

Joint Base Myer-Henderson Hall
VSMP MS4 General Permit
2018 Annual Report

A. Background Information.

1. **Facility Name:** Joint Base Myer-Henderson Hall (formerly known as U.S. Army Garrison Fort Myer)
Permit Number: MS4 General Permit VAR040068
2. **Annual Report Permit Year:** 2017-2018 (Period of Report: 1 July 2017 – 30 June 2018)
3. **Modifications to roles and responsibilities:** Colonel Kimberly A. Peeples assumed the role of Joint Base Commander in April 2018. This command was previously held by Colonel Patrick M. Duggan. COL Peeples is the signatory authority in accordance with the General Permit requirements. Notification of this change was submitted to DEQ in a letter dated 12 April 2018.
4. **Number of New MS4 Outfalls and HUC Information:** No newly constructed outfalls were added during the permit year 2018 period (1 July 2017 – 30 June 2018). The entire Installation is located within the 6th order hydrologic unit code (HUC) PL24 (8-digit HUC: 02070010).
5. **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."

Name: Kimberly A. Peeples

Title: COL, Engineer, Commanding, Joint Base Myer-Henderson Hall

Signature: 

Date: 19 Sept 18

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B. Permit Conditions Compliance Assessment.

- 1. Status of Compliance with MS4 Permit Conditions.** A summary of compliance with the MS4 permit conditions is documented in **Attachment 1**. The summary provides the required annual report documentation specified in Section II of the 2013 MS4 General Permit for Joint Base Myer-Henderson Hall (JBM-HH).
- 2. Best Management Practice (BMP) Assessment.** The BMPs identified in JBM-HH's MS4 Program Plan were assessed for their effectiveness at preventing stormwater pollution. At this time, the BMPs appear to be effective at controlling stormwater pollution; new BMPs will be developed and implemented in the future if the current BMPs are deemed to be ineffective. The United States Army Corps of Engineers (USACE) has designed future BMPs to be implemented to meet the Chesapeake Bay total maximum daily load (TMDL) pollutant reductions required during the current and future permit cycles.
- 3. Progress towards Achieving Measurable Goals.** **Attachment 1** presents a summary evaluation of JBM-HH's progress towards achieving the measurable goals contained in the approved MS4 Program Plan.

C. Results of Information Collected and Analyzed, including Monitoring Data, if any, during the Reporting Period.

Stormwater benchmark monitoring for total suspended solids (TSS) and total petroleum hydrocarbons (TPH) is required under the Virginia Industrial Stormwater General Permit (VAR05), which is administered by the Virginia Department of Environmental Quality (DEQ). JBM-HH obtained coverage under the general permit, effective 1 July 2014, (VAR051296) for discharges at two outfalls, 003 and 005. Stormwater monitoring was conducted at Outfalls 003 and 005 for five semi-annual monitoring periods.

In August 2017, JBM-HH requested a benchmark monitoring waiver for the remainder of the permit term from DEQ, as the monitoring results for the five monitoring periods were below benchmark concentration values. DEQ approved the waiver request on 4 October 2017.

The Industrial General Permit also requires that quarterly visual stormwater monitoring be conducted at the regulated outfalls. No indications of stormwater pollution were identified during visual monitoring conducted during this reporting period (01 July 2017 – 30 June 2018).

D. Future Stormwater Activities. During the next reporting period, illicit discharge tracking will continue. Visual stormwater monitoring will continue in compliance with JBM-HH's Industrial Stormwater General Permit. Ongoing and future construction activities will be routinely monitored for compliance with stormwater and erosion and sediment control permits. Routine inspections will be continued for JBM-HH's industrial activities. Public education and outreach activities, training, and other required actions related to the six minimum control measures will be implemented as described in the Installation's MS4 Program Plan.

