

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, 2019 - June 30, 2020



September 2020

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**VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VDPES)
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT
FORT BELVOIR ANNUAL REPORT
JULY 1, 2019 - JUNE 30, 2020**

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, 2019 - June 30, 2020

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

The Director of Public Works, Bill Sanders, has retired and Bradford D. Britain has been named the new director, a delegation of signature authority is provided in Appendix A. The New MS4 Program Manager is Yarelis Chiro and can be reached at yarelis.chiro.civ@mail.mil.

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

There were four (4) new outfalls brought online during the reporting period July 1, 2019 - June 30, 2020 as a result of new construction projects. 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."



Joshua P. SeGraves
Colonel, U.S. Army
Commanding

VA040093

MS4 Permit Number



Date

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 in order to educate the public on key water quality issues to include bacteria, nutrients, sediment, chloride, grease, and chloride applicable to TMDLs at Fort Belvoir. 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 speaking engagements that were scheduled to occur between March 15, 2020 and June 30, 2020, were canceled. Cancellation notices were released on 16 March 2020 via Facebook, the Environmental Division website, and the Public Affairs Office (PAO). Prior to the cancellation of events, a flier advertising the Earth Day events was created. The Fort Belvoir Elementary School, Child Youth Services, and the School Liaison Officers were also contacted to increase interest in the events. Because these planned community interactions were not able to be held, DPW decided to increase the media materials campaign with increased Facebook posting on relevant topics and what the public can do at home. These are also shown in Table 1.

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 = 12,000 ²				
Total Population = 45,749 ³				
Date	Issue	Theme	Name of Article	Topic
July 25, 2019	Participation	Pollution Prevention	<i>Brief: Only Water Down The Drain</i>	Storm drain Labeling
August 15, 2019	Participation	Pollution Prevention and restoration	<i>Volunteers Clean Up Accotink Bay Shoreline</i>	Cleanup outreach event
August 15, 2019	Participation	Sharing information with the public	<i>DPW Environmental Division Now On SharePoint</i>	SharePoint Access and Usage for DPW Resources
September 19, 2019	Fertilizers	Bacteria, Fertilizer, Grease, and Pet Waste	<i>Belvoir Keeps Swim Advisory At Bay</i>	Nutrient and bacteria loading of the Chesapeake Bay.
October 24, 2019	Participation	Pollution prevention and restoration	<i>Shoreline Cleanup</i>	Public Outreach and Participation

October 31, 2019	Erosion and SSOs	Discharge Elimination, Pipe Breakage, Water Line Flushing	<i>Belvoir Earns Water Conservation Award</i>	Water Conservation
December 19, 2019	Salt	Salt Use, Application, and Storage.	<i>Road Salt Overuse Can Harm Environment</i>	Salt Use and Storage
February 20, 2020	Stormwater BMPs	Public Waters Environmental Protection	<i>Stormwater Management Benefits Environment</i>	Stormwater Management
April 16, 2020	Pollution Prevention at Home	Public Waters Environmental Protection, Conservation	<i>Earth Day's Golden Celebration Goes Indoors</i>	Pollution Prevention, Water conservation, Native plants
May 14, 2020	Fertilizers	Public Waters Environmental Protection, Conservation, Pet Waste, Fertilizers	<i>Dangerous Algae Blooms Can Be Diminished</i>	Pollution Prevention, Nutrient loading of Chesapeake Bay
May 14, 2020	Reporting	Public safety, stormwater direct reporting.	<i>Residents Watch Out For, Report Open Manholes</i>	Public Education, Safety
June 25, 2020	Litter	Public waters, Environmental protection, Conservation	<i>Don't Just Collect It, Get Rid Of It</i>	Public Education, Water conservation
Media Materials: Facebook Posts				
A Stormwater Facebook post is made at an average of once per week. Each post is monitored individually for the audience reached, See Appendix C.				
Date	Issue	Audience	Title	Topic
July 8, 2019 - June 25, 2020	Various	49 posts Average of 61 viewers	<i>Various</i>	A wide variety of stormwater topics: @FortBelvoirEnvironmental
Traditional Written Materials: Newsletters and Brochures				
Distributed to High-Priority Facility Personnel Via Email ⁶ and Posted on Facebook for the General Public. Brochures handed out during applicable events.				
Date	Issue	Audience	Title	Topic
September 7, 2019	Nutrients, Bacteria	314 people in attendance ¹ 100 brochures	MWR Pooch Plunge	Brochure: <i>"Are You Cleaning Up After Your Pet?"</i>
September 23, 2019	Grease Managing, Landscaping	Email: 125 Facebook: 36	Fall Stormwater Newsletter	Training, Grease Management, Fall Landscaping
December 19, 2019	Salt Storage and Application	Email: 125 Facebook: 29	Winter Stormwater Newsletter	Snowmelt Runoff, SWPPP Document Upkeep

March 23, 2020	Sediment, Nutrients	Email: 125 Facebook: 47	Spring Stormwater Newsletter	Dig Permit Updates, Good Housekeeping Recommendations, Training and Outreach Schedule
April 20, 2020	PCBs, Local TMDLs	Posted at 6 Hunting/Hiking kiosks ⁵	PCB Awareness for Hikers and Hunters	Brochure: "PCBs and How to Keep Yourself Safe"
June 23, 2020	Sediment, Detergents, Oils	Email: 125 Facebook: 28	Summer Stormwater Newsletter	ESC compliant reporting, Vehicle and Equipment washing, minimizing exposure
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
October 22-24, 2019	Oil and Grease	66 ⁴ students were in attendance	Spill Awareness 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
April 23, 2020	Erosion	CANCELED	Earth Day Celebration	N/A EVENT CANCELED DUE TO COVID-19
April 23, 2020	Common Stormwater Pollutants	CANCELED	MDA Take your Child to Work Day	N/A EVENT CANCELED DUE TO COVID-19
May 23, 2020	Spills, Material Management	CANCELED	Installation Safety Day	N/A EVENT CANCELED DUE TO COVID-19

¹ Event attendance provided by Fort Belvoir Aquatics Director

² Belvoir Eagle circulation,
<http://www.belvoireagleonline.com/site/advertise.html>

³ Garrison population data: Fort Belvoir Army Stationing and Installation Plan (ASIP) Fiscal Year (FY19) Summary

⁴ Attendance list from Spill Awareness and 8-hr HAZWOPER courses

⁵ Email from Wildlife Technician ORISE, Andrew Pitt

⁶ Distribution list/delivery from Industrial Stormwater Program Manager

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.

ii. Review of MCM#1 Program Effectiveness:

For the reporting period, July 1, 2019 - June 30, 2020, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 2018:

- As Required by Part I.E.1 of the new permit the Education and Outreach plan was updated in April 2019 to clearly identify at least three (3) high priority water quality issues and why they are important, provide methods for the public to contact the MS4 program for

information or comments, and to utilize two (2) or more strategies listed in Permit Part I.E.1.d to educate the public on the issues and what can be done to reduce stormwater pollution.

- The Education and Outreach activities were maintained at a high level during the reporting cycle due to a coordinated effort with Public Affairs Office (PAO) to get greater advisement potential by giving DPW Environmental more control over the home page as well as 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 also extended to the Belvoir Eagle to get a monthly slot in the paper to discuss environmental topics.
- Due to COVID-19 closures and CDC guidance, two (2) scheduled community interaction events were canceled. Fortunately, The Education and Outreach Plan provided for multiple avenues for conducting outreach. This lead DPW to increase outreach via use of media materials, limiting personal contact. The Education and Outreach plan was found to be effective even with the cancellation of in person events.

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. The BMPs in the Program Plan for this MCM were reviewed and updated to meet new permit requirements in April of 2019. 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 goals 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, 2019- June 30, 2020 as follows:

- Four 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. 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 23, 2019, December 19, 2019, and March 23, 2020.
- Ten 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. Articles also covered and thanked volunteers who participated in DPW run events in order to encourage public participation.
- BMP Factsheets were reviewed and updated, as needed, during the 2019 - 2020 permit year to ensure proper guidance is being provided to assist tenants in making operational decisions that may help minimize exposure to stormwater.
- Fort Belvoir DPW Stormwater page was consolidated to a DPW Environmental Facebook page in May 2019. The Facebook page, [@FortBelvoirEnvironmental](#), was used 49 time during this reporting period to address pollutant-specific topics with an average of 61 viewers per post throughout the year.
- DPW ED stormwater staff provided 100 “Are You Cleaning Up After Your Pet?” brochures to Directorate of Family and Morale, Welfare and Recreation (DFMWR) for the annual “Pooch Plunge” that was held on September 7, 2019 at the Fort Belvoir North Post pool to educate the pet owning population about pet wastes’ impact on stormwater. There were 314 participants at the events and brochures were distributed to 100 families;
- Numerous activities were planned on and around Earth Day 2020. The Belvoir Eagle published an article by DPW ED which included a comprehensive list of upcoming education and participation opportunities and events. On the Fort Belvoir Environmental Facebook page numerous bulletins regarding upcoming and completed Earth Day activities were published. Due to the COVID-19 restrictions for gatherings all planned Earth Day events were canceled. DPW revised the outreach strategy to increase media materials outreach via the newspaper and social media platforms.
- DPW ED stormwater staff provided 30 PCB information and reporting brochures, “PCBs and How to Keep Yourself Safe,” to the recreational department. The brochures were strategically placed at 6 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.

- MS4 Contact information is located on the Fort Belvoir Environmental Division web page, <https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>
- Public Education and Outreach Plan was reviewed and revised in April of 2019 to cover requirements of the new permit and added chloride as a high priority issue for the Garrison due to a new TMDL for the Accotink Creek. Subsequent to the VADEQ audit completed in June of 2019, the plan was revise to add Oil and grease as a common issue. The plan was reviewed during the 2019-2020 reporting period and was found to adequately met all goals, 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 of the Program Plan posted on the website on October 1, 2019.

The MS4 Stormwater Program did not receive any comments on any of the Chesapeake Bay Phase II TMDL Plan posted on the website for public comment between October 3, 2019 and October 25, 2019. Final Plan was posted on October 29, 2020.

The MS4 Stormwater Program did not receive any comments on any of the PCB TMDL Action Plan posted on the website for public comment between March 16, 2020 and April 15, 2020. Final Plan was posted on April 20, 2020.

The MS4 Stormwater Program did not receive any comments on any of the PCB TMDL Action Plan posted on the website for public comment between March 18, 2020 and April 15, 2020. Final Plan was posted on April 20, 2020.

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. Nine (9) of the direct notifications were made by someone outside of DPW trained staff via a phone call, incidents 20-03, 20-07, 20-14, 20-16, 20-20, 20-21, 20-28, and 20-29, discussed below:

- 20-03: On August 12, 2019 DPW received a call stating that there had been a small (~1.5 gallons) spill of antifreeze at Level 4 of the Rivers Parking facility at the FBCH with approximately a half gallon entering into an internal drain. DPW Staff was sent to observe and document the cleanup. A sedan that had a leaking radiator was parked and had a pool of coolant underneath it. The coolant had entered an internal drain by that point. The fire department had made the initial response and spread absorbent on the spill area. The spill occurred on level 4 which is a covered level. The antifreeze, although it made it into a stormwater conveyance drain, did not make it to a state regulated water. the Parking structure contains an Oil Water Separator. The outfall of the stormwater conveyance drain did not show any indication that any material from the spill made it to the exit point of the drain (approximately 50 feet away from floor drain. Aleut was called to come and clean up the spill. They came and put down more absorbent material on the spill and then swept up the material into a drum that they then brought to the hazardous waste building 1495 for proper disposal. Incident was closed on August 12, 2019.
- 20-07: On September 10, 2019 DPW received a call stating that on the 6th floor of the NCE parking garage on the south end of aisle 6C at approximately 11:30 a Motor Oil spill was discovered and reported. The spill was puddled under a car and measured about 0.125 gallons with a total area of about 3 square feet. The vehicle spill originated from was

privately owned. The spill was covered with absorbent granules, the granules were left in place until later in the day for complete absorption and cleaned up and disposed of.

Incident closed September 10, 2019

- 20-14: On November 23, 2019 DPW received a call stating that a customer at the marina left their oil catch sitting on the shoreline around the time of a rain storm. Facility personnel dug up about a five-gallon bucket worth of soil around oil catch. Amount of oil was believed to be less than one quart of oil, but exact total quantity is unknown. Spill came within 5 feet of Dogue Creek but did not enter a stormwater drainage system or body of water. Spill response was enacted and contaminated soil was removed from the shore line and customer oil catch and storage container were confiscated. Customer was cited the rules and regulations and warned they would be removed from storage if failure to follow rules again. Incident was closed November 23, 2019.
- 20-16: On January 2, 2020 DPW received a call stating that a building was pressure washed and paint chipped off the building. There were no measures to contain the paint chips and they were carried by the water from pressure washing into inlet 5025 near building 2850. A lot of the paint chips were collected and thrown away, gravel around the building was raked to get some of the smaller chips up. Wattles were placed around the stormwater inlet to catch any remaining chips that might have blown into the culvert. Daily inspections of the stormwater and culverts showed no paint chips had gotten through. Incident was closed on January 5, 2020
- 20-20: On January 15, 2020 DPW received a call stating that Aleut Management Services notified American Water staff that there was an active water leak at building 1024. Staff immediately responded and drove by the location to verify the source of the leak. Upon arrival, AW staff identified the leak as a break in a 2-inch water service line. After verification, staff isolated the area by closing off the valve to the water line. American Water personnel isolated the broken water line and actions to repair the broken water line using an expedited excavation permit was initiated. Staff have the necessary materials to make the point repair on the 2-inch water service line. Incident was closed on January 16, 2020.
- 20-21: On January 31, 2020 DPW received a call stating that at building 1490 a Backhoe (Model Deere 410G) that belongs to Tavares Concrete was leaking mechanical grease/ oil. The spill is directly uphill, within 10 feet, of two area inlets. Grease/oil has been transported onto the road and into the storm drains. Tavares Concrete was notified of the illicit discharge and instructed to clean the spill and storm drain dispose of cleaning materials and construction debris on site and to have the equipment repaired. These corrective actions were carried out as of 3-Feb-2020. Incident was closed on 4-Feb-2020.
- 20-28: On 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. DAAF Clearing Project from 2015 was found to be the ongoing project. Corrective actions required were as follows: 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. A stop work order was put in place until these issues were addressed, VADEQ was notified. A warning letter was issued to the contractor detailing what needed to be done. This is an on-going corrective action.

- 20-29: On May 12, 2020 DPW received a call stating a spill occurred at the rear loading dock of building 2325. Illicit Discharge is a white, slightly foamy substance leaking from a dumpster located at the rear loading dock of the New Commissary Facility, liquid is known to be spoiled milk. Liquid flowed from dumpster directly east away from the building towards new Bioretention Unit, structure ID 2535, adjacent to loading zone and through curb cut into the rip-rap pre-treatment for Bioretention Unit. Liquid is very foamy at the pretreatment location and did not make it further into the Bioretention Unit. DPW Required that a boom is placed across curb cut to prevent more material from entering BMP. Ensure that spilled spoiled milk is soaked up with absorbent pads and disposed of properly. Then the area should be washed clean with water once all spoiled milk is absorbed by absorbent pads. Further assessment required as milk will be regularly disposed of at this location, high potential for repeat discharges.

ii. **Part I.E.2.f (2)**

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

Copies of the updated MS4 Program Plan, this annual report, and any other pertinent stormwater documents will be posted on the Fort Belvoir website

<https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division> under the Programs and Documents, then MS4 Stormwater by October 1st of every year.

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.

11 public involvement activities were planned for the reporting period July 1, 2019 - June 30, 2020. Only seven (7) of these events were able to be completed as three (3) educational events and one (1) were canceled due to COVID-19 restrictions on gatherings. Most of the in-person events planned fall into the restoration and educational event category, but Belvoir also looks for opportunities to promote pollution prevention using other types of events and media. Fort Belvoir found that all three types of events were effective in improving water quality, but the public seemed to be most willing to participate in Restoration events.

All cleanup events (restoration) saw immediate results through the removal of trash already effecting water quality in streams. The planting efforts (restoration) were effective in addressing long term issues dealing with erosion in the areas picked for planting, working to minimize the

amount of sediments being discharged. Distribution of guidance and promotion of residential techniques (pollution prevention) the public can use to minimize impacts to water quality can be effective, but it is difficult to measure the benefits. The use of booths and visual aids at community events (educational events) usually serve in showing the public and military personnel common stormwater issues and presented information on what they can do on a regular basis to prevent stormwater pollution. Unfortunately, due to COVID-19 Fort Belvoir was unable to use this strategy during this permit cycle as the three (3) planned events were canceled. 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, 2019 - June 30, 2020)

Date	Name of Event/Activity	Category from Permit Table 2	Metric
August 10, 2019	Summer Cleanup of Accotink Bay and Creek	Restoration	Volunteers: 9 Trash Collected: 12 Bags
September 7, 2019	Pooch Plunge	Pollution Prevention	Attendees: 314 Pamphlets Distributed: 100
October 1, 2019	MS4 Program Plan posted for Public Comment	Public Comment	Always open for comment
October 3, 2019	Chesapeake Bay Phase II TMDL Public Comment	Public Comment	Comment Period: 22 days
October 17, 2019	International Coastal Cleanup	Restoration	Volunteers: 10 Trash Collected: 10 Bags
January 29, 2020	George Washington Village Cleanup	Restoration	Volunteers: Unknown Trash Collected: 15 bags Tires: 1
February 20, 2020	Published guide to residential BMPs in article "Stormwater Management Benefits Environment"	Pollution Prevention	19,000 Newspapers distributed
February 26, 2020	Center for Army Analysis (CAA) Unit Cleanup	Restoration	Volunteers: 10 Trash Collected: 116 bags
March 16, 2020	2020 PCB TMDL Public Comment	Public Comment	Comment Period: 28 days
March 18, 2020	2020 Bacteria TMDL for Lower Accotink TMDL Public Comment	Public Comment	Comment Period: 26 days
March 29, 2020	Potomac River Watershed Cleanup	Restoration	Canceled due to COVID-19
April 20, 2020	Earth Day Celebration	Educational Event and Restoration	Canceled due to COVID-19
April 20, 2020	MDA Take Your Child to Work Day	Educational Event	Canceled due to COVID-19

Date	Name of Event/Activity	Category from Permit Table 2	Metric
May 19, 2020	Potomac View Trail Planting	Restoration	Volunteers: 9 Hollies Planted: 40 Wildflowers Planted: 20
May 23, 2020	Installation Safety Day	Educational Event	Canceled due to COVID-19

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, 2019 - June 30, 2020, Fort Belvoir completed the following actions to maintain compliance with permit conditions of the MS4 General Permit that became effective on November 1, 2018:

- MS4 Program Plan was updated to incorporate recommendations from the 2018-2019 Annual report and program evaluation on September 27, 2019. The updated MS4 Program Plan was posted to the website and made available for public comment on October 1, 2019.
- The Chesapeake Bay Phase II TMDL Action plan was posted for public comment, as required by Part II.A.12. The MS4 Stormwater Program did not receive any comments on any of the Chesapeake Bay Phase II TMDL Plan posted on the website for public comment between October 3, 2019 and October 25, 2019. Final Plan was posted on October 29, 2020,
- The 2020 PCB TMDL Action plan was posted for public comment, as required by Part II.B.7. The MS4 Stormwater Program did not receive any comments on any of the PCB TMDL Action Plan posted on the website for public comment between March 16, 2020 and April 15, 2020. Final Plan was posted on April 20, 2020.
- The 2020 Bacteria TMDL Action plan for the lower Accotink Creek was posted for public comment, as required by Part II.B.7. The MS4 Stormwater Program did not receive any comments on any of the PCB TMDL Action Plan posted on the website for public comment between March 18, 2020 and April 15, 2020. Final Plan was posted on April 20, 2020,
- Provided method for the public to report illicit discharges, improper disposal, spills, and complaints as required by Part I.E.2.a.(1). Received and responded to nine (9) reports of complaints and concerns from the public,
- Conducted 7 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,
- Annual Report will be posted on the Fort Belvoir website on October 1, 2020 as required by Part I.E.2.b.(3) of the 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 to meet new permit requirements in April of 2019. The plan was subsequently updated after the VADEQ audit in June 2019 to include Oil and Grease as another potential issue to cover. How Fort Belvoir achieved compliance with the measurable goals for MCM #2 based on the updated Program Plan 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: Effective MS4 Permit and coverage letter, most current Program Plan, and annual reports for each year of the terms covered by the current permit.

