during the 2021-2022 permit cycle to reflect any changes required in the sampling plan.

b. Bacteria TMDL for the Lower Accotink Creek

The Bacteria TMDL for the Lower Accotink Creek Watershed was issued in September 2008. The *General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, Permit #VAR040093* Effective on November 1, 2018 requires that “For TMDLs approved by the EPA prior to July 1, 2013, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall update the previously approved local TMDL action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable, no later than 18 months after the permit effective date and continue implementation of the action plan.”

A Fort Belvoir Bacteria TMDL Action Plan was developed and submitted on September 30, 2016 for VADEQ review and approval. VADEQ requested additional information on the action plan on November 10, 2016 and received Fort Belvoir’s response and updated action plan on December 7, 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 December 9, 2016.

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 March 18, 2020. A Notice of Availability for the document was:

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

Fort Belvoir provided for the public comment period to be open until April 15, 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 this Final 2020 Bacteria TMDL Action Plan for the Lower Accotink Creek to VADEQ due on April 28, 2020.

The Action Plan also 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.

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 measurable goal listed in the approved Bacteria TMDL Action Plan, dated March 2020, to Consider potential bacteria sources for any new or proposed projects occurring within the Lower Accotink Creek Watershed, ensure that proper control measures/strategies are selected and implemented, and update the Action Plan as needed to include new sources and controls was met for the reporting period July 1, 2020 - June 30, 2021.

Projects were reviewed and none were found to pose any additional bacteria sources therefore, no revisions were made to the plan.

BMP BAC.2 Incorporate Bacteria TMDL Information into MS4 Training Program

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 met partially met for the reporting period July 1, 2020 - June 30, 2021.

The Training Plan identifies six (6) levels of training at different magnitudes of content with Level 1 being the most extensive. Bacteria TMDL information was presented during the 2020 – 2021 reporting period for Training Levels 1 – 2 and 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 will be updated during the 2021-2022 permit cycle along with other planned changes to the Training Plan.

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. Therefore, although not all training covered the information the program was still able to reach 161 people at 42 separate training sessions.

BMP BAC.3 Public Education and Outreach

The measurable goal to publish one article annually in the *Fort Belvoir Eagle* that discusses the bacteria water quality issue, sources of bacteria, reporting information and steps that can be taken to reduce bacteria sources was met for the reporting period July 1, 2020 - June 30, 2021.

- Fort Belvoir published two articles in the Fort Belvoir Eagle that covered bacteria TMDL related issues.
 - An article *Winter Stormwater Pollution Concerns* published in December 2020 covered Fat, oils, and Greases, how it can cause SSO, and how to report to DPW.
 - An article *Fort Belvoir follows a "Pollution Diet"* published in February 2021 covered TMDL Plans implemented on Belvoir and how to prevent and report pollution sources
- As of April 15, 2021 the *Fort Belvoir Eagle* is no longer being published in a hard copy format but continues publication online. Fort Belvoir will continue to publish article in the online version of the newspaper, but the program will also seek more guest articles in the Fort Belvoir Resident Newsletter to meet these and other outreach requirements in the 2021-2022 permit cycle.

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 partially met for the reporting period July 1, 2020 - June 30, 2021.

- Public events were canceled where the program normally hands out the *"Are You Cleaning Up After Your Pet?"* brochures and only minimal on site staffing existed during the year.
- 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.
- The 30 pet waste brochures were provided to staff at the MWR Recreational facility on June 11, 2021 for distribution to guests.

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 short comings were encountered during the permit cycle. 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 permit cycles.

c. Chloride TMDL for the Lower Accotink Creek

The Accotink Creek Chloride TMDL approved by the State Water Control Board (SWCB) on April 12, 2018 and approved by the Environmental Protection Agency (EPA) on May 23, 2018. The *General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, Permit #VAR040093* effective as of November 1, 2018 requires that “For TMDLs approved by EPA on or after July 1, 2013, and prior to June 30, 2018, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable for each pollutant for which wasteloads have been allocated to the permittee's MS4 no later than 30 months after the permit effective date.”

The Lower Accotink Creek Chloride TMDL Action Plan was completed as per Part II.B of the 2018- 2023 General Permit. 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 April 7, 2021
- Posted on the Fort Belvoir Environmental Facebook page on April 8, 2021
- Published in the Fort Belvoir newspaper, The Belvoir Eagle on April 15, 2021

Fort Belvoir provided for the public comment period to be open until April 30, 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 May 1, 2021.

The overall goal of this Action Plan would be to achieve reductions using the adaptive iterative approach. 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 Salt Management Strategy, or 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 and confirmed using quantitative application data collected between 2017-2020. As this is the initial assessment, annual assessments shall occur to determine efficacy of the current 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

The measurable goal to maintain existing programs portions of the MS4 program that were found to be effective in minimizing discharges chloride such as the Training (MCM6), Education, and Outreach Programs (MCM1 and MCM2) was achieved during the 2020-2021 permit cycle and shown in sections 2.a, 2.b, and 2.f above.

- The Education and Outreach Plan outlines specific Pollutants of Concern 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 Newspaper article in *the Belvoir Eagle*. 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.
- The Stormwater webpage also has a newly added feature allowing direct reporting of any potential issues. This feature allows the public to directly report through the online form any potential issues and gives DPW increased oversight of winter maintenance operations.
- 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
- Fort Belvoir monitors and trains facilities several High Priority Facilities (HPF's) due to their salt storage activities. Continued maintenance of the HPF evaluation and SWPPP maintenance requirement under MCM6 provides an avenue for monitoring and controlling sites that are more likely to discharge chloride.
- The Current training plan, dated May 2019, includes TMDL Information as well as salt management practices to include storage and handling is 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)

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 October 31, 2023 was not yet achieved for the reporting period July 1, 2020 - June 30, 2021.

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 dates and when only trace or no snowfall occurred.

Fort Belvoir will work with DLA to update their Ice Melt application practices.

BMP CL.3 Update Base Operations Contractor Snow Plan

The measurable goal of updating the Snow Plan, developed in November 2011, that is an as part of the contract with the Base Operations Contractor by October 31, 2023 was not yet achieved for the reporting period July 1, 2020 - June 30, 2021.

Fort Belvoir will work with the Operations and Maintenance department to update the Base Operations Contractor Snow Plan to identify a strategy for anti- or de-icing operations and to better reflect the current standards and equipment used, as well as incorporate practices to reduce chloride pollution.

BMP CL.4 Revise Salt Brine Mixing Rates

The measurable goal to revise the current salt brine mixing practices at Fort Belvoir by October 31, 2023 was not yet achieved for the reporting period July 1, 2020 - June 30, 2021.

Fort Belvoir 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 uses 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.

The MS4 Program will work with the O&M department to determine an effective mixing rate and revise current standards to potentially reduce the usage of Chloride containing products.

BMP CL.5 Establish a Calibration Process

The measurable goal to establish a calibration protocol for salt equipment used on Fort Belvoir by October 31, 2023 was not yet achieved for the reporting period July 1, 2020 - June 30, 2021.

There is currently no calibration protocols in place for salt equipment. 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.

The MS4 Program will continue to work with O&M to establish and implement an equipment calibration process and get the requirements integrated into future winter maintenance contracts.

BMP CL.6 Targeted Training

The measurable goal to update the training program to include additional salt management training that is particularly focused towards salt applicators, supervisors, and decision-makers by October 31, 2023 was partially achieved for the reporting period July 1, 2020 - June 30, 2021.

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.

The MS4 program provided Salt Management Training during the 2020 – 2021 permit cycle to Base Operations Contractor personnel that work on the de-icing/anti-icing operations on the garrison.

The MS4 Program will work towards updating the MS4 Program Plan and Training Plan during the 2021-2022 reporting cycle to complete this goal.

BMP CL.7 Annual Reporting

The measurable goal to assess and updated The Chloride TMDL Action Plan annually to determine the efficacy of the program as well as improve the program where necessary was met for the 2020-2021 permit cycle.

The Chloride TMDL Action Plan was developed in early 2021 and submitted to VADEQ on May 1, 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.

Starting in the 2021-2022 permit cycle Fort Belvoir will assess and update the Chloride TMDL Action Plan as needed after the annual assessment is completed.

- Annual assessment shall occur post-season, to begin on or around April 1st and to be completed by no later than the end of the permit cycle, June 30 of each year.
- Using reported data for the year, the application rate for each product shall be calculated to see if goals were met or if additional BMPs are required to be implemented. The annual application rate compared to program goals will be reported in the Annual Report to VADEQ.
- The results of the annual assessment compared to the program goals and the TMDL Plan will be updated to reflect new and achieved goals annually. Any updates or changes to this TMDL Action Plan will be summarized within the MS4 Annual Report.
- Fort Belvoir will ensure the public is aware of any changes made to the plan by posting the updated version to the Fort Belvoir Environmental Homepage. Any updates or changes to this TMDL Action Plan will be summarized within the MS4 Annual Report.

d. Sediment TMDL for the Lower Accotink Creek

The Lower Accotink Creek Sediment TMDL approved by the State Water Control Board (SWCB) on April 12, 2018 and approved by the Environmental Protection Agency (EPA) on May 23, 2018. The General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, Permit #VAR040093 effective as of November 1, 2018 requires that “For TMDLs approved by EPA on or after July 1, 2013, and prior to June 30, 2018, and in which an individual or aggregate wasteload has been allocated to the permittee, the permittee shall develop and initiate implementation of action plans to meet the conditions of Part II B 3, B 4, B 5, B 6, and B 7 as applicable for each pollutant for which wasteloads have been allocated to the permittee's MS4 no later than 30 months after the permit effective date.”

The Lower Accotink Creek Sediment TMDL Action Plan was completed as per Part II.B of the 2018-2023 General Permit. 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 February 15, 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 February 23, 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 should be noted that regulated areas within the MS4 service area have significantly changed since publication of this document, which used 2010 census data, and it is recommended that the baseline load for Fort Belvoir is re-evaluated in years to come as the removal of areas within the MS4 Service Area due to additional VPDES Permits has occurred. Based off this re-evaluation, a Baseline Load of 315.98 tons/year was calculated, with a target reduction of 80.98 tons/year (or 161,960 pounds/year) of sediment is to be achieved.

Fort Belvoir considered all projects completed since the 2009 progress run for credits as described in VADEQ Guidance Memo No. 20-2003 which will replace Guidance Memo No. 15-2005 as guidance for meeting local TMDL waste load allocations for nutrients and sediment. The following strategies to meet the newly required reductions of 80.98 tons/year or a total of 161,960 pounds/year:

- **Urban Structural BMPs:** Constructing local stormwater facilities when new development, redevelopment, and retrofits are considered. To calculate the TSS reductions, retrofit curves developed by the Bay Program or the Bay Program Established Efficiencies are used.
- **Urban Stream Restoration.** Urban streams restored using one of the four expert panel report methodologies, as adjusted to account for the unregulated baseline load.
- **Street Sweeping.** Removing sediment from roadways before transported offsite in Stormwater flows.

- **Storm Drain Cleaning.** Removing solids directly from catch basins, within storm pipes, or captured at the storm drain outfalls. Sediment reduction credits are provided for solids that are directly removed from catch basins, within storm drainpipes, or captured at the storm drain outfalls. Credits also apply to sediment removal from concrete-lined conveyance channels.
- **Land Use Change.** Credit for lands converted to a land use with a lower associated pollutant load.

BMP SED.1 Annual Reporting

The measurable goal to assess and updated The Sediment TMDL Action Plan annually to determine the progress towards meeting TMDL reductions goals was met for the 2020-2021 permit cycle.

The Sediment TMDL Action Plan was developed in early 2021 and submitted to VADEQ in February 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. The archived reductions from each implemented BMP was compared to the required load reduction to determine if goals for the WLA of 235 tons/year were met. Analysis found that Fort Belvoir has both met and exceeded the required reductions. The table below summarizes the progress towards meeting the 100% reductions.

Table 12: Lower Accotink Creek Sediment TMDL Reductions Achieved

Pollutants Of Concern	BMP	Required Reduction (lbs. /yr.)	Reductions Achieved (lbs. /yr.)	Percentage of Required Reduction
Total Suspended Solids	Urban Structural BMP's	161,960	110,359.56	68.14%
	Stream Restoration		5,113.94	3.16%
	Street Sweeping		21,380.34	13.20%
	Storm Drain Cleaning		18,438.11	11.38%
	Land Use Change		15,742.23	9.72%
Total Suspended Solids Reduction Achieved			171,034.18	105.60%

Starting in the 2021-2022 permit cycle Fort Belvoir will assess strategies called for in the Sediment TMDL Action Plan and will report the following:

- New Urban BMPs, Stream Restorations, or Land Use Changes within the Lower Accotink Creek Watershed and the Achieved Reductions
- The Amount of street sweeping Lower Accotink Creek Watershed, the frequency, and the Achieved Reductions
- The Storm Drain Cleaning Reductions Achieved off Nutrient Enrichment Factor based on the Dry Weight of sediment removed during the reporting cycle within the Lower Accotink Creek Watershed

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 12 shows a summary of changes made to the Program Plan throughout the 2020-2021 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 2019-2020 permit cycle or recommended for the 2020-2021 permit cycle.

Table 13: Changes to the Program Plan as of June 30, 2021

DATE	CHANGE	LOCATION
22 Dec 2020	Deleted BMP PCB MP13 Install Traffic Barriers	Table of Contents Section 9.2
22 Dec 2020	Removed Appendix D – ESC/SWM Inspection Form	Table of Contents
22 Dec 2020	Updated the reference to be current version: <i>U.S. Army Garrison Fort Belvoir, Virginia Bacterial Total Maximum Daily Load Action Plan for the Lower Accotink Creek Watershed</i> updated April 2020	Page 13
22 Dec 2020	Updated the reference to be current version: <i>The U.S. Army Fort Belvoir Virginia Illicit Discharge Detection and Elimination Plan</i> December 2020	Page 13
22 Dec 2020	Updated the reference to be current version: MS4 Outfall Map and Information Table, October 2020	Page 13
22 Dec 2020	Updated the reference to be current version: <i>DLA/DCAA Headquarters Complex Nutrient Management Plan</i> dated March 19, 2020	Page 14
22 Dec 2020	Updated the reference to be current version: <i>Missile Defense Agency Headquarters Nutrient Management Plan</i> dated March 18, 2020	Page 14
22 Dec 2020	Updated the reference to be current version; <i>National Geospatial-Intelligence Agency Campus East Nutrient Management Plan</i> dated March 18, 2020	Page 14
22 Dec 2020	Added FOG Public Outreach (Traditional written materials) - March	Page 27, Table 5
22 Dec 2020	Updated with the current link: Fort Belvoir Env Website	Page 28
22 Dec 2020	Updated with the current address: usarmy.belvoir.id-sustainment.mbx.dpw-enrd-stormwater@mail.mil	Page 29
22 Dec 2020	Added reference to reporting form on website	Page 29
22 Dec 2020	Out of office reply reference was changed from voice/email to only email.	Page 29
22 Dec 2020	Added the following to section: Post copies of each annual report on the Fort Belvoir webpage within 30 days of submittal to the VADEQ and retain copies of annual reports online for the duration of the MS4 permit	Page 30, BMP 2.1
22 Dec 2020	BMP 2.1 was updated to state that a reporting/complaint form was added to the website in Nov 2020	Page 30
22 Dec 2020	Table 6 was updated to include two additional Public Involvement Activities: <ol style="list-style-type: none"> 1) Promote the use of residential Stormwater BMP: Pet waste removal 2) Disposal or Collection Event: Household hazardous chemicals collection (HHW) 	Page 31

DATE	CHANGE	LOCATION
22 Dec 2020	Updated plan to include “quarterly” instead of “weekly” windshield inspections.	Page 35
22 Dec 2020	Section 8.4 MCM#4: Updated to include the correct website: https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division	Page 36
22 Dec 2020	Updated section 8.4 to describe the new review process for land disturbance activity.	Page 36
22 Dec 2020	Added the following non-compliance item: Failure to obtain a Land Disturbance Letter prior to start of construction projects involving land disturbance of 2,500 square feet or greater.	Page 40 Table 7
22 Dec 2020	Replaced “plan reviewer” with “program administrator/plan reviewer” describing who reviews project less than 2,500 square feet.	Page 41
22 Dec 2020	Updated review process for land disturbance activities.	Page 41
22 Dec 2020	A section was added to describe the O & M contractor responsibilities with respect to inspecting residential areas.	Page 42
22 Dec 2020	Golf Course: 1) 2020 Exposure Determination changed to “low potential to discharge” 2) 2020 Recommendation changed to state: expand ISW SWPPP for the Golf Course RO-009 to cover entire facility	Page 48, Table 8
22 Dec 2020	AAFES: 2020 Recommendation Added windshield inspections	Page 48, Table 8
22 Dec 2020	Caisson Stables: 2020 Exposure Determination changed to “low potential to discharge” and no changes to SWPPP	Page 48, Table 8
22 Dec 2020	Auto Skills: 2020 Exposure Determination changed to “low potential to discharge”	Page 48, Table 8
22 Dec 2020	Theote Yard: 2020 Exposure Determination changed to “low potential to discharge”	Page 48, Table 8
22 Dec 2020	Housing Annex: 2020 Exposure Determination changed to “low potential to discharge”	Page 48, Table 8
22 Dec 2020	Added HPF-009: Bowling Alley	Page 48, Table 8
22 Dec 2020	Added HPF-010: Hospital	Page 48, Table 8
22 Dec 2020	For Burger King and Community Center: 2020 Recommendation Added “provide placards for trash management and FOG”	Page 48, Table 8
22 Dec 2020	Nutrient Management Plan: Dates of Plans were updated	Page 50, Table 9
22 Dec 2020	This section was updated to include additional information regarding Public Comment period and Phase II Action Plan for the Chesapeake Bay TMDL for Nitrogen, Phosphorous and Sediment	Page 56, Section 9.1
22 Dec 2020	The section regarding Polychlorinated Biphenyls (PCB) TMDL (VPDES Permit #VAR040093, Part II.B) was updated.	Page 58, section 9.2
22 Dec 2020	BMP PCB for “Install Traffic Barrier” section was removed	Page 59
22 Dec 2020	Section 9.3 Bacteria TMDL was updated.	Page 60

a. Changes to MCM#1

BMP 1.1 Implement a Public Education and Outreach Plan

No changes have been made to this BMP’s methods or evaluation criteria. However an outreach event using traditional written materials was added to the proposed schedule shown in table 5 for March.

b. Changes to MCM#2:**BMP 2.1 Maintain a webpage dedicated to the MS4 Program and Stormwater Pollution Prevention**

The measurable goal was revised to remove statement that the MS4 Program Plan would be posted within 30 days of the annual report submittal to VADEQ. The goal now requires the Program Plan be reviewed, updated, and posted at a minimum of once per reporting period.