E. Best Management Practices and Measurable Goal Modifications. BMPs for stormwater pollution prevention will be updated as needed to comply with the requirements of the 2013 MS4 General Permit. Details are provided in the Installation's

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MS4 Program Plan. BMPs and measurable goals will be modified as necessary to conform to the requirements of the new 2018 MS4 General Permit once the final permit is issued. New MS4 Program elements are being initiated as described in Section B of this report. At this time, no significant stormwater pollution concerns requiring modifications to measurable goals or BMPs have been identified.

F. Reliance on Another Government Entity to Satisfy Permit Obligations. The USACE is responsible for ensuring that contractors for construction projects under their oversight comply with the provisions of the MS4 permit as well as federal and state stormwater regulations. JBM-HH Environmental Management Division (EMD) reviews projects for compliance and conducts periodic compliance inspections of construction activities. USACE also prepared JBM-HH's Chesapeake Bay TMDL Action Plan and will design and manage construction of BMPs to meet Chesapeake Bay TMDL pollutant load reduction targets in this and subsequent permit terms.

Construction projects disturbing more than 2,500 square feet must obtain an approved erosion and sediment control plan and a Virginia Stormwater Management Program (VSMP) General Permit for Discharges of Stormwater from Construction Activities. Virginia DEQ is the permit review and issuing authority for erosion and sediment control plans and Construction General Permits, as JBM-HH is a federal entity.

G. The approval status of any programs pursuant to Section II C. There are no applicable programs that impact JBM-HH.

H. TMDL Special Conditions.

1. Part I.B, Special Conditions for Approved Total Maximum Daily Loads other than the Chesapeake Bay:

The MS4 General Permit requires permittees to address pollutants for which the MS4 has been assigned a wasteload allocation (WLA) in an approved TMDL (other than the Chesapeake Bay TMDL). Because JBM-HH discharges to the Potomac River, the Installation is required to have a TMDL Action Plan for polychlorinated biphenyls (PCBs). The PCB TMDL Action Plan for JBM-HH was developed from March-July 2016 and submitted to the Virginia DEQ on 18 July 2016. The Plan was approved by DEQ in a letter dated 26 July 2016.

The Plan describes three outfalls (012, 013, and 021) on the Installation to be monitored for PCBs twice during the calendar year of 2017. Implementation of the Plan began in Fall 2016 with the preparation and coordination with the laboratory for the PCB sampling. The first sampling event occurred on 11 May 2017. PCB concentrations were not detected in discharges from any of the three outfalls. A second qualifying rain event that produced flow from the three outfalls did not occur by the end of 2017. The next sampling event occurred on April 24, 2018, when flow was produced from Outfall 021. PCB concentrations were not detected in the sample. Outfall 013 was sampled on August 21, 2018 and laboratory results indicated PCB concentrations were not detected in the sample. The final sampling event for Outfall 012 will be conducted in the near future.

Additionally, the public education portion of the PCB TMDL Action Plan was implemented during the previous reporting period through publishing an article in

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the Installation's newspaper, The Pentagongram, titled "PCBs: Cleaning up the former 'miracle chemical,'" and updating the annual stormwater pollution prevention training program for Directorate of Public Works (DPW) staff to include a section on PCBs.

2. Part I.C, Special condition for the Chesapeake Bay TMDL:

The MS4 General Permit required preparation of a Chesapeake Bay TMDL Action Plan by 30 June 2015. This plan was prepared by the USACE and the final version was submitted to the Virginia DEQ on 18 December 2016. DEQ accepted the final version of the plan. Final selection of control measures to achieve the required first permit cycle reductions was completed by USACE in April 2016. A combination of five control measures was selected to achieve the reduction goals and bid documents were prepared by USACE for construction of the control measures.

The first control measure projects to be constructed involved replacing an area of impervious pavement with permeable pavement and installing a bioretention area to treat parking lot runoff. This project was completed in May 2018.

Construction on the four remaining control measure projects began at the end of July 2018 and is anticipated to be completed in October 2018.