- This goal was met with website updates occurring on July 31, 2019, September 27, 2019, October 1, 2019, October 3, 2019, October 29, 2019, March 16, 2020, March 18, 2020, April 15, 2020, and April 16, 2020.

The measurable goal 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 September 27, 2019 and posted to the website and made available for public comment on October 1, 2019. Additionally, the website will be updated once again by October 31, 2020 to include a copy of the 2019-2020 Annual report and an updated Program Plan.

The measurable goal 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/forum for transparent communication with the public for any comments or complaints received.
- The MS4 Stormwater group received nine (9) 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. The group also received and responded to two (2) direct comments from the public on social media posts. One requesting information on the 'health' of Accotink Creek and one with suggestions for public involvement activities.

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, 2019 - June 30, 2020 with Fort Belvoir participating in Seven (7) of the 11 planned local activities as described in Table 2 above.

Efforts under this BMP were greatly expanded during the reporting cycle due to a coordinated effort with Public Affairs Office (PAO) to get greater advisement potential by giving DPW Environmental more control over the home page as well as a wider distribution through the development of a general environmental outreach plan with weekly goals for posting of environmental topics on Facebook. Efforts also extended to the Belvoir Eagle to get a monthly slot in the paper to discuss environmental topics.

The Stormwater Team has also been building relationships with tenant commands which has made coordinating educational activities easier. The stormwater team has also developed multiple reusable and interactive displays that cover multiple stormwater pollutants and topics. This has allowed the team to cater to different audiences and even to different seasonal topics. Current displays that get rotated use during educational events include: *Sediment Disposition and Erosion vs. Vegetation, Common Stormwater Pollutants, Litter and Water Quality, Spill Response and Material Handling, and Salt Melt Experiment*. Unfortunately, due to restrictions on gathering because of COVID-19 the team had to cancel the three (3) planned educational events.

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.

To the best of our knowledge DPW-Stormwater team has updated the MS4 Map and Information table for all new, removed, and retrofitted structures for projects completed before June 30, 2020. This included updates for additional structures associated with the two (2) construction projects listed in table 3 below. Additionally, a GIS mapping layer was submitted to VADEQ on June 24, 2019 as required by Part I.E.3.a.(3) was also updated. The database was updated for these individual projects as they were completed to include updates to the information tables required under Part I.E.3.a of the permit. The updated information tables with data for these new structures is included in Appendix B.

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

Project Name	CGP Number	Stormwater Management Facilities Added	Outfalls/Outlets Added
Missile Defense Agency (MDA) Parking Expansion	No CGP	2 x Level 2 Micro Bioretention Structure IDs: 7832, 7833	N/A Tied into existing system
North Post Access Control Point	VAR10I957	2 x SWM Infiltration Ponds 1 x Extended Detention Dry Pond Structure IDs: 7860, 7861, 7862	4 New Outfalls Structure IDs: 7856, 7857, 7858, 7859

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

Provide the total number of outfalls screened during the reporting period

A total of 50 outfalls were screened during the reporting period July 1, 2019 - June 30, 2020. 43 outfalls were scheduled to be screened under the Outfall Reconnaissance Inventory (ORI) using the permit year one (2) 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 (2018-2019 permit cycle). Due to COVID-19 restrictions there were six (6) outfalls on the year-2 prioritization schedule, located within secure areas, that were not able to be screened. These six (6) Year-2 Outfalls were replaced with six (6) Year-3 Outfalls of the same risk level in order to ensure that at least 50 were screened. The outfalls not captured from Year-2 screenings will be screen in Year-3. A summary of results from the screenings are discussed below.

Outfall Reconnaissance Inventory (ORI) Screening

Based on the outfall screenings completed between January 24, 2020 and May 14, 2020 SCF Personnel identified one outfall as being Suspect of an illicit discharge (6951), four outfalls that had a Potential for illicit discharges (67, 288, 2924, 4470), and the other 45 outfalls were found to be Unlikely to have an illicit discharge. A Summary of the ORI findings are presented in Appendix D.

67 (George Washington Village): Outfall was screened on January 29, 2020 at approximately 13:15 and was not found to be flowing at the time of inspection but a sample was taken from the pool and Hach Water testing was used to test for pH, Ammonia, Free/Total Chlorine, Nitrates, Nitrites, and Phosphates. Tests showed no elevated levels (pH 7, Ammonia 0.03 mg/L, Free Chlorine .01 mg/L, Total Chlorine .03, Nitrate 0.7 mg/L, Nitrite 0.001 mg/L, Phosphate .07 mg/L) and none of the tests showed an exceedance of the illicit discharge threshold. There was a heavy sheen in pool and channel. No upstream source found for sheen.

Actions Taken/Recommended: No sources of illicit discharges were found within the drainage area for the outfall. The sheen that was present recoalesced when disturbed and therefore is believed to be petroleum, oil, or lubricant. It is recommended that this outfall be put on the screening list for the 2020-2021 permit cycle to determine if sheen was from natural decomposition or dumping.

288 (George Washington Village): Outfall was screened on January 29, 2020 at approximately 13:40 and was not found to be flowing at the time of inspection but a sample was taken from the pool and Hach Water testing was used to test for pH, Ammonia, Free/Total Chlorine, Nitrates, Nitrites, and Phosphates. Tests showed no elevated levels (pH 7, Ammonia 0.00 mg/L, Free Chlorine .00 mg/L, Total Chlorine .01, Nitrate 0.002 mg/L, Nitrite 0.00 mg/L, Phosphate 2.75 mg/L). Phosphate was detected at high levels and may be due to fertilizer application. There was a poor pool quality, with dead algae and suds downstream.

Actions Taken/Recommended: No sources of illicit discharges were found within the drainage area for the outfall, no signs of stored or applied fertilizer. It is recommended that this outfall be put on the screening list for the 2020-2021 permit cycle, and to try to visit 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.

2924 (Warren and Theote Intersection): Outfall was screened on April 3, 2020 at approximately 12:20 and was found to have a trickle flow at the time of inspection (0.003 cfs). A sample was taken and Hach Water testing was used to test for pH, Ammonia, Free/Total Chlorine, Nitrates, Nitrites, and Phosphates. Tests showed no elevated levels (pH 7, Ammonia 0.35 mg/L, Free Chlorine .00 mg/L, Total Chlorine .03, Nitrate 0.00 mg/L, Nitrite 0.00 mg/L, Phosphate 1.44 mg/L). Phosphate and ammonia were detected and there was iron floc found in both the pipe and the stream channel.

Actions Taken/Recommended: Source tracking showed No sources of illicit discharges were found within the drainage area for the outfall, no signs of stored or applied fertilizer. A stream and wetland area were found on the other side of the road, feeding into the outfall. The ammonia and phosphorus levels were found to be consistent with other wetland areas therefore no additional screening is recommended.

4470 (River Village): Outfall was screened on April 17, 2020 at approximately 11:00 and was found to have a trickle flow at the time of inspection (0.0008 cfs). A sample was taken and Hach Water testing was used to test for pH, Ammonia, Free/Total Chlorine, Nitrates, Nitrites, and Phosphates. Tests showed no elevated levels (pH 7, Ammonia 0.02 mg/L, Free Chlorine .00 mg/L, Total Chlorine .00, Nitrate 2.5 mg/L, Nitrite 0.00 mg/L, Phosphate 1.61 mg/L). 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.

Actions Taken/Recommended: No sources of illicit discharges were found within the drainage area for the outfall, no signs of stored or applied fertilizer, the detections may be influenced by the tide from Dogue Creek. It is recommended that this outfall be put on the screening list for the 2020-2021 permit cycle, and to try to visit 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.

6951 (NGA Pond 1): Outfall was screened on February 18th at approximately 11:00 and was found to have a moderate flow at the time of inspection. A sample was collected from the flow and Hach Water testing was used to test for pH, Ammonia, Free/Total Chlorine, Nitrates, Nitrites, and Phosphates. Tests showed slightly elevated levels of ammonia and Nitrate (pH 7.39, Ammonia 0.59 mg/L, Free Chlorine .02 mg/L, Total Chlorine .03, Nitrate 0.8 mg/L, Nitrite 0.002 mg/L, Phosphate .1 mg/L) but none of the tests showed an exceedance of the illicit discharge threshold. The presence of suds was noted at outfall. SCF performed some source tracking for the drainage area associated with the outfall and could only find an upstream ponding/wetland area that feeds to the outfall. Plan review and interviews were conducted in year one and found that this is a sedimentation basin associated with the NGA North Loop Road project and is referred to as 'Pond 1'. The sedimentation basin was supposed to be converted to an extended detention basin post construction but the conversion never occurred. There are currently funding requests in to support the final conversion to a Chesapeake Bay creditable stormwater management facility.

Actions Taken/Recommended: No sources of illicit discharges were found within the drainage area for the outfall. The suds that were present did not carry odors and are therefore thought to be associated with the natural decay of organic matter from the ponding area upstream which would also explain the slight detection of ammonia. It is recommended that this outfall be put on the screening list for the 2020-2021 permit cycle to confirm the suds were from natural decomposition. A detergent test has been purchased.

Continued Outfall Monitoring for 2019-2020 Reporting Period

Two outfalls (1715, 3638) from a previous reporting periods had outstanding corrective actions that were followed up on under the periodic screening program during the 2019-2020 reporting year. The History of investigations and actions taken to close the incidents are described below.

Outfall 1715 was inspected this reporting period and is currently waiting for approval of funding and design submission to disconnect the illicit connection from the MS4. Outfall will be re-screened to confirm that the source has been eliminated after completion of work

MS4 Structure ID 1715:

Status: Unresolved; Re-screen outfall once the corrective action 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.
- 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.

MS4 Structure ID 3638:

Status: Resolved; Re-screen outfall after construction is completed.

- During the 2018-2019 ORI, outfall did not have any discharge however there was a faint orange tint and sheen in the pooling water located at the end of the outfall. The sample showed elevated level of ammonia (2.99 mg/L). Source tracking was performed for drainage area and identified an active construction area for a sanitary sewer pump station and manhole repair. Outfall will be rescreened after construction is complete and area has been fully stabilized to confirm that ammonia readings were associated with the ongoing project and not a persistent issue.
- During the 2019-2020 ORI, outfall did not have a flow but the grade in the channel still did not allow for proper drainage and therefore water was still pooling. A large amount of tree litter and pollen were also noted. Sampling showed ammonia detected at 0.77 mg/L. The sanitary sewer in the area had been updated and the area was stabilized. The outfall was found, during the construction process, to be discharging into a perched wetland. This detection of ammonia was found to be due to the pooling of water within the wetland and not due to sanitary lines which were recently replaced in the area. No further screening is recommended.

New Investigations for 2019 – 2020 Reporting Period

There was four (4) new outfalls (67, 288, 4470, 6951) added to the screening list requiring further investigations for the 2020 – 2021 reporting period based on 2019 – 2020 ORI results. The history of the outfall and anticipated closure requirements are discussed below.

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.

MS4 Structure ID 288:

Status: Unresolved; Investigate outfall to determine if fertilizer storage or application is an issue.

- 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. 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.

MS4 Structure ID 4470:

Status: Unresolved; Investigate outfall to determine if fertilizer storage or application is an issue.

- 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. 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.

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. Outfall will be screened to confirm that suds are from natural decomposition, by using a detergent test which has already been purchased.

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.

A total of 32 new reports of potential illicit discharges were investigated during the reporting period July 1, 2019 - June 30, 2020. Illicit discharges were discovered utilizing the ORI, windshield inspections, compliance investigations, direct reporting, and public notification. In addition, five (5) 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. Of the 37 total incidents where investigations occurred during the reporting period all were to be closed during the reporting period except five (5) which will require further actions in the 2020-2021 permit year.

15 (41%) of the 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 these incidents in the form of spill clean-up, training, investigations or guidance. Zero (0) incidents are still open because corrective action is ongoing.

22 (59%) of the investigated discharges were found to be valid reports (potential or actual illicit discharges) and seventeen (17) were resolved during the reporting period. Monitoring and/or corrective actions are ongoing at the remaining five (5).

During the 2020-2021 permit cycle, two (2) of the ongoing investigations and corrective actions will be monitored under the ISW Major Permit (VA0092771) under RO-005 (incident 19-46) and RO-019 (incident 16-10). One (1) incident has ongoing corrective action associated with a MS4 high-priority facility with a SWPPP under HPF-002, which now receives quarterly inspections. One (1) Incident resulted in Corrective Action Training under the Training Plan. The other one (1) incident are being monitored under windshield inspections until the area is stabilized.

iv. Review of MCM#3 Program Effectiveness

For the reporting period, July 1, 2019 - June 30, 2020, 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* was reviewed and updated. The plan became final on March 23, 2020. The prioritization schedule for years 2 and 3 were also updated to reflect changes in screening due to COVID-19 restrictions as discussed above.
- ORI was conducted on 50 outfalls prioritized for year 2 screening as required under Part I.E.3.c.(2).(c);
- 32 suspected illicit discharge were investigated and tracked to completion as required under Part I.E.3.c.(2) – (6);

- Weekly windshield inspections were conducted and resulted in the identification of potential illicit discharge issues on 20 of the 51 inspections; Routes 5,6, and 7 were also identified as having issues the most often.
- Illicit discharge education was conducted as required under Part I.E.1.b;
- Two construction projects were completed during the reporting cycle. As-builts and field verification of all new structures was used to update the Stormwater Structure database and associated information tables for MS4 outfalls and stormwater management facilities (SMFs) were completed throughout the 2019-2020 permit cycle 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 and database were updated throughout the year as projects that made effective changes to the system were completed as per Part I.E.3.a.(4).

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. How Fort Belvoir achieved compliance with the measurable goals for MCM #2 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, 2029 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.

For the 2019 – 2020 reporting year, an update of the storm sewer system map and outfall information table to include any new outfalls or SMFs constructed or TMDLs approved or both during the immediate reporting period will be completed no later than October 1 and will ensure that all changes/additions in structures occurring due to the two (2) construction projects shown in Table 3 are captured.

Additionally, information gathered during the ORI screening for the 50 outfalls screened was used to expand the database to include description data for the outfall and the last screening date and results. Four (4) New outfalls installed during the reporting cycle were added to the prioritization schedule in the IDDE Plan.

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 is 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 applicable during this reporting cycle as there was no change on command since the policy was last signed into effect. Change of command is scheduled to occur in August 2020 and the policy has already been submitted for new commander approval.

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. AW performed smoke and dye testing at Dogue Creek Village during this reporting period but no cross connections were found.

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. IDDE Plan revisions and updates included:

- Identification the actual MS4 regulated area based on the 2010 census and not regulated under a separate VPDES Permits
- built an accurate MS4 Outfall and SMF Map and Information Table and submitted to VADEQ in June 2019. Information Table is updated with new structures when projects are completed.
- Used field data and land use data to develop the five (5) year prioritization schedule for the annual ORI screening. The schedule was changed in May 2020 to reflect changes in screening schedule due to COVID 19 restrictions.
- Updated field forms to capture all required data in the new permit
- Completed Year 2 annual ORI screening for 50 outfalls concurrently with other plan updates not effected by the scheduling

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.i of this annual report. The U.S. Army, Fort Belvoir, Virginia 2019 - 2020 Outfall Reconnaissance Inventory Final Report is available upon request, A summary of findings for the 50 outfalls screened for the ORI is provided in Appendix D.

Weekly windshield inspections along eight (8) defined routes, developed in 2019, were implemented during the reporting period. These inspections resulted in 48 deficiencies being

noted in 20 of the 51 inspections completed. Routes 5, 6, and 7 were identified as the routes with the most issues found. (thirty-three (33) erosion and sediment control (ESC) deficiencies, eleven (11) good housekeeping deficiencies and three (3) incidents of spills requiring cleanup and one (1) structures identified for maintenance). All ESC deficiencies were reported to the ESC Inspector for the construction project site and all good housekeeping deficiencies were reported to the facility manager. Each spill incident was investigated and corrective actions were taken or are underway. These and other illicit discharge incidents were investigated throughout the reporting period, a summary of each incident investigated, results of the investigation, corrective actions taken, and incident closure date are provided in Appendix E.

d. MCM#4 – Construction Site Stormwater Runoff Control**i. Part I.E.4.a****Describe how the construction site stormwater runoff program is implemented**

Fort Belvoir is a federal entity that has not developed standards and specifications and does not act as a Virginia Erosion and Sediment Control Program (VESCP) authority. All Erosion and Sediment Control (ESC) Plans are reviewed and approved by the VADEQ and a Construction General Permit (CGP) is required for any project over an acre. Therefore, Fort Belvoir implements a program as per Permit Part I.E.4.a.(4) and inspects all land disturbing activities of 10,000 square feet or greater. Inspections of smaller sites are done via the windshield inspections discussed under MCM#3. 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.

ii. Part I.E.4.d.(2)**Provide the total number of inspections conducted**

A total of 356 inspections were conducted during the reporting period July 1, 2019 - June 30, 2020 for regulated land disturbing activities. 224 inspections occurred at sites disturbing one acre and over, 90 inspections occurred at projects disturbing 10,000 square feet to less than an acre. 35 inspections were conducted for non-regulated projects linear utility projects working under independent standards and specs. Additionally, 7 inspections were completed on a unapproved project site, working without a CGP, where a stop-work was made and the incident was reported to VADEQ. Corrective Actions are still underway.

Total number of regulated land-disturbing activities: There were 20 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, 2019 - June 30, 2020. Ten (10) projects involved land disturbance of one acre and greater and required VADEQ issuance of a CGP. Eight (8) projects involved land disturbance that was 10,000 sf and under one acre and no CGPs was required for these projects. One (1) project was a linear utility project. The final project inspected was discovered in April 2020 and was working without a CGP and was discovered under the IDDE program, as discussed under MCM#3.

Total number of acres disturbed: There were 221.13 acres of total regulated (defined as 10,000 square feet and greater) land disturbance during the reporting period July 1, 2019 - June 30, 2020. Additionally, the discovered project site disturbed an approximate 1.75 acres before the site was discovered and subsequently stabilized.

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

Enforcement actions were initiated on five (5) 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 six (6) Warning Letters were issued during this reporting period.

If the ESC Warning Letter did not result in the issues being addressed within one (1) week of issuance, as a second action, a Notice of Non-Compliance Letter is sent to the Construction Manager and COR. A total of one (1) 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. One (1) VADEQ Compliance Assistance Email was required during this reporting period, for the discovered project working without a CGP. Corrective Actions for this project are ongoing

In addition to this, VADEQ has project oversight on all construction projects within Fort Belvoir Property. During this reporting period, VADEQ did not perform any Level I Site Inspections and therefore no reports were generated.

iv. Review of MCM#4 Program Effectiveness

For the reporting period, July 1, 2019 - June 30, 2020, 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 erosion and sediment control plan approval from VADEQ prior to construction commencement;
- Construction projects disturbing an acre or greater of land were required to obtain erosion and sediment control AND stormwater management plan approval from VADEQ prior to construction commencement; additionally, they were required to obtain a Construction General Permit from VADEQ
- 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.

- 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; and
- Fort Belvoir DPW-ED Stormwater Program conducted project reviews for all proposed land disturbing actions over 2,500 square feet.

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 the measurable goals for MCM #2 based on the updated Program Plan 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, 2018 - June 30, 2019.

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* 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 at: <https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>

DPW ED distributed MS4 Bulletin #1 to designers for all projects with greater than 2,500 square feet of land disturbance. Bulletin #1 provides the Fort Belvoir Home Page website address, as requested, 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, certified in ESC and SWM Plan Review, reviewed construction plans for projects disturbing areas of 2,500 square feet and greater to determine if the stormwater design plans comply with the Virginia Erosion and Sediment Control Handbook, Fairfax County Public Facilities Manual, Virginia Stormwater Management Handbook, the Energy Independence and Security Act, Section 438 and Virginia Erosion and Sediment Control and Stormwater Management laws and regulations. A spreadsheet of all construction projects

greater than 2,500 square feet under design review and a copy of the written procedure is available upon request.