BMP 2.2 Public Involvement Activities

No changes have been made to this BMP's methods or evaluation criteria. However, Table 6 was updated to include two additional Public Involvement Opportunities that are available in order to meet the BMP goals.

- Promote the use of residential Stormwater BMP: Pet waste removal
- Disposal or Collection Event: Household hazardous chemicals collection (HHW)

c. Changes to MCM#3:**BMP 3.1 Develop and Maintain an Accurate MS4 Map and Information Table**

No changes have been made to this BMP's methods or evaluation criteria.

BMP 3.2 Prohibit Unauthorized Non-Stormwater Discharges into the MS4

No changes have been made to this BMP's methods or evaluation criteria.

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

No changes have been made to this BMP's evaluation criteria. However, windshield inspections procedures/goals were changed from weekly to quarterly.

d. Changes to MCM#4:

Due to a shortage in funding this MCM was updated to reflect that DPW Environmental no longer have certified government or contract staff that provide plan review for projects over 10,000 square feet where an ESC or SWM plan is required. Project proponents are now required to go directly to VADEQ for plan approval.

BMP 4.1 Communicate the Requirements of the MS4 Program

No changes have been made to this BMP's evaluation criteria. However, this BMP and associated Bulletins were updated to changes to the plan design, review, and approval procedures.

BMP 4.2 Erosion and Sediment Control (ESC) Site Inspections

No changes have been made to this BMP's methods or evaluation criteria.

BMP 4.3 Progressive Compliance and Enforcement Strategy

No changes have been made to this BMP's evaluation criteria. However, a non-compliance item (Failure to obtain a Land Disturbance Letter prior to start of construction projects involving land disturbance of 2,500 square feet or greater) was added to the enforcement strategy.

e. Changes to MCM#5:

Due to a shortage in funding this MCM was updated to reflect that DPW Environmental no longer have certified government or contract staff that provide plan review for projects over 10,000 square feet where an ESC or SWM plan is required. Project proponents are now required to go directly to VADEQ for plan approval.

Additionally, updates were made to reflect the use on an updated SMF Inspection and Maintenance plan by the Base-ops contractor. The new plan requires that the Operations and Maintenance Division contractor provide certified personnel and be tasked each year with re-inspecting a portion the privately owned Fort Belvoir Residential Communities (privately owned SMFs) to ensure regulatory compliance.

BMP 5.1 Maintain an Electronic Database or Spreadsheet

No changes have been made to this BMP's methods or evaluation criteria.

BMP 5.2 Conduct Annual Inspections and Maintenance of Storm Water Management Facilities

No changes have been made to this BMP's methods or evaluation criteria.

f. Changes to MCM#6:**BMP 6.1 Written Procedures for Operations and Maintenance Activities**

No changes have been made to this BMP's methods or evaluation criteria.

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

No changes have been made to this BMP' evaluation criteria. However the process and procedures for this BMP were updated based on the 2020 exposure evaluations and recommendations. Table 8, which summarizes High priority facilities, evaluation results, and SWPPP development status was updated to reflect two (2) new facilities where SWPPPs were required and developed for during the 2020-2021 permit cycle.

BMP 6.3 Implement Nutrient Management Plans

No changes have been made to this BMP's methods or evaluation criteria. However the summary of nutrient management plans shown in Table 9 was updated with the most recent plan effective dates.

BMP 6.4 Revise and Implement Written Training Plan

No changes have been made to this BMP's methods or evaluation criteria.

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Appendix A

Delegation of Signature Authority for MS4 Permit Activities
October 6, 2020



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

IMBV-PW

OCT 06 2020

MEMORANDUM FOR Mr. Bradford D. Britain, 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 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, Department of Environmental Quality (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.

"LEADERS IN EXCELLENCE"

IMBV-PW

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

5. Submittal of routine correspondence described in 3.a. - d. shall include certification of reports or other information required under 9VAC25-870-370 and 9VAC25-890-40.

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, 17 May 2013.

A handwritten signature in black ink, appearing to read 'J. P. Se Graves', with a long horizontal line extending to the right.

JOSHUA P. SEGRAVES
COL, IN
Commanding

Fort Belvoir 2020-2021 Annual Report

Appendix B

SUMMARY OF NEW MS4 OUTFALLS AND STORMWATER
MANAGEMENT FACILITIES

INSTALLED BETWEEN JULY 1, 2020 – JUNE 30 2021

PROJECT NAME:		INSCOM SAOF Phase II-III (VAR10H964)						PERMIT CYCLE:		JULY 1, 2020 - JUNE 30, 2021			
DISTURBED AREA (DA) WITHIN WATERSHED(S):													
Watershed 1	Accotink Creek	DISTURBED AREA =	7.61 acres										
Watershed 2	N/A	DISTURBED AREA =	0 acres										
		TOTAL DISTURBED AREA =	7.61 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 Structure ID	Most Recent Inspection Date	
1	Rainwater Harvesting System	Water Quantity	1.12	0	1.12	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°43'07.60"N 77°09'27.40"W	10/13/2020	8000	10/13/2020	
RDMH1-1	Contech Hydrodynamic Separator (CDS2020-5 C Unit)	Water Quality	1.12	0	1.12	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°43'07.74"N 77°09'27.56"W	10/13/2020	8001	10/13/2020	

PROJECT NAME:		AAFES North Post Express Diesel Addition (No CGP)						PERMIT CYCLE:		JULY 1, 2020 - JUNE 30, 2021			
DISTURBED AREA (DA) WITHIN WATERSHED(S):													
Watershed 1	Accotink Creek	DISTURBED AREA =	0.94 acres										
Watershed 2	N/A	DISTURBED AREA =	0 acres										
		TOTAL DISTURBED AREA =	0.94 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 Structure ID	Most Recent Inspection Date	
Bioretention	Bioretention Level 1	Water Quality & Quantity	0.4	0.13	0.27	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°43'16.48"N 77°09'10.22"W	10/27/2020	8002	10/27/2020	

PROJECT NAME:		Pet Grooming & Lodging Facility (VAR10J218)						PERMIT CYCLE:		JULY 1, 2020 - JUNE 30, 2021			
DISTURBED AREA (DA) WITHIN WATERSHED(S):													
Watershed 1	Accotink Creek	DISTURBED AREA =	1.55 acres										
Watershed 2	N/A	DISTURBED AREA =	0 acres										
		TOTAL DISTURBED AREA =	1.55 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 Structure ID	Most Recent Inspection Date	
North Basin	Bioretention Level 2	Water Quality & Quantity	0.345	0.125	0.22	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°41'14.20"N 77°08'31.70"W	5/20/2021	8009	5/20/2021	
South Basin	Bioretention Level 2	Water Quality & Quantity	0.433	0.144	0.289	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°41'12.70"N 77°08'33.20"W	5/20/2021	8010	5/20/2021	

PROJECT NAME:		Military Construction Army (MCA) Rough Grading/Infrastructure for NMUSA & Founder's Hall (VAR101753)							PERMIT CYCLE:				JULY 1, 2020 - JUNE 30, 2021	
DISTURBED AREA (DA) WITHIN WATERSHED(S):		Watershed 1		Accotink Creek		DISTURBED AREA =		83.71 acres						
		Watershed 2				DISTURBED AREA =		acres						
				TOTAL DISTURBED AREA =		83.71 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 Structure ID	Most Recent Inspection Date		
W1	Infiltration Gallery Level 1	Water Quality & Quantity	1.42	0.23	1.19	Accotink Creek	Kernan Run	PL30	38°43'19.88"N 77°10'20.19"W	12/1/2020	9023	12/1/2020		
W2	Infiltration Gallery Level 1	Water Quality & Quantity	2.26	0.99	1.27	Accotink Creek	Kernan Run	PL30	38°43'19.11"N 77°10'20.42"W	12/1/2020	9025	12/1/2020		
W3	Infiltration Gallery Level 1	Water Quality & Quantity	1.94	0.81	1.13	Accotink Creek	Kernan Run	PL30	38°43'24.72"N 77°10'15.06"W	12/1/2020	9024	12/1/2020		
W4	Infiltration Gallery Level 1	Water Quality & Quantity	3.27	1.24	2.03	Accotink Creek	Kernan Run	PL30	38°43'27.14"N 77°10'15.21"W	12/1/2020	9028	12/1/2020		
W5	Infiltration Gallery Level 1	Water Quality & Quantity	2.89	1.1	1.79	Accotink Creek	Kernan Run	PL30	38°43'29.89"N 77°10'14.10"W	12/1/2020	9027	12/1/2020		
W6	Infiltration Gallery Level 1	Water Quality & Quantity	0.9	0.19	0.71	Accotink Creek	Kernan Run	PL30	38°43'35.19"N 77°10'14.56"W	12/1/2020	9019	12/1/2020		
W7	Infiltration Gallery Level 1	Water Quality & Quantity	2.75	0.86	1.89	Accotink Creek	Kernan Run	PL30	38°43'32.20"N 77°10'11.55"W	12/1/2020	9026	12/1/2020		
W8	Infiltration Gallery Level 1	Water Quality & Quantity	1.37	0.94	0.43	Accotink Creek	Kernan Run	PL30	38°43'34.88"N 77°10'09.18"W	12/1/2020	9021	12/1/2020		
E1	Infiltration Gallery Level 1	Water Quality & Quantity	5.27	1.88	3.39	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°43'19.88"N 77°10'09.36"W	12/1/2020	9029	12/1/2020		
E2	Permeable Pavers Level 1 (Overflow Parking Lot)	Water Quality & Quantity	0.65	0	0.65	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°43'36.55"N 77°10'10.71"W	12/1/2020	9018	12/1/2020		
E3	Soil Compost Amendment HSG C & D Soils	Water Quantity	2.93	2.93	0	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°43'27.37"N 77°10'10.86"W	12/1/2020	9020	12/1/2020		

PROJECT NAME:		Military Construction Army (MCA) Rough Grading/Infrastructure for NMUSA & Founder's Hall (VAR10I753)				JULY 1, 2020 - JUNE 30, 2021	
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
E1-1	3.61	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°43'17.67"N 77°10'08.67"W	From Infiltration Gallery E1	8003
E2-1	1.76	Accotink Creek	Unnamed Tributary to Accotink Creek	PL30	38°43'27.42"N 77°10'07.62"W	From Parade Field	8004
W1-1	5.31	Accotink Creek	Kernan Run	PL30	38°43'17.50"N 77°10'24.92"W	To the left of the entrance to NMUSA	8005
W5-1	1.94	Accotink Creek	Kernan Run	PL30	38°43'32.76"N 77°10'16.70"W	From Infiltration Gallery W5	8006
W6-1	0.7	Accotink Creek	Kernan Run	PL30	38°43'34.25"N 77°10'16.65"W	From Infiltration Gallery W6	8007
W7-1	3.14	Accotink Creek	Kernan Run	PL30	38°43'36.53"N 77°10'13.68"W	From Infiltration Gallery W7	8008

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Appendix C

SOCIAL MEDIA INTERACTION REPORT

ENVIRONMENTAL POSTS BETWEEN JULY 1, 2020 – JUNE 30 2021

MS4 General Permit
No. VAR040093

UNCLASSIFIED/FOUO

2020-2021
Social Media Interaction Report

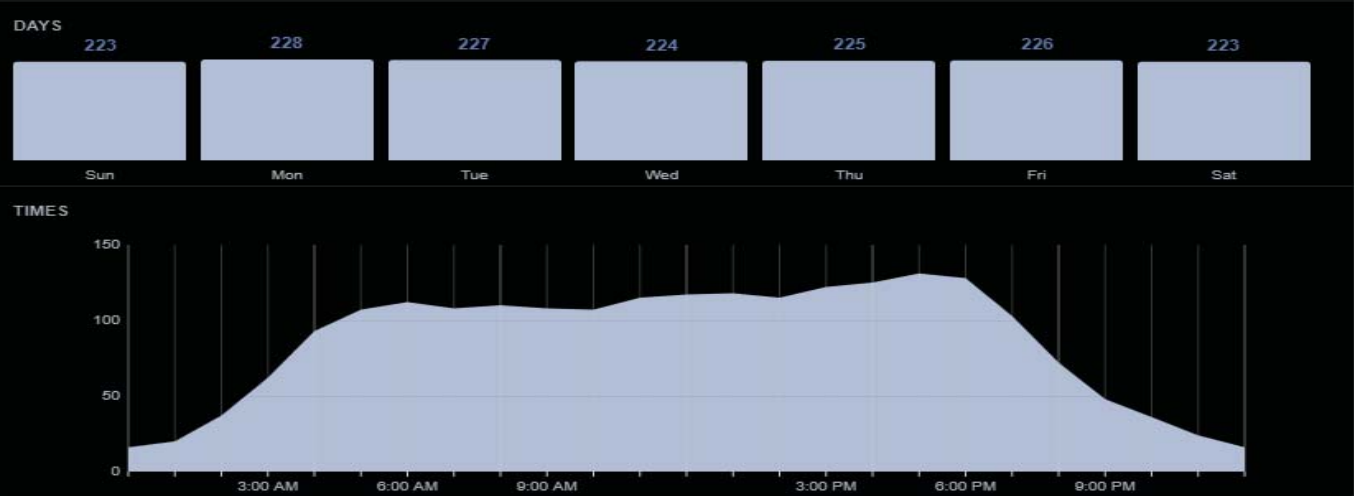
Purpose:

The purpose of this document is to summarize and outline the published posts for the Fort Belvoir Environmental Division Facebook page during July 1st 2020 – June 30th 2021. Posts are done on a weekly basis to execute education and outreach goals as described in the Natural Resources Program Education and Outreach Plan. The summary table herein reports the number of posts, type of post (link, photo, status, video), reach (how many people viewed the post); and engagement (defined as post clicks, reactions, and shares).