The Chesapeake Bay TMDL Action Plan has undergone updates for the new permit term and is included as an attachment to this report. This version of the Action Plan includes descriptions of the above-described BMPs.

An Excel spreadsheet containing information on the completed and proposed control measures, including the estimated nitrogen, phosphorus and TSS reductions for each measure, is provided as a separate file with this report.

**Attachment 1 - VSMP MS4 General Permit 2018 Annual Report
JBM-HH Minimum Control Measure Progress Evaluation**

Permit Section: Requirement	Implementation/Progress Summary			
Minimum Control Measure 1: Public Education and Outreach on Stormwater Impacts				
<p>Section II.B.1.g(1) : A list of the education and outreach activities conducted during the reporting period for each high-priority water quality issue, the estimated number of people reached, and an estimated percentage of the target audience or audiences that will be reached.</p>	High-Priority WQ Issue	Activity/Progress	Target Audience/Estimated Total Audience	Estimated % Reached
	Oil & grease, hydrocarbons and related pollutants	<ul style="list-style-type: none"> Updated Stormwater Pollution Prevention brochures for new employees at JBM-HH, included in the new hire packets. Published an article in the <i>Pentagram</i>, JBM-HH's weekly newspaper, regarding the purpose of the new stormwater control measures (permeable pavement and bioretention area) recently constructed on base. Presented stormwater pollution prevention topics at the Environmental Quality Control Committee (EQCC) Meeting held in February 2018 and provided information on stormwater issues to directors and managers of other departments and organizations on the Installation to be further disseminated among Installation staff. 	Civilian Employees/~5,600 Active Duty Military Population/~2,020 Residents/~1,000	30% 35% 30%
	Sediment	<ul style="list-style-type: none"> Updated Stormwater Pollution Prevention brochures for new employees at JBM-HH, included in the new hire packets. Published an article in the <i>Pentagram</i>, JBM-HH's weekly newspaper, regarding the purpose of the new stormwater BMPs (permeable pavement and bioretention area) recently constructed on base. Presented on stormwater pollution prevention topics at the Environmental Quality Control Committee (EQCC) Meeting held in February 2018 and provided information on stormwater issues to directors and managers of other departments and organizations on the Installation to be further disseminated among Installation staff. 	Civilian Employees/~5,600 Active Duty Military Population/~2,020 Residents/~1,000	30% 35% 30%
	Trash and Litter	<ul style="list-style-type: none"> Updated Stormwater Pollution Prevention brochures for new employees at JBM-HH, included in the new hire packets. Published an article in the <i>Pentagram</i>, JBM-HH's weekly newspaper, regarding the purpose of the new stormwater BMPs (permeable pavement and bioretention area) recently constructed on base. Presented on stormwater pollution prevention topics at the Environmental Quality Control Committee (EQCC) Meeting held in February 2018 and provided information on stormwater issues to directors and managers of other departments and organizations on the Installation to be further disseminated among Installation staff. 	Civilian Employees/~5,600 Active Duty Military Population/~2,020 Residents/~1,000	20% 30% 40%
<p>Section II.B.1.g(2): A list of the education and outreach activities that will be conducted during the next reporting period for each high-priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.</p>	Education and Outreach activities planned for the next reporting period and the estimated target audiences to be reached are summarized below:			
	High-Priority WQ Issue	Activity	Target Audience/Estimated Total Audience	Estimated % to be Reached
	Oil & grease, hydrocarbons and related pollutants	<ul style="list-style-type: none"> Publish one article in the <i>Pentagram</i> related to preventing oil & grease/hydrocarbon pollution. Create and distribute stormwater pollution prevention brochures for the medical and dental clinics on base. Update web page with new information regarding spill reporting and the car washing policy. Conduct outreach at the DPW Yard with the maintenance staff regarding basewide stormwater policy, stormwater permit requirements, and good housekeeping practices. Display stormwater pollution prevention table tents at the Dining Facility. 	Civilian Employees/~5,600 Active Duty Military Population/~2,020 Residents/~1,000 DPW maintenance employees/~100	20% 20% 30%
	Sediment	<ul style="list-style-type: none"> Create and distribute stormwater pollution prevention brochures for the medical and dental clinics on base. Update web page with new information regarding spill reporting and the car washing policy. Conduct outreach at the DPW Yard with the maintenance staff regarding base-wide stormwater policy, stormwater permit requirements, and good housekeeping practices. Display stormwater pollution prevention table tents at the Dining Facility. 	Civilian Employees/~5,600 Active Duty Military Population/~2,020 Residents/~1,000 DPW maintenance employees/~100	20% 20% 80%
Trash and Litter	<ul style="list-style-type: none"> Publish one <i>Pentagram</i> article regarding and the impact plastic bags on water quality. Create and distribute stormwater pollution prevention brochures for the medical and dental clinics on base. Update web page with new information regarding spill reporting and the car washing policy. Conduct outreach at the DPW Yard with the maintenance staff regarding base-wide stormwater policy, stormwater permit requirements, and good housekeeping practices. Display stormwater pollution prevention table tents at the Dining Facility. 	Civilian Employees/~5,600 Active Duty Military Population/~2,020 Residents/~1,000 DPW maintenance employees/~100	35% 20% 40%	