Nine (9) construction projects with stormwater management facilities were inspected periodically during construction to ensure that the new facilities are being constructed in accordance with the approved design plans. Two (2) projects were completed during the reporting year as shown on Table 3

Pre-construction Training was provided to four (4) project proponents and trained 19 individuals which initiated construction under a CGP during the reporting cycle from July 1, 2019 – June 30, 2020. 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 Bulletins #2-#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 July 31, 2019 and April 16, 2019)*
- ESC Technical Bulletin #1: Dewatering Operations (Revised July 31, 2019)
- ESC Technical Bulletin #2: Construction Site Stormwater Pollution Prevention Plan Requirements (Revised July 31, 2019)
- ESC Technical Bulletin #3: ESC Requirements for Utility Installation (Revised July 31, 2019)
- ESC Technical Bulletin #4: Stormwater Pollution Prevention Requirements for Small Projects & Renovation Projects (Revised July 31, 2019)

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, 2018 - June 30, 2019.

Erosion and Sediment Control inspections were conducted once every two weeks and within 48 hours of a storm event that produced greater than .5" precipitation on all construction projects involving land disturbance of 10,000 square feet and greater. A total of 356 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, 2018 - June 30, 2019.

Enforcement actions were initiated on five (5) projects during the reporting period. A total of 6 warning letters and one (1) Notice of Non-Compliance 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. FBRC completed inspections of 13 SMFs during the 2019-2020 permit cycle and performed maintenance on 9 SMFs. Inspection checklist and maintenance logs are maintained by FBRC and are available upon request.

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 32 inspections were conducted by DPW-Environmental at the FBRC Villages this reporting period. Of the 32 inspections, all were in good standing and didn't require 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 223 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, 2019 to June 30, 2020 reporting cycle DPW-Environmental performed inspections of 280 SMFs located within the MS4 regulated service area (based on 2010 census data).

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. 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 24 facilities rated at a '4' and one (1) facility rated at a '5'. Work orders for these facilities will be entered and maintenance should occur during the next reporting cycle (2020-2021).

Five (5) new SMFs, as shown in Table 3, were brought online during the reporting period July 1, 2019 - June 30, 2020. 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 repaired a broken observation well at BMP 7593.

FBRC has not reported any significant maintenance on SMF for the 2019-2020 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 here: <https://home.army.mil/belvoir/index.php/about/Garrison/directorate-public-works/environmental-division>

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, 2020 all BMPs that were brought online during the 2019-2020 reporting period have been entered into the BMP Warehouse. Additionally, Fort Belvoir has added Stream Restoration, Shoreline Management, and Street Sweeping BMPs into the warehouse to capture the full scope of BMPs used by Fort Belvoir in the management of Stormwater quality.

Fort Belvoir has also been working 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. This was completed during the 2019-2020 permit cycle.

Fort Belvoir also confirms that as of October 1, 2020 all the five (5) new SMFs that were brought online during the 2019-2020 reporting period have been entered into the BMP Warehouse.

vi. Review of MCM#5 Program Effectiveness

For the reporting period, July 1, 2019 - June 30, 2020, 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;
- Conducted 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, stormwater management facilities (SMFs) were completed on August 5, 2019 and December 10, 2019 as required by Part I.E.3.a.(1) and (2)
- Conducted inspections on 285 stormwater management facilities to determine maintenance requirements; and
- Conducted routine maintenance on publicly owned SMFs located throughout Fort Belvoir
- Gained access and reported new BMPs brought online during the reporting period and other BMPs not previously reported into the BMP warehouse database
- Worked with William Keeling from VADEQ to correct issues with previously reported data into the BMP warehouse

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, and reporting of new BMPs to the VADEQ BMP Warehouse, review and revise the BMP inspection and Maintenance plan, and implement a 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 met for the reporting period July 1, 2019 – June 30, 2020.

Field verification and updates to the Stormwater Structure database and associated information tables for stormwater management facilities (SMFs) was completed on August 5, 2019 and December 10, 2019 for SMFs brought online on July 9, 2019 and November 18, 2019 respectfully, as required by Part I.E.3.a.(1) and (2) and Part I.E.5.d.(1) – (9). The database was updated multiple times throughout the reporting period to capture new SMFs as CGPs were closed by contractors. A total of 5 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, 2019 and June 30, 2020 using the BMP Warehouse was completed this reporting cycle in coordination with William (Bill) Keeling from VADEQ to coordinate access to the BMP Warehouse and to correct data from previous reporting periods to eliminate duplicates and remove BMPs that are not owned/operated by Fort Belvoir. Additionally, Fort Belvoir hopes that this effort will result in SMFs being attributed directly to the Garrison's Permit (VAR040093) instead of with the DoD.

Updates to the BMP warehouse was done directly by DPW-Environmental for 'Discovered' units on September 26, 2020. Updates to the BMP warehouse was done directly by DPW-Environmental for 'New' units on September 30, 2020. Corrected data for historical SMFs already within the BMP warehouse was submitted directly to Bill Keeling on September 30, 2020.

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, 2019 – June 30, 2020.

The General Plan for Inspection and Maintenance was reviewed and found to need some updates due to both new permit requirements as well as a change in contracts used to inspect and maintain the facilities. The plan has undergone updates and was finalized on September 27, 2019. Once finalized, the Plan was provided to the Base Ops Contractor for implementation in the 2020-2021 cycle year.

Inspections and Maintenance during the 2019-2020 reporting period were completed as per the *Fort Belvoir's General Plan for Stormwater Facility Inspection and Maintenance* dated September 2013. Operational inspections required by the plan 175 BMPs were conducted by SCF personnel between June 30, 2019 and July 1, 2020 and reporting procedures were as follows. Operational logs were created for each BMP using the Stormwater BMP Database built by the US Army Corp of Engineers in an Access database. An overall condition rating was generated for each BMP 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.
3	Acceptable	Acceptable/Anticipated Structural and Functional Deterioration. Operating effectively. Preventative or non-routine maintenance required.
4	Major Defects	Major structural or functional defects. Preventative or non-routine maintenance is required.
5	Deficient	Structurally/Functionally Deficient. In need of immediate replacement or rehabilitation.

The majority (260 or 91%) of facilities inspected received a rating of Conditions 1, 2, or 3 where at most they were due for preventative maintenance. Under the new Fort Belvoir Base Operations Contract, Aleut must perform routine preventative maintenance on facilities that receive a rating of 1, 2, or 3. Aleut was provided the inspection results for all of these facilities to confirm that the routine maintenance was completed or scheduled.

Eighteen (9%) of the facilities inspected received a 4 rating and were recommended for preventative and/or non-routine maintenance. Nine tree box filter (BMP ID 7072, 7075, 7077, 7079, 7081, 7104, 7106, 7111, and 7112) received a 5 rating due to non-functional planting, facility is full of sediment and damaged grate. Work requests were generated for maintenance on the 25 BMPs that received condition ratings of 4 or 5. This included work such as:

- Removal of sediment/debris and replacement of filter, plants, and mulch for 15 Tree Box Filters
- Removal of woody vegetation, sediment and debris and cleaning of inlet/outlet structures at 54 Stormwater Basins requiring minor maintenance
- Repair of exposed electrical wiring and union joint leak at 1 cistern
- Applying seed and straw to exposed areas until stabilization occurs

Fort Belvoir is also continuously following up on the following requests submitted last permit cycle:

- Removal of sediment and debris at ten (10) Underground Storage Facilities, awaiting funding;
- Performing major repairs to bring two (2) Stormwater Basins back to design capacity and ensure water quality and quantity requirements are met. DPW is currently going through the funding process with USACE.

SMF inspections were also conducted by the Base Ops contractor, Aleut, Between July 1, 2020 and June 30, 2020 focusing the facilities not covered by SCF. Due to wording on the new Base- Ops contract the contractor is responsible for submitting work orders, or DMOs, immediately after an inspection for BMPs if preventative/non-routine maintenance was required. 52 DMOs and 3 PWO were generated. This work included:

- Removal of trash, sediment, and debris and repair eroded and bare areas at 20 stormwater basins.
- Repair erosion around spillway pipe of 9 stormwater basins.

In addition to the BMP 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). These were inspected in September of 2019. Overall the ponds were found to be functioning as designed, although some woody vegetation, minor debris, and need for tree removal were noted in most of the reports. Some Dry Extended Ponds contained groundhog holes that needed to be backfilled immediately before the issue worsened.

FBRC has not reported any significant maintenance on SMF for the 2019-2020 reporting period.

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 covers eight (8) 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 SWPPP to these eight (8) facilities and are distributed on a as needed basis to other individuals and/or tenant commands. During the 2019-2020 reporting cycle these BMP factsheets were reviewed and updated to have more information, in particular in terms of grease management which was identified to be the most common issue identified across the installation.

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 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 during the 2018-2019 permit cycle it was determined that six (6) facilities classify as a high priority facility with the potential to discharge pollutant and six (6) facilities meet the non-exposure exemptions. All six (6) facilities determined to need a SWPPP already had one and therefore, no new SWPPPs were developed. No additional or new facilities were found to require a facility specific SWPPP.

iii. Part I.E.6.q.(3)**Provide a Summary of SWPPPs modified per Part I.E.6.f of the MS4 General Permit or the rationale for de-listing high-priority facilities per Part I.E.6.h of the MS4 General Permit**

Overall recommendations from the 2018-2019 HPF evaluation discussed above included more frequent facility inspection, additional training, and distribution of 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 in order to prevent backsliding by facility operators.

Grease was found to be the most common issue found at the facilities evaluated. 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. Most of the spills found at facilities looked to have occurred during the pumping of oils/greases by the third-party contractor and could be seen trailing away from the sites.

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.	Close SWPPP under MS4; maintain as is in order to cover any upcoming projects
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.	Increase Inspection Schedule to Quarterly in the SWPPP; Post Grease Management and Spill Response Guides around Facility
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 as is in order 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 changes to SWPPP
MS4 HPF-005	Caisson Stables (Building 3045)	Yes	Complete	The facility currently has a SWPPP but was found to store large amounts of manure during the inspection. Site personnel were unaware of the process for manure disposal.	Increase frequency of manure pickup and removal from the site; Ensure personnel are aware of process for disposal
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 changes to SWPPP
MS4 HPF-007	Theote Road Housing Storage Yard	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	No changes to SWPPP
MS4 HPF-008	Housing Annex (Building 1108)	Yes	Complete	The facility currently has a SWPPP and has remained compliant with its requirements.	No changes to SWPPP
Potential MS4 HPF-009	Bowling Alley (Building 1199)	No	Not Required	Although grease is managed outside, there is a dedicated storage location away from any inlets therefore there is a low potential for pollutants to be discharged into waterways	Continue Training as prescribed in the Training Plan focused on grease management; Review grease pick-up contract language

MS4 HPF ID	Facility Name	SWPPP Required?	SWPPP Development Status	Justification	Recommendation
Potential MS4 HPF-010	Fort Belvoir Community Hospital	No	Not Required	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.	Continue Training as prescribed in the Training Plan focused on illicit discharges
Potential MS4 HPF-011	Burger King	No	Not Required	All grease is managed internally within the facility and pumped out regularly; the potential for pollutants to enter state waters is extremely low due to the oil/water/grit separator and infiltration basin available at the site. Additionally, any discharge from the infiltration basin enters an earthen channel over 500 ft long before entering any waterway.	Continue Training as prescribed in the Training Plan focused on grease management; Review grease pick-up contract language
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 has the opportunity to infiltrate prior to reaching any waterway.	Continue Training as prescribed in the Training Plan focused on grease management; Review grease pick-up contract language

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. Three of the Plans were reviewed and updated during the reporting period.

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 371 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, Revised 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
7/2/2019	AAFES - Arby's	ISW Permitted Facility	1	1 & 4
7/2/2019	Onieda - Building 1484	ISW Permitted Facility	5	1 & 4
7/10/2019	DAAF-Fueling Facility	ISW Permitted Facility	8	1 & 4
9/5/2019	1496 - Pest Control Building	ISW Permitted Facility	1	1 & 4
9/5/2019	12th Aviation Building 3231 @ DAAF	ISW Permitted Facility	4	1 & 4
9/11/2019	AAFES Food Court	ISW Permitted Facility	3	1 & 4
9/17/2019	AAFES Exchange, Fort Belvoir Mess, Ft. Myer Express, 12th St Starbucks,	ISW Permitted Facility	22	1 & 4
9/30/2019	South Post Fire Station	ISW Permitted Facility	1	1 & 4
10/21/2019	Bldg. 1442	DPW OMO	3	1 & 4
10/21/2019	Various	Spill Awareness Training	35	3 & 4
10/22/2019	Various	8-hour Hazwoper Refresher	16	3 & 4
10/24/2019	Various	Spill Awareness Training	15	3 & 4
11/15/2019	FMS13 VAARNG	ISW Permitted Facility	4	1 & 4
11/21/2019	MWR	MS4 General Awareness	2	3 & 4
11/22/2019	MWR	MS4 General Awareness	4	3 & 4

DATE	ORGANIZATION	AUDIENCE	NUMBER OF ATTENDEES	LEVEL OF TRAINING
1/14/2020	RCRA- PHA, INSCOM, LRC, AAFES, American Water, C5IsR, DCARNG, Ft. B Hospital, 12th Aviation, EMCOR, MEDDAC, Aleut	40 HR RCRA	39	3 & 4
1/14/2020	DLA Ground Fuel Facility	Pre-Construction	5	5
1/15/2020	DAAF-NVESD_RO-002	ISW Permitted Facility	3	1 & 4
1/15/2020	DLA DM-FFI	MS4 HPF-003	3	2
1/16/2020	RCRA- PHA, AECOM, 12 Avn Bn, DAU, VARCO/MAC, Aleut, NVESO, FBRH, NVESD, INSCOM, 249th EN BN, CP&I, LRC, DAAF, American Water, VA ARNG FMS 13, DLA, FBCH, CRC, ASA Fort Belvoir, MDA, DPW-ENRD, PM DOD Biometrics, CSISR-PRD, EMCOR, LRC, ARHC, DTRA, SPPD, TAAB,	RCRA Refresher	75	3
1/16/2020	RCRA- PHA, DLA DM-FFI, MDA/FDOE, CRC, CMH-TRADOC, DHA-EH, MDA/FD, Aleut, DPW-ENRD, AASF DCNG, DLA-DFFC, FBCH-IH, DHA, LRC-ASC, EBCH-EII, DCNG AASF,	RCRA Refresher	31	3
1/17/2020	Village at Belvoir, Blue Heron Leadership Group	MS4 HPF-007, HPF-008	5	2
1/24/2020	MWR-Dogue Creek Marina	ISW Permitted Facility	2	1 & 4
1/24/2020	TMP Yard	ISW Permitted Facility	1	1 & 4
2/5/2020	OSA-A	ISW Permitted Facility	2	1 & 4
2/5/2020	DAAF-Fire station	ISW Permitted Facility	2	1 & 4
2/13/2020	Meade Road Contractor Lot	ISW Permitted Facility	2	1 & 4
2/18/2020	1495 & 1495 HazWaste	ISW Permitted Facility	4	1 & 4
2/19/2020	AMSA 91	MS4 HPF-004	9	2 & 4
2/20/2020	NVESD - 300 Area	ISW Permitted Facility	3	1
2/27/2020	DAAF Lighting Project	Pre-Construction Meeting	4	5
3/3/2020	Auto Skills Center	MS4 HPF-006	2	2 & 4

DATE	ORGANIZATION	AUDIENCE	NUMBER OF ATTENDEES	LEVEL OF TRAINING
3/3/2020	249th Motorpool	ISW Permitted Facility	3	1 & 4
3/5/2020	Aleut & Road & Grounds	ISW Permitted Facility MS4 General Awareness	37	1,3,4
3/11/2020	Golf Course	ISW Permitted Facility MS4 General Awareness	1	1,3,4
5/22/2020	DLA CDC Playground	Pre-Construction Meeting	5	5
6/1/2020	AAFES North Post Express Diesel Addition	Pre-Construction Meeting	5	5
6/25/2020	911th Motorpool	ISW Permitted Facility MS4 General Awareness	2	1,3,4
6/29/2020	Pest Control	ISW Permitted Facility MS4 General Awareness	2	1,3,4
Total			371	

vi. Review of MCM#5 Program Effectiveness

For the reporting period, July 1, 2018 - June 30, 2019, 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;
- BMP Factsheets were updated during the 2018 - 2019 permit year to better cover topics like oil and grease management. Updated BMP Factsheets include: Fats, Oils, and Grease (FOG) Handling, a FOG questionnaire for facility managers, and Grease Management Posters
- 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; No new SWPPPs were developed; One facility SWPPP was modified to include a higher inspection frequency, increase the SWPPP

coverage area, and define management responsibilities between the AAFES Commissary and AAFES Food Court.

- Nutrient Management Plans were implemented for 382 acres of total managed turf. Four (4) Plans were reviewed and reapproved for implementation.
- Stormwater Pollution Prevention/Illicit Discharge/Good Housekeeping training was conducted; over 350 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 except one (1) which was scheduled from April until COVID restrictions began in Mid-March. The HPF-005, Cassion Stables, closed due to COVID and remained closed throughout the rest of the permit cycle.

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, Maintain NMPs, and to revise and implement the Training Plan. How Fort Belvoir achieved compliance with the measurable goals for MCM #5 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 update database of SMFs to include information required by Part I.E.6.a was met for the reporting period July 1, 2018– June 30, 2019.

All previously available BMP Fact sheets were reviewed and updated as needed. Additionally, due to issues noted during the HPF evaluations, grease management was brought up as a new operation that required additional guidance. Therefore, BMP Fact Sheets focusing on grease were developed during the reporting period to include:

- A Grease Guide Poster to be posted at/near grease collection locations
- A BMP Fact Sheet on Fats, Oils, and Grease Handling Procedures
- A Guide on Cleaning up Residuals from Grease Spills

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.

Recycling information is provided in the “The Villages at Fort Belvoir Resident Responsibility Guide” (<https://villagesatbelvoir.com/resident-resources/document-center/>). In addition, the Fort Belvoir Policy Memorandum #30, Fort Belvoir Qualified Recycling Program is published on the Fort Belvoir website

(http://www.belvoir.army.mil/Belvoir/PL/PDF_TableofContentsPL.html). Fort Belvoir Recycling Center and Fairfax County Lorton Landfill (for Household Hazardous Waste) information is also provided in the brochure “*Protect Our Local Waterways*”.

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). 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, 2018 - June 30, 2019.

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 four (4) facilities that were noted as having potential outdoor storage of grease. The evaluations resulted in de-listing of one facility that was found to be covered under a separate VPDES Permit and was outside the regulated MS4 service area. Modifications were made to One (1) active facility SWPPP to increase the frequency of inspections and expand the SWPPP coverage area.

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, 2018 - June 30, 2019.

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. Four (4) plans that were previously approved in 2017 were reviewed, updated, and approved for implementation during the reporting cycle, as shown in Table 6.

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, 2018 - June 30, 2019.

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 to the plan. A total of 371 individuals received training on stormwater pollution prevention (P2) which included sit-down 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: As per the training plan, all eight (8) facilities with a SWPPP are required to receive training annually. All facilities were trained during the permit cycle except HPF-005, Cassion Stables, which was scheduled for April 2020 but closed down in March 2020 due to COVID-19.

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 shall provide biennial Level 3 & 4 training to applicable field personnel. The DPW operations and Maintenance Department received training on October 21, 2019. 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.
- **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 RDL Personnel will receive Level 5 training to address erosion and sediment control concerns before construction begins on-site. A total of 19 people received level 5 – preconstruction training during the reporting cycle,
- **NMP:** The Fort Belvoir DPW ED Forester maintains Commonwealth of Virginia Department of Conservation and Recreation (VDCR) certification as a Turf and Landscape Nutrient Management Planner in accordance with state requirements.
- **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 conducted by Stormwater Program Personnel. A total of 37 people, in this category, were trained during the permit cycle.
- **Recreational Facilities:** Fort Belvoir Directorate of Family and Morale, Welfare and Recreation (DFMWR) manages several recreational facilities including pools, golf courses, marina, car wash, restaurants, etc. Personnel from these facilities receive differing levels of training depending on site operations. A total of 11 DFMWR employees received combinations of levels 1&4, 2&4, and 3&4 Training during the permit cycle.
- **Maintenance and Public Works Facilities Personnel:** In order to support Fort Belvoir's needs, there are many maintenance and public works facilities across the installation. All employees responsible for operating such facilities shall receive Levels 3 & 4 of Training conducted by Stormwater Program Personnel in order to ensure proper stormwater pollution prevention. The DPW operations and Maintenance Department received training on October 21, 2019 and the Base Operation contractors received training on March 5, 2020.