By: SES Construction and Fuel Services LLC
For: U.S. Army Garrison Fort Belvoir
FINAL: 09/13/2021














UNCLASSIFIED/FOUO
























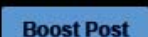



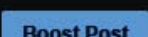



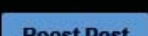



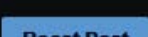



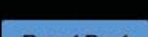



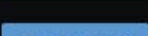



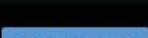







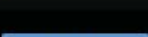




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Appendix C
Page: C-1



























































































































All Posts Published Create Post















































Reach: Organic / Paid | Post Clicks | Reactions, Comments & Shares














































Published	Post	Type	Targeting	Reach	Engagement	Promote
06/30/2021 11:30 AM	 Species of the week: Scarlet Tanager (Piranga olivacea) Scarlet tanagers	Link	Global	36	0 4	Boost Post
06/28/2021 11:30 AM	 It's that time of year again! If you plan to spend time in the great outdoors,	Image	Global	101	3 5	Boost Post
06/23/2021 11:30 AM	 Species of the Week: Eastern Hognose Snake (Heterodon	Link	Global	38	0 1	Boost Post
06/22/2021 11:30 AM	 iNaturalist Helps Wildlife Over the last year we have all spent a lot of time at	Image	Global	52	1 2	Boost Post
06/18/2021 11:30 AM	 It's National Go Fishing Day! Did you know that Belvoir has some great	Link	Global	39	0 1	Boost Post
06/16/2021 11:30 AM	 Species of the Week: Green Heron (Butorides virescens) Green herons	Link	Global	44	1 1	Boost Post
06/16/2021 10:07 AM	 After reports of dead and dying birds in the DMV region, Virginia DWR is	Image	Global	164	21 6	Boost Post
06/10/2021 1:30 PM	 It sure does feel like summer out there! We have the summer	Image	Global	53	1 2	Boost Post
06/10/2021 8:37 AM	 Species of the Week: Eastern Red Bat (Lasiurus borealis) Found in	Link	Global	33	0 1	Boost Post
06/08/2021 11:30 AM	 Today is World Oceans Day! Our oceans are such a vital aspect of our	Link	Global	42	2 3	Boost Post
06/07/2021 11:30 AM	 Prevent sewer overflows and stormwater pollution by NOT flushing	Image	Global	33	1 1	Boost Post
06/04/2021 11:30 AM	 Did you know that pet waste is a stormwater pollutant? Here some	Image	Global	45	2 2	Boost Post
06/03/2021 11:30 AM	 Did you know that if disposed of incorrectly fats, oils, and grease pose	Image	Global	46	0 2	Boost Post

06/02/2021 11:30 AM		Species of the Week: Coastal Plains Leopard Frog (<i>Lithobates</i>)			36	0	1	
06/02/2021 11:30 AM		This summer, make sure to enjoy the outdoor opportunities Fort Belvoir has			60	0	3	
06/01/2021 11:30 AM		The Stormwater Program would like to thank all of the Volunteers that			89	7	11	
05/28/2021 10:00 AM		If you find a FAWN, LEAVE it ALONE! The Fort Belvoir Environmental			72	0	2	
05/26/2021 11:30 AM		Species of the Week: Mourning Dove (<i>Zenaida macroura</i>) Mourning doves			50	0	0	
05/25/2021 11:30 AM		Thinking about getting some new plants in your garden? Why not make			53	2	1	
05/24/2021 11:30 AM		Last week, we discussed the Moderne architectural styles that are			83	5	1	
05/21/2021 11:30 AM		It's National Endangered Species Day! Protecting our endangered			49	0	1	
05/19/2021 11:30 AM		Species of the Week: American Eel (<i>Anguilla rostrata</i>) Despite being hard			40	0	1	
05/18/2021 11:30 AM		DC's annual Bike to Work Day is this Friday! Here's where you can get			37	0	0	
05/18/2021 10:29 AM		We made the Eagle! Check out this week's updates for our Cicada article!			38	1	0	
05/17/2021 1:00 PM		Last week, we introduced the Fort Belvoir Historic District as a part of			49	1	0	
05/17/2021 11:30 AM		It's National Bike to Work Week! Biking to work is a great way to get			31	1	0	
05/14/2021 11:30 AM		Looking for a new way to engage with the outdoors? If you like to take			44	1	1	
05/12/2021 11:47 AM		Species of the Week: Cicadas (Family: Cicadoidea) The cicadas are			55	0	1	














































05/10/2021 11:30 AM		Happy Historic Preservation Month! In honor of Historic Preservation			74		0 4		Boost Post
05/08/2021 11:30 AM		It's World Migratory Bird Day! Looking for ways to celebrate? Go birding to			48		0 0		Boost Post
05/07/2021 2:40 PM		Cicada larvae spotted! They're near the surface and will be emerging			172		1 8		Boost Post
05/07/2021 11:30 AM		Cicada's will be emerging soon, but don't panic! Relax with this			268		10 9		Boost Post
05/05/2021 11:30 AM		Species of the Week: Zebra Swallowtail (Protographium)			36		0 0		Boost Post
05/04/2021 11:30 AM		Looking for a fun way to support wildflowers in your area? Make some			39		0 0		Boost Post
05/03/2021 11:30 AM		It's National Wildflower Week! Wildflowers are beautiful additions to			39		0 0		Boost Post
05/03/2021 10:57 AM		Species of the Week: Zebra Swallowtail (Protographium)			38		1 0		Boost Post
05/02/2021 11:00 AM					4.8K		180 45		Boost Post
05/01/2021 11:30 AM		Phew! That's a wrap! We hope you enjoyed our month long Earth Day.			38		0 0		Boost Post
04/30/2021 11:30 AM		Looking for ways to enjoy the environment around you? Fort Belvoir			36		3 0		Boost Post
04/28/2021 11:30 AM		Species of the Week: Eastern Tiger Swallowtail (papilio glaucus) Eastern			34		1 1		Boost Post
04/27/2021 11:30 AM		Science is the only way we can help correct the environmental issues we			42		1 2		Boost Post
04/26/2021 11:30 AM		Celebrating Earth Day is great, but it isn't enough to celebrate just one day			36		0 1		Boost Post
04/23/2021 1:00 PM		LINKS: Policy Memo #71: https://home.army.mil/belvoir/index.ph			39		1 1		Boost Post














































04/23/2021 11:30 AM		Illicit discharges are terrible for the environment. This video shows you			33		0 0		Boost Post
04/22/2021 1:00 PM		BOOKS: Water, Exploring the Blue Planet.			34		0 1		Boost Post
04/22/2021 11:30 AM		You may not realize it, but Fort Belvoir has stormwater management			64		10 4		Boost Post
04/22/2021 9:00 AM		It's Earth Day! We know you've heard a lot about Earth Day at this point.			2.2K		14 11		Boost Post
04/21/2021 1:00 PM		LINKS: Fort Belvoir Master SWPPP: https://home.army.mil/belvoir/index.ph			37		0 0		Boost Post
04/21/2021 11:30 AM		Do you know about the Chesapeake Bay Program? This inter-state			24		0 1		Boost Post
04/21/2021 9:00 AM		Species of the Week: Striped Bass (<i>Morone saxatilis</i>) Also known as			26		0 2		Boost Post
04/20/2021 1:00 PM		BOOKS: One Well: http://mwrlibrary.armybiznet.com/sear			30		0 0		
04/20/2021 11:30 AM		Do you know what stormwater is? Let Freddy the Fish explain!			25		0 0		
04/19/2021 1:00 PM		LINKS Trail Guide: https://home.army.mil/belvoir/index.ph			28		1 0		
04/19/2021 11:30 AM		Water is everywhere! Watch this video to learn more about where our			28		0 0		
04/16/2021 11:30 AM					41		0 1		
04/15/2021 11:30 AM					35		0 0		
04/14/2021 1:00 PM		Species of the Week: Eastern Oyster (<i>Crassostrea virginica</i>) Oysters filter			34		0 2		
04/14/2021 11:30 AM					45		0 1		












































































04/13/2021 11:30 AM	 Do you have household hazardous waste you need to dispose of? Fort			34		1 0	
04/12/2021 11:30 AM	 Home hazardous waste needs to be disposed of properly to prevent			51		11 5	
04/09/2021 11:30 AM	 Have you ever heard of a bioblitz? Bioblitzs are fun ways for individuals			33		0 2	
04/08/2021 12:26 PM	 NOTICE: As required by the Garrison's Municipal Separate Storm			34		2 0	
04/08/2021 11:30 AM	 Healthy ecosystems with functioning food webs do so much for us! But			34		1 0	
04/07/2021 1:00 PM	 Species of the Week: House Mouse (Mus musculus) Although the house			34		0 2	
04/06/2021 11:30 AM	 Yesterday we learned about habitats and food webs. But what happens			40		1 3	
04/05/2021 11:30 AM	 Our world is filled with so much biodiversity! With so many different			2.2K		16 11	
04/02/2021 11:30 AM	 We're celebrating Earth Day all month! Since it's not safe to host our			42		0 3	
04/01/2021 11:02 AM	 Looking for information on changes to recycling on post? Read this week's			46		1 3	
03/31/2021 11:30 AM	 Species of the Week: Eastern Cottontail (Sylvilagus floridanus)			46		0 3	
03/30/2021 12:49 PM	 Looking for somewhere to go for National Take a Walk in the Park			41		2 2	
03/27/2021 11:30 AM	 Today we celebrate Earth Hour! Started in 2007, Earth Hour			46		0 2	
03/26/2021 11:30 AM	 The Spring Stormwater Newsletter has arrived! Check out this issue for			53		1 2	
03/25/2021 9:08 AM	 We made the Eagle! Check out this week's edition to learn about our			72		0 1	












































































03/24/2021 11:30 AM		Species of the Week: Woodland Vole (Microtus pinetorum) These small			86		0		1	
03/23/2021 11:30 AM					108		2		3	
03/22/2021 11:30 AM		Today is World Water Day! Only 1% of the water on earth is fresh and			85		0		2	
03/19/2021 11:30 AM		Tomorrow is the first day of spring! Check out our Spring Newsletter to			96		2		4	
03/17/2021 11:30 AM		Species of the Week: Lesser Scaup (Aythya affinis) Lesser scaups are			76		1		4	
03/15/2021 9:42 AM		Important tips to remember if you want to help wildlife this spring!			89		10		4	
03/12/2021 11:30 AM		Have you started feeding birds lately? Or maybe you've always been a bird			73		4		3	
03/10/2021 11:30 AM		Species of the Week: Eastern Gray Squirrel (Sciurus carolinensis) You've			59		0		2	
03/08/2021 11:30 AM		Did you know? A single gram of pet waste contains an average of 23			56		1		2	
03/05/2021 2:00 PM		Today is the National Day of Unplugging! Pandemic life has us all			47		0		1	
03/03/2021 11:30 AM		Species of the Week: Northern snakehead (Channa argus) The			49		2		1	
03/01/2021 11:30 AM		It's Invasive Species Awareness Week. Do you know why invasive			48		0		2	
02/26/2021 11:30 AM		Colonial Revival: Pediments and Porticos Our final characteristic of the			47		1		1	
02/24/2021 11:30 AM		Species of the Week: Carolina chickadee (Poecile carolinensis)			44		0		2	
02/22/2021 11:30 AM		When an aquatic environment becomes enriched with nutrients, it			49		3		1	












































02/19/2021 11:30 AM		Colonial Revival: Windows Another major defining characteristic of the			55		1 3		
02/17/2021 1:02 PM		Species of the Week: Gray Fox (Urocyon cinereoargenteus) Gray			38		1 2		
02/12/2021 11:30 AM		This weekend is the Great Backyard Bird Count! Check out this site to			36		1 2		
02/12/2021 9:58 AM		We made the Eagle! Check out this week's edition to learn more about			43		2 0		
02/11/2021 11:30 AM		Colonial Revival: Roofs This week, we will be discussing common roof			48		1 1		
02/10/2021 11:30 AM		Species of the Week: Cedar Waxwing (Bombycilla cedrorum) Cedar			44		2 5		
02/08/2021 11:30 AM		Concrete is a widely used construction material that is cost			61		0 3		
02/05/2021 11:30 AM		Colonial Revival: Brick Patterns Bricks can be laid in a variety of			64		1 6		
02/04/2021 12:37 PM		Architectural Styles at Fort Belvoir: Colonial Revival Through the study of			214		13 14		
02/03/2021 11:30 AM		Species of the Week: Groundhog (Marmota monax) Yesterday was			37		3 2		
02/02/2021 11:30 AM		It's World Wetlands Day! Do you know how important wetlands are to			44		0 0		
01/29/2021 11:30 AM		Did you know that there is an easy and new way to report Stormwater			60		7 5		
01/27/2021 11:30 AM		Species of the Week: Fox Sparrow (Passerella iliaca) Fox sparrows			32		0 0		
01/25/2021 11:30 AM		Just because it's winter doesn't mean you shouldn't keep trying to get			154		8 25		
01/25/2021 10:42 AM		Mild winter, fewer birds during Christmas Bird Count			26		1 5		














































01/21/2021 11:30 AM		Did you know that someone started a squirrel appreciation day? Although			40	0 2	
01/20/2021 11:30 AM		Species of the Week: River Otter (<i>Lontra canadensis</i>) Did you know			52	1 6	
01/18/2021 11:28 AM		Stormwater's winter newsletter has arrived! Read this issue for important			42	1 0	
01/14/2021 10:18 AM		We made the Eagle! Check out this week's edition to learn more about			45	4 1	
01/13/2021 11:30 AM		Species of the Week: Spotted Turtle (<i>Clemmys guttata</i>) Spotted turtles are			38	0 4	
01/11/2021 11:30 AM		Are you looking for ways to save on energy costs this year? Check out			38	2 0	
01/08/2021 11:30 AM		NOTICE: As required by the Garrison's Municipal Separate Storm			41	6 2	
01/06/2021 11:30 AM		Species of the Week: Red-shouldered Hawk (<i>Buteo lineatus</i>)			39	2 0	
01/04/2021 11:30 AM		Can you tell what's wrong with this picture? This is an easy			56	5 2	
12/30/2020 11:30 AM		Species of the Week: Barred Owl (<i>Strix varia</i>) Barred owls are year			38	0 4	
12/29/2020 11:30 AM		Many people put up Christmas trees to celebrate the holiday season. If			54	0 0	
12/28/2020 11:30 AM		NOTICE: Beginning January 1, 2021, yard waste will no longer be collected			61	3 1	
12/23/2020 11:30 AM		Species of the Week: Tundra Swan (<i>Cygnus columbianus</i>) Flocks of			40	0 2	
12/21/2020 11:30 AM		Fort Belvoir Environmental Division would like to wish everyone a happy			53	2 6	
12/18/2020 11:30 AM		Become an Aquatic Crusader and join Darby Duck in the fight against			45	0 1	

12/17/2020 5:23 PM		COVID-19 UPDATE: Fort Belvoir Garrison COVID-19 Update, Dec. 17,			18		3		0
12/16/2020 11:30 AM		Species of the Week: Wood Frog (Lithobates sylvaticus) Wood frogs			40		0		2
12/15/2020 2:00 PM		Our winter newsletter has arrived!			38		0		9
12/14/2020 11:30 AM		Deicing season is upon us! Make sure to follow these guidelines to			38		1		0
12/10/2020 12:09 PM		We made the Eagle! Check out this week's edition to learn how common			39		1		2
12/09/2020 11:30 AM		Species of the Week: Northern Cardinal (Cardinalis cardinalis) Male			28		0		3
12/08/2020 11:30 AM		<u>It may look like things are settling down in the animal world right now.</u>			34		1		2
12/06/2020 11:00 AM		Are you working on cleaning up the leaves in your yard? If so, make sure			38		0		2
12/05/2020 11:34 AM		December 5: World Soil Day Have you thought about soil recently? Most			40		0		0
12/05/2020 11:00 AM		Have you thought about soil recently? Most of us haven't. But healthy soil is			33		0		0
12/05/2020 11:00 AM		Have you thought about soil recently? Most of us haven't. But healthy soil is			30		0		0
12/05/2020 11:00 AM		Have you thought about soil recently? Most of us haven't. But healthy soil is			37		0		2
12/04/2020 11:00 AM		World Wildlife Conservation Day brings awareness to the importance			243		2		7
12/02/2020 11:40 PM		Species of the Week: Muskrat (Ondatra zibethicus) Muskrats are a			101		4		8
12/02/2020 11:00 AM		Species of the Week: Muskrat (Ondatra zibethicus) Muskrats are a			38		1		2