**Attachment 1 - VSMP MS4 General Permit 2018 Annual Report
JBM-HH Minimum Control Measure Progress Evaluation**

Permit Section: Requirement	Implementation/Progress Summary
Minimum Control Measure 2: Public Involvement/Participation	
Section II.B.2.d(1): A web link to the MS4 Program Plan and annual report	http://www.jbmhh.army.mil/WEB/JBMHH/Directorates/EnvironmentalManagement.html
Section II.B.2.d(2): Documentation of compliance with the public participation requirements of this section.	<p>The following public involvement/participation activities were held during this reporting year:</p> <ul style="list-style-type: none"> • JBM-HH held an Earth Day base-wide cleanup that involved multiple organizations on the Installation from 16 April through 20 April 2018. • JBM-HH held a paper shredding and recycling event on 18 and 19 April 2018 where multiple organizations on the Installation were involved. • A JBM-HH representative attended VA DEQ's Public Hearing on the 2018 MS4 Permit, held at the DEQ Woodbridge Office on 9 February 2018. • Representatives of JBM-HH attended/called in for the Department of Defense Chesapeake Bay Action Team Meetings on 25 January 2018, 26 April 2018, and 26 July 2018. <p>EMD is currently in the process of planning public involvement activities for the next year (2019) as described in the MS4 Program Plan.</p>
Minimum Control Measure 3: Illicit Discharge Detection and Elimination	
Section II.B.3.a: The operator shall maintain an accurate storm sewer system map and information table and shall update it in accordance with the schedule set out in Table 1.	The Installation has an updated storm sewer system map and outfall information table. Additional information has been added to the outfall information table and it will continually be updated as needed.
Section II.B.3.f(1): A list of any written notifications of physical interconnection given by the operator to other MS4s.	JBM-HH has notified Arlington County and Arlington National Cemetery of interconnections to their MS4 systems. There have been no new written notifications of interconnections issued. EMD has been in communication with both Arlington County and the Arlington National Cemetery regarding stormwater discharges. Benchmark monitoring results were provided to Arlington County Department of Environmental Services, as well as DEQ. JBM-HH communicates regularly with Arlington National Cemetery's Environmental Compliance Program Manager regarding stormwater and MS4-related issues.
Section II.B.3.f(2): The total number of outfalls screened during the reporting period, the screening results, and detail of any follow-up actions necessitated by the screening results.	<p>All 23 outfalls were screened in April and July 2018.</p> <p>Conditions requiring follow-up actions were observed at two outfalls. One of the outfalls was observed to have age-related damage; a work order was submitted and the repairs are pending. There was no flow from this outfall. The second outfall was observed with clear flow, which was traced back to the pump house for the Installation's swimming pool and is suspected to be due to a leak. Follow up actions are described below.</p>