- **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 January 16, 2020 (4-hour Refresher), for a total of 106 personnel in attendance. Additionally, training was also provided to new Hazwaste handlers required to take the RCRA 24/40 Hour courses held the same week. On January 14, 2020 a total of 39 new handlers were trained in general stormwater awareness and illicit discharges. 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. The General Stormwater Awareness and Illicit Discharge training is provided to all attendees at begin of these courses. During the 2019-2020 permit cycle the courses were held October 21-24, 2019 and had a total of 66 attendees.

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	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
Regional Stormwater Pond Centralized Facility	2018	159.65	12.0	23,852.49
Surveyor Rd Stream Restoration	2009	121.88	110.50	24,586.25
North Area Stream Restoration	2011	9.60	8.70	1,936.64
Meade Stream Restoration	2016	52.13	47.26	10,515.35
AW - 5a and 5b Stream Restoration	2017	10.50	9.52	2,118.20
AW – 7 Stream Restoration	2017	22.13	20.06	4,463.35
AW – 8 Stream Restoration	2017	17.59	15.95	3,547.99

BMP Name/Type	Year Completed	TN Reduction (lb/yr)	TP Reduction (lb/yr)	TSS Reduction (lb/yr)
ADFE Stream Restoration	2018	83.18	75.41	16,779.17
Hospital west Stream Restoration	2010	69.00	62.56	13,919.60
Herryford Stream Restoration	2011	109.13	98.94	22,014.15
Gunston Cove Shoreline Management	2010/2014	8.55	6.04	29,484.00
Land Use Changes	Varies	217.51	15.30	6,866.70
Street Sweeping	Annually	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, in order to maintain credits for another 5 years.

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 no new credits are required for Fort Belvoir to achieve the required reductions by 2027, there were still five (5) BMPs, shown in Table 3 brought online during the reporting cycle that would provide additional credits. These have been entered into the VADEQ BMP Warehouse for credit. Additionally, inspections are completed on all historical BMPs and also reported in 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 200 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 2020-2021 Reporting Period

Planned BMPs for the 2019-2020 Reporting Period	Approximate BMP Extent
Building 315 Renovation (Dry Swale Lvl 1)	0.29
NMUSA (W6, Infiltration Gallery)	0.90
NMUSA (W8, Infiltration Gallery)	1.37
NMUSA (W1, Infiltration Gallery)	1.42
NMUSA (W3, Infiltration Gallery)	1.94
NMUSA (W2, Infiltration Gallery)	2.26
NMUSA (W7, Infiltration Gallery)	2.75
NMUSA (W5, Infiltration Gallery)	2.89
NMUSA (W4, Infiltration Gallery)	3.27
NMUSA (E1, Infiltration Gallery)	5.27

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. 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.

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, 2018 - June 30, 2019.

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, 2018 - June 30, 2019. The amount of street sweeping called for in the plan was done monthly and not annually

During this reporting period, the Fort Belvoir Operations and Maintenance contractor reported street sweeping of approximately 6,168,127 square yards (1275 acres) of roadway and 6,850,700 square yards (1415 acres) of parking lots monthly. This far exceeded the goal identified in the Chesapeake Bay TMDL Action Plan of sweeping 2,686 acres per year. The current street sweeping program covers about 32,000 acres on an annual basis. Records of monthly street sweeping is available upon request.

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*, which is available in print and online at <http://www.belvoireagleonline.com/> 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 due on April 28, 2020.

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., as needed was met for the reporting period July 1, 2018 - June 30, 2019.

PCB fact sheets, brochures, and training slides have been produced to include basic information on PCBs, their hazards, the identification of PCB containing equipment, and reporting procedures. All educational materials were reviewed but no changes were required during this reporting period.

The fact sheets were distributed within Facility Specific SWPPPs and PCB TMDL training slides were incorporated into all Stormwater SWPPP Training materials. PCB brochures were made available for distribution during the 2019 – 2020 reporting period and were distributed during some educational events as shown in Table 1.

DPW also 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.

BMP PCB.2 Implement PCB Sampling Plan:

The measurable goal to implement the sampling plan was met for the reporting period July 1, 2018 - June 30, 2019.

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 one (1) sample was taken at each of the outfalls, Warren-1 and Warren-2, associated with MP-13 on May 22, 2020. Sample results are used as the baseline for comparison to Virginia's Water Quality Criteria (WQC) for tPCBs. Monitoring at the facility will continue until the WQC is met or the PCB site is fully capped under the RCRA program. Table 11 below, shows the history of sampling at the site.

Table 11: Summary of PCB TMDL Action Plan Sampling

Sample Date	Warren-1 tPCBs (pg/L)	Warren-2 tPCBs (pg/L)	WQC for tPCBs (pg/L)
08/07/17	692	2,468	640
1/24/19	703	10,456	640
5/22/20	11	39,526	640

In addition to sampling the PCB Action Plan also required the following to be reported in the annual report:

1. Installation of Bollards around the facility until remediation was complete was suggested in the plan:
 - Bollards were not installed at MP-13. The Restoration Program was able to acquire funding to perform a soil removal at the site to excavate and dispose of PCB impacted soils. In March 2019 the site was excavated and the first 6" of soil were completely removed. The site was regraded and stabilized. Confirmation sampling of the soils occurred to confirm that the PCB impacted soils had been removed. The impacted soils were also sampled and then taken off site for proper disposal. This requirement was updated to read "Maintain vegetative cap to prevent migration and deposition of sediment from the site"
2. PCB Factsheets, brochures, and slides were developed as a part of the Plan for distribution and to be added to training slide
 - Fact Sheets were posted on the Fort Belvoir website, distributed to family housing through coordination with the Villages at Belvoir and provided to Army Morale, Welfare, and Recreation (MWR) facilities who run the hunting program. Factsheets were also included in both MS4 HPF and ISW facility SWPPPs. PCB brochure and factsheet were updated in the Appendix F of PCB TMDL Action Plan. PCB training slides were used to update Training Presentation for levels 1, 2, 3, and 5.

3. Maintaining a GIS PCB Data layer was recommended in the plan
 - The GIS layer was reviewed and updated as needed during the 2019-2020 monitoring period. No reported changes were made to the GIS layer.
4. Sampling at Site MP-13 was recommended in the plan to determine seasonal variation and monitor goals towards meeting WQC for PCBs
 - Sampling occur in August 2017 and January 2019. Another sampling event at MP-13 is occurred in May 2020 to determine if WQC was met after the soil removal and capping of the site occurred. The sample was taken on May 22, 2020 and showed that PCBs were still being detected above the WQC on the eastern side of the site while detections had dropped to substantially below WQC on the western side.
5. The Plan called for tracking of progress at other PCB sites currently managed under the Restoration Program
 - Active sites A24a, MP11, MP12, MP13, and MP14 are all under the RCRA facility investigation phase. The following actions occurred during the permit cycle:
 - The RCRA Facility Investigation (RFI) Report Addendum for site A-24 was submitted to VADEQ on April 17, 2020 and subsequently approved by VADEQ on June 11, 2020. Requirements for site closure are being determined based on RFI findings.
 - A Draft RFI Report has been generated for MP-14 and is pending submittal to VADEQ.
 - The Draft Final RFI for MP-12 was submitted to VADEQ on July 23, 2020. Currently awaiting comments and/or concurrence from VADEQ.
 - The Draft Final RFI for MP-11 was submitted to VADEQ on June 8, 2020 and subsequent concurrence on June 18, 2020; need to annotate administrative land use controls in the Master Plan in case there are any land use changes that would require additional investigations.

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* issued on July 1, 2013 requires that “TMDL Action Plans for applicable TMDLs approved between July 2008 and June 2013” be updated by 36 months after permit coverage.

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 (<http://www.belvoir.army.mil/environdocs.asp>) 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*, which is available in print and online at <http://www.belvoireagleonline.com/> 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 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 to continue implementation of the approved 2016 Action Plan and report on implementation of the TMDL Action Plan in the MS4 Annual was met for the reporting period July 1, 2018 - June 30, 2019.

The plan has been implemented throughout the reporting period through the distribution of pet waste brochures (“*Are You Cleaning Up After Your Pet?*”), articles published in the Fort Belvoir

Eagle, and the development of fact sheets and other guidance on Grease Handling as described under the section covering MCM#6.

In addition, information on reporting Sanitary Sewer Overflows (SSOs), a potential source of bacteria to the lower Accotink, has been incorporated into the Training Plan.

BMP BAC.2 Public Education and Outreach

The measurable goal to incorporate publishing an 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 into the Public Education and Outreach Plan was met for the reporting period July 1, 2018 - June 30, 2019.

Bacteria has been identified as a pollutant source of concern for the Public Education and Outreach Program. Grease Management Guides were developed and handed to facilities that had any potential source of fats, oils, and/or grease. Three (3) articles, “*Dangerous Algae Blooms Can Be Diminished*”, “*Belvoir Keeps Swim Advisories at Bay*”, and “*Belvoir Earns Water Conservation Award*” were published in the *Fort Belvoir Eagle* on September 19, 2019, October 31, 2019, and May, 14, 2020. In addition, a brochure titled “*Are You Cleaning Up After Your Pet?*” was handed out during public events such as the Pooch Plunge. Tips for limiting bacteria discharges were included in the guide, article, and fact sheet.

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 Training Plan identifies six (6) levels of training at different magnitudes of content with Level 1 being the most extensive. TMDL information was presented during the 2019 – 2020 reporting period for Training Levels 1 – 3.

BMP Assessment: BMPS (BMPs BAC.1 – BAC.2) identified in the approved Bacteria TMDL Action Plan continue to remain effective and meet permit requirements. The Bacteria TMDL Action Plan will be reviewed and revised in accordance with the BMPs above.

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 2019-2019 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 12: Changes to the Program Plan as of September 30, 2020

DATE	CHANGE
18 Sept 2019	Updated Section 5.1 page 16, Table 1 MCM#3 to include windshield inspections and reviews and approves requests to discharge
18 Sept 2019	Updated Section 5.1 page 16, Table 1 MCM#4 to include maintains internal project inventory; review dig permits.
18 Sept 2019	BMP 3.3 Added windshield inspections to the Illicit Discharge and Elimination Plan section
18 Sept 2019	Section 5.3 Added <i>The U.S. Army Fort Belvoir Virginia Illicit Discharge Detection and Elimination Plan September 2019</i> to the Documents Section
19 Sept 2019	Section 8.1 Table 4: High priority stormwater issue rationale: Added FOG (fats, oils and grease) as a High priority stormwater issue
19 Sept 2019	Section 8.2, BMP 2.2, Table 6, Change anticipated date from September to October for International Coastal Clean-up and removed Public Lands Day
19 Sept 2019	Section 8.2, BMP 2.2, Table 6, added new line for Public Lands Day and put date as TBD
19 Sept 2019	Section 8.7 BMP 6.2, Table 8, Added three columns (2019 Exposure Determination, SWPPP Development Status, 2019- 2020 Recommendations)
19 Sept 2019	BMP 2.1 revised to extend measurable goal to improve reporting communication of the MS4 webpage from 1 year to 2-5 years.
24 Sept 2019	Section 8.7, BMP 6.2, Table 9 updated the Nutrient Management Plan dates from June 29 2016 to June 29 2019.
24 Sept 2019	Section 5, BMP 5.3, Updated Draft <i>Chesapeake Bay Phase II Total Maximum Daily Load (TMDL) Action Plan for U.S. Army Garrison Fort Belvoir, Virginia</i> to Final Document and changed date to Sept 2019
24 Sept 2019	Section 5, BMP 5.3, Change MS4 Outfall Map and Information Table date to October 2019
24 Sept 2019	Section 5, BMP 5.3, Change <i>General Plan for Stormwater Management Facility Inspection and Maintenance</i> dated September 2013 date to Sept 2019
24 Sept 2019	Section 5, BMP 5.3, Changed <i>Fort Belvoir Combined Industrial Stormwater (ISW) and Municipal Separate Storm Sewer System (MS4) Stormwater Pollution Prevention Plan (SWPPP)</i> date to July 2019
24 Sept 2019	Section 5, BMP 5.3, Changed <i>Fort Belvoir Residential Communities Initiative – A (Cedar Grove, Colyer, Gerber, Herryford, Lewis, Vernondale Nutrient Management Plan</i> dated to June 29 2019
24 Sept 2019	Section 5, BMP 5.3, Changed <i>Fort Belvoir Residential Communities Initiative – B (Belvoir, Jadwin, Fairfax, Park, Rossell) Nutrient Management Plan</i> date to June 29 2019

24 Sept 2019	Section 5, BMP 5.3, Changed <i>Fort Belvoir Golf Club Nutrient Management Plan</i> date to June 29 2019
24 Sept 2019	Section 5, BMP 5.3, Changed <i>Fort Belvoir Combined Industrial Stormwater (ISW) and Municipal Separate Storm Sewer System (MS4) Stormwater Pollution Prevention Training Plan</i> date to April 2019
24 Sept 2019	Section 5, BMP 5.3, Changed <i>U.S. Army Garrison Fort Belvoir, Virginia Bacterial Total Maximum Daily Load Action Plan for the Lower Accotink Creek Watershed</i> date to May 1 2019
26 Sept 2019	Corrected Typographical error. Section 8.7 should be 8.6
26 Sept 2019	Section 1. Plan Purpose and Revisions, Last paragraph, last sentence, add “that is due on October 1 st . To clarify when annual reports are due.
26 Sept 2019	Review narrative and consider incorporating a brief narrative on how we implement Part I.E.4.b. i.e we have items on ESC/Stormwater Management Inspection Checklist, pre-con presentations, etc. Section 8.4, Pages 35 and 36
1 Oct 2019	Updated Table references throughout document, Section 8.1 Pages 24 and 26: Narrative prior to each table references the wrong table number. All tables in this section are referenced in the corresponding narrative wrong.
1 Oct 2019	Added industrial as a land use category within the regulated area pg.24
1 Oct 2019	MCM#1, Section 8.1., Table 3 potential stormwater pollutants was evaluated and additional narrative was added to explain activities that produce potential stormwater pollutants as an introduction to Table 3. Increased high priority issues to 5, to include FOG
1 Oct 2019	Moved Chloride article proposed publish date to December to align with the environment article publishing schedule
1 Oct 2019	Updated ChesBay Public Comment periods and final report submittal dates
1 Oct 2019	Updated Appendix C with most recent bulletins
1 Oct 2019	Added a narrative before the BMPs start that addresses 9VAC25-890-40, Part I.E.6.p.(4) that specifically describes the contract review process and that we incorporate compliance with Policy Memo #71 into Statements of Work as well as all applicable bulletins found in Appendix C.

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 FOG (fats, oils and grease) was added as a new as a high priority stormwater issue. Consequently Table 3 potential stormwater pollutants was evaluated and additional narrative was added to explain activities that produce potential stormwater pollutants as an introduction to Table 3.

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 in order to improve reporting communication of the MS4 webpage from 1 year to 2-5 years.

c. Changes to MCM#3:

BMP 3.1 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 methods or evaluation criteria. However, windshield inspections were incorporated into the Illicit Discharge and Elimination Plan section.

d. Changes to MCM#4:

No changes have been made to this BMP's methods or evaluation criteria. However, "maintains internal project inventory; review dig permits" was incorporated into Section 5.1 page 16, Table 1 MCM#4.

e. Changes to MCM#5:

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

f. Changes to MCM#6:

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

APPENDIX A

Delegation of Authority



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-PWE

SEP 29 2020

MEMORANDUM FOR RECORD

SUBJECT: Delegation of authority for Signatory Requirements under the Virginia General Permit for Small Municipal Separate Storm Sewer Systems VPDES Permit #VAR040093

1. Recent changes in Fort Belvoir staff and COVID related limitations have increased the turnaround time for document transmittals.
2. Colonel Joshua SeGraves just recently assumed command of Army Garrison Fort Belvoir from Colonel Michael Greenberg on 11 August 2020.
3. This office has transmitted the paperwork necessary to comply with the signatory requirements in Part III K 1-2 of the Small Municipal Separate Storm Sewer Systems VPDES Permit #VAR040093. The annual report and an updated delegation of authority letter have been submitted to the office of Colonel SeGraves for his signature. As of the date of this memorandum we have not received the submitted documents.
4. In order to comply with the annual reporting requirements set forth in VPDES Permit #VAR040093 Part I D 1 submittal date of 1 October 2020, we are submitting the annual report signed by Mr. Bradford D. Britain, current Director of Public Works, and will provide the updated delegation of authority letter as soon as received.
5. Point of Contact for this memorandum is undersigned at 703-806-3406 or email: yarelis.chiro.civ@mail.mil.


Yarelis Chiro
Program Manager
Stormwater MS4 Program

“LEADERS IN EXCELLENCE”



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

AUG 22 2019

MEMORANDUM FOR Mr. Christopher Landgraf, Acting 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, Section III.K.2.c. 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.~~).

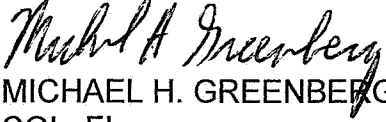
3. Routine correspondence includes:
 - a. Correspondence related to and including submittal of annual reports for the MS4 VPDES Permit.
 - b. Correspondence related to Requests for Information received from the Commonwealth of Virginia, Department of Environmental Quality (VADEQ).
 - c. Correspondence 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.


MICHAEL H. GREENBERG
COL, FI
Commanding



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

IMBV-PW

MAY 22 2019

MEMORANDUM FOR Mr. Bill Sanders, 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, Section 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.

Michael H. Greenberg
MICHAEL H. GREENBERG
COL, FI
Commanding

Rescinded as of 17 August 2019

APPENDIX B

MS4 Outfalls and Stormwater
Management Facilities Brought
Online During the Reporting Period

2018-2019 Completed Projects and New Stormwater Management Facilities
MS4 General Permit Number VAR040093

PROJECT NAME: Missile Defense Agency (MDA) Parking Expansion (No CGP)											JULY 1, 2019 - JUNE 30, 2020	
DISTURBED AREA (DA) WITHIN WATERSHED(S):												
Watershed 1	Dogue Creek	DISTURBED AREA =		0.94 acres								
Watershed 2		DISTURBED AREA =		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 ID	Most Recent Inspection Date
MB #1	Micro-Bioretention Level 2	Water Quality & Quantity	0.18	0.04	0.14	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'37.60"N 77°08'11.50"W	7/9/2019	7832	7/9/2019
MB #2	Micro-Bioretention Level 2	Water Quality & Quantity	0.12	0.03	0.09	Dogue Creek	Unnamed Tributary to Dogue Creek	PL27	38°41'38.73"N 77°08'08.34"W	7/9/2019	7833	7/9/2019

PROJECT NAME: North Post Access Control Point (VAR10I957)											JULY 1, 2019 - JUNE 30, 2020	
DISTURBED AREA (DA) WITHIN WATERSHED(S):												
Watershed 1	Accotink Creek	DISTURBED AREA =		21.7 acres								
Watershed 2		DISTURBED AREA =		acres								
		TOTAL DISTURBED AREA =		21.7 acres								
Stormwater Management Facilities												
Facility ID Shown in Plan	Facility Type	Purpose	Acres Treated	Pervious Acres Treated	Impervious Acres Treated	Watershed	Receiving Waters	VAHU6 Code	Coordinates	Date Facility Brought Online	MS4 ID	Most Recent Inspection Date
SWM #1	SWM Infiltration Pond	Water Quality & Quantity	2.94	1.16	1.78	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'42.46"N 77°08'40.71"W	11/18/2019	7860	11/18/2019
SWM #2	SWM Infiltration Pond	Water Quality & Quantity	6.24	3.66	2.58	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'41.69"N 77°08'42.64"W	11/18/2019	7861	11/18/2019
SWM #3	Extended Detention Dry Pond	Water Quality & Quantity	1.30	0.68	0.62	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'37.54"N 77°08'57.63"W	11/18/2019	7862	11/18/2019

2018-2019 Completed Projects and New Outfalls
MS4 General Permit Number VAR040093

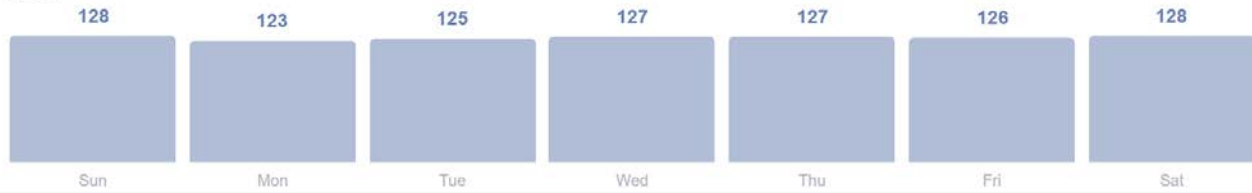
PROJECT NAME:		North Post Access Control Point (VAR101957)				11/18/2019	
DISTURBED AREA (DA) WITHIN WATERSHED(S):							
Watershed 1	Accotink Creek	DISTURBED AREA			21.7 acres		
Watershed 2		DISTURBED AREA =			acres		
TOTAL DISTURBE					21.7 acres		
Stormwater Outfall Locations							
Outfall ID Shown in Plan	Contributing Area (Acres)	Watershed	Receiving Waters	VAHU6 Code	Approximate Latitude & Longitude of Outfall	Comments	MS4 Structure ID
FES-500	0.50	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'38.20"N 77°09'00.14"W	Leads to channel that goes to rip-rap section	7856
SWM #3 OUTFALL, UNNAMED	1.30	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'37.52"N 77°08'58.95"W	Leads to channel that goes to rip-rap section	7857
FES-300	2.29	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'38.01"N 77°08'56.59"W	Leads to channel that goes to rip-rap section	7858
EMERGENCY OUTFALL FROM INFILTRATION BASIN #1 & #2, UNNAMED	9.18	Accotink Creek	Unnamed Tributary to Mason Run	PL30	38°42'45.54"N 77°08'41.91"W	Twin 37" x 24" Elliptical RCP, Emergency Spillway for Both Infiltration Basins #1 and #2	7859

APPENDIX C

Facebook Interaction Report

Data shown for a recent 1-week period. Insights for the time of day are shown in the Pacific time zone.