11/25/2020 11:30 AM		Species of the Week: Wild Turkey (Meleagris gallopavo) Wild turkeys			102		6 13		
11/23/2020 11:41 AM		November 23: FOGs Most people are getting ready to do some serious			85		0 5		
11/20/2020 11:40 AM		Col. James W. Bagley (1881-1947), the namesake for Bagley Hall			51		2 4		
11/18/2020 11:46 AM		November 18: SOW Spotted Salamander Species of the Week:			41		0 2		
11/17/2020 11:38 AM		November 17: National Take a Hike Day It's National Take a Hike Day!			223		1 4		
11/15/2020 11:38 AM		November 15: America Recycles Day Today is America Recycles Day!			37		0 2		
11/13/2020 11:43 AM		Originally the Post hospital, Flagler Hall, fronts the south end of the			1K		34 20		
11/13/2020 9:26 AM		We made the Eagle! Check out this week's edition to learn about			34		1 1		
11/11/2020 11:49 AM		Happy Veteran's Day! Thank you for your service!!! Species of the Week:			42		2 7		
11/09/2020 11:43 AM		In commemoration of our service members, the Fort Belvoir			76		7 9		
11/06/2020 11:49 AM		Wallace Theater (Building 240), which is located at the intersection of			62		4 4		
11/04/2020 11:45 AM		Species of the Week: Virginia Opossum (Didelphis virginiana) The			40		0 1		
11/02/2020 11:32 AM		If you have ever been to the Officer's Club on Post, then you had to drive			224		19 22		
10/30/2020 2:35 PM		Here is a quick activity to learn more about Stormwater pollution.			39		1 0		
10/28/2020 8:48 AM		Species of the Week: Tricolored Bat (Perimyotis subflavus) Tricolored			44		0 0		

10/26/2020 9:43 AM		October is Bat Appreciation Month! Have you heard of the bat myths			341		13 19		
10/09/2020 11:30 AM		That's a wrap! We hope you enjoyed our National Public Lands Day video			54		4 5		
10/08/2020 11:30 AM		Looking for an easier way to understand the erosion process? Try			29		0 0		
10/07/2020 11:30 AM		Species of the Week: Wood Thrush (Hylocichla mustelina) Wood thrushes			37		1 1		
10/06/2020 11:30 AM		Check out this video to learn more about how trail overuse and misuse			27		0 0		
10/05/2020 11:30 AM		NPLD Week 4: Erosion & Cultural Resources Preservation			113		1 2		
10/02/2020 11:30 AM		Happy October! It's National Fall Foliage Week. The leaves are			38		0 1		
10/01/2020 12:03 PM		We made the Eagle! Check out this week's edition to learn about the			26		1 0		
09/30/2020 11:30 AM		Species of the Week: Fowler's Toad (Anaxyrus fowleri) Fowler's toads can			34		2 0		
09/29/2020 11:00 AM		This week's activity is about stratigraphy. Use this worksheet to			46		2 2		
09/28/2020 11:00 AM		NPLD Week 3: A Complete Fort Belvoir History			114		7 6		
09/26/2020 2:00 PM		It's also National Hunting and Fishing Day! If you want to hunt or fish on			39		4 0		
09/26/2020 10:00 AM		It's National Public Lands Day! Get out and enjoy some public lands near			27		0 0		
09/24/2020 11:31 AM		Here is this week's NPLD activity! Match the artifact fragments with the			54		1 1		
09/23/2020 11:00 AM		Species of the Week: Largemouth Bass (Micropterus salmoides)			30		0 0		

09/22/2020 11:30 AM		It's the first day of fall! Check out the Stormwater Program's fall newsletter			36		2 0		
09/21/2020 11:00 AM		Virtual NPLD Week 2: Belvoir Manor and Fairfax Family History			41		10 5		
09/18/2020 11:00 AM		Use these worksheets to help children understand the importance			34		0 0		
09/16/2020 11:00 AM		Species of the Week: Monarch Butterfly (Danaus plexippus) Monarch			35		0 0		
09/15/2020 11:00 AM		Watch this video to learn more about the pollination process and how			28		0 0		
09/14/2020 2:29 PM		Virtual NPLD: Pollinators & Pollinator Gardens			216		9 3		
09/12/2020 11:00 AM		Watch this video the learn more about what you can expect for our			275		23 16		
09/10/2020 11:19 AM		We made the Eagle! Check out this week's edition to learn more about			19		1 0		
09/09/2020 11:00 AM		Species of the Week: Raccoon (Procyon lotor) Raccoons are found			33		0 0		
09/07/2020 11:00 PM		Fall is right around the corner! Check out our Fall newsletter to learn about			46		7 0		
09/04/2020 11:00 AM		It's National Wildlife Day! While most people want to help conserve the			42		0 0		
09/04/2020 9:40 AM		The Summer Stormwater Newsletter has arrived!			34		1 0		
09/02/2020 11:00 AM		Species of the Week: Turkey Vulture (Cathartes aura) Turkey vultures are			37		1 0		
08/31/2020 11:00 AM		Get ready for our first virtual event! Join us here on Facebook to learn			91		7 4		
08/28/2020 11:30 AM		International Bat Nights are this weekend! Bats are important			33		0 0		

08/26/2020 11:30 AM	 Species of the Week: Red Bat (Lasiurus borealis) Red bats are			27		1 0		
08/24/2020 11:00 AM	 August is National Wellness Month! Spending time and/or exercising			32		1 1		
08/19/2020 11:30 AM	 Species of the Week: Channel Catfish (Ictalurus punctatus) Channel			32		0 0		
08/17/2020 11:30 AM	 August is Water Quality Month and a great time to make sure the whole			59		10 8		
08/15/2020 11:30 AM	 It's World Honey Bee Day! Honey bees are one of many important			111		6 6		
08/13/2020 11:37 AM	 We made the Eagle! Check out this week's edition to learn about how you			36		6 1		
08/12/2020 11:30 AM	 Species of the Week: Chimney Swift (Chaetura pelagica) Chimney swifts			41		0 1		
08/08/2020 11:30 AM	 Looking for something fun to do while quarantine life continues? Tonight is			58		4 1		
08/05/2020 1:59 PM	 I case you missed it, here's the information on our recent work with			35		3 25		
08/05/2020 11:30 AM	 Species of the Week: Oysters Today is National Oyster Day so we thought			33		1 0		
07/31/2020 11:30 AM	 Our Summer Newsletter is late, but it's here! We still can't host our			62		6 0		
07/30/2020 9:25 AM	 We made the Eagle! Check out this week's edition to learn about the			68		7 4		
07/29/2020 11:30 AM	 Species of the Week: Big Brown Bat (Eptesicus fuscus) Big brown bats			37		0 0		
07/27/2020 11:30 AM	 Last week was National Moth Week! Moths are closely related to			40		1 0		
07/23/2020 1:23 PM	 Have you heard? Fort Belvoir has an endemic species – that means Fort			59		7 2		

Date	Thumbnail	Text	Link Icon	Share Icon	Location Icon	Views	Reactions	Comments
07/22/2020 11:30 AM		Species of the Week: Ruby-throated Hummingbird (Archilochus colubris)				51	1 2	1 2
07/21/2020 2:08 PM		Have you been wondering where stormwater runoff comes from and				40	2 1	2 1
07/16/2020 12:36 PM		We made the Eagle! Check out this week's edition to learn about how to				38	3 2	3 2
07/16/2020 11:30 AM		It's World Snake Day! Want to learn about the snakes of Virginia? Check				33	1 0	1 0
07/15/2020 12:50 PM		Fort Belvoir Environmental Division updated their website address.				43	2 0	2 0
07/15/2020 11:30 AM		Species of the Week: Northern Watersnake (Nerodia sipedon)				49	0 0	0 0
07/14/2020 11:53 AM		Fort Belvoir Environmental wants to remind everyone what is allowed in				32	2 1	2 1
07/10/2020 11:30 AM		The Eagle shared information about how our work supports military				49	6 2	6 2
07/09/2020 8:22 AM		The Eagle shared information about how our work supports military				44	1 2	1 2
07/08/2020 11:30 AM		Species of the Week: Eastern Musk Turtle (Sternotherus odoratus)				41	0 1	0 1
07/07/2020 7:31 PM		The Army Emergency Relief Campaign here at Fort Belvoir began				42	2 0	2 0
07/04/2020 10:00 AM		Hello All! Fort Belvoir's Cultural Resources team wanted to post				126	11 9	11 9
07/02/2020 8:22 AM		The Eagle published a great piece on our trails! Check out this week's				31	5 1	5 1
07/01/2020 11:30 AM		Species of the Week: Upland Chorus Frog (Pseudacris teniarum) The				39	0 1	0 1

Fort Belvoir 2020-2021 Annual Report

Appendix D

OUTFALL RECONNAISSANCE INVENTORY (ORI) SUMMARY REPORT

INSPECTIONS JULY 1, 2020 – JUNE 30 2021

Screening Event Information													Land Use Information		Outfall Description and Condition									
Outfall Characterization	Outfall ID	Inspection Date	Time Military	Investigators	Outside Temperature	Last Rainfall Date	Last Rainfall Time	Hours After Rain	Last Rainfall Amount	Subwatershed	Latitude	Longitude	Land Use	Location	Origin of Outfall	Outfall Type	Pipe Shape	Amount of Pipes	Pipe Material	Pipe Dimensions	Channel Material	Channel Shape	Channel Depth	
Obvious	1715	10-May-21	10:44	Y.Chiro	62	07-May-21	20:59	61.75	0.21	14	38.67396737	-77.13717439	Roads	300 Area		Closed Pipe	Circular	Single	Steel					
Suspect	923	19-Apr-21	14:20	Y.Chiro/L.Peters	58	14-Apr-21	11:29	122.85	0.44	21	38.69308339	-77.12523781	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	18"	-	-	-	
Suspect	984	7-Jun-21	9:09	Y. Chiro	79	04-Jun-21	14:19	66.83	0.67	22	38.69191787	-77.13081942	Administrative	Headquarters		Closed Pipe	Circular	Single	RCP	-	-	-	-	
Suspect	7274	19-Apr-21	10:24	Y.Chiro/L.Peters	65	14-Apr-21	11:29	#VALUE!	0.44	32	38.698081	-77.13483	Residential	Hurley Road		Closed Pipe	Circular	Double	RCP	36" (main outfall) Smaller pipe 8"	-	-	-	
Potential	67	21-Apr-21	8:57	Y. Chiro	61.4	14-Apr-21	11:29	165.47	0.44	27	38.70716667	-77.13275	Suburban Residential	George Washington Village	Drainage for landscaped areas in George Washington Village as well as portions of Inventor Rd. and Mount Vernon Rd.	Closed Pipe	Circular	Single	RCP	36"	-	-	-	
Potential	150	2-Jun-21	13:45	Y.Chiro	80.9	30-May-21	15:39	70.10	0.24	26	38.706642	-77.135587	Residential	GW Village		Closed Pipe	Circular	Single	RCP	20"	-	-	-	
Potential	984	28-Oct-20	12:15	A. Gartrell	66	25-Oct-20	21:39	62.60	0.85	22	38.69582755	-77.12801859	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	30"	-	-	-	
Potential	896	28-Oct-20	12:49	A. Gartrell	66	25-Oct-20	21:39	63.17	0.85	22	38.6957537	-77.12691461	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	18"	-	-	-	
Unlikely	86	21-Apr-21	9:15	Y.Chiro	61	14-Apr-21	11:29	165.77	0.44	25	38.70720938	-77.13261544	Residential	GW Village		Closed Pipe	Circular	Triple	RCP	2 Big Pipes 40" Smaller pipe: 20"	-	-	-	
Unlikely	288	21-Apr-21	9:44	Y. Chiro	62	14-Apr-21	11:29	166.25	0.44	24	38.70491789	-77.13241632	Suburban Residential	George Washington Village	Drainage for landscaped areas in George Washington Village as well as a portion of Soldier Rd.	Closed Pipe	Circular	Single	RCP	30"	-	-	-	
Unlikely	601	7-Jun-21	8:14	Y. Chiro	76.7	04-Jun-21	14:19	65.92	0.67	22	38.69736831	-77.12961685	Roads	Dogue Creek Village	Roads at Dogue Creek Village.	Closed Pipe	Elliptical	Single	CMP	24.5" x 22"	-	-	-	
Unlikely	605	7-Jun-21	7:50	Y. Chiro	76.7	04-Jun-21	14:19	65.52	0.67	22	38.69732809	-77.12980567	Roads	Dogue Creek Village	Roads at Dogue Creek Village.	Closed Pipe	Elliptical	Single	CMP	26.5" x 22"	-	-	-	
Unlikely	795	28-Oct-20	10:46	A. Gartrell	66	25-Oct-20	21:39	61.12	0.85	22	38.69551071	-77.13346213	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	PVC	14"	-	-	-	
Unlikely	815	7-Jun-21	8:32	Y. Chiro	78.1	04-Jun-21	14:19	66.22	0.67	22	38.69640127	-77.1305735	Administrative	Headquarters		Closed Pipe	Circular	Single	RCP	24"	-	-	-	
Unlikely	820	7-Jun-21	8:48	Y. Chiro	79	04-Jun-21	14:19	66.48	0.67	22	38.69673573	-77.1309504	Administrative			Closed Pipe	Circular	Single	RCP	14"	-	-	-	
Unlikely	827	28-Oct-20	11:17	A. Gartrell	66	25-Oct-20	21:39	61.63	0.85	22	38.69437438	-77.13232915	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	23"	-	-	-	

		Flow Characterization																								
Outfall Characterization	Outfall ID	Channel Top Width	Channel Bottom Width	Submerged in Water	Submerged in Sediment	Amount of Sediment/Water	Flow Description	Sample Taken From?	Volume (mL)	Time to fill (sec)	Flow depth (in)	Flow Measurement	Length (in)	Width (in)	Time of Travel (sec)	Flow Rate (cfs)	pH	Ammonia (mg/L)	Phosphate (mg/L)	Free Cl	Total Cl	Nitrate	Nitrite	Indicators in Flow?	Odor	Odor Severity
Obvious	1715			Fully Submerged	No Sediment	-	Flow	Upstream Flow	500	4		Time to Fill	-	-	-		8.35	0	-	0	0	1.5	0	No Indicators	-	-
Suspect	923	-	-	Partial Water	No Sediment	-	Trickle Flow	Flow			1"	Time of Movement	9"	10"	20	0.0026	7	0.2	-	0.2	0.2	0.5	0.5	Floatables	-	-
Suspect	984	-	-	Not submerged	No Sediment	-	Moderate Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Suspect	7274	-	-	Not submerged	No Sediment	-	Moderate Flow	Flow	250	4.5		Time to Fill				0.00196	8.05	0	-	0	0	0.25	0	Floatables	-	-
Potential	67	-	-	Partial Water	Partial Sediment	6" water 0.5" sediment	No Flow	Pool	-	-	-	-	-	-	-	-	7.61	0	0	0	0	1	0	No Indicators	-	-
Potential	150	-	-	Not submerged	No Sediment	-	Trickle Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Potential	884	-	-	Not submerged	No Sediment	-	Moderate Flow	Flow	-	-		Time of Movement	12"	10"	2 sec.		6	0.25	-	0	0	1	0	Color, Turbidity	-	-
Potential	896	-	-	Not submerged	No Sediment	-	No Flow	Pool	-	-	-	-	-	-	-	-	6.85	3	-	0	0	2	0.15	No Indicators	-	-
Unlikely	86	-	-	Partial Water	Partial Sediment	-	Flow	Flow	500	10		Time to Fill	-	-	-		7.7	0	-	0	0	2	0	No Indicators	-	-
Unlikely	288	-	-	Fully Submerged	Partial Sediment	18" Water 2" Sediment	Moderate Flow	Pool	-	-	2"	Time of Movement	12"	8"	1 sec.	0.111 cfs	7	0	2.75	0	0.01	0	0.002	No Indicators	-	-
Unlikely	601	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	605	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	795	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	815	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	820	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	827	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-