Section II.B.3.f(3): A summary of each investigation conducted by the operator of any suspected illicit discharge. The summary must include: (i) the date that the suspected discharge was observed, reported, or both; (ii) how the investigation was resolved, including any follow-up, and (iii) resolution of the investigation and the date the investigation was closed.	On 23 April 2018, flow was observed from an outfall located on the northern property boundary of the Installation. EMD staff investigated the inlets and conducted field tests of the water for chlorine and ammonia (slight detection of chlorine, non-detect for ammonia). EMD staff traced the flow back to the swimming pool pump house at the Officers Club. The flow is suspected to be a potable water leak in the pump house. An EMD representative spoke to the POC with the Officer's Club to notify them of the issue and advised them to ensure there are no active leaks within the pump house. Additionally, a work order was submitted to address the issue and repairs are pending.
Minimum Control Measure 4: Construction site stormwater runoff control	
Section II.B.4.f(1): Total number of regulated land-disturbing activities	No projects occurred at Fort Myer or Henderson Hall with land-disturbing activities that required a construction stormwater permit.
Section II.B.4.f(2): Total number of acres disturbed	N/A
Section II.B.4.f(3): Total number of inspections conducted	N/A
Section II.B.4.f(4): A summary of the enforcement actions taken, including the total number and type of enforcement actions taken during the reporting period.	N/A
Minimum Control Measure 5: Post-construction stormwater management in new development and development on prior developed lands	
Section II.B.5.e(9): the operator shall annually track and report the total number of inspections completed and, when applicable, the number of enforcement actions taken to ensure long-term maintenance. The operator shall submit an electronic database or spreadsheet of all stormwater management facilities brought online during each reporting year with the appropriate annual report.	<p>JBM-HH is a military installation. Inspection and maintenance of all stormwater management facilities (SMFs) on the Installation is the responsibility of the DPW. Maintenance issues are managed through the DPW work order process; enforcement actions are not applicable. Standard Operating Procedures (SOPs) were developed for all SMFs on the Installation that include checklist forms to document the inspections and maintenance. In 2018, DPW hired USACE to conduct inspections of SMFs across the installation on a routine basis. The USACE Inspection Team conducted inspections of 12 SMFs on 18 and 19 April 2018 and four SMFs on 23 August 2018. The EMD is responsible for maintaining completed documentation received from USACE. EMD is in the process of submitting work orders to correct deficiencies noted during the inspections.</p> <p>Two new stormwater management facilities were brought online during this reporting period, including a permeable paved area and a bioretention area. A spreadsheet with the data for these stormwater management facilities is included with this report.</p>