DAYS



TIMES














































































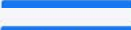











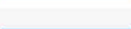





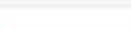





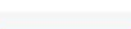




























































































































All Posts Published
































































































Create Post

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

Published	Post	Type	Targeting	Reach	Engagement	Promote
06/25/2020 2:37 PM	We made The Eagle! Check out this week's edition to learn why it's	📁	🌐	27	0 0	Boost Post
06/24/2020 11:30 AM	Species of the Week: Yellow-billed Cuckoo (Coccyzus americanus)	🔗	🌐	36	1 2	Boost Post
06/22/2020 2:25 PM		📁	🌐	40	2 2	Boost Post
06/18/2020 11:30 AM	It's National Fishing Day! Want to start fishing on Fort Belvoir? Head to	🔗	🌐	30	0 0	Boost Post
06/17/2020 11:30 AM	Species of the Week: Five-lined Skink (Plestiodon fasciatus) The five-	🔗	🌐	48	2 2	Boost Post
06/10/2020 11:30 AM	Species of the Week: Eastern Chipmunk (Tamias striatus) You may	🔗	🌐	52	3 3	Boost Post
06/08/2020 11:30 AM	Today is World Oceans Day! Did you know that what we do in our	🔗	🌐	52	4 1	Boost Post
06/06/2020 11:30 AM	It's National Trail Day! Fort Belvoir trails are still open. Check out our	📁	🌐	371	29 14	Boost Post
06/03/2020 11:30 AM	Species of the Week: Variegated Fritillary (Euptoieta Claudia) June is	🔗	🌐	44	0 0	Boost Post
06/01/2020 11:30 AM	Preservation Month Bonus: 1918 Flu Pandemic With all the feelings of	📁	🌐	57	5 5	Boost Post

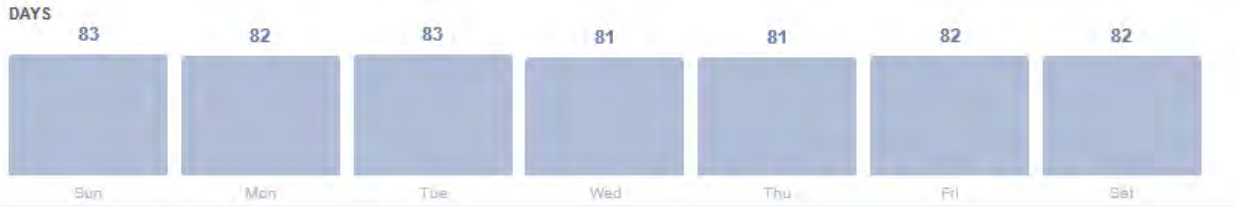
05/29/2020 12:44 PM		For our last Preservation Month post, the Fort Belvoir Cultural Resources			125		7 7		
05/27/2020 11:30 AM		Species of the Week: Indigo Bunting (<i>Passerina cyanea</i>) Male indigo			62		0 3		
05/23/2020 11:30 AM		Today is World Turtle Day! Check out this site to learn more about all of the			52		3 10		
05/22/2020 11:30 AM		For week four of Preservation Month, the Cultural Resources team would			126		6 8		
05/20/2020 11:30 AM		Species of the Week: White-tailed Deer (<i>Odocoileus virginianus</i>) White-			51		3 2		
05/18/2020 11:00 AM		Some exciting things will be happening at the Belvoir Ruins site			131		11 9		
05/15/2020 11:30 AM		It's National Endangered Species Day! Have you ever wondered why			40		0 0		
05/14/2020 12:42 PM		We made The Eagle! Check out this week's edition to learn more about			41		2 0		
05/14/2020 11:30 AM		This week, to celebrate Preservation Month, the Fort Belvoir Cultural			60		10 5		
05/13/2020 11:30 AM		Species of the Week: Eastern Wormsnake (<i>Carphophis amoenus</i>)			47		2 1		
05/11/2020 8:46 AM		Looking for a science project you can do at home? Check out this easy			41		0 1		
05/09/2020 11:30 AM		It's World Migratory Bird Day! Since we can't host our usual event, we			41		1 1		
05/08/2020 11:30 AM		More important information for National Wildflower Week:			40		1 1		
05/06/2020 11:30 AM		Species of the Week: Rusty Patched Bumblebee (<i>Bombus affinis</i>) The			37		0 0		
05/04/2020 11:30 AM		It's National Wildflower Week! Have you ever wondered what all the talk			50		0 3		
05/02/2020 11:00 AM		National Start Seeing Monarchs Day is today. Monarch butterflies will be			54		1 2		
05/01/2020 11:30 AM		It's May 1st- the start of Preservation Month! This month Fort Belvoir			60		3 7		
04/29/2020 11:30 AM		Species of the Week: Pickerel Frog (<i>Lithobates palustris</i>) Pickerel frogs			42		0 1		
04/24/2020 12:58 PM		Today is Arbor Day! Here are some facts about trees around your home.			46		1 1		
04/23/2020 11:30 AM		Here are some Earth Day tips from our Stormwater Team!			47		2 2		

04/22/2020 11:30 AM	 Happy 50th Earth Day! We know things are pretty weird in the world			49		2 5		Boost Post
04/21/2020 11:30 AM	 Right now we may not be able to go to places like museums to learn. But			31		1 0		Boost Post
04/20/2020 11:30 AM	 Earth Day is this week! Have you ever wondered how Earth Day got			41		8 3		Boost Post
04/17/2020 11:30 AM	 It's International Bat Appreciation Day! Bats are really important for			46		7 3		Boost Post
04/16/2020 9:58 AM	 We made the Eagle! Check out this week's edition for ideas on how you			32		5 0		Boost Post
04/15/2020 11:30 AM	 Species of the Week: Woodland Box Turtle (<i>Terrapene carolina carolina</i>)			50		0 3		Boost Post
04/13/2020 12:25 PM	 The Stormwater newsletter has arrived!			47		1 0		Boost Post
04/10/2020 11:30 AM	 Wishing you could see some wildlife right now? You may not be able to			55		5 2		Boost Post
04/08/2020 11:30 AM	 Species of the Week: Beaver (<i>Castor canadensis</i>) Yesterday was			43		1 4		Boost Post
04/07/2020 11:30 AM	 It's National Wildlife Week and we're excited to share it with you! Have you			35		1 0		Boost Post
04/03/2020 11:30 AM	 It's important to get fresh air and exercise during the state Stay at			46		1 1		Boost Post
04/01/2020 11:30 AM	 Species of the Week: Palm Warbler (<i>Setophaga palmarum</i>) Palm warbler			37		0 1		Boost Post
03/30/2020 11:30 AM	 It's National Take a Walk in a Park Day! Today will be beautiful, so make			41		0 0		Boost Post
03/28/2020 7:30 PM	 Earth Hour starts soon! Turn off your lights from 8:30-9:30pm to conserve			39		5 1		Boost Post
03/26/2020 11:30 AM	 Although we may not be able to gather to celebrate Earth Day and			39		0 2		Boost Post
03/25/2020 11:30 AM	 Species of the Week: Blue-gray Gnatcatcher (<i>Poliopitila caerulea</i>)			37		0 1		Boost Post
03/23/2020 11:30 AM	 (Photo caption: Wac's, date: May 1951) Taken from the Suzette Fay			42		3 1		Boost Post
03/22/2020 12:00 PM	 World Water Day is today which is a good time to focus on our water use.			43		1 0		Boost Post
03/21/2020 11:00 AM	 It's International Forest Day! Healthy forests with healthy soils naturally			207		4 7		Boost Post
03/18/2020 1:00 PM	 As required by the Garrison's Municipal Separate Storm Sewer			40		2 1		Boost Post
03/18/2020 11:30 AM	 Species of the Week: American Bullfrog (<i>Lithobates catesbeianus</i>) It			37		1 2		Boost Post

03/16/2020 11:22 AM	 As required by the Garrison's Municipal Separate Storm Sewer			44		1 0		Boost Post
03/16/2020 8:02 AM	 NOTICE: In light of the COVID-19 issue, we will be postponing all Earth			109		4 8		Boost Post
03/11/2020 11:30 AM	 Species of the Week: Tundra Swan (Cygnus columbianus) We may start			57		2 2		Boost Post
03/09/2020 11:30 AM	 Save the Date! More information on our Earth Day events is coming soon!			135		18 6		Boost Post
03/04/2020 11:30 AM	 Species of the Week: Striped Bass (Morone saxatilis) Striped Bass are a			55		0 10		Boost Post
03/02/2020 11:30 AM	 Did you know fish migrate too? Certain fish are born in fresh water,			64		1 0		Boost Post
02/27/2020 11:30 AM	 Today is Retro Day -- a day for taking a look back at life before the internet,			60		0 2		Boost Post
02/26/2020 11:30 AM	 Species of the Week: Osprey (Pandion haliaetus) The osprey are			2.5K		65 29		Boost Post
02/21/2020 11:00 AM				60		2 0		Boost Post
02/20/2020 10:56 AM	 We made the Eagle! Check out this week's edition to learn more about			43		0 2		Boost Post
02/19/2020 11:00 AM	 Species of the Week: Common Grackle (Quiscalus quiscula)			55		1 3		Boost Post
02/14/2020 10:00 AM	 Happy Valentine's Day from Fort Belvoir Environmental Division! Do			58		2 2		Boost Post
02/12/2020 1:11 PM	 Species of the Week: Red Fox (Vulpes vulpes) Red foxes are			52		3 4		Boost Post
02/05/2020 11:00 AM	 We're starting a Species of the Week campaign! Check in each			56		1 1		Boost Post
02/03/2020 11:00 AM	 Yesterday was World Wetlands Day! Do you know how important wetlands			54		1 0		Boost Post
01/31/2020 10:48 AM	 With Groundhog Day approaching, you may be wondering about the			54		1 0		Boost Post
01/30/2020 11:24 AM	 We made The Eagle! Check out this week's edition to learn more about			54		0 2		Boost Post
01/29/2020 10:25 AM	 Hey Parents! Looking for a good way to teach your kids about how			188		12 1		Boost Post
01/24/2020 8:37 AM	 A correction has been made to The Eagle article titled "Walker Gate			57		4 0		Boost Post

01/23/2020 10:48 AM					43		1 1		Boost Post
01/16/2020 10:30 AM	 Evergreen trees and shrubs are really important for winter wildlife.				59		4 2		Boost Post
01/13/2020 10:33 AM					50		2 1		Boost Post
01/09/2020 1:30 PM	 Keep an eye out for Fort Belvoir's eagles this winter! Tompkins Basin is				49		1 2		Boost Post
01/06/2020 11:46 AM	 Here are some interesting finds from our Christmas Bird Count! Note:				60		13 4		Boost Post

Data shown for a recent 1-week period. Insights for the time of day are shown in the Pacific time zone.


















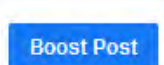





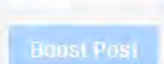





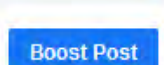





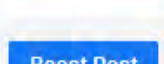





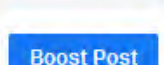











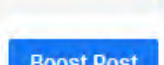





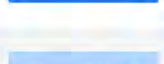





























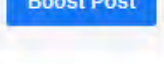











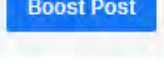





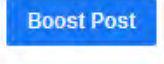




















































































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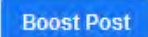











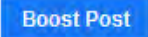





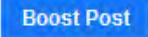

















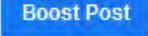





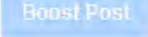





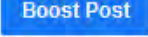





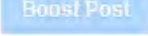





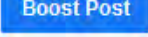











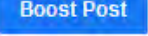





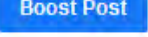





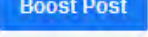





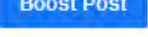





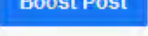






Create Post










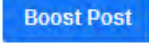




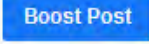




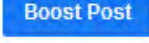









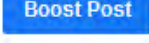




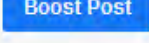




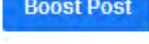









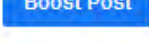




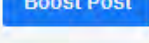




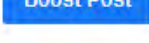




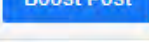


















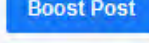




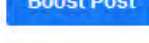





Reach: Organic / Paid Post Clicks Reactions, Comments & Shares

Published	Post	Type	Targeting	Reach	Engagement	Promote
12/30/2019 10:30 AM	Our Christmas Bird Count was a success! We're still crunching the	Message	Global	33	0 1	Boost Post
12/26/2019 11:00 AM	It's not too late to register for the Christmas Bird Count! Contact	Message	Global	26	1 2	Boost Post
12/23/2019 11:30 AM	You may think that there isn't much wildlife to see during the winter	Document	Global	233	26 7	Boost Post
12/20/2019 10:30 AM	Thinking about hunting on Fort Belvoir next week? Here are the	Message	Global	28	0 0	Boost Post
12/19/2019 1:14 PM	We made the Eagle! Check out this week's edition to learn more about	Document	Global	20	1 0	Boost Post
12/19/2019 11:30 AM	The Stormwater Newsletter has arrived! Check out the winter edition	Document	Global	29	1 0	Boost Post
12/16/2019 11:30 AM	The holiday season is a busy time of year and it's no question that some of	Document	Global	36	0 0	Boost Post
12/12/2019 10:00 AM	The Christmas Bird Count is on December 29th. Register for one or	Document	Global	225	6 9	Boost Post
12/10/2019 11:30 AM	Many of our local streams suffer from too much salt. Road salt (sodium	Document	Global	397	18 18	Boost Post
12/05/2019 11:28 AM	Our Winter Newsletter is here! Join us for our Christmas Bird Count and	Document	Global	39	3 1	Boost Post
12/04/2019 1:06 PM	<u>EFFECTIVE IMMEDIATELY: Tires will no longer be accepted at the 21st</u>	Message	Global	41	0 4	Boost Post

12/03/2019 10:00 AM	 Save the Date! This year's Christmas Bird Count will be on December 29,			162		9 8		
11/26/2019 8:32 AM	 We made the Eagle! Check out this week's edition to learn more about			44		5 4		
11/20/2019 11:30 AM	 Did you know that November is Historic Bridge Awareness Month? Or			47		2 4		
11/19/2019 10:50 AM	 Feeling ready for Thanksgiving? Check out these fun facts about wild			25		1 1		
11/17/2019 10:00 AM	 National Take a Hike Day is today! Fort Belvoir has 14 miles of public			205		13 9		
11/15/2019 11:30 AM	 It's #AmericaRecyclesDay ! It's important to first reduce waste, but			32		0 1		
11/12/2019 11:30 AM	 Watch out for deer! With days getting shorter and day light savings time			315		20 9		
11/08/2019 11:30 AM	 Waterfowl are starting to arrive for the winter season. These birds are			275		28 30		
11/06/2019 11:30 AM	 There's lots of acorns on the ground right now! Acorns are a great source			542		61 34		
10/31/2019 1:26 PM	 Happy Halloween!			36		3 2		
10/29/2019 6:42 AM	 Fort Belvoir Environmental Division			34		1 5		
10/24/2019 11:30 AM	 Mulligan Pond was recently stocked with Redear Sunfish supplied by the			293		53 14		
10/22/2019 6:53 AM	 Our butterfly survey scheduled for today has been postponed due to			29		1 1		
10/18/2019 1:18 PM	 Thank you to our International Coastal Cleanup volunteers! We			42		1 4		
10/17/2019 11:58 AM	 We made The Eagle! Pick up your copy for some great bat facts! Note:			30		0 0		
10/16/2019 11:30 AM	 Fall bird migration is in full swing! Looking for a good place to see			26		0 1		
10/14/2019 11:30 AM	 There's still time to register for the International Coastal Cleanup! The			34		0 0		
10/11/2019 11:45 AM	 Temperatures are starting to drop and birds are gearing up for their fall			186		7 5		

10/09/2019 11:30 AM	 October is #RaptorMonth! Virginia has lots of raptors. Read below to	 	42		3 6		Boost Post
10/03/2019 2:25 PM	As required by the Garrison's Municipal Separate Storm Sewer	 	36		1 0		Boost Post
10/03/2019 12:30 PM		 	48		0 3		Boost Post
10/01/2019 11:30 AM	 IMPORTANT NOTICE: It is ILLEGAL to feed deer on post from Sept 1 - Jan 4.	 	36		0 1		Boost Post
09/30/2019 11:30 AM	 It's #fallfoliageweek! We can see the leaves starting to change color, but	 	28		2 1		Boost Post
09/23/2019 11:30 AM	 Today is the first official day of fall and the Stormwater Newsletter has	 	36		2 3		Boost Post
09/19/2019 11:30 AM	 Have you ever heard of pawpaw? Pawpaw is a tree native to our area		215		28 11		Boost Post
09/19/2019 9:20 AM	 We made the Eagle! Pickup this week's edition to learn more about	 	25		0 0		Boost Post
09/18/2019 11:53 AM	 Fort Belvoir Environmental Division's National Public Lands Day project is	 	38		0 3		Boost Post
09/18/2019 11:30 AM	Attention Hunters! The 2019-2020 Waterfowl Blind Lottery Schedule is now available. Visit	 	26		0 0		Boost Post
09/17/2019 11:30 AM	 Have you been to the Belvoir Ruins Trail? This trail explores the site of	 	215		27 11		Boost Post
09/16/2019 1:18 PM	 Fort Belvoir Environmental Division	 	39		1 1		Boost Post
09/12/2019 11:30 AM	 Our fall newsletter has arrived! Check out this season's newsletter for	 	33		3 0		Boost Post
09/10/2019 11:24 AM		 	96		16 11		Boost Post
09/09/2019 11:30 AM	 Have you seen these birds nesting on telephone poles around the	 	37		2 4		Boost Post
09/06/2019 1:00 PM	 Fort Belvoir MWR is hosting its annual Pooch Plunge on September	 	37		4 3		Boost Post
09/04/2019 11:30 AM	 It's National Wildlife Day! Fort Belvoir is home to foxes, turtles, bald eagles,	 	35		1 2		Boost Post