Physical Indicators at Flowing Outfalls										Physical Indicators at Flowing and Non-Flowing Outfalls			
Outfall Characterization	Outfall ID	Color	Color Severity	Turbidity	Turbidity Severity	Floatables	Floatables Severity	Comments For Flowing Outfalls	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes	
Obvious	1715	-	-	-	-	-	-	-	-	No indicators	-	Couldn't access outfall to take sample but a sample was collected upstream from flow leading to the outfall. Know IDDE connection from building 357. Pending corrective action.	
Suspect	923	-	-	-	-	Oil Sheen	2-Some; indications of origin	-	-	Outfall Damage, Floatables	Cracking, Sheen	Crack in pipe and channel.	Oil sheen in stagnant pool. No source of oil sheen was found, its suspected that the oil may had come from parking areas within drainage area. Further monitoring recommended.
Suspect	984	-	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Cracking, Flow Line	Cracks around pipe and headwall, Severe erosion under outfall.	Severe erosion around and downstream of outfall. Flow present but couldn't reach outfall to get a sample due to safety reasons. No source for flow was found during initial investigation. Inlet 988 showed flow coming from underground pipe not shown in our SW map. Further investigation recommended.
Suspect	7274	-	-	-	-	Suds	2-Some; indications of origin	-	-	Deposit/Stains, Poor Pool Quality, pipe benthic growth	Flow line, suds	Suds, Iron floc	Iron floc, possibly suds, bacteria film and erosion downstream observed. No evident source of flow and suds was found during upstream investigation. Construction site and storm water management facilities were surveyed. Further monitoring recommended.
Potential	67	-	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains, Poor pool quality, pipe benthic growth	Cracking, flow line, Sheen, brown/green growth	Small piece of pipe broken on top of pipe, visible flow line, sheen in pool, green and brown benthic growth.	No upstream source was found for sheen. A sample was taken in early March and one in May, no significant change was noted that could indicate incorrect fertilizer use. Recommend to sample for POL to try and trace source.
Potential	150	-	-	-	-	-	-	-	-	Deposit/Stains, pipe benthic growth	Flow line, Green	Green Algae growth	Small trickle flow present, not enough to collect a sample. Origin of flow may be from ground water seepage no other source noted during inspection. Area upstream of this outfall had shown groundwater seepage issues.
Potential	884	brown/orange	1	Yes	1	-	-	-	-	Outfall Damage, Deposit/Stains, Poor pool quality	Spalling and cracking, flow line, colors	Minor spalling and cracking, orange tint in pool.	No upstream source was found for flow. Follow up investigation recommended.
Potential	896	-	-	-	-	-	-	-	-	Outfall Damage, Deposit/stains, pipe benthic growth	Structural Damage, Other	Outfall structure is severely damaged Sediment stains were visible.	No upstream source was found for flow. Follow up investigation recommended.
Unlikely	86	-	-	-	-	-	-	-	-	Deposit/Stains, Poor Pool Quality, pipe benthic growth	Flow line, excessive, algae, green	-	Fast Flow observed. Outfall was visited during various occasions and each time there was flow present. Constant heavy flows are from the piped stream running under GW Village.
Unlikely	288	-	-	-	-	-	-	-	-	Poor Pool Quality, Benthic Growth	Green Algae, Sheen	High amounts of green algae observed.	Excessive Algae growth observed downstream.
Unlikely	601	-	-	-	-	-	-	-	-	Deposit/Stains	Flow Line	-	No flow present at the time of inspection however the pipe was wet and there was a visible flow line. Erosion noted downstream.
Unlikely	605	-	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Cracking, Flow Line	Cracks in Headwall	A small trickle flow present not enough to sample. Erosion downstream.
Unlikely	795	-	-	-	-	-	-	-	-	No indicators	-	-	-
Unlikely	815	-	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Cracking, Flow Line	Cracks in edge of the pipe.	A small trickle flow present not enough to sample. Inlet upstream had vegetation and metal debris. Grass growing on the edge of the outfall pipe.
Unlikely	820	-	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Cracking, Flow Line	Cracks in edge of the pipe.	No flow present at the time of inspection however the pipe was wet and there was a visible flow line. Erosion noted downstream and around outfall.
Unlikely	827	-	-	-	-	-	-	-	-	Outfall Damage, Deposit/stains, pipe benthic growth	Spalling and cracking, flow line, Green.	A small amount of spalling on the headwall portion of the outfall, and excessive algae growth in pipe.	No active flow during inspection but pipe was wet. No upstream source found. Follow up investigation recommended.

Screening Event Information											Land Use Information		Outfall Description and Condition										
Outfall Characterization	Outfall ID	Inspection Date	Time Military	Investigators	Outside Temperature	Last Rainfall Date	Last Rainfall Time	Hours After Rain	Last Rainfall Amount	Subwatershed	Latitude	Longitude	Land Use	Location	Origin of Outfall	Outfall Type	Pipe Shape	Amount of Pipes	Pipe Material	Pipe Dimensions	Channel Material	Channel Shape	Channel Depth
Unlikely	890	28-Oct-20	12:30	A. Gartrell	66	25-Oct-20	21:39	62.85	0.85	22	38.69562797	-77.1277295	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	18"	-	-	-
Unlikely	911	19-Apr-21	13:41	Y.Chiro/L.Peters	57	14-Apr-21	11:29	122.20	0.44	21	38.6928337	-77.12538407	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	18"	-	-	-
Unlikely	917	5-Nov-20	11:15	L. Peters/J. Colon/Y. Chiro	66	01-Nov-20	12:09	95.10	0.63	21			Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	-	-	-	-
Unlikely	920	5-Nov-20	11:00	L. Peters/J. Colon/Y. Chiro	66	01-Nov-20	12:09	94.85	0.63	21	38.69317099	-77.12515625	Residential	Dogue Creek Village		Closed Pipe	Circular	Single	RCP	-	-	-	-
Unlikely	927	20-Apr-21	0-Jan-00	Y. Chiro	61	14-Apr-21	11:29	143.73	10.33	21	38.6919619	-77.12823727	Residential	Jadwin Loop Village		Closed Pipe	Circular	Single	PVC	21"	-	-	-
Unlikely	934	20-Apr-21	11:30	Y.Chiro/L.Peters	68	14-Apr-21	11:29	144.02	0.44	21	38.69227949	-77.12885317	Residential	Jadwin Loop Village	Jadwin Loop Village drainage area that leads into and BMP 937.	Closed Pipe	Circular	Single	PVC	17"	-	-	-
Unlikely	980	20-Apr-21	0-Jan-00	Y.Chiro	61	14-Apr-21	11:29	144.27	10.33	21	38.69195041	-77.13018766	Residential	Jadwin Loop Village		Closed Pipe	Circular	Single	PVC	14"	-	-	-
Unlikely	1004	20-Apr-21	10:23	Y.Chiro/L.Peters	57	14-Apr-21	11:29	142.90	0.44	14	38.69227949	-77.12885317	Residential	Jadwin Loop Village		Closed Pipe	Circular	Single	PVC	18"	-	-	-
Unlikely	1015	20-Apr-21	12:41	Y.Chiro		14-Apr-21	11:29	145.20	0.44	19	38.69077661	-77.13015798	Residential	Jadwin Loop Village		Closed Pipe	Circular	Single	PVC	14"	-	-	-
Unlikely	1024	20-Apr-21	12:12	Y.Chiro	57	14-Apr-21	11:29	144.72	0.44	19	38.69094752	-77.13035848	Residential	Jadwin Loop Village		Closed Pipe	Circular	Single	Steel	14"	-	-	-
Unlikely	1027	20-Apr-21	12:30	Y.Chiro	57	14-Apr-21	11:29	145.02	0.44	19	38.69025702	-77.13069007	Residential	Jadwin Loop Village		Closed Pipe	Circular	Double	PVC	Left Pipe 14" Right Pipe: 14"	-	-	-
Unlikely	1127	7-Jun-21	10:15	Y. Chiro	81	04-Jun-21	14:19	67.93	0.67	19	38.68784222	-77.13285697	Administrative	200 Area		Closed Pipe	Circular	Single	RCP	36"	-	-	-
Unlikely	1128	7-Jun-21	11:28	Y. Chiro	81	04-Jun-21	14:19	69.15	0.67	19	38.68818653	-77.13293738	Administrative	200 Area		Closed Pipe	Circular	Triple	RCP	Left Pipe 18" Middle pipe: 11.5" Right Pipe: 24" Additional Steel pipe: 8"	-	-	-
Unlikely	1239	20-Apr-21	12:58	Y. Chiro	69	14-Apr-21	11:29	145.48	0.44	18	38.68297396	-77.12788915	Residential	Fairfax Village		Closed Pipe	Circular	Single	Steel	-	-	-	-
Unlikely	1405	20-Apr-21	13:28	Y.Chiro	61	14-Apr-21	11:29	145.98	0.44	14	38.68340096	-77.13283919	Residential	Building 508, 509		Closed Pipe	Circular	Single	RCP	20"	-	-	-
Unlikely	1417	20-Apr-21	13:43	Y.Chiro	61	14-Apr-21	11:29	146.23	0.44	14	38.68389725	-77.13407619	Residential	Building 508, 510		Closed Pipe	Circular	Single	RCP	24"	-	-	-
Unlikely	2136	10-May-21	13:13	Y.Chiro	62	07-May-21	20:59	64.23	0.21	13	38.67446492	-77.14212206	Research and Development	300 Area		Closed Pipe	Circular	Single	RCP	36"	-	-	-
Unlikely	2332	21-Apr-21	14:49	L. Peters	59	14-Apr-21	11:29	182.82	0.44	3	38.69978305	-77.14302664	Residential	Vernondale Village	Drainage from Vernondale Village areas between 9th St. and Petraca Rd. that goes into BMP 2347 and 2423.	Closed Pipe	Circular	Double	RCP	36"	-	-	-
Unlikely	2531	10-May-21	12:30	Y.Chiro	62	07-May-21	20:59	63.52	0.21	11	38.67932911	-77.14301482	Research and Development	300 Area		-	-	-	-	-	-	-	-

		Flow Characterization																								
Outfall Characterization	Outfall ID	Channel Top Width	Channel Bottom Width	Submerged in Water	Submerged in Sediment	Amount of Sediment/Water	Flow Description	Sample Taken From?	Volume (mL)	Time to fill (sec)	Flow depth (in)	Flow Measurement	Length (in)	Width (in)	Time of Travel (sec)	Flow Rate (cfs)	pH	Ammonia (mg/L)	Phosphate (mg/L)	Free Cl	Total Cl	Nitrate	Nitrite	Indicators in Flow?	Odor	Odor Severity
Unlikely	890	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	911	-	-	Partial Water	Some sediment	-	Trickle Flow	Flow	-	-	7"	Time of Movement	24"	12"	5.13	-	7	0	-	0	0	0	3	Floatables	-	-
Unlikely	917	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	920	-	-	Not submerged	No Sediment	-	Small Trickle Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	927	-	-	No water	Partial Sediment/leaves	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	934	-	-	Not submerged	Partial Sediment/leaves	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	980	-	-	Partial Water	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1004	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1015	-	-	No water	Partial Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1024	-	-	No water	Partial Sediment/leaves	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1027	-	-	No water	No sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1127	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1128	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1239	-	-	-	-	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1405	-	-	No water	Partial Sediment/leaves	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	1417	-	-	No water	Partial Sediment/leaves	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	2136	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	2332	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	2531	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-

Physical Indicators at Flowing Outfalls									Physical Indicators at Flowing and Non-Flowing Outfalls			
Outfall Characterization	Outfall ID	Color	Color Severity	Turbidity	Turbidity Severity	Floatables	Floatables Severity	Comments For Flowing Outfalls	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes
Unlikely	890	-	-	-	-	-	-	-	No indicators	-	-	Outfall has standing water pooling inside of pipe. The standing water was less than an inch high. Quality of water visually was good e.g. no odor, smell, staining. No water flow was present. No visible structural damage to the outfall.
Unlikely	911	-	-	-	-	Oil Sheen	2-Some; indications of origin	-	Deposit/Stains, Poor Pool Quality	Flow line, colors and sheen	-	Water in sample bottle is clear. Stagnant pool with iron floc and bacteria film. Oily sheen noted in stagnant pool. Erosion downstream observed. Possible upstream source for flow was found to possibly be groundwater seepage.
Unlikely	917	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Severe erosion downstream outfall.	Severe erosion around and under outfall, looks like its floating.
Unlikely	920	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Broken pipe.	Pipe was broken in sections. Severe erosion around pipe. Trickle flow was observed but not enough to sample.
Unlikely	927	-	-	-	-	-	-	-	Blockage	Tree litter	Partially with leaves	Leaves partially blocking outfall.
Unlikely	934	-	-	-	-	-	-	-	Blockage	Tree litter	Tree growing near outfall, leaves inside pipe	There was some vegetation in the pipe. Some erosion downstream observed. No visible damage in pipe. No water flow at the time of inspection.
Unlikely	980	-	-	-	-	-	-	-	Blockage	Tree litter	leaves inside pipe	Pooling water and leaves in outfall. No flow present at the time of inspection.
Unlikely	1004	-	-	-	-	-	-	-	Deposit/Stains, pipe benthic growth, blockage	Flow line, green algae, tree litter	Green Algae growth, leaves in pipe	Flow lines, green algae growth and leaves observed in pipe.
Unlikely	1015	-	-	-	-	-	-	-	Deposits/Stains, Abnormal vegetation Blockage	Flow line, excessive, sediment	Excessive amount of leave and some sediment inside pipe.	Some sediment and leaves inside the pipe. Erosion noted downstream.
Unlikely	1024	-	-	-	-	-	-	-	Outfall Damage, Deposits/Stains, Blockage	Corrosion, Sediment, Tree Litter	-	Erosion was noted downstream of Outfall. A rain gutter connection noted next to outfall.
Unlikely	1027	-	-	-	-	-	-	-	Deposit/Stains	Flow line	-	Some flow marks were noted. Pipes in good condition. Some erosion was noted. Large amount of leaves noted.
Unlikely	1127	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Structural Damage, Flow Line,	Outfall pipe is broken into pieces, Severe erosion around outfall.	Severe structural Damage. Outfall pipe is broken in pieces and detached from headwall. Severe erosion around outfall, looks like a landslide occurred.
Unlikely	1128	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains,	Cracking, Flow Line,	Cracks in edge of the pipe and on headwall.	Erosion observed downstream and under outfall. An additional small pipe was noted that doesn't seem to be part of the original outfall. This additional pipe was not flowing at the time of inspection. Source was not identified, further investigation required.
Unlikely	1239	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Severe erosion downstream outfall.	Severe erosion around and under outfall, cliff like conditions.
Unlikely	1405	-	-	-	-	-	-	-	Abnormal Vegetation	Excessive	-	Erosion downstream. There is a tree growing in front of the outfall.
Unlikely	1417	-	-	-	-	-	-	-	Outfall Damage, Blockage	Structural Damage, Sediment, tree litter	Sediment and leaves in pipe.	Damage/cracking of the pipe was noted. In addition, some sedimentation was seen inside the pipe.
Unlikely	2136	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Spalling and cracking, flow line,	Spalling cracking around edges of pipe. Erosion around the support of pipe	Pipe was wet but no active flow at the time of inspection. Upstream inlet showed no signs of water.
Unlikely	2332	-	-	-	-	-	-	-	Outfall Damage	Spallins and cracks.	Some cracks on headwall	No flow present. Some cracks noted on headwall. Erosion observed downstream.
Unlikely	2531	-	-	-	-	-	-	-	-	-	-	Couldn't access outfall. However was able to see inlet 1961 leading to outfall from BMP 1962. Excessive amount of vegetation observed in inlet. No flow observed downstream of outfall. Recommend to include in next year inspection schedule to verify pipe conditions.