**Attachment 1 - VSMP MS4 General Permit 2018 Annual Report
JBM-HH Minimum Control Measure Progress Evaluation**

Permit Section: Requirement	Implementation/Progress Summary
Minimum Control Measure 6: Pollution prevention/good housekeeping for municipal operations	
Section II.B.5.g(1) A summary report on the development and implementation of the daily operational procedures	Daily operational procedures for DPW employees were completed by the 30 June 2015 deadline and were disseminated among the affected DPW departments. Training efforts have been expanded to focus on good housekeeping and pollution prevention at the Installation's maintenance-related facilities. A new standard operating procedure (SOP) was developed in January 2018 that addresses the storage, application, and overall management of deicing materials. This Deicing Materials SOP was disseminated among DPW maintenance staff in February 2018. The Installation's street sweeping program is currently undergoing an evaluation to potentially outsource the street sweeping and stormdrain cleaning, as well as associated documentation activities.
Section II.B.5.g(2) A summary report on the development and implementation of the required SWPPPs	A JBM-HH SWPPP that addresses all municipal operations for the Installation was prepared to comply with the Installation's VPDES Industrial Stormwater Permit. This SWPPP has been implemented since 2009 and was updated in October 2017. The SWPPP is currently being updated with minor revisions to pollution sources located on base.
Section II.B.5.g(3) A summary report on the development and implementation of the turf and landscape nutrient management plans that includes: (a) The total acreage of lands where turf and landscape nutrient management plans are required; and (b) The acreage of lands upon which turf and landscape nutrient management plans have been implemented	Turf and landscaped areas at the Installation are generally limited to small maintained yards and landscaped areas surrounding residences and buildings. The only large area that may have nutrient applications is the Summerall Field. This area is approximately 9 acres and is used for ceremonies, parades, and other similar activities. The coordinates for this area are: N38.881746, E-77.081838. The need for a nutrient management plan has been evaluated. It was determined that nutrients are not currently being applied to Summerall Field or any other areas of the Installation. Therefore, a nutrient management plan is not required. If nutrients are applied at JBM-HH in the future, a plan will be developed in accordance with the permit conditions.
Section II.B.5.g(4): A summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.	<p>During 2018, 20 employees and active duty military personnel assigned to motor pool maintenance and DPW maintenance activities completed required training that addresses stormwater pollution prevent and spill prevention, control and countermeasures (SPCC). The training is deployed in a computer-based training format and addresses the following topics:</p> <ul style="list-style-type: none"> • Overview of SPCC and NPDES regulations • SPCC Plan and Stormwater Pollution Prevention Plan (SWPPP) contents and requirements • Employee responsibilities • Overview of installation's storm drain system and spill drainage routes • Potential sources of stormwater pollutants and spills • Spill prevention measures including inspections • Spill response and reporting procedures • Description of stormwater control measures implemented at the installation <p>A supplemental training module was developed in 2015 that addresses the following MS4 permit-required training elements:</p> <ul style="list-style-type: none"> • Illicit discharge detection and elimination • Good housekeeping and pollution prevention practices for DPW operations (including roadway and parking lot maintenance and pollutant minimization practices) <p>After employees/personnel successfully pass an integrated test, a certificate of completion is generated. Because the training is computer based, specific training dates vary. In 2018, employees completed training during the month of August.</p> <p>Annual stormwater pollution prevention and spill prevention training is provided for civilian employees and active-duty military personnel whose duties involve industrial and maintenance activities. The objective of the training is to address good housekeeping and pollution prevention by providing an understanding of the environmental issues and methods used to address these issues. The training includes, but is not limited to, the following topics:</p> <ul style="list-style-type: none"> • How JBM-HH activities can impact the local environment; • How state and federal regulations apply to activities at JBM-HH; • Identifying opportunities to prevent pollution and use sustainable practices; • Environmental risks associated with employee's duties; • Methods for reducing environmental impacts; • Spill prevention and response; and • Illicit discharge detection and elimination. <p>Additionally, a separate in-depth training session is currently being developed for DPW Maintenance staff for good housekeeping practices at the DPW Building 447 Yard, in order to improve the housekeeping of the area and implement further measures that will prevent illicit discharges.</p>
Section II.B.6.b: Municipal facility pollution prevention and good housekeeping.	Two large stained areas were identified in the DPW Maintenance Yard of Building 447 during DEQ's inspection in November 2016. Last year, the stained asphalt was excavated, removed from the affected areas, and replaced with new asphalt. Additional spill control products were ordered this year to promote good housekeeping at the DPW Maintenance Yard, including more drip pans and absorbent pads, and, as mentioned above, a training session is currently being developed for staff using the Yard to reinforce and further improve good housekeeping procedures for the area. Additionally, a new SOP was developed in January 2018 that addresses the storage, application, and overall management of deicing materials. The Deicing Materials SOP was disseminated among DPW maintenance staff in February 2018.