08/30/2019 11:30 AM	 Hunting season is approaching! If you want to hunt on Fort Belvoir you			37		1 1		
08/30/2019 9:12 AM	 Virginia's Fall Bird Migration is Almost Here VDGIF			31		0 0		
08/28/2019 11:30 AM	 Be mindful of recent gate access changes when using Fort Belvoir			33		0 2		
08/23/2019 1:30 PM	 #InternationalBatNight is tonight! How much do you know about bats?			76		5 6		
08/20/2019 11:41 AM	 Pictures from our Summer Cleanup! Thanks again to all our volunteers			33		14 3		
08/17/2019 12:00 AM	 #WorldHoneyBeeDay is today! Honeybees are very important for			85		5 6		
08/16/2019 11:30 AM	 It's National Water Quality Month! Fort Belvoir Environmental Division strives			34		2 4		
08/15/2019 11:20 AM	 Can't read our pet safety post? Here's the original post from the Idaho			33		0 1		
08/15/2019 11:00 AM	 Have you heard about the harmful algae blooms (HAB) around the			35		8 1		
08/15/2019 10:04 AM	 We made the Eagle! Check out this week's edition to learn more about			29		5 2		
08/12/2019 9:30 AM	 Our Summer Cleanup went great! Special thanks to our volunteers for			34		3 3		
08/06/2019 11:04 AM	 There's still time to register for the Summer Cleanup! Email Monica			35		1 0		
08/01/2019 11:30 AM	 Have you gone hiking recently? Sometimes you can find some			40		5 1		
07/30/2019 11:00 AM	 Looking for a way to get involved? Join us for our Summer Cleanup			173		1 3		
07/26/2019 1:05 PM	 We apologize, but the storm drain labeling event has been canceled			35		0 1		
07/23/2019 1:42 PM	 Air quality is good today! That means air pollution is low today. Haven't			35		2 2		
07/19/2019 10:32 AM	 You can still register for our storm drain labeling event! Contact Dina at			33		2 0		
07/19/2019 6:06 AM	 We made the Eagle! See this week's edition to learn more about the			33		0 2		

07/17/2019 1:00 PM	 VDGIF is asking for reports of turkey and grouse sightings to learn more			33		0 2	
07/16/2019 11:00 AM	 The spotted lanternfly is an invasive species that is spreading into			174		11 2	
07/12/2019 11:04 AM	 We got a lot of rain this week! Make sure to dump out any water that			29		1 3	
07/08/2019 10:30 AM	 Join the Stormwater Team in their Storm Drain Labeling Event on July			36		0 2	
07/05/2019 8:54 AM	 Did you know that the bald eagle used to be an endangered species?			32		1 1	
07/03/2019 10:30 AM	 Visiting a park or going camping over the holiday weekend? If so, check out			33		0 0	
06/26/2019 1:32 PM	 The Stormwater Quarterly Newsletter is now available. Read this to learn			41		5 3	
06/24/2019 10:00 AM	 Now that summer is here, so is our Summer Newsletter! Keep reading to			47		2 3	
06/19/2019 1:40 PM	 Happy Pollinator Week! If you want to help pollinators at home, try planting			28		0 1	
06/13/2019 9:30 AM	 The Summer Stormwater Newsletter has arrived! Check out this newsletter			31		2 1	
06/12/2019 10:07 AM	 We're at Safety Day today! Check out our booth to learn more about			27		0 0	
06/12/2019 9:55 AM	 We're at Safety Day! Check out our booth to learn more about			31		7 2	
06/10/2019 9:30 AM	 Our Game Warden, Clint Horton, is retiring! Thank you Clint for your			33		0 1	
06/06/2019 9:37 AM	 We made The Eagle! Check out this week's edition to learn more about			27		1 3	
06/04/2019 1:55 PM	 It's Chesapeake Bay Awareness Week! Did you know that all of Fort			37		5 9	
05/30/2019 11:00 AM	 Thinking about going fishing? Check the Virginia Department of Health			32		0 1	
05/27/2019 11:00 AM	Among the beautiful Colonial houses on South Post, there is one house unlike the			36		2 2	
05/23/2019 11:00 AM	 In case you hadn't heard, it's National Historic Preservation Month! One of			32		8 3	
05/21/2019 7:53 AM	 It's that time of year again. This is your friendly reminder to check for			36		10 2	

APPENDIX D

MS4 Outfalls Reconnaissance Inventory Results Summary

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	Channel Top Width	Channel Bottom Width	Submerged in Water	Submerged in Sediment	Amount of Sediment/Water	Flow Description	Sample Taken From?	Volume (mL)		
Suspect	6951	18-Feb-20	11:00		William Brown	45°	13-Feb-20	12:00	119.00	0.43"	53	38.75447346	-77.20208871	Institutional	FBNA East	Drainage from BMP 6954.	Closed Pipe	Circular	Single	RCP	36"	-	-	-	-	-	-	Partial Water	No Sediment	-	Moderate Flow	Flow	500 mL	
Potential	67	29-Jan-20	13:15		William Brown, Camila Dias	42°	25-Jan-20	14:30	94.75	1.67"	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"	-	-	-	-	-	-	Partial Water	Partial Sediment	6" water 0.5" sediment	No Flow	Pool	-	
Potential	2924	3-Apr-20	12:19		William Brown, Camila Dias	60°	31-Mar-20	23:00	61.32	0.11"	11	38.68632616	-77.14370607	Institutional	Theote Road	Drainage from stream/wetland at the intersection of Warren And Theote Roads.	Closed Pipe	Circular	Single	RCP	36"	-	-	-	-	-	-	Partial Water	No Sediment	1" Water	Trickle Flow	Flow	250 mL	
Potential	4470	17-Apr-20	11:10		William Brown, Camila Dias	56°	15-Apr-20	11:00	48.17	0.31"	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"	-	-	-	-	-	-	Partial Water	No Sediment	0.5" Water	Trickle Flow	Flow	200 mL	
Potential	288	29-Jan-20	13:41		William Brown, Camila Dias	45°	25-Jan-20	14:30	95.18	1.67"	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"	-	-	-	-	-	Fully Submerged	Partial Sediment	18" Water 2" Sediment	Moderate Flow	Pool	-		
Unlikely	405	29-Jan-20	13:08		William Brown, Camila Dias	42°	25-Jan-20	14:30	94.63	1.67"	26	38.70957663	-77.13291395	Suburban Residential	George Washington Village	Drainage from landscaped areas of George Washington Village as well as portions of Planter Road, Statesman Road, and Delegate Road.	Closed Pipe	Circular	Single	PVC	22"	-	-	-	-	-	-	Partial Water	No Sediment	0.5" Water	Trickle Flow	Flow	500 mL	
Unlikely	86	29-Jan-20	13:20		William Brown, Camila Dias	42°	25-Jan-20	14:30	94.83	1.67"	25	38.70680556	-77.13261111	Suburban Residential	George Washington Village	Drainage for landscaped areas in George Washington Village as well as portions of Surveyor Rd. Explorer Rd. and Soldier Rd.	Closed Pipe	Circular	Triple	RCP	A 24" B 42" C 42"	-	-	-	-	-	-	Partial Water	Partial Sediment	Pipe A: 8" Sediment 4" Water Pipe B: 1.5" Water Pipe C: 2" Water	Moderate Flow	Flow	210 mL	
Unlikely	2109 / 2108	14-May-20	13:00		William Brown, Camila Dias	65°	11-May-20	5:30	79.50	0.01"	3	38.7005	-77.1433	Suburban Residential	Herryford Village	Drainage for BMP 2236 an underground detention structure. Outfall drains northwest portion of Herryford Village including landscaped areas, Brackston Rd., and Hannah Ln.	Closed Pipe	Circular	Single	RCP	41"	-	-	-	-	-	-	-	No Water	No Sediment	-	Trickle Flow	Flow	250 mL
Unlikely	35	29-Jan-20	13:01		William Brown, Camila Dias	42°	25-Jan-20	14:30	94.52	1.67"	26	38.71005556	-77.13488889	Suburban Residential	George Washington Village	Drainage for landscaped areas in George Washington Village and the northern portions of Soldier Rd. and Statesman Rd.	Closed Pipe	Circular	Single	RCP	42"	-	-	-	-	-	-	Partial Water	No Sediment	5" water	No Flow	Pool	-	
Unlikely	520	3-Apr-20	12:51		William Brown, Camila Dias	61°	31-Mar-20	23:00	61.85	0.11"	24	38.69818521	-77.13492092	Institutional	Hurley Road	Drainage for parking area and service road around building 805.	Closed Pipe	Circular	Double	RCP	A 36" B 8"	-	-	-	-	-	-	Partial Water	No Sediment	8" Water - Pipe B	Trickle Flow	Flow	250 mL	
Unlikely	3638	3-Apr-20	13:25		William Brown	61°	31-Mar-20	23:00	62.42	0.11"	30	38.71603237	-77.1442364	Institutional	1800 Area	Drainage for parking lot of building 1812 and a portion of Franklin Road.	Closed Pipe	Circular	Single	RCP	24"	-	-	-	-	-	-	Partial Water	Partial Sediment	6" Water 3" Sediment	No Flow	Pool	-	
Unlikely	620	2-Mar-20	10:03		William Brown, Ashley Clark	50°	27-Feb-20	12:00	94.05	0.19"	22	38.69567768	-77.13652614	Suburban Residential	Cedar Grove Village	Drainage for Landscaped area along Belvoir Road, drainage for McCarthy Drive, Troth Way, and Cedar Village	Closed Pipe	Circular	Single	PVC	36"	-	-	-	-	-	-	Partial Water	Partial Sediment	2" Water 8" Sediment	Trickle Flow	Flow	200 mL	
Unlikely	3681	2-Mar-20	11:08		William Brown	55°	27-Feb-20	12:00	95.13	0.19"	30	38.71617981	-77.1418701	Suburban Residential	Lewis Village	Drainage from BMPs 3707 and 3683. As well as portions of Woodlawn Road, Emory Road and Lewis Village.	Closed Pipe	Circular	Single	RCP	30"	-	-	-	-	-	-	Partial Water	Partial Sediment	5" Water 1" Sediment	Trickle Flow	Pool	-	
Unlikely	1698	20-Feb-20	13:15		William Brown, Ashley Clark	39°	13-Feb-20	12:00	169.25	0.43"	14	38.67425915	-77.13588257	Institutional	300 Area	Drainage for parking lot of building 337 and a portion of Wilson Road	Closed Pipe	Circular	Single	CMP	14"	-	-	-	-	-	-	Partial Water	No Sediment	1" Water	Trickle Flow	Pool	-	
Unlikely	1897	20-Feb-20	14:07		William Brown, Ashley Clark	40°	13-Feb-20	12:00	170.12	0.43"	13	38.67594936	-77.14097835	Institutional	300 Area	Drainage for a portion of Wilson Rd. and drainage from the parking lot of building 366.	Closed Pipe	Circular	Single	CMP	12"	-	-	-	-	-	-	Partial Water	Fully Buried	3" Water 9" Sediment	Trickle Flow	Pool	-	
Unlikely	157	2-Mar-20	10:23		William Brown, Ashley Clark	52°	27-Feb-20	12:00	94.38	0.19"	25	38.70436111	-77.13825	Suburban Residential	Colyer Village	Drainage from BMP 160.	Closed Pipe	Circular	Single	RCP	48"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	216	29-Jan-20	12:52		William Brown, Camila Dias	41°	25-Jan-20	14:30	94.37	1.67"	25	38.70721453	-77.13872664	Commercial	Community Center	Drainage for the east side of the parking lot for building 1200.	Closed Pipe	Circular	Single	HDPE & RCP	18"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-
Unlikely	257	3-Apr-20	14:10		William Brown, Camila Dias	62°	31-Mar-20	23:00	63.17	0.11"	28	38.70952961	-77.13172968	Suburban Residential	River Village	Drainage for a portion of Mount Vernon Rd. and the landscaped area along the road near Walker Gate.	Closed Pipe	Circular	Single	RCP	16"	-	-	-	-	-	-	-	No Water	Partial Sediment	7" Sediment	No Flow	-	-
Unlikely	268	2-Mar-20	10:50		William Brown, Ashley Clark	53°	27-Feb-20	12:00	94.83	0.19"	25	38.70617098	-77.14041157	Institutional	Hospital	Drainage for Belvoir Road, a portion of the Staybridge parking lot, Building 1204 parking lot, and a portion of Woodbury Road.	Closed Pipe	Elliptical	Single	RCP	55" x 39"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-
Unlikely	322	29-Jan-20			William Brown, Camila Dias		25-Jan-20	14:30	81.50	1.67"	24	38.70520916	-77.13253191	Suburban Residential	George Washington Village	Drainage from landscaped areas of George Washington Village as well as portions of Soldier Rd. and Mount Vernon Rd.	Closed Pipe	Circular	Single	CMP	18"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	572	2-Mar-20	9:57		William Brown, Ashley Clark	47°	27-Feb-20	12:00	93.95	0.19"	24	38.69764474	-77.13694498	Suburban Residential	Cedar Grove Village	Drainage for landscaped area of building 1017, Cedar Grove Village, and a portion of Troth Way.	Closed Pipe	Circular	Single	PVC	24"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-
Unlikely	593	2-Mar-20	9:38		William Brown, Ashley Clark	50°	27-Feb-20	12:00	93.63	0.19"	23	38.69925725	-77.12996176	Suburban Residential	Dogue Creek Village	Drainage from landscaped area around houses and parking lot in Dogue Creek Village, as well as a portion of Barlow Road.	Closed Pipe	Circular	Single	PVC	6"	-	-	-	-	-	-	-	Partial Water	Partial Sediment	1.5" water 1" sediment	No Flow	-	-
Unlikely	613	2-Mar-20	9:50		William Brown, Ashley Clark	50°	27-Feb-20	12:00	93.83	0.19"	24	38.698461	-77.137049	Suburban Residential	Cedar Grove Village	Drainage for BMP 534.	Closed Pipe	Circular	Single	PVC	6"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-

		Flow Characterization														Physical Indicators at Flowing Outfalls										Physical Indicators at Flowing and Non-Flowing Outfalls				
Outfall Characterization	Outfall ID	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	Color	Color Severity	Turbidity	Turbidity Severity	Floatables	Floatables Severity	Comments For Flowing Outfalls	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes	
Suspect	6951	5.39 s	-	Time to Fill	-	-	-	.00327 cfs	7.39	0.59	0.1	0.02	0.03	0.8	0.002	Odor, Color, Turbidity, Floatables	Sulfide	Faint	Brown, Orange	Clearly Visible	Turbidity	Slight cloudiness	Suds	Some, Origin Clear	-	Deposits, Poor Pool Quality, Benthic Growth	Flow Line, Odor, Color, Sheen, Suds, Orange Algae	Sheen, suds (potentially biological), sulfide odor, and green/brown color.	Outfall is flowing and there are suds, a sheen, orange flow line, sulfur smell. The area was recently cleared but the outfall will be hard to access in the growing season.	
Potential	67	-	-	-	-	-	-	-	7	0.03	0.07	0.03	0.01	0.7	0.001	No Indicators	-	-	-	-	-	-	-	-	-	Poor Pool Quality	Sheen	Sheen may be POL.	No upstream source was found for sheen. Is fertilizer and issue? Is housing following nutrient management plans.	
Potential	2924	3 s	-	Time to Fill	-	-	-	.00294 cfs	-	0.35	1.44	0.00	0.03	0.00	0.00	Color	-	-	Orange	Faint	-	-	-	-	-	Benthic Growth	Orange Algae	Iron floc is present in pipe and channel	Outfall is located downstream from a wetland.	
Potential	4470	8.45 s	-	Time to Fill	-	-	-	.000836 cfs	6.5	0.02	1.61	0.00	0.00	2.5	0.006	No Indicators	-	-	-	-	-	-	-	-	-	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.	
Potential	288	-	2"	Time of Movement	12"	8"	1 sec.	0.111 cfs	7	0.00	2.75	0.00	0.01	0.00	0.002	No Indicators	-	-	-	-	-	-	-	-	-	Poor Pool Quality, Benthic Growth	Suds, Green Algae	Suds downstream around dead algae.	Some suds are present downstream. There is a channel forming to the left of outfall. Is Fertilizer an issue?	
Unlikely	405	12 s	-	Time to Fill	-	-	-	0.00145 cfs	7	0.00	0.05	0.07	0.00	0.6	0.006	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	Flow is low, outfall is tidally influenced. Flow is likely due to UDSs attached above outfall.
Unlikely	86	4 s	-	Time to Fill	-	-	-	0.00183 cfs	7	0.03	0.07	0.02	0.00	0.1	0.00	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	Outfalls have a flat river-stone bottom not rounded pipe. Pooling is occurring inside outfall A with leaf litter occupying about half the outfall pipe.
Unlikely	2109 / 2108	5.73 s	-	Time to Fill	-	-	-	0.00154 cfs	6.9	0.01	0.17	0.00	0.03	6.4	0.004	No Indicators	-	-	-	-	-	-	-	-	-	Outfall Damage, Poor Pool Quality	Spalling, Cracking, Chipping, Suds, White Web Like Algae	White web like algae growing in pool.	Structure 2109 is a drop inlet and junction for several other lines that then cross 9th St. and enter an underground detention system and is discharged at outfall 2108. Sample taken at outfall 2108, no water coming to 2109. 2109 Junction 3 x 12" lines in and a "30" line out from junction box	
Unlikely	35	-	-	-	-	-	-	-	7	0.02	0.31	0.05	0.00	0.8	0.003	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	Tidal influence from Dogue Creek, abundant fish in water.
Unlikely	520	9.5 s	-	Time to Fill	-	-	-	.000929 cfs	-	0.09	0.34	0.00	0.04	1.7	0.023	Odor, Color	Sulfide	Faint	Orange	Faint	-	-	-	-	-	-	-	-	-	Upstream manholes are both dry. There was a sink hole next to one of the manhole structures indicating water may be flowing around stormwater inlets. There was an abandoned channel directly to the right of the outfall. In the previous permit cycle illicit discharge tracking was carried out and a seep was attributed to the flow was found for this flow which is a constant trickle during dry weather. ****
Unlikely	3638	-	-	-	-	-	-	-	-	0.77	0.39	0.01	0.004	1.1	0.025	No Indicators	-	-	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Channel Requires regrading	-	
Unlikely	620	37.45 s	-	Time to Fill	-	-	-	.000189 cfs	6.91	0.00	0.41	0.02	0.07	2.2	0.005	No Indicators	-	-	-	-	-	-	-	-	-	Poor Pool Quality, Blockage	Excessive Algae, Tree Litter	Tree roots have grown up into the outfall then been pushed out during a heavy rain event causing a large blockage.	This outfall is directly below an underground detention structure, BMP 625, this is most likely the cause of the flow so long after a rain event.	
Unlikely	3681	-	-	-	-	-	-	-	6.9	0.04	0.41	0.00	0.02	2.7	0.006	No Indicators	-	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, Chipping	Spalling and chipping is occurring at the point where pipe meets the headwall.	Underground detention vaults are present directly upstream from the outfall and are likely the cause of the trickle flow days after the last rain event.	
Unlikely	1698	-	-	-	-	-	-	-	7.35	0.01	-	0.04	0.04	1.1	0.001	Odor	Sulfide	Faint	-	-	-	-	-	-	-	Outfall Damage	Corrosion	Bottom of outfall pipe is rusted out.	Outfall is in tidal area down the steps near building 337.	
Unlikely	1897	-	-	-	-	-	-	-	7	0.07	-	0.01	0.01	1.9	0.011	No Indicators	-	-	-	-	-	-	-	-	-	Outfall Damage, Blockage	Spalling, Cracking, Chipping, Sediment, Tree Litter, Trash	Flow is extremely inhibited.	Outfall is almost completely buried, is damaged, and rusted out.	
Unlikely	157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	Outfall Damage, Blockage	Spalling, Cracking, Chipping, Corrosion, Trash	There are large pieces of garbage in pool of outfall and in the channel.	There is downstream erosion.	
Unlikely	216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	Deposits	Oily	Oil stains just outside inlet directly above the outfall.	There was a spill and illicit discharge discovered at this location on 8-Apr-2019. It appears that a similar spill has occurred again.	
Unlikely	257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	Blockage	Sediment	-	-	
Unlikely	268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	Blockage	Trash	There was a used gutter buddy and a large amount of heavy filter fabric in the pool and the downstream channel.	-	
Unlikely	322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	Large amounts of moss is growing around outfall, and trash is being blown into downstream channel from the road. Moss was blocking approximately 2 inches of the bottom of the pipe causing 1.5 inches of water to pool in the pipe.
Unlikely	572	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unlikely	593	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	Outfall Damage, Blockage	Spalling, Cracking, Chipping, Structural Damage, Sediment, Tree Litter	-	-	
Unlikely	613	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	Poor Pool Quality	Excessive Algae	-	-	