Screening Event Information													Land Use Information			Outfall Description and Condition							
Outfall Characterization	Outfall ID	Inspection Date	Time Military	Investigators	Outside Temperature	Last Rainfall Date	Last Rainfall Time	Hours After Rain	Last Rainfall Amount	Subwatershed	Latitude	Longitude	Land Use	Location	Origin of Outfall	Outfall Type	Pipe Shape	Amount of Pipes	Pipe Material	Pipe Dimensions	Channel Material	Channel Shape	Channel Depth
Unlikely	2551	20-Apr-21	15:07	L. Peters	59	14-Apr-21	11:29	147.63	0.44	3	38.69919556	-77.1418354	Residential	12th Street		Closed Pipe	Circular	Single	RCP	14"	-	-	-
Unlikely	2553	21-Apr-21	15:00	Y. Chiro/L. Peters	59	14-Apr-21	11:29	171.52	0.44	3	38.69888945	-77.14194328	Residential	12th Street		Closed Pipe	Circular	Single	RCP	14"	-	-	-
Unlikely	2571	23-Mar-21	14:13	Y. Chiro	62	18-Mar-21	11:39	122.57	0.47	3	38.69913152	-77.14286629	Residential	12th Street		Closed Pipe	Circular	Single	RCP	36"	-	-	-
Unlikely	2834	10-May-21	13:44	Y.Chiro	62	07-May-21	20:59	64.75	0.21	11	38.68403017	-77.14054277	Research and Development	300 Area		-	-	-	-	-	-	-	-
Unlikely	3405	20-Apr-21	10:29	A. Gartrell	61	14-Apr-21	11:29	143.00	0.44	30	38.71521858	-77.15484629	Administrative	2900 Area		Closed Pipe	Circular	Single	RCP	36"	-	-	-
Unlikely	3439	21-Apr-21	12:00	A. Gartrell	57	14-Apr-21	11:29	168.52	0.44	30	38.7160519	-77.15352447	Roads	2100 Area	Area Northeast of Gunston Rd. between Abbott and Goethals Rd.	Closed Pipe	Circular	Single	RCP	36"	-	-	-
Unlikely	3588	21-Apr-21	12:30	A. Gartrell	64	14-Apr-21	11:29	169.02	0.44	30	38.71695941	-77.14616985	Recreational	1800	Drainage from area west of Beauregard Rd. and North of 30th Engineer Rd.	Closed Pipe	Circular	Single	Steel	30"	-	-	-
Unlikely	3590	20-Apr-21						1063344.00								Closed Pipe	Circular	Single	RCP	Unknown	-	-	-
Unlikely	3596	20-Apr-21	11:32	A. Gartrell	71	14-Apr-21	11:29	144.05	0.44	30	38.71831443	-77.1449207	Residential	1800 Area	Outfall receives runoff coming from 1800 area, between Abbott Rd and Meeres Rd.	Closed Pipe	Elliptical	Single	RCP	36" x 20"	-	-	-
Unlikely	3917	21-Apr-21	12:41	A. Gartrell	63	14-Apr-21	11:29	169.20	0.44	30	38.7194055	-77.1467627	Roads	Gorgas Rd.		Closed Pipe	Circular	Single	RCP	-	-	-	-
Unlikely	4207	21-Oct-20	13:55	A. Gartrell/Y. Chiro	72.6	16-Oct-20	12:24	121.52	0.32	30	38.71801478	-77.15725408	Admin	INSCOM		Closed Pipe	Circular	Single	RCP	30"	-	-	-
Unlikely	4418	29-Apr-21	8:30	A. Gartrell	70	25-Apr-21	7:09	97.35	0.5	39	38.71738588	-77.16452555	Administrative	DLA		Closed Pipe	Circular	Single	RCP	-	-	-	-
Unlikely	4470	10-May-21	14:35	Y. Chiro	36	07-May-21	20:59	107.57	0.21	28	38.70603469	-77.12974828	Suburban Residential	River Village	Drainage for marina and landscaped areas in River Village, as well as portions of Hudson Road and Potomac Loop.	Closed Pipe	Circular	Single	CMP	18"	-	-	-
Unlikely	6038	20-Apr-21	11:46	A. Gartrell	71	14-Apr-21	11:29	144.28	0.44	14	38.68366482	-77.13419421	Institutional	1800 Area	Outfall receives drainage from BMP 7257, which receives runoff from the North Post CDC parking and grassy areas.	Closed Pipe	Elliptical	Double	RCP	22" x 14"	-	-	-
Unlikely	6769	20-Apr-21	13:23	A. Gartrell	73	14-Apr-21	11:29	145.90	0.44	52	38.705546	-77.157372	Open Space	Pohick Road	Open space north of Pohick Road.	Closed Pipe	Circular	Single	RCP	30"	-	-	-
Unlikely	7118	29-Apr-21	9:40	L. Peters	63	14-Apr-21	11:29	358.18	0.44	28	38.71018323	-77.14074475	Residential	JoAnn Banks CDC		Closed Pipe	Circular	Single	RCP	18"	-	-	-

		Flow Characterization																								
Outfall Characterization	Outfall ID	Channel Top Width	Channel Bottom Width	Submerged in Water	Submerged in Sediment	Amount of Sediment/Water	Flow Description	Sample Taken From?	Volume (mL)	Time to fill (sec)	Flow depth (in)	Flow Measurement	Length (in)	Width (in)	Time of Travel (sec)	Flow Rate (cfs)	pH	Ammonia (mg/L)	Phosphate (mg/L)	Free Cl	Total Cl	Nitrate	Nitrite	Indicators in Flow?	Odor	Odor Severity
Unlikely	2551	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	2553	-	-	Partial Water	No Sediment	-	Trickle Flow	Flow	350	9.7	-	-	-	-	-	0.0013	8.21	0	-	0	0	1.5	0	No Indicators	-	-
Unlikely	2571	-	-	Partial Water	No Sediment	-	No Flow	Pool	-	-	-	-	-	-	-	-	7	0	-	0.25	0	1.5	0	No Indicators	-	-
Unlikely	2834	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	3405	-	-	Partial Water	Partial Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	3439	-	-	Not submerged	No Sediment	-	Moderate Flow	Flow	250	38	-	-	-	-	-	0.0002323	68.9	7.52	-	0	0	2	2	No Indicators	-	-
Unlikely	3588	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	3590	-	-	Partial Water	Full Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	3596	-	-	Partial Water	Partial Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	3917	-	-	Partial Water	Partial Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	4207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	4418	-	-	Partial Water	Some sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	4470	-	-	Partial Water	No Sediment	0.5" Water	Trickle Flow	Flow	200 mL	8.45 s	-	Time to Fill	-	-	-	0.00836 cfs	7	0	-	0	0	1.7	0	No Indicators	-	-
Unlikely	6038	-	-	Partial Water	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	6769	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-
Unlikely	7118	-	-	Not submerged	No Sediment	-	No Flow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-

Physical Indicators at Flowing Outfalls									Physical Indicators at Flowing and Non-Flowing Outfalls			
Outfall Characterization	Outfall ID	Color	Color Severity	Turbidity	Turbidity Severity	Floatables	Floatables Severity	Comments For Flowing Outfalls	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes
Unlikely	2551	-	-	-	-	-	-	-	Blockage	Tree litter	Leaves in pipe.	-
Unlikely	2553	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Gap between pipe and headwall	Concrete pipe is separated from supporting structure and sediment is filling space. Currently, this separation does not appear to effect the functionality of the outfall.
Unlikely	2571	-	-	-	-	-	-	-	Deposits/Stains, Abnormal vegetation	Flow Line, Abnormal Vegetation	Tree growing downstream close to outfall.	Standing water was present. No flow observed, riprap downstream may be serving as a dam and retaining some water in.
Unlikely	2834	-	-	-	-	-	-	-	Blockage	Sediment	-	Outfall appears to be fully submerged with sediment. Couldn't see the outfall. A DMO will need to be placed to have outfall cleared.
Unlikely	3405	-	-	-	-	-	-	-	Outfall damage, Deposit/Stains, Blockage	Spalling, Cracking, Flow line, Sediment	Some spalling and cracking on headwall	Outfall is partially submerged in standing water. No flow was visible at the time of inspection. Outfall has some cracking and spalling on the headwall.
Unlikely	3439	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Structural Damage, flow line, other	Pipe broken, a lot of erosion in area, Black Stain	Severe structural damage. Outfall pipe appears to have broken at some point. There is a lot of erosion around the pipe and downstream. A lot of groundwater seepage was observed around this area. No other source of flow was identified during initial investigation. Maps show it discharges an UDS
Unlikely	3588	-	-	-	-	-	-	-	Outfall Damage	Corrosion	-	Erosion on the slope leading to the unnamed tributary is eroding and has exposed 2 1/2 feet of the outfall pipe. Groundhog holes nearby noted.
Unlikely	3590	-	-	-	-	-	-	-	Blockage	Sediment	Outfall is fully submerged in Sediment. Water pooling visible.	Outfall is fully submerged in sediment. The headwall is in good condition. A DMO was submitted for the sediment to be removed. The DMO number is 40000480300.
Unlikely	3596	-	-	-	-	-	-	-	Blockage	Sediment/ Tree Litter	Sediment and tree litter causing some blockage	Outfall contains a considerable amount of sediment and tree litter. Headwall is in good condition. Water was pooling at the time of inspection, but not enough to see the outfall.
Unlikely	3917	-	-	-	-	-	-	-	Outfall Damage, Blockage	Spalling and cracking, Sediment and tree litter	-	Outfall is partially submerged in water. Excessive tree litter and debris observed. Pipe is cracking and spalling. A DMO was placed on 4/23/21 for maintenance.
Unlikely	4207	-	-	-	-	-	-	-	Abnormal Vegetation	Excessive	Excessive Vegetation Surrounding and downstream of outfall	-
Unlikely	4418	-	-	-	-	-	-	-	Outfall Damage, Deposit/Stains	Cracking, Flow Line,	Small spalling/cracks at headwall by the edge of pipe.	Stagnant water and sediment at outfall. Erosion observed upstream of outfall.
Unlikely	4470	-	-	-	-	-	-	-	Outfall Damage	Corrosion, Structural Damage	Entire bottom and sides of pipe are corroded, bending.	Damage to pipe that may have been caused by a boat. This outfall is in a tidal area and may not be accessible when tide is not low.
Unlikely	6038	-	-	-	-	-	-	-	Outfall damage, Deposit/Stains, Blockage	Spalling and cracking, Deposit/Stains, Blockage	Light spalling and cracking, brown stains in pipe, some leaves in pipe.	Outfall is partially submerged in water with brown staining in the pipe. Double outfalls have some spalling and cracking.
Unlikely	6769	-	-	-	-	-	-	-	Deposit/Stains	Flow Line	-	-
Unlikely	7118	-	-	-	-	-	-	-	Outfall Damage	Cracking	Crack inside the pipe.	Crack inside the pipe noted. Erosion upstream and downstream of outfall noted.

Fort Belvoir 2020-2021 Annual Report

Appendix E

ILLICIT DISCHARGE DETECTION AND ELIMINATION INCIDENT
TRACKING SUMMARY TABLE

INVESTIGATIONS BETWEEN JULY 1, 2020 – JUNE 30 2021

Fort Belvoir Incident Number	Date Discovered	Discovery Method	Description	Corrective Action	Validity	Status	Date Closed
16-10	11/24/2015	ORI	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 daylighted 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 VAO092771. 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 * January 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 * June 4, 2020 received plans for the renovation of building 357 * July 27, 2020 O&M stated that they had received funding for re-routing project * May 25, 2021: AW stated that Storm water 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. * June 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	Valid Report, Illicit Discharge, Corrective Action Required	Open	
19-09	8/10/2018	Direct Notification	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.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	
19-46	6/17/2019	DPW Inspector	There was a remodeling and demolition project occurring at building 1498, and 1499, trees were cut down, soil was disturbed, and garbage and building materials were left out in the open. Garbage and soil from disturbed land was transported into the wooded area to the south and via a concrete channel, and to the west via overland flow into the nearby wetland. No Permit for the disturbance was on file	The contractor involved in the project was notified about the problem but refused to acknowledge. Further reports were filed up the chain of command at DPW. Corrective Actions were issued to the contractor and DPW is current monitoring progress of fixes through windshield inspections of the area August 2, 2019: No permit; garbage/scrap metal scattered across the site; Disturbed soil with no stabilization September 3, 2019: The demolition looked to be completed but there was still debris across the site and the area had not yet been stabilized. July 23, 2020: Inspection showed that the site had been cleared and fully stabilized. Only foundations to former building surrounded by grassed areas remain	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	7/23/2020
20-06	9/3/2019	Direct Notification	At 1317 hours on September 3 I received a call from Steve Sarver of Aleut informing me that a Bobcat (John Deer model 318D) that was parked in the Aleut parking lot located behind building 1436 had leaked approximately one gallon of motor oil on to the concrete surface. The weather conditions were sunny, 84 degrees Fahrenheit with a 3 mph wind out of the SSE.	The area of the spill was covered with granular absorbent and an oil boom barrier around it, The bobcat was unable to be moved until workers from R&S company we're able to come on site and move the bobcat out of the way. This occurred on September 4. At this point workers from Aleut cleaned up the spill containerizing the contaminated waste and bring it to building 1495 for proper disposal.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	9/4/2020
20-26	3/19/2020	DPW Inspector	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	Valid Report, Illicit Discharge, Corrective Action Required	Open	
20-28	4/17/2020	Direct Notification	An area of disturbed land approximately 1.75 acres was discovered with no permit coverage and no ESC measures in place. There was a rain event in the days leading to the discovery and sediment was carried into public waters via culverts under Sanjer Rd. DAAF Clearing Project.	Gain permit coverage for site. Install perimeter protection, properly install inlet protection. Install construction entrance and remove any soil tracked onto roadways at the end of the day, provide a stable means for water to travel down slope that will not cause concentration of flow. Ensure that downstream structures and waterways are protected from damage. April 17, 2020: DPW received a call stating an area of disturbed land approximately 1.75 acres was discovered with no permit coverage and no ESC measures in place. There was a rain event in the days leading to the discovery and sediment was carried into public waters via culverts under Sanjer Rd. A DAAF Clearing Project from 2015 was cited, however, it was determined that no ESC plan was needed since grubbing was excluded. May 8, 2020: A stop work order was put in place until these issues were addressed. VADEQ was notified. May 28, 2020: A warning letter was issued to the contractor detailing what needed to be done. Copy of the Letter was sent to VADEQ. January 14, 2021: The project proponent has since: Installed all required controls; Site has reached stabilization; Submitted a SWPPP with a RLD certificate to the NEPA Process for review; Submitted an ESC plan to the NEPA process for review; Discontinued any work in the area; Changed LOD to 0.90 acres (allegedly this was the area disturbed); Project proponent is not planning on resuming work in the area for the foreseeable future January 25, 2021: A call was held with VADEQ detailing all actions taken and VADEQ concurred with closure of the incident with no further required actions.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	1/25/2021
20-30	6/3/2020	Windshield Inspection	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. 8 June 2020: Multiple option provided to facility to prevent future discharges 12 June 2020: Pig Absorbent mats provided to facility for use 8 February 2021: Liquids are still being tossed into compactor and leaking towards SMFs 13 March 2021: Liquids are still being tossed into compactor and leaking towards SMFs. Facility personnel is provided training and additional guidance 25 March 2021: Facility is issued another corrective action and additional information/guidance on proper liquids disposal	Valid Report, Illicit Discharge, Corrective Action Required	Open	
20-33	6/11/2020	Direct Notification	Excess amounts of water were seen leaving the DLA Ground Fuel Facility Project Site. Water was reported slightly brown in color being pumped into sediment bags.	Dewatering was being completed appropriately per VESCH Specifications. sediment bags were placed on top of non-erodible material adjacent to inlets all with inlet protection on them. Recommend to add additional inlet protection on inlet farther west down Garlington Road	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	7/22/2020
21-01	7/15/2020	Direct Notification	While performing lift station inspections, staff noticed an active potable water release near Building 5200 on Patrick Rd at approximately 9:45am. Staff were able to isolate the valve to stop the release at approximately 10:45am. Management was notified at approximately 11:00am. Upon further investigation, staff determined that the release occurred from a 1-inch water service line that was connected into a 2-inch x 1-inch galvanized reducing coupling feeding into a 2-inch T fitting on a 4-inch cast iron water main. When originally taken out of service, the line was cut and capped but had not been removed. As a result of being left in place, the galvanized fitting eroded over time which led to the release of potable water. Staff were able to isolate the valve, plug the water service line, and remove the outdated material.	Staff were able to isolate the valve to stop the release. Following, staff plugged the water service line and removed the outdated material. Online Reporting – Reference ID 295858	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	7/17/2020

Fort Belvoir Incident Number	Date Discovered	Discovery Method	Description	Corrective Action	Validity	Status	Date Closed
21-02	7/15/2020	Direct Notification	DPW Received a call from Aleut at approximately 0800 which was directed to the Spill Response Manager, Phyleata Rhodes, for response. A secondary call was made to the Stormwater Program Support Staff in order to request a field screening. A truck was reported as having a hydraulic fluid leak and tracked the hydraulic fluid from its parking spot behind building 1114 up into the driveway to the recycling center, building 1089	Stormwater Staff arrived on-site at 0900 and the response actions had already been initiated. The fire department closed off the road at the intersection of 16th street and Theote Road and was directing traffic around the spill area. The team assessed all stormwater structures in the path of the spill for illicit discharges. The spill was found to be heaviest in the area where the truck had to idle at a stop or slow for a turn. It could be followed from the back of building 1114, onto 16th street, on the northbound lane of Theote road, and then into the Recycling center (about 0.5 miles). No Stormwater features were impacted by the spill. Aleut was laying and sweeping absorbents onto the spill area along Theote Road and were directed to lay sand on after the first round and allow it to sit until the street sweeping was done overnight since there was no chance for precipitation. The stormwater staff returned to the site at 1330 the same day and noted that the sand had been laid throughout the spill area and that the truck had been removed from the recycling center for maintenance.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	7/15/2020
21-03	7/22/2020	Direct Notification	The release occurred when contracted crews were tying into an existing main for relocation of a new hydrant tee. During the work, the hydrant tee was observed to have shifted a couple of inches because the existing tee was not properly restrained. Downstream from where work was taking place, one of the isolation valves consequently separated from the main which caused the release of potable water.	Staff were able to isolate the valve to stop the release. Staff completed repairs and restrained the existing line by using mega lug flanges. Unnamed tributary ditch that drains to the Accotink Creek. No environmental impact observed by onsite staff. According to visual estimates of waterflow release, staff estimates that a maximum of 9,000 gallons were released.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	7/24/2020
21-04	8/3/2020	Direct Notification	Spill was located in the roadway service lane on Liberty Drive heading to the back of the National Museum of the United States Army (NMUSA) Building service and loading zone. Spill was reported as hydraulic fluid in the amount of approximately 40-50 gallons, from a Waste Management trash compactor truck. Spill had gone over a Sanitary Sewer manhole and it was verified that no hydraulic fluid made it to any storm sewer drains and that the Sanitary Line does not connect to the Storm Sewer System.	Spill was adequately contained through the use of absorbent booms as well as absorbent litter. Spill made it approximately 30' from vehicle and did not near any storm sewer drains. Fire Department, Fort Belvoir Hazardous Waste, and DES contacted. NRC incident number 1283565. Spill soaked up and hazardous waste removed and disposed of.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	8/3/2020
21-05	8/5/2020	Direct Notification	DPW was notified at 12:14 about a main break at River Village at the cross section of Shenandoah Rd. and York Rd. American Water Staff are working on stopping the release and have requested an emergency dig permit in order to make the necessary repairs. It is assumed that water most likely entered nearby storm drains.	Sent follow up email to American Water to verify how issue was resolved on 21 January 2021 and 1 June 2021. American Water confirmed that the hydrant had been fixed and reset in an email dated June 4, 2021	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	6/4/2021
21-06	8/13/2020	Direct Notification	On Thursday, August 13th, staff arrived at Lift Station 687 (Off of Morrow Rd.) in response to multiple high-level alarms across Ft. Belvoir. At approximately 11:00 AM, staff noticed that effluent began backing up into the two overflow basins but was well below the basin's capacity. After responding to other high-level alarm locations, staff revisited Lift Station 687 at approximately 1:15 PM and observed effluent overflowing from one of the holding basins. The lift station could not handle the large amount of rainwater entering the system during such a short duration.	The pumps at LS 687 were already over speed to 63 hertz which provided an extra 100 gallons per minute to assist in minimizing the overflow. Staff used the Vactor truck to clean up the release and applied lime to the surrounding area.	Invalid Report, No Corrective Action Needed	Closed	8/17/2020
21-07	9/9/2020	Direct Notification	MS4 Program Administrator received a phone call notification from a resident about a fire hydrant flushing for over two weeks near Bldg. 81 by officers club in Soltan Loop. It was found that there is a flushing unit (Hydro-Guard) connected to the fire hydrant that has a timer and dichlorination tablets to discharge water on a daily basis to comply with Potable Water Requirements.	It was confirmed that Proper dichlorination procedures were followed. Incident is an authorized discharge as listed in 9VAC25-890-20-D.3, No additional actions required.	Invalid Report, No Corrective Action Needed	Closed	9/9/2020
21-08	10/7/2020	Direct notification	DPW ENV Staff was notified by Robert Davis (LRC Accountable Officer/Motor Vehicle Operator) that pump 5 was leaking diesel fuel, more so than usual (i.e. there was a slow leak that had been occurring over time, but observed that the leak may have increased).	Pumps were shutdown to prevent further leakage. A work order (Emergency, Priority 1) was placed to repair pump and pumps were repaired on Tuesday, 13 October 2020.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	10/13/2020
21-09	10/8/2020	Direct Notification	DPW personnel witnessed at 0810 that a routine flushing of a fire hydrant by the South Post Water Tower was being conducted. It was unsure if the treated water was dechlorinated before being discharged to 16th Street. After Anthony Gartrell contacted Jason Nash at American Water, they were able to confirm that the discharge hose had dichlorination tablets at the discharge point. No further action is needed.	DPW was able to verify that the water was being dechlorinated before being discharged. No further action needed.	Invalid Report, No Corrective Action Needed	Closed	10/8/2020
21-10	10/30/2020	Direct Notification	At approximately 5:15 pm noticed that the station's two auxiliary overflow basins were at capacity and that the effluent was overflowing out from the chemical room door. The chemical room is located approximately a couple of inches above the holding tanks. The lift station could not handle the large amount of rainwater entering the system during such a short duration with the ground already saturated. It is possible that a plug to an abandoned sewer segment has pushed out allowing water in or that a pip has become cracked allowing additional I&I into the system.	The pumps at LS 687 were already over speed to 63 hertz which provided an extra 100 gallons per minute to assist in minimizing the overflow. Staff cleaned the surrounding area.	Valid Report, No Illicit Discharge, No Corrective Actions	Closed	11/3/2020
21-11	11/5/2020	DPW Inspector	While conducting Outfall dry weather screening DPW inspector observed cement dumped near outfall 911.	A corrective action form was created and sent to FB Housing Leadership to address the finding. Housing partner completed a corrective action of removing the cement and providing educational material to the residents to prevent future occurrence.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	4/29/2021
21-12	11/13/2020	Direct Notification	DAAF Alpha Ramp: Taxing C-26 aircraft experienced a suspected mechanical failure causing the aircraft to leave the runway. The nose and right rear struts left the runway and sunk into the adjacent soil. As a result of the sinking of the struts, the aircraft began to tilt toward the soil causing JP-8 to leak out of the vents on the right wing. Approximately 1-2 gallons of JP-8 leaked out of the aircraft and into the soil before the Fort Belvoir Fire Department (FD) arrived on the scene.	Spill was contained with absorbent Materials. Aircraft was defueled and moved out of the scene. Contaminated topsoil was removed and treated as HazWaste. Topsoil was replenished and site was stabilized.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	11/16/2020
21-13	11/16/2020	DPW Inspector	On November 16, 2020 at 1033 David Greenspan discovered an illicit discharge from a small construction project on 16th Street and Theote, The contractor (Mass Tech) was seen discharging a de-watering bag directly into the nearby storm drain (Inlet 1688) discharging into Outfall 2174. According to David Greenspan Mass Tech is subcontracted under DVP Construction	The contractor shall review Erosion & Sediment Control Technical Bulletin #1: DEWATERING OPERATIONS, and Erosion & Sediment Control Technical Bulletin #4: STORMWATER POLLUTION PREVENTION REQUIREMENTS FOR SMALL PROJECTS AND RENOVATION PROJECTS (both attached). Contractor reviewed the bulletins with all construction crews and had a on-site demonstration of the techniques to be used. Each Crew was also provided with a copy of the Bulletins to keep in hand as a reference.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	11/20/2020
21-14	11/19/2020	Direct Notification	SSO at Davidson Army Airfield -Right hand corner of Farrar Rd. and Santer Rd. About 20 gallons spilled over land surface.	Staff were notified of a sanitary sewer overflow that resulted from a broken cleanout. The cleanout cap was likely broken during asphalt work which resulted in gravel and asphalt to enter. Staff estimates that roughly 20 gallons total overflowed onto the surrounding pavement and grass. Staff utilized a vactor truck to flush, wash down the area, and to collect the effluent. Staff will be installing proper clean out cast iron cover with a new clean out cap below it. VADEQ Closed Report on 20 Nov 2020 and stated: Very minor SSO (20 gals) to land surface only American Water completed sewage cleanup 24-hr report meets 5-day requirements	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	11/20/2020
21-15	12/28/2020	Direct Notification	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.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-16	12/29/2020	Windshield Inspection	While conducting windshield inspections observed improperly installed silt fences/requiring maintenance and exposed denuded area and a Chair dumped along Woodlawn Rd.	Corrective Action form was sent to the Mr. Fred Carter the COR for the project responsible for the work completed in this area. Follow Up inspection was conducted on 15 April 2021 and a follow up email was sent to Mr. Carter on 16 April 2021. The area looked to have been seeded but area was not stabilized. Slope still requires permanent stabilization by re-seeding as needed. Proper grading does not look to have been completed as a channel is already forming at the bottom of the slope. .	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	
21-17	12/29/2020	Windshield Inspection	Silt fences left over from construction project near building 1221 and Denuded areas requiring stabilization were observed during windshield inspection. Gravel left over from construction has prevented grass growth and final stabilization. Concerning amount of erosion can be observed. Functionality of Storm Water Management Facility could be affected by increasing erosion.	A corrective action form was created and submitted to the COR responsible for the project related with this finding. Silt fences were removed, however erosion concerns still remain.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	
21-18	12/29/2020	Windshield Inspection	During windshield inspection, improper silt fence installation and/or silt fences requiring maintenance were observed on the northeast side of AAFES Building 2321. Denuded areas, erosion and sediment on impervious surface. Was also observed.	A corrective action form was created and submitted to the COR responsible for the project related with this finding. During follow up inspection it was noted that silt fences were removed, however stabilization has not been reached. Follow up email sent on 1 June 2021.	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	

Fort Belvoir Incident Number	Date Discovered	Discovery Method	Description	Corrective Action	Validity	Status	Date Closed
21-19	12/29/2020	Windshield Inspection	During windshield inspection a stockpile was observed at the corner of John J. Kingman and Woodlawn Rd. The stock pile lacked proper erosion and sediment controls.	A corrective action form was created and submitted to the COR responsible for the project related with this finding. The stockpile was removed and area was observed to be cleaned during follow up inspection.	Valid Report, Potential Illicit Discharge, Corrective Actions Taken	Closed	4/29/2021
21-20	12/29/2020	Direct Notification	NGA personnel observed that the water draining into Pond 8 (SMF 6208) at NGA was milky white in appearance. NGA Personnel Notified Environmental Division Chief, who advised to close valve of pond 8 to contain possible contaminants.	At the time of the visit there was no painting related activity going on in the tank farm area. The site was clean and only a very small amount of paint chip was observed near a storage truck on site. The storm drain inlet located in the tank farm areas was covered with a filter mat. A water pump with a silt bag was set up to drain water from the oil/water separator towards the storm drain. The site was walked through and the Stormwater Management Facilities were inspected for signs of paint residue. No signs of contamination was observed at any of the SMFs. ISW OF 32 (MS4 OF 6222) did not show any signs of contamination. It is believed that the paint has settled in the Stormwater management facility which is a bioretention level 2 designed to filtrate Stormwater runoff. Recommended monitoring and ensuring proper protection while conducting painting operations.	Valid Report, Potential Illicit Discharge, Corrective Actions Taken	Closed	1/5/2021
21-21	12/29/2020	DPW Inspector	While visiting the NGA facility DPW Inspector observed water being pumped out of OWS towards a storm drain inlet.	Corrective action form was sent to NGA. A meeting was helped to discuss why the OWS is being pumped and directed to storm drain. NGA personnel explained that this OWS is connected to the storm drain system. This design was previously approved by VADEQ. This specific OWS serves as a tertiary containment for spill protection. Dewatering only occurs when the storage capacity is reached, stormwater is inspected for possible contamination prior to discharging.	Valid Report, No Illicit Discharge, No Corrective Actions	Closed	1/13/2021
21-22	1/5/2021	Direct Notification	NGA personnel reported observing a sheen on standing water while inspecting the area just outside of the south gate along Heller Rd.	DPW-Personnel visited the site and determined that the sheen appeared to be of organic nature. No other sources of contamination were found.	Valid Report, No Illicit Discharge, No Corrective Actions	Closed	1/5/2021
21-23	1/19/2021	DPW Inspector	While performing routine ESC inspections at ADFE, DPW Inspector observed Two large soil stockpiles off-site and outside of the project Limits of Disturbance. One stockpile is estimated at 100' by 50', and the other at 80' by 60'. This constitutes an estimated 9,800 square feet of disturbance outside of the limits of disturbance (LOD) of the current approved project.	The observation was documented in the ESC report and an email of noncompliance was sent to project COR/POC. A meeting was coordinated with ADFE personnel to assist in coordinating a corrective action. ESC control were implemented as soon as possible and follow up inspections were periodically conducted. -7 May 2021: The area at the top of the hill is starting to reach final stabilization. It was recommended to remove the silt fence and re-stabilize as needed at this area. The area of the second stockpile located closer to the Culvert 3 does not show appropriate grass cover, it was recommended that this area be re-seeded and mulched again to ensure a good stand of grass is established at that location. -10 September 2021: The soil stockpiles removed and the areas were seeded and mulched, and are fully stabilized. Awaiting removal of silt fence	Valid Report, Potential Illicit Discharge, Corrective Actions Required	Open	
21-24	1/21/2020	DPW Inspector	MS4 program manager observed that ESC controls and inlet protection was not set in place prior to work being conducted in parking lot of Bldg. 1442. Additionally unlabeled open containers were observed	A corrective action form was created and submitted to the COR responsible for the project related with this finding. During follow up inspections it was noted that denuded areas were stabilized and site was brought up to original conditions.	Valid Report, Potential Illicit Discharge, Corrective Actions Taken	Closed	4/15/2021
21-25	1/29/2021	Direct Notification	DPW personnel notified Air Program Manager that a customer of the South Post (SP) Express Gas Station was filling up her vehicle with gasoline. When removing the nozzle from the tank of her vehicle, the customer did not release the nozzle trigger, spraying gasoline out of the nozzle and onto the concrete surface below. As a result, it is estimated that 5-10 gallons of gasoline leaked out of the nozzle onto the concrete surface below.	Spill was contained by Spill response team. Spill occurred in a impervious surface and did not enter a storm drain or body of water.	Valid Report, No Illicit Discharge, No Corrective Actions	Closed	1/29/2021
21-26	1/30/2021	Online SW Pollution Report Form	A Belvoir Village Resident (Ms. Frances Biggerstaff) submitted a complaint via the Stormwater Pollution Reporting form located at Fort Belvoir Environmental Website. Following is the complaint submitted: "Since Nov kids have been building forts One particular fort is built between 3 live trees. Materials used include pallets, rope, nails, wiring as well as using hatchets and rakes This is above the stream flirting from the storage drain. Recently on my walks I've been finding golf balls in the my back woods so the other day I walked the woods behind my property and pulled out 11 golf balls of a total of 49 found on the slope. In addition, a bucket and trash all from the stream that flows from the sewage drain. More upsetting I discovered and pulled out 2 small/med Christmas trees intact with plastic stands. The trees were damming the stream. I also found a large Christmas tree that fills the ditch of the stream causing more obstruction damming the water. I do not know if it has a stand as it's too heavy. Those trees were tossed there and assume about 2 weeks ago. Garbage will continue to build damming the waterway if kids continue to play nearby directly above the drainage. They hit the golf balls above the waterway and clearly the tree was dumped. Belvoir has wildlife that depend on fresh water flow. Further golf balls are dangerous as they look like eggs. We have foxes, deer and several species of bird of prey that feed in this area. Please help me stop illegal littering and actions that continue to cause damage on protect property in the natural environment."	MS4 Administrator reported the situation to higher leadership. This complaint had been reported to the Conservation Branch and DES in the past. A meeting was held on 4 February 2021 with DPW leadership to plan a way forward. A few of the things discussed in the meeting were: (1) It is hard to determine who is responsible for the trash. (2) This area is an environmental sensitive area. (3) It is a concern for residents to conduct their own clean up as they may disturb eagles nest. (4) Trespassing concerns were also raised (5) Education was considered to be the best way to address and prevent the issue from reoccurring. An educational article is being developed. An educational article was published on the Eagle, Fort Belvoir's Newspaper to address these concerns on 17 March 2021.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	3/17/2021
21-27	2/3/2021	Direct Notification	About 10-15 gallons of fuel were spilled from an aircraft at the ramp to the northwest of Hangar 3151.	Spill was contained by Spill response team. Spill occurred in a impervious surface and did not enter a storm drain or body of water.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	2/3/2021
21-28	2/9/2021	DPW Inspector	While on a site inspection for the Bldg. 2834/2855/Parking Lot Demolition Project, Mr. David Greenspan (Fort Belvoir's ESC Inspector) observed that a large amount of land directly East as well as directly West of this project site had been clear cut using heavy equipment and machinery with the downed trees in these areas removed. The ground is all visibly disturbed and the area is estimated to be approximately 3+ acres or so in disturbance. There were no erosion and sediment control measures in place at the time of the observation. The project is located within the Aerospace Data Facility-East (ADF-E); which as of October 2020 has its own EPA ID. A representative from ADF-E, Mr. David Estes, was on the Bldg. 2834/2855/Parking Lot Demolition Project while these discoveries were made, and was questioned what activities this clearing was in relation to. Mr. Estes stated that the removal of trees was in association with the ADF-E Generator Replacement Project, which from our records is shown at 3.70 acres in disturbance. Plans for the ADF-E Generator Replacement Project are currently at VADEQ for review/approval. Currently, plans have not been approved nor has a Construction General Permit for this project been obtained. These plans received comments on 9 FEB 21 from VADEQ on the plan submittal, so it is known that at least one additional re-submission to VADEQ will be required, putting the starting date of this project at minimum 2+ months from now. It was also determined from speaking with Mr. Bryce Bartley (Landscaping Program Manager) that permission to cut these trees had not been granted by our office, and no communications had been received indicating that this might occur.	VADEQ was notified of the land disturbance activities via email on 10 Feb 2021 A meeting was held on 10 Feb 2021 at 12:30 to address these findings with ADF-E leadership. We requested ADF-E submit a corrective action plan to us ASAP. A follow-up meeting between applicable Environmental and ADF-E personnel was held 12 Friday 2021 at 10am. 16 Feb 2021 - DPW Sent ADFE a notice of non-compliance and a template for tracking corrective actions to be implemented 17 Feb 2021 - DPW ESC Inspector conducted a follow-up inspection of the site 25 Feb 2021 - VADEQ Inspector performed a site visit 26 Feb 2021 - VADEQ stated threat "Upon review of the site conditions for the Generator Replacement site (DEQNRO SW2020-0354), no violation will be cited for removal of trees in advance of obtaining approved development E&S, and SWM plans or permits. It was noted minor areas were denuded as a result of the deforestation, and as such, DEQ recommends those areas immediately receive temporary vegetation; and shall be established by the seasonal annual seed and straw mulch application, in accordance with the VA E&S Handbook specifications." From 25 Feb 2021 - Project Start date: The RLD for the project conducted weekly inspections of the site. These are documented and filed in the Project binder for ADFE Generator Replacement Project under MCM#4 08 Apr 2021 - The ADFE Generator Replacement Project received VADEQ approval of plans	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	4/8/2021
21-29	2/23/2021	DPW Inspector	During a site visit, FBRC personnel notified DPW MS4 personnel of high amounts of stormwater runoff coming from the area where buildings 801-802 are situated. During the investigations it was noted that there were some sanitary pipes in the area. American Water was notified to confirm if there were any SSO concerns in the area.	American Water confirmed that they did not have records or encounter a SSO during their inspection at this location. DPW personnel observed indications of underground seepage during their inspections. Following the initial investigation the site was visited during 2 rain events however no signs of excavate runoff was noted. It is recommended to continue monitoring especially during next rain event with a high amount of rainfall. It is possible that underground seepage and high rainfall amount caused the event that FBRC reported. Future investigation and studies are recommended to determine best corrective action.	Invalid Report, No Corrective Action Needed	Closed	2/24/2021