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	Channel Top Width	Channel Bottom Width	Submerged in Water	Submerged in Sediment	Amount of Sediment/Water	Flow Description	Sample Taken From?	Volume (ml)			
Unlikely	1264	14-May-20	12:22		William Brown, Camila Dias	68°	11-May-20	5:30	78.87	0.01"	14	38.6785	-77.1328	Suburban Residential	Fairfax Village	Drainage from BMP 1266 which collects run from roads and landscaped areas covering the south of Fairfax Village.	Closed Pipe	Circular	Single	RCP	42"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	1367	14-May-20	12:28		William Brown, Camila Dias	68°	11-May-20	5:30	78.97	0.01"	14	38.6826	-77.1317	Suburban Residential	Fairfax Village	Drainage for housing and landscaped areas on the northeast side of Forney Loop at the entrance to Fairfax Village.	Closed Pipe	Circular	Double	RCP	A: 48" B: 18"	-	-	-	-	-	-	No Water	Partial Sediment	Pipe A: 1" Sediment Pipe B: Abandoned	No Flow	-	-		
Unlikely	1371	14-May-20	12:39		William Brown, Camila Dias	60°	11-May-20	5:30	79.15	0.01"	14	38.6822	-77.1331	Suburban Residential	Fairfax Village	Drainage for BMP 1373 which collects drainage from Forney Loop, landscaped areas, and alley ways near the north end of Fairfax Village.	Closed Pipe	Circular	Single	RCP	30"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	1390	14-May-20	12:40		William Brown, Camila Dias	60°	11-May-20	5:30	79.17	0.01"	14	38.6826	-77.1328	Suburban Residential	Fairfax Village	Drainage for BMP 1392. BMP receives run from Forney Loop and landscaped areas in Fairfax Village.	Closed Pipe	Circular	Single	RCP	30"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	1797	20-Feb-20	13:15		William Brown, Ashley Clark	39°	13-Feb-20	12:00	169.25	0.43"	14	38.67453391	-77.13563849	Institutional	300 Area	Drainage for parking lot and loading dock of building 367.	Closed Pipe	Circular	Single	Steel	6"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	1899	20-Feb-20	14:05		William Brown	39°	13-Feb-20	12:00	170.08	0.43"	13	38.67558885	-77.14084935	Institutional	300 Area	Drainage from field outside building 366.	Closed Pipe	Circular	Single	Steel	12"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	1915	20-Feb-20	14:30		William Brown, Ashley Clark	40°	13-Feb-20	12:00	170.50	0.43"	13	38.67817115	-77.13995098	Institutional	300 Area	Drainage for parking lot and landscaped ground around building 361.	Closed Pipe	Circular	Single	RCP	12"	-	-	-	-	-	-	No Water	Partial Sediment	4" Sediment	No Flow	-	-		
Unlikely	2025	17-Apr-20	12:00		William Brown	58°	15-Apr-20	11:00	49.00	0.31"	3	38.69583509	-77.14731188	Industrial	Housing Yard	Drainage for Housing Laydown Lot coming from inlet 2026.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Unlikely	2097	24-Jan-20	14:12		William Brown	43°	19-Jan-20	6:30	127.70	0.01"	3	38.7013	-77.1485	Institutional	1400 Area South	Drainage for parking lot and road around building 1415.	Closed Pipe	Circular	Single	Steel	18"-24"	-	-	-	-	-	-	No Water	Fully Buried	Full Sediment	No Flow	-	-		
Unlikely	2111	14-May-20	12:53		William Brown, Camila Dias	60°	11-May-20	5:30	79.38	0.01"	3	38.6995	-77.1433	Suburban Residential, Commercial	Herryford Village	Drainage for BMP 2265 (underground detention system), BMP 2266 (underground detention system), Gillingham Rd, Stiles Rd., Denty Pl., Mero Way, Hannah Ln., 12th St., and surrounding landscaped areas.	Closed Pipe	Circular	Single	RCP	30"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	2630	29-Jan-20	14:00		William Brown, Camila Dias	44°	25-Jan-20	14:30	95.50	1.67"	3	38.7028069	-77.14718825	Institutional	6th Street	Drainage from parking lot of building 1465, and landscaped areas around buildings 1465 and 1466.	Closed Pipe	Circular	Single	RCP	18"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	2654	29-Jan-20	13:54		William Brown, Camila Dias	45°	25-Jan-20	14:30	95.40	1.67"	3	38.70295024	-77.14497325	Institutional	6th Street	Drainage from Hall Road, building 1234 parking lot and building 1464 landscaped area. Outfall is located the south side of the Hospital Trail near building 1234.	Closed Pipe	Elliptical	Single	RCP	36" x 24"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	2966	24-Jan-20	15:07		William Brown	50°	19-Jan-20	6:30	128.62	0.01"	1	38.7046	-77.1508	Institutional	1400 Area South	Drainage for parking lot of building 1442.	Closed Pipe	Circular	Single	RCP	18"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	3023	24-Jan-20	10:24		William Brown	41°	19-Jan-20	6:30	123.90	0.01"	1	38.7073	-77.148	Institutional	1400 Area	Drainage for parking lot of building 1458.	Closed Pipe	Circular	Single	CMP	18"	-	-	-	-	-	-	No Water	Partial Sediment	4" sediment	No Flow	-	-		
Unlikely	3061	24-Jan-20	10:28		William Brown	41°	19-Jan-20	6:30	123.97	0.01"	1	38.7069	-77.1492	Institutional	1400 Area	Drainage for parking lot and grounds of building 1450	Closed Pipe	Circular	Single	RCP	24"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	3093	24-Jan-20	10:18		William Brown	41°	19-Jan-20	6:30	123.80	0.01"	1	38.7075	-77.149	Institutional	1400 Area	Parking lot drainage.	Closed Pipe	Circular	Single	RCP	24"	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	3114	24-Jan-20	14:20		William Brown	44°	19-Jan-20	14:30	119.83	1.67"	1	38.7037	-77.1517	Institutional	1400 Area South	Drainage from the parking lot of building 1442.	Closed Pipe	Circular	Single	RCP	12"	-	-	-	-	-	-	No Water	Fully Buried	8" Sediment	No Flow	-	-		
Unlikely	3117	29-Jan-20	14:15		William Brown	44°	25-Jan-20	14:30	95.75	1.67"	1	38.704	-77.1518	Institutional	1400 Area South	Drainage for parking lot of building 1442.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Unlikely	3119	24-Jan-20	15:15		William Brown	50°	19-Jan-20	6:30	128.75	0.01"	1	38.7047	-77.1511	Institutional	1400 Area South	Drainage for building 1442 and landscaped area at rear of building.	Open Drainage	-	-	-	-	Earthen	Parabolic	5'	6'	1'	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	3351	3-Apr-20	13:18		William Brown	61°	31-Mar-20	23:00	62.30	0.11"	30	38.71368812	-77.1517462	Industrial, Motorpool	2900 Area	Drainage from a portion of Stuart Road and the motorpool lot on forster and Stuart Roads	Closed Pipe	Circular	Single	CMP	36"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	4466	17-Apr-20	10:51		William Brown, Camila Dias	55°	15-Apr-20	10:00	48.85	0.31"	28	38.70888655	-77.13131108	Suburban Residential	River Village	Drainage for Delaware Rd.	Open Drainage	-	-	-	-	Earthen	Parabolic	2'	5'	-	-	No Water	No Sediment	-	No Flow	-	-		
Unlikely	4478	17-Apr-20	11:16		William Brown, Camila Dias	55°	15-Apr-20	11:00	48.27	0.31"	28	38.70564049	-77.12936581	Suburban Residential	River Village	Drainage for southern portion of the marina and one of the River Village parks, as well as the western portion of Potomac Loop	Closed Pipe	Circular	Single	CMP	Unknown	-	-	-	-	-	-	-	No Water	Fully Buried	Unknown	No Flow	-	-	
Unlikely	6064	3-Apr-20	13:31		William Brown	61°	31-Mar-20	23:00	62.52	0.11"	30	38.71653445	-77.17470503	Suburban Residential	Lewis Village	Drainage from a portions of Woodlawn Road and Stevens Road.	Closed Pipe	Circular	Single	RCP	24"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	6254	2-Mar-20	10:35		William Brown, Ashley Clark	52°	27-Feb-20	12:00	94.58	0.19"	3	38.703246	-77.143239	Institutional	Hospital	Drainage for hospital parking lot, loading dock and landscaped area. Drainage from a portion of Doerr Road.	Closed Pipe	Circular	Single	RCP	48"	-	-	-	-	-	-	-	Partial Water	Partial Sediment	3" Water 2" Sediment	No Flow	-	-	
Unlikely	6258	3-Apr-20	13:08		William Brown	61°	31-Mar-20	23:00	62.13	0.11"	3	38.70248605	-77.1488742	Institutional	Warriors In Transition	Drainage from landscaped areas and parking lots around buildings 1259, 1260, 1261, 1262, 1263, and BMP 9006.	Closed Pipe	Circular	Single	RCP	18"	-	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-
Unlikely	7273	3-Apr-20	13:40		William Brown, Camila Dias	61°	31-Mar-20	23:00	62.67	0.11"	30	38.724282	-77.148801	Commercial	AAFES, Commissary	Drainage from BMP at the rear loading dock of AFES Post Exchange, loading dock drains to BMP via curb cuts.	Closed Pipe	Circular	Single	RCP	12"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	
Unlikely	9000	27-Feb-20	14:00		William Brown	43°	26-Feb-20	23:30	14.50	.22"	N/A	38.705197	-77.191108	Institutional, Agricultural	Caisson Stables	Drainage for Caisson Stables and paddock.	Closed Pipe	Circular	Single	HDPE	15"	-	-	-	-	-	-	-	No Water	No Sediment	-	No Flow	-	-	

Outfall Characterization	Outfall ID	Flow Characterization														Physical Indicators at Flowing Outfalls										Physical Indicators at Flowing and Non-Flowing Outfalls				
		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	Color	Color Severity	Turbidity	Turbidity Severity	Floatables	Floatables Severity	Comments For Flowing Outfalls	Indicators Not Related to Flow?	Indicator Description	Indicator Comments	Notes	
Unlikely	1264	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, Chipping	Headwall is cracking	Behind fence in housing area. Trash collector at riser.	
Unlikely	1367	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	Grate damaged	Trash/security grate on outfall, small outlet to the left is damaged.	
Unlikely	1371	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	BMP and outfall in good condition.
Unlikely	1390	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Stream bed was dry.
Unlikely	1797	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Outfall discharges from a retaining wall into disconnect and then flowing across a parking lot as sheet flow.
Unlikely	1899	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Drainage from a field that enters a culvert under a service road.
Unlikely	1915	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Blockage	Sediment, Tree Litter	-	There is a second pipe that discharges about 3 feet from outfall 1915. This pipe is attached to roof drains on building 361. Downstream channel is heavily eroded.	
Unlikely	2025	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Outfall could not be located and has not been located for several years, recommend removal from outfall prioritization and MS4 outfall database.
Unlikely	2097	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Blockage	Tree Litter	Branches and trees cover outfall.	Tree branches and leaf litter is almost completely covering outfall. Channel is full of leaf litter and fallen trees. Only the top of outfall pipe was visible.	
Unlikely	2111	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, Chipping	Cracking at joint where flared end attaches to pipe.	Cracking where pipe meets flared end.	
Unlikely	2630	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Outfall Damage	Spalling, Cracking, Chipping, Structural Damage	Pipe separating from headwall.	Pipe is starting to disconnect where it attaches to headwall. Pipe is moist but there was no flow.	
Unlikely	2654	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Deposits	Flow Line	Moist flow line with no flow.	Moist flow line was visible. Filter fabric exposed in plunge pool.	
Unlikely	2966	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Downstream channel is starting to excessively erode.
Unlikely	3023	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unlikely	3061	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unlikely	3093	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Vegetation	Inhibited By Vegetation	A tree has fallen over the outfall and is laying in drainage channel.	A tree has fallen directly over outfall making it hard to find and potentially inhibiting flow.	
Unlikely	3114	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unlikely	3117	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Blockage	Sediment, Tree Litter	Outfall is behind ~5' of leaf litter and branches.	Outfall is buried in leaf litter and branches. Suggest rescreen	
Unlikely	3119	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Downstream channel is starting to heavily erode.
Unlikely	3351	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Outfall Damage	Structural Damage	-	There is major damage to upstream structure, an area inlet. The entire outfall pipe appears to have disconnected from the structure.	
Unlikely	4466	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Outfall pipe was not located. Outfall was evaluated at earthen channel found at the geographical coordinates for outfall.
Unlikely	4478	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Outfall Damage, Blockage	Corrosion, Sediment, Tree Litter	Outfall is buried to the point it is no longer visible under tree litter.	Pipe is buried and corroded back into stream bank. When standing above outfall location and stomping water was released from outfall and was visible entering the stream.	
Unlikely	6064	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unlikely	6254	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Blockage	Sediment	Deposited sediment in ponding area has cause it to be above grade of the outfall pipe.	-	
Unlikely	6258	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	Outfall Damage, Deposits	Spalling, Cracking, Chipping, Structural Damage, Gray Green Algae	Gray green algae in pool and channel.	-	
Unlikely	7273	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unlikely	9000	-	-	-	-	-	-	-	-	-	-	-	-	-	No Indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX E

Illicit Discharge Detection and Elimination Incident Tracking Summary

2019-2020 Illicit Discharge Tracking
Municipal Separate Storm Sewer Systems General Permit Number VAR040093



Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
16-10	11/24/2015	ORI	1715	During the ORI initial screening on November 24, 2015 a trickle flow was present. DPW ENRD and contractor staff conduct a follow-up source investigation on April 4, 2016. It was suspected that there was a potable water leak in the area.	The outfall was re-screened during the 2016 – 2017 ORI and the flow was found to have increased. An Illicit Discharge investigation began on November 14, 2016 and resulted in a finding that there is a connection from the mechanical room in building 357 which feeds directly into the storm sewer. Plans for Corrective Actions to be taken are currently underway. During the source tracking investigation it was also noted that this illicit discharge originally 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. 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 * June 4, 2020 received plans for the renovation of building 357	Valid Report; Illicit Discharge; Corrective Action Required	Open
19-09	8/10/2018	Direct Notification	4895, 4888, 4884, 4889	This is an ISW SWPPP facility. No illicit discharge reported, but facility personnel showed concern about the potential for trench drains running along the hangar bay doors for Building 3126 to be connected to the storm sewer system	Dye testing was conducted and an IJO was drafted along with the report findings. Tenant needs to submit an IJO to connect all building drains to the sanitary sewer.	Valid Report; Potential Illicit Discharge; Corrective Action Required	Open
19-32	3/1/2019	Windshield Inspector	3638	Between building 1809 and Franklin rd. north west of the intersection of Franklin rd. and 30th Engineer rd. at site of dig permit 19-73	Repair or replace silt fences that are down. Repair or replace safety fences that are down. Remove bucket of tar in parking lot, ensure all hazardous materials are stored high, dry, and covered. Move soil stock pile off of silt fence and at least 25 ft. from waterway, repair silt fence, and stabilize (seed and mulch) new stock pile location. Grade and stabilize (seed and mulch) tire ruts caused by trucks entering site.	Valid report; Illicit discharge; Corrective Action Taken	Closed 9/16/2019
19-34	3/19/2019	Windshield Inspector	N/A	At the rear loading dock and service entrances, of bldg. 2321, AAFES. Located south of John J. Kingman Rd. and east of Silbert Rd. A truck pumping grease had spilt some grease in the parking area where grease and trash management occurs	Report referred to spill response team and the area was cleaned up. Several site visits have been made to the facility and grease management continues to be an issue. Grease has not made it to the MS4 system but has a large potential to become an illicit discharge. The facility had their inspection frequency increased and has been added to the windshield inspection route completed by DPW.	Valid report; Illicit discharge; Corrective Action Taken	Closed 12/30/2019
19-46	6/17/2019	DPW Inspector	ISW RO-005	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.	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	Valid Report; Illicit Discharge, Corrective actions taken.	Open
20-01	7/16/2019	Direct Notification	ISW RO-016	Mr. Taylor reported paint around the boat launch	Paint spill was reported to Marina staff at around 930 the morning of July 16, 2019. The marina staff investigated and found dried paint around the boat launch. There was less than a gallon of dried paint, and no precipitation, therefore none made it to state waters or WOUS. Marina staff cleaned up the point and will pay stricter attention to customers storing and using paints	Valid Report; Potential Illicit Discharge; Corrective Action Taken	Closed 7/16/2019
20-02	8/7/2019	Direct Notification	ISW RO-003	At 11:09 am the Fort Belvoir Fire & Emergency Services received an Automatic Fire Alarm for Building 3151. Foam 466 arrived on scene and found the High Expansion Foam Suppression system had activated. At the time of the alarm the building was under renovation (Island Contracting INC.) and there was no obvious reason for activation. The fire suppression system dumped approximately 20 gallons of C2 High expansion foam (before activation/dilution with water) into the hangar before the contractor was able to shut the suppression system down. All personnel were able to evacuate the hangar safely. Fort Belvoir Environmental Spill Response POC was contacted and responded to the site along with Emergency Services. The hangar has two long trench drains at each of the two bay doors which lead to an O/W separator, to sanitary. Very little foam made it outside of the hangar and onto the concrete pavement. Island Contracting INC. as the responsible party that will be cleaning up the residual foam blanket that was applied to the hangar floor and will be disposing of it by standard methods. Island Contracting was dispatching a professional clean-up company to come in and handle all clean-up and proper disposal. Island Contracting will be submitting copies of reports of the clean-up to their Engineering COR and to the Industrial Stormwater Program Manager for proper documentation of spills/releases with the permit. The majority of the foam stayed within the hangar. Fort Belvoir Environmental contacted VADEQ (per information below), notified the Contracting Officer Representative (COR) for American Water who responded to the scene and notified Fairfax County Noman Cole Treatment Plant. There were no injuries to fire, military or civilian personnel at the incident scene. The Fort Belvoir Fire Marshal's Office will be following up to ensure the suppression system is placed back in service once cleanup and repairs have been made. Weather conditions at the time of the incident were cloudy, 86 °F, with SE winds at 3 MPH.	The following employees arrived on site: Lars Gormley, Roger Garcia, Lilian Lemus, Walter Aroche, Jorge Galvez, Edwin Giron Lars met with the site Superintendent Joe Sank to discuss the clean-up. Workers began mopping the hangar floor. Waste mop water was emptied into a DOT 55-gallon drum. After the mopping was complete, areas that were still wet were squeegeed and the foam/water was shoveled up and also placed in the 55-gallon drum. Floor grates that cover the drains along the door openings of the hangar were removed and wiped down. The trench was vacuumed using wet vacuums. Waste from vacuums was emptied into drum.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 8/8/2019
20-03	8/12/2019	Direct Notification	6176	At 0918 am August 12, 2019 Ricardo Perez from the Fort Belvoir Community Hospital (FBCH) informed DPW that there had been a small (~1.5 gallons) spill of antifreeze at Level 4 of the Rivers Paring facility at the FBCH with approximately a half gallon entering into an internal drain. Dpw Staff was sent to observe and document the cleanup. A sedan that had a leaking radiator was parked and had a pool of coolant underneath it. The coolant had entered an internal drain by that point. Weather: Sunny, 86 °F, wind SSE at 4 MPH. This incident is closed.	The fire department had made the initial response and spread absorbent on the spill area. The spill occurred on level 4 which is a covered level. The antifreeze, although it made it into a stormwater conveyance drain, did not make it to a state regulated waters. The Parking structure contains an Oil Water Separator. The outfall of the stormwater conveyance drain did not show any indication that any material from the spill made it to the exit point of the drain (approximately 50 feet away from floor drain). Aleut was called to come and clean up the spill. They came and put down more absorbent material on the spill and then sweep up the material into a drum that they then brought to the hazardous waste building 1495 for proper disposal.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed 8/14/2019

2019-2020 Illicit Discharge Tracking
Municipal Separate Storm Sewer Systems General Permit Number VAR040093



Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
20-04	8/18/2019	Direct Notification	N/A	At approximately 0630 on Monday, August 19, 2019, NCE ESOH was notified of a spill in the parking garage and responded immediately. The leak appeared mostly as a thin stain (~1 inch wide) snaking along a significant portion of the first, second, and third floors. Small puddles were also found on the first and third floors, which had been covered with absorbent pads and a small amount of granules (cat litter). The immediate cause was identified to be a leak of hydraulic fluid from the Zamboni machine used routinely by a subcontractor, Mister Kleen, to clean the parking garage. Sometime during the run, the driver noticed a thin line of liquid being left behind as the Zamboni moved along, but initially believed the leak to be only water. He was not concerned until he noticed that the steering on the unit was becoming sluggish. At that time he parked the unit on the first floor and placed two "wet floor" signs near observed puddles.	Sometime between Sunday morning and 0500 Monday, absorbent pads were placed on a small puddle on the first floor and along a portion of the line of oil on the 3rd floor where it was still wet. When ESOH responded on Monday morning, barricades were placed around the spill areas on the first and third floors. Mister Kleen was then asked to clean up the oil using pads and absorbents and placing all cleanup materials into a marked 5 gallon bucket for transfer to the ESOH HazMat Storage room. The Zamboni driver was counseled on the need to report spills right away. The Mister Kleen manager called the repair technician who performs monthly PMs on the equipment for an emergency visit.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed 8/19/2019
20-05	8/27/2019	Direct Notification	6769	Approximately 1 gallon of diesel fuel came out of Aleuts bush-hog. The cause of the leak was that the hydraulic line had dry rotted, allowing diesel fuel to spill out. The hose was removed (with a catch pan under leak).	The leaked material was absorbed with clay absorbent, the hose was replaced it with new hose. All absorbent was containerized into our drum and will be taken to 1495 for disposal. This incident is closed.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed 8/27/2019
20-06	9/3/2019	Direct Notification	2065	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 action taken.	Closed
20-07	9/10/2019	Direct Notification	N/A	On the 6th floor of the NCE parking garage on the south end of aisle 6C at approximately 11:30 a Motor Oil spill was discovered and reported. The spill was puddled under a car and measured about 0.125 Gallons with a total area of about 3 square feet. The vehicle spill originated from was privately owned.	The spill was covered with absorbent granules, the granules were left in place until later in the day for complete absorption and cleaned up and disposed of.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed 9/10/2019
20-08	9/12/2019	Direct Notification	ISW RO-003	On 12 Sep 2019 at 1730 aircraft 9800008 needed the left wing sumped for a panel removal and replacement. The aircraft was positioned on the #3 spot on the fixed wing ramp in front of building 3145. While draining the fuel a bucket had tipped over and spilled approximately two or less gallons of jet fuel onto the concrete pad. This occurred while changing out drain buckets from a full bucket to an empty bucket to drain more fuel.	The fuel did not reach public waters or inlets and remained completely on concrete. The spill was contained and absorbed using Pig Mats.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed 9/12/2019
20-09	9/12/2019	Direct Notification	7287	In the parking lot of building 324, an Aleut truck had an antifreeze leak at approximately 10:00 am on September 12, 2019. the truck was parked and the entire leak occurred on an asphalt surface. The leak was less than 5 gallons and the leak did not reach state waters or an inlet.	Spill response was enacted absorbant granuels were used to absorb the antifreeze then packaged into a container for transfer. The vehicle was repaired.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed 9/12/2019
20-10	10/4/2019	Direct Notification	RO-015 2179	Mr. Adam Petrizza submitted a spill report for a small hydraulic fluid leak in the parking area behind building 1114.	The spill was immediately contained and then cleaned using absorbant materials. No precipitation and no inlets near spill area therefore, no discharge.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed 10/4/2019
20-11	10/16/2019	Direct Notification	RO-002 4951	On Wednesday, October 16, 2019 at approximately 3:15 PM, the site superintendent with Westerly Enterprises notified American Water personnel of a water main break near building 3232 at Davidson Airfield. Staff immediately responded and drove to the location to verify. After verification of the water main break, staff immediately proceeded to isolate the area by closing off the valve to the water service line. Services to cut and cap the 6-inch water main were performed earlier that day. Contracted crews had restrained the installed cap prior to opening the water main valve. Upon being pressurized, the existing water service line broke as a result from a section of main that dislodged from a nearby tee fitting. Further investigation found the contracted crew did not restrain the upstream existing pipe section back to the nearby tee fitting or provided sufficient blocking behind the newly installed cap.	American Water personnel were able to identify the source of the chlorinated water discharge as a 6-inch water main line for the fire protection system of Building 3232. Staff closed and isolated the water line valve at approximately 3:45 PM. Actions to repair the broken water line are complete. Crew removed the dislodged section of water main from the tee fitting and installed a plug at the tee fitting. A concrete thrust block was installed behind the plug to provide additional restraint and the water line was returned to service with no further issues.	Valid Report, Illicit Discharge, Corrective Action Taken	Closed 10/21/2019
20-12	11/1/2019	Direct Notification	RO-015	After that phone call ends, Aleut and Clean Fuels look over the concrete drainage basin on the 1124 lot, it is very dry considering the large amount of rain yesterday (10/31/2019). Clean Fuels views the inlet, and removes the manhole cover on the pump attached the concrete basin. There is standing water, which we believe is due to a blockage in the pipes that are supposed to connect the concrete basin to the OWS.	Carol Creasap and Steve Watters arrive on site and Adam Petrizza shows them the OWS. At this point Steve Watters states to Adam Petrizza that the OWS should "not be in use." After briefly updating Steve Watters and Carol Creasap, Adam and Carol walk along the outside fence, where a large amount of water was ponding outside the facility. (Is it assumed that this ponding of water is from the pump running at 1124.) No sheen was identified on any of the puddles of ponding water, leading towards the large Retention Pond. Mr. Watters requests pump system attached to the concrete basin be LOTO (Locked Out Tagged Out) to prevent any further pumping of water from the site to the nearby field. Mr. Watters also requests locks be placed on the OWS and the pipe attached to the OWS be capped and locked.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed 11/5/2019
20-13	11/5/2019	Direct Notification	RO-031	At approximately 1945 on Tuesday, November 5, 2019, NCE ESOH was notified of a gasoline spill in the parking garage. The leak was described as a wet spot on the concrete extending beneath a parked car (employee-owned vehicle). The total area of the spill was estimated at ~12 sq. ft.	Possible Affected Water Bodies: None. There was no environmental impact (closest drain located approx. 25 yards away). The wet spot was immediately covered with absorbent granules (cat litter) and surrounded by absorbent spill pigs, and the owner of the vehicle was notified. The leak was checked regularly by AECOM personnel while making their rounds and it was reported that the vehicle was removed sometime between 2200 and 2400 hours. The leaked product and absorbent used to contain the spill were picked up and the area cleaned between 0000 and 0100 on November 6, 2019. Clean up materials were contained and removed to the HazMat room.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed 11/6/2019
20-14	11/23/2019	Direct Notification	ISW RO-016	Customer at the marina left their oil catch witting on the shoreline around the time of a rain storm. Facility personnel dug up about a five gallon bucket worth of soil around oil catch. Amount of oil was believed to be less than one quart of oil, but exact total quantity is unknown. Spill came within 5 feet of Douge Creek but did not enter a stormwater drainage system or body of water.	Spill response was enacted and contaminated soil was removed from the shore line and customer oil catch and storage container were confiscated. Customer was sited the rules and regulations and warned they would be removed from storage if failure to follow rules again.	Valid Report, No Illicit Discharge, Corrective action taken.	Closed
20-15	12/30/2019	Direct Notification	ISW RO-008	A building was pressure washed and paint chipped off the building. There wer no measures to contain the paint chips and they were carried by the water from pressure washing into inlet 5025. Bldg 2850	A lot of the paint chips were collected and thrown away, gravel around the building was raked to get some of the smaller chips up. Wattles were placed around the stormwater inlet to catch any remaining chips that might have blown into the culvert. Daily inspections of the stormwater and culverts showed no paint chips had gotten through.	Valid Report, No Illicit Discharge, Corrective actions taken.	Closed 1/15/2020
20-16	1/2/2020	Direct Notification	3929	There was a tank overflow at the water tower Bldg 2429. Potable water was released and entered curb inlet 3929 and was transported to detention pond 3828. Most water infiltrated into the ground with a small percentage making its way onto asphalt road and into the curb inlet. The water was transported west via stormsewer into the detention pond.	Waiting on 5 day report. The cause for the overflow is to be determined and any precautions that can be taken to prevent a recurrence should be undertaken. Spill report was submitted.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 1/7/2020

2019-2020 Illicit Discharge Tracking
Municipal Separate Storm Sewer Systems General Permit Number VAR040093



Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
20-17	1/3/2020	DPW Inspector	7803	There is a 700 ft. x 30 ft. area (21,000 sq.ft.) that has had an approximately 2-4 inch thick layer of soil deposited on it with no permit or plan, Erosion and Sediment Control measures, and no stabilization has occurred. The soil was spread directly over a gravel access road. A rain event occurred following the deposition of the soil. The Regional Storm Pond is located approximately 30 feet to the west of the disturbed land.	Mark Boyce in the Business Management Division was spoken to in order to determine if a DIG Permit or any record of this work is on file, no record was found. Kevin Carlisle, COR for Tavares Concrete, was emailed with a copy of this report as well as description of the incident and corrective actions required. Incident is to be reported to VADEQ by Wilamena Harback by phone upon receipt of this report. DEQ advised that the area be returned to an access road by placing down filter fabric and putting 4 inches of 75 stone over the mat. Mr. Carlisle was notified of the requirement to return the service road to functioning.	Valid Report, No Illicit Discharge, Corrective actions taken.	Closed 2/20/2020
20-18	1/6/2020	Windshield Inspector	7082	There is a work site on 3rd St. that has a stockpile with no ESC measures and a large denuded area as well as damage to grass channel. The site has no perimeter controls for sediment. There are areas of the denuded portion of the site that has rutting occurring. All of this is occurring approximately 15 feet uphill from a grass channel and approximately 20 feet uphill from a constructed wetlands BMP 7082.	Surround stockpile with silt fence. Surround site with perimeter protection, specifically between the site and the grass channel, to prevent sediment from leaving the site or entering channel, and between site and constructed wetlands BMP 7082. Remove any sediment that has accumulated in the grass channel. Rake then regrade site and channel to original grade then seed and mulch to ensure stabilization.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 1/21/2020
20-19	1/10/2020	Direct Notification	RO-015 2179	While performing a sewer pump bypass on Lowen Road a leak came from the Godwin pump hose and a small bit went into the storm sewer drain. The Storm Sewer line was walked where work was occurring and it was dry on one end and had a small stagnate amount of water on the other end.	The stormsewer was flushed and the water collected with a vac-truck. The total estimated amount is less than 1 gallon. VADEQ isn't requiring a 5 day report and is considering the event closed. "Morning, Jesse. I received the sewage release report for the incident at Lowen Rd and 16th St (IR# 293377). The 24-hr report meets the requirements of the 5-day in this instance due to the very small release. No 5-day required. We consider IR# 293377 closed. Thanks for the report."	Valid Report, Illicit Discharge, Corrective action taken.	Closed 1/10/2020
20-20	1/15/2020	Direct Notification	2553	On Wednesday, January 15, 2020 at approximately 8:00 PM, Aleut Management Services notified American Water staff that there was an active water leak at building 1024. Staff immediately responded and drove by the location to verify the source of the leak. Upon arrival, AW staff identified the leak as a break in a 2-inch water service line. After verification, staff isolated the area by closing off the valve to the water line.	American Water personnel isolated the broken water line at approximately 8:45 PM. Actions to repair the broken water line is on-going. A base excavation permit has been submitted and is awaiting approval from the Department of Public Works. Staff have the necessary materials to make the point repair on the 2 inch water service line.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 1/15/2020
20-21	1/31/2020	Direct Notification	RO-023 2775	At building 1490 a Backhoe (Model Deere 410G) that belongs to Tavares Concrete is leaking mechanical grease/oil. The spill is directly uphill, within 10 feet, of two area inlets. Grease/oil has been transported onto the road and into the storm drains.	Tavares Concrete was notified of the illicit discharge and instructed to clean the spill and stormdrain dispose of cleaning materials and construction debris on site and to have the equipment repaired. These corrective actions were carried out as of 3-Feb-2020.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 2/3/2020
20-22	2/2/2020	Direct Notification	3439	American Water was notified directly at 17:35 on 2-Feb-2020 of a water line break outside building 2105(Post Office). Break occurred in 3" service water line. When American Water staff arrived the noted that water was coming to the surface and draining to a storm drain. Both potable water and soil reached the inlet.	3" potable water line was repaired and area around pipe was stabilized by seeding and mulching.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 2/2/2020
20-23	2/4/2020	Direct Notification	RO-002 4827,4911	On Tuesday, February 04, 2020 at approximately 2:15 PM, Aleut Management Services notified American Water staff that there was a suspected water main break at DAAF. Staff immediately responded and drove by the location to verify the source of the leak. Upon arrival, AW staff identified two leaks on the 16-inch water main loop. Staff isolated the areas by closing off the valves on both ends of the water line where the breaks occurred. ~180,000 gallons of water discharged.	American Water personnel isolated the broken water line at approximately 2:45 pm. On 02/05/20 at approximately 1:30 am, staff completed repair at the first break located off Britten Dr. After point repair was made, staff flushed the water line. Bac-t samples were taken on 02/05/20 at approximately 9:00 am and results received on 02/07/20 at 7:37 am. No bacteriological presence detected. The denuded soil was brought to grade and will be stabilized. Actions to repair the remaining broken water line off Santjer Rd. is on-going. Staff secured the broken section of pipe until repairs are complete. Staff will replace the broken section of pipe with Polyvinyl chloride (PVC) pipe. The line will be flushed and Bac-t samples taken prior to being put back into service. Area will be stabilized with stone as it is occupied in gravel parking lot. American Water is currently working on making the remaining necessary point repairs. Staff will look to perform condition and monitoring of intake water by enhancing current pressure monitors within the water distribution system at DAAF so that trending data can be obtained.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 2/10/2020
20-24	2/19/2020	Direct Notification	1728	On Wednesday, February 19th, staff were notified by Aleut Management Services that there was a suspected SSO occurring in front of Building 305. Aleut was notified at 12:05 pm and notified American Water staff at 12:17 pm. Aleut conveyed to staff that the individual who called in the SSO said that it was first observed at approximately 9:00 am. When staff arrived onsite, it was observed that the SSO was actively overflowing from the ground. Staff had to dig approximately 4 inches underneath the surface to see the manhole. Staff observed the effluent running onto the ground and traveling down the driveway into a nearby storm drain that is located at the corner of Burbeck Rd and Totten Rd. Upon investigation, staff observed that there was a blockage within the gravity sewer line as a result of tree root infiltration.	Staff members arrived onsite to clear the blockage by jetting from the upstream manhole that is located off Burbeck Rd and worked their way towards the blockage near the corner of Totten Rd. After the blockage was successfully cleared, staff members sprayed the surrounding pavement with water and used the Vac-Truck to suction all remaining water and puddled effluent from the roadway surface. Next, staff members applied lime to all affected areas where the overflow was observed to have traveled before reaching the roadway. The following business days, staff members utilized the push camera to further assess the cause of the blockage. Upon visual evaluation, the lateral was found to have evident tree root infiltration within close proximity from the newly discovered manhole. The remaining tree roots were removed. This was a found asset. In the future, this asset will be placed on a continual maintenance program.	Valid Report, Illicit Discharge, Corrective action taken.	Closed 2/24/2020
20-25	3/6/2020	Direct Notification	RO-005 2758, 2808	On 6 Mar 2020/1300 hrs at Building 1495, Sharron Lane Road, Ft. Belvoir, VA 22060 Unsecured load being transported over installation roads. Part A and Part B of the 2 part expanding foam tipped over spilling 15 gallons of part 2 of a 2 part mixture expanding foam and another unknown chemicals. Spill was contained on asphalt surface. Fire department was notified at 1325 hrs.	Personnel were moved safe distance away until Fire Department personnel cleared area for beginning cleanup operations. Spill contained via absorbent kitty litter and berms. Truck reloaded and load secured. Operator, passengers and load escorted off installation.	Valid Report, No Illicit Discharge, Corrective Actions Taken	Closed
20-26	3/19/2020	DPW Inspector	6279	During a high priority facility inspection there was an inlet observed that had tar dumped in it. The tar was visible at the bottom of the inlet structure and had dried already.	Hospital staff has been trained on preventing and cleaning spills and about illicit dumping. They were informed to report any dumping they observe to DPW. Training on Illicit discharges should continue as per the corrective actions in the Training Plan	Valid Report, Illicit Discharge, Corrective action taken.	Open
20-28	4/17/2020	Direct Notification	4787, 4785	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.	Valid Report, Illicit Discharge, Corrective action taken.	Open
20-30	6/3/2020	Windshield Inspector	BMP 2535	Discharge is 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.	Valid Report, Illicit Discharge, Corrective action pending	Open
20-31	6/4/2020	Direct Notification	669	On Thursday, June 4th, staff were notified by Fort Belvoir's Department of Public Works (DPW) that there was a suspected SSO occurring behind the Missile Defense Agency (MDA). When staff arrived onsite, it was observed that the SSO did not occur at MDA as previously suggested. Staff traced the source of the SSO overflow to a broken section of clay pipe in the woods behind Building 1003. Upon assessment, it was determined that section of the bank had broken off and landed on top of the sanitary sewer pipe causing it to collapse. Consequently, effluent actively overflowed into the surrounding soil and into the nearby stream.	On Thursday, June 4th, staff were notified by Fort Belvoir's Department of Public Works (DPW) that there was a suspected SSO occurring behind the Missile Defense Agency (MDA). When staff arrived onsite, it was observed that the SSO did not occur at MDA as previously suggested. Staff traced the source of the SSO overflow to a broken section of clay pipe in the woods behind Building 1003. Upon assessment, it was determined that section of the bank had broken off and landed on top of the sanitary sewer pipe causing it to collapse. Consequently, effluent actively overflowed into the surrounding soil and into the nearby stream.	Valid Report, Illicit Discharge, Corrective actions taken.	Closed 6/8/2020
20-32	6/10/2020	Direct Notification	1526	On Wednesday, 10 June 2020 @ approximately 1323 hrs, an SES Operator levered against the 10" Water Main adjacent to Tracey Loop, resulting in a rupture of the piping expelling approximately 140,000 gallons of portable water. American Water was notified at 1325 hrs of the incident and the release was contained and stopped at 1430 hrs. Discharge entered public waters and storm sewer system.	SES Management sub-contracted Kelvic to remove the damaged 10" piping after dewatering was complete. Dewatering Operations lasted approximately from 1440 hrs to 2015 hrs. Kelvic removed the damage section of piping and replaced the line. Kelvic completed all operations at 2300 hrs. American Water was notified of the completion of all repair operations and the Fire Department was notified that all operations were completed at 2305 hrs.	Valid Report, Illicit Discharge, Corrective actions taken.	Closed 6/12/2020

2019-2020 Illicit Discharge Tracking
Municipal Separate Storm Sewer Systems General Permit Number VAR040093



Fort Belvoir Incident Number	Date Discovered	Discovery Method	MS4 Structure ID#	Description	Corrective Action	Validity	Status
20-33	6/11/2020	Direct Notification	1526	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
20-34	6/22/2020	DPW Inspector	3863	The water tower at the intersection of Gorgas Rd. and Woodlawn Rd. was found ot be discharging water that was flowing over a grassy area then onto a small service road and then into curb inlet 3863.	A power surge caused the control system to shut down and begin discharging the system was shut off and replacement parts were ordered and the repairs were completed when the parts arrived.	Valid Report, Illicit Discharge, Corrective actions taken.	Closed
Total	37					37	37