Fort Belvoir Incident Number	Date Discovered	Discovery Method	Description	Corrective Action	Validity	Status	Date Closed
21-30	2/26/2021	Direct Notification	FBRC personnel notified DPW personnel that during their outfall inspections they found that Outfall 288 was free flowing with an active petroleum sheen on February 26th, 2021 around noon. They also observed active petroleum sheen and vapor in the outlet of the underground system 294. They continued to work their way upstream but were not able to find a source to my knowledge.	DPW personnel visited the site and observed a petroleum sheen at the outfall. The response team placed a large oil absorbent boom in the creek bed, approximately 10' downstream from the outfall. The absorbent boom worked effectively to contain the spill. DPW personnel notified VADEQ and the National Response Center of the finding. During follow up inspections it was noted that there was not sheen present. Materials used for containment were removed and discarded properly. VADEQ was notified of the new observations and incident was closed after receiving email from Mr. Alan Lacey (Northern VADEQ Office) indicating that the IR# 298551 has been closed.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	3/1/2021
21-31	3/2/2021	DPW Inspector	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, however during a follow up visit on 26 March 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 corrective action still pending due to other findings on site.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-32	3/4/2021	DPW-ED Personnel /	At approximately 1040 in the morning on March 4th, 2021 DPW and Aleut personnel were conducting a BMP inspection at BMP 5055 when it was discovered that stormwater was being discharged from a pump tank belonging to a ADFE contractor. The contractor was instructed to discharge the stormwater that has accumulated in manhole 5674 in the parking lot. The water began to form soapy suds once it was discharged out of the pump which lead the party to believe it was coming from a detergent. After the water flowed the suds began to dissipate and flowed into the inlet at 5058. During the BMP 5055 inspection, it was discovered that the suds began to reappear at the outlet that entered into the dry extended pond. After close examination and a conversation with upper level management it was determined that the suds were coming from dissolved organic carbon and algae blooms. This IDDE is now closed.	Anthony explained the situation to Sybille Vega on 3/4/2021. The decision was made that it was natural occurring and we should close the IDDE.	Valid Report, No Illicit Discharge, No Corrective Actions	Closed	3/4/2021
21-33	3/8/2021	Direct Notification	At approximately 1:15 PM on Tuesday, March 9th, staff (Sr Supervisor of Ops, Marvin Bowman) received an alert from Aleut Management about an SSO. Aleut has a record of ticket in at 1:26pm (so they called American Water first). Staff arrived shortly after to respond to the situation. Leakage appeared pooling above ground and around the manhole/area. Staff said they did not see any go into state waters or any of the nearby storm drains. Staff are unsure of when the SSO would have began as they only were aware it happened once alerted. Approximately 2:15pm SSO stopped per Marvin Bowman (Sr Supervisor of Ops). After sending a camera down the line (after cleanup and jetting the line) staff did not observe any issues with the line. They believe that there is a bend in the line that may have clogged up. They said that if there is low incoming flow in that line, sewage perhaps could have clogged up that bend. An estimated amount of 92 gallons of wastewater was discharged.	Area was cleaned and vacuumed up as well as lime put down. Line was jetted to break up the debris. Afterwards a camera was sent down the line. The camera revealed no sign of tree root infiltration or grease buildup. 5 day report was sent to VADEQ and incident closed.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	3/12/2021
21-34	3/11/2021	Direct Notification	DPW personnel was notified of a spill at the Hospital. It was determined that the spill came from the While emptying the compactor, the hydraulic hoses at the rear of the compactor must be removed. When the hoses were removed, hydraulic fluid leaked out onto the concrete surface below.	Response personnel contained and cleaned the spill. Bates personnel was advised that the hydraulic fluid must be contained/cleaned up each time they are discharged from the hoses. It was agreed upon that each time the hoses are removed from all compactors on the Garrison, any leaks of hydraulic fluid must be wiped down with an absorbent cloth.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	3/13/2021
21-35	3/16/2021	Direct Notification	The operator of a government vehicle was filling up an external diesel tank in the bed of their truck. It is assumed that the tank was overfilled to the point where diesel fuel was leaking out into the truck bed and onto the concrete surface below. The operator of the vehicle continued to drive away from the fueling facility, eastbound down 16th Street and made a left onto northbound Gunston Road. The diesel spill was traced from the fueling facility on 16th Street to the Dunkin' Donuts on Gunston Road. Mr. Robert Davis (Fuel Accountant/Motor Vehicle Operator – LRC) alerted the Fort Belvoir Fire Department (FD), whom arrived on scene shortly thereafter. Mr. Davis also alerted Mr. Vijay Ivalury (Solid Waste and Recycling Program Manager – Directorate of Public Works (DPW)), whom then alerted Mr. Samuel Johnson (Petroleum and Spill Response Program Manager – DPW).	Response personnel contained and cleaned up the spill using granular absorbent material. The granular absorbent material was cleaned up and placed into 55-gallon drums for proper disposal. It was determined that the spill did not reach the stormwater system. A notification was sent to VADEQ and a response was received from Mr. Alan Lacey confirming that the incident was closed.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	3/16/2021
21-36	3/16/2021	Direct Notification	American Water staff informed at 1100 about a potential SSO lift station 2454 which is located in Ft Belvoir, off of Keene road. Staff onsite and worked through the day. After digging up the area around the force main, they found a PVC pipe had been plugged. The pipe seems to have filled with water and pushed out the plug. I have this listed as an SSO just in case, but after investigation staff believes it is actually not sewer and instead was just likely water accumulated groundwater or surface water. This report is simply precautionary. None was seen entering state waters or storm drains. Area has been blocked off and tomorrow will be backfilled. Fort Belvoir Army Base notified as well. The water source may be still pooling very slightly (which is why listing as incident still occurring) but again has been blocked off as well and very unlikely it is sewer or from our water mains.	Pooled water was infiltrated water/groundwater in abandoned pipe Water tested negative for sewage and chlorine. Incident was closed by VADEQ. No additional action necessary.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	3/17/2021
21-37	3/17/2021	DPW Personnel Observation	While conducting a follow up site visit DPW inspector observed cigarette butts dumped into the storm drain and oil residue by trash compactors.	Corrective action form was created and sent to Hospital personnel for action.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-38	3/17/2021	Direct Notification	MS4 Program manager received a notification from Aleut personnel via phone that personnel at 1420 were power washing the driveways. MS4 Program Manager visited the site and talked to SGT Rosas and explained why this action can be considered an illicit discharge.	A corrective action form was prepared and sent to SGT Rosas along with best management practices Fact Sheet for power washing and IDDE Policy.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Open	
21-39	3/17/2021	Direct Notification	Anthony Gartrell was informed by a resident that a vendor was washing and detailing vehicles in the BLDG 1003 parking lot. Anthony Gartrell informed the vendor that vehicle washing without the proper engineered control is prohibited on the installation per the Phase II MS4 permit. The owner of Dr. Details is David Reyes was informed that all vehicle washing had to be conducted in the public carwash area on North Post. Mr. Reyes phone and email is 202-714-0067 and email is Dr.Details.DMV@gmail.com. This investigation is now closed.	Mr. Reyes will conduct vehicle washing only at the Belvoir North car wash. This IDDE investigation is now closed.	Valid Report, Potential Illicit Discharge, Corrective Actions Taken	Closed	3/17/2021
21-40	3/19/2021	DPW Personnel Observation	Various materials were found dumped around building 802.	A corrective action form was created and sent to Building Facility Manager. Facility manager explain concerns of other tenants conducting the dumping. Various follow up visit have shown similar dumping issues. Facility manager asked for dumpster to be removed. A new follow up inspection will be required.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	6/8/2021
21-41	3/26/2021	Windshield Inspection	During windshield inspections improperly stored nitrogen fertilizer was observed. A broken bag was found and a corrective action form was issued.	AAFES personnel addressed the corrective action form. During follow up inspections it was confirmed that the nitrogen fertilizer concern has been addressed, however the corrective action still pending due to other findings on site.	Valid Report, Illicit Discharge, Corrective Action Required	Open	

Fort Belvoir Incident Number	Date Discovered	Discovery Method	Description	Corrective Action	Validity	Status	Date Closed
21-42	3/26/2021	Windshield Inspection	A "Fairy Forest" was observed near a walking trail by GW Village along Mt Vernon Rd. Various items were scattered through the trail. These items could be easily be picked up by the wind or stormwater and reach the creek near the trail.	A corrective action form was created and sent to DPW-Housing office for implementation. Followed up emails have been sent in various occasions corrective action still pending.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	6/8/2021
21-43	3/31/2021	Windshield Inspection	Various items were found dumped at the intersection of Kingman and Fairfax.	Corrective action form was created however no responsible party was identified. A PWO will be put in to have Aleut clean the area.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-44	4/26/2021	Direct Notification	A SSO was reported at Manhole on 6th street near building 1464. Estimated 20 to 30 gallons were discharged onto the street. Around 3 gallons estimated went into a nearby storm drain. However, it seemed the discharge was in the bottom of the catch basin and none appeared to make its way up to the discharge pipe, so none seen entering state waters. Area and the bottom of the catch basin for the drain have been cleaned and vacced up. Blockage of the sewer has also been cleared.	Area and the bottom of the catch basin for the drain have been cleaned and vacced up. Blockage of the sewer has also been cleared. Report was sent to VADEQ and incident was closed by VADEQ.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed	4/26/2021
21-45	5/4/2021	Direct Notification	A resident contacted DPW Environmental and reported a Hydraulic Fluid Spill adjacent to 5614 Pope Road. It was determined that a trash truck leaked hydraulic fluid while picking up trash. There was no indication that the hydraulic oil reached the storm drain. Outfall was screened no evidence of pollution was found at the time of inspection.	Response team applied absorbent according to directions on the package and cleaned trash cans with household cleaner and paper towels. Response personnel swept the absorbent up and collected it and used paper towels and bagged it for proper disposal. VADEQ was notified.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	5/4/2021
21-46	5/6/2021	DPW Personnel Observation	DPW personnel observed Facebook posting at the Main Fort Belvoir Facebook page. MS4 Administrator reached out to PAO office to verified this incident. PAO notified MAS4 Program Administrator that a resident sent pictures of dumping to the PAO office. Various dumping have been reported to PAO.	A educational post and campaign was started by Fort Belvoir leadership. Various educational posts were made by Fort Belvoir official Facebook page	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	6/1/2021
21-47	5/14/2021	Direct Notification	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.	A clean up event and educational activity is recommended.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-48	5/24/2021	Direct Notification	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 check 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. Contaminated soil is being dug up for proper disposal.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-49	6/2/2021	DPW Personnel Observation	2) Ensure that concrete wash out is cleaned up and an inlet protection added on this inlet to protect it from events like this. See photo 2, and map for details. As this is a new issue, it has a corrective action deadline of 6/9/21.	Contracted cleaned curb on concrete residue and removed buckets (see attached email). This was verified by David Greenspan on routine inspection and Laura Peters on 06/09/21 by visual inspection.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	6/9/2021
21-50	6/3/2021	Windshield Inspection	- Two (2) open roll offs - Portable toilet (near building 226) located too close to curb inlet. Please ensure the toilet is located at least 25' from any curb inlet. - Refuse from the renovation project was put on bare ground and sidewalk area outside building 206 including sawdust in a hopper, sawdust on sidewalk and unsecured trash. Campus Parking areas Outside Bldg. 209 and 231: Dumpsters found with open doors or lids.	DAU site manager changed policy to cover all roll offs. As of 16 July, roll off were open during the day but had tarps sitting next to them to covering at the end of the work day. Portable toilet have been relocated to other side of the building and not near storm inlet.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	7/16/2021
21-51	6/3/2021	Windshield Inspection	Two (2) roll offs that were not in use and not covered. As of 16 Jul, the responsible party has not been located. Curb inlet filter was seen on curb area where no project in currently in progress.	Area was reinspected on 16 Jun 21 and inlet protection had been removed	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-52	6/3/2021	Windshield Inspection			Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	6/16/2021
21-53	6/3/2021	Windshield Inspection	Portable toilet located within 25 feet of curb inlet	Area was reinspected on 16 Jun 21 and toilet had been removed.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	6/16/2021
21-54	6/7/2021	DPW Inspector Observation	While conducting outfall inspections near building 216, DPW Inspector observed Aleut personnel disposing of soapy water on the ground upstream of an stormwater inlet. DPW- Inspector talked to Aleut Personnel on site and explained why they couldn't disposed of the water this way and informed them of the correct way to dispose of the water. On Doerr Road near Hospital: Curb inlets adjacent to tree filters clogged with sediment	Personnel were trained on proper SWM techniques by Baseops contractor. Sign in sheets and signed Corrective Action are included in Corrective action file.	Valid Report, Illicit Discharge, Corrective Actions Taken	Closed	6/11/2021
21-55	6/22/2021	DPW Inspector Observation	Commissary trash compactor was leaking liquids with evidence of draining to curb inlet. Illicit discharge report was filed.	Thrift Store dumping is an ongoing issues and is being addressed as an ongoing campaign to stop dumping on post. Dumped materials were picked up and sign is in place prohibiting dumping.	Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-56	6/23/2021	Windshield Inspection			Valid Report, Illicit Discharge, Corrective Action Required	Open	
21-57	6/23/2021	Windshield Inspection	PX trash compactor had trash packed under that had come out through shoot.		Valid Report, Illicit Discharge, Corrective Action Required	Open	
Total	65				FALSE	65	