George Washington Memorial Parkway Municipal Separate Storm Sewer System (MS4) Virginia Permit 2019 Annual Report

Reporting Period: July 1, 2018– June 30, 2019

Submitted to: Virginia Department of Environmental Quality

(Due October 1, 2019)

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National Park Service
George Washington Memorial Parkway
Division of Resource Management
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Contents

Background and Introduction

- Permittee, system name and permit number:
  - National Park Service, George Washington Memorial Parkway (GWMP), VA permit number VAR040111.
- Reporting period for which the annual report is being submitted:
  - July 1, 2018– June 30, 2019
- Signed certification as per Part III, K
  - Please refer to cover memo (signed by Superintendent or Duly Authorized Person (see permit Part III, K, 2)

This report summarizes the required reporting elements for each of the six (6) Minimum Control Measures (MCMs) specified in the permit (Part I, E) as well as an overall evaluation of the MS4 program's implementation to determine effectiveness and whether or not changes to the MS4 are necessary.

As required per the MS4 permit, this report will be posted to the GWMP's MS4 website by November 1, 2019. The website is: https://www.nps.gov/gwmp/learn/scienceresearch.htm.

Summary of Revisions to the MS4 Program

The park's MS4 program underwent significant changes during this reporting term (July 1, 2018 – June 30, 2019). Specifically, in October 2018, the park received the next five (5) year MS4 permit from the state of Virginia, effective November 1, 2018 – October 31, 2023. In order to comply with the updated permit requirements, GWMP has been working to update its MS4 program plans to align to the revised permit conditions. The park is working to update and revise the GWMP MS4 Consolidated Total Maximum Daily Load (TMDL)/Program Plan and also will be working to update the GWMP Chesapeake Bay TMDL Action Plan. In summary the following revisions occurred during the 2019 reporting term:

- Review and update of language from the 2013-2018 permit to the 2018-2023 permit language.
- Reorganization of the GWMP MS4 Consolidated TMDL Action Plan/MS4 Program Plan to better align with the VA MS4 Permit elements.
- Initial planning to update and revise the compendium GWMP Chesapeake Bay TMDL Action plan – due to the VA DEQ by November 1, 2019.
- Update of the GWMP Daingerfield Island Stormwater Pollution Prevention Plan (SWPPP).

No approval of the program by a Third Party

No other entity is being relied on to satisfy all or part of the park's permit requirements, therefore the park does not have any information to report for this section.

MCM 1: Public Education and Outreach

In accordance with the GWMP MS4 permit, this report must include a list of high priority stormwater issues the permittee addressed in the public education and outreach program; and a list of strategies used to communicate each high-priority stormwater issue.

Based on qualitative staff expertise about the various stormwater topics that affect the park's MS4 service area, during the 2019 reporting year in accordance with the 2013-2018 permit, GWMP focused on the three (3) high-priority stormwater topics below in the public education and outreach program. The issues were:

1. Spill prevention and response. This topic was selected because there is a high potential for spills of products during the execution of everyday duties. Spill prevention training is held regularly for GWMP Maintenance staff.
2. Stormwater pollution prevention. This topic was selected due to the number of stormwater outfalls located within GWMP boundaries, and targeted towards park visitors and neighbors.
3. Good housekeeping procedures. This topic was selected in order to cover many smaller water quality topics, such as fuel tank operation and maintenance, PCB awareness, and incident response.

GWMP established the target audience for the high priority issues to be the park staff of approximately 85 permanent staff. The population size of the target audience who is most likely to have a significant impact for each water quality issue is our Maintenance staff of approximately 30. The strategies used to inform, educate and train the GWMP park staff, including maintenance staff, are outlined below.

Educational and outreach materials are posted on office bulletin boards and common areas about relevant checklists, plans, spill response instructions, stormwater inlet mapping, and location of materials with the potential to spill. There are also tailgate safety talks, monthly safety talks, regular division meetings, and email distribution of information to staff. These activities are projected to continue next year.

GWMP held several relevant trainings for park staff during the 2019 reporting year as shown in Table 1 below.

Table 1: Summary of Employee Training During 2019 Reporting Year

Training Topics/Content/Objective	Date	Staff reached	Target Audience	% Target audience
PCB Awareness training	Throughout 2018	85	85– All GWMP	100%
Stormwater Pollution Prevention Plan (SWP3) training	9/19/2018	25	30 - Maintenance	83%
Spill Prevention Control and Countermeasures (SPCC) training	9/19/2018	25	30 - Maintenance	83%
MS4 Illicit Discharge Detection and Elimination (IDDE) and Good housekeeping training	9/19/2018	25	30- maintenance	83%
HAZWOPER training / refresher	Throughout year	16	30 - Maintenance	53%
Aboveground Storage Tank training	9/19/2018	25	30 - Maintenance	83%
HAZMAT cleanup	Quarterly	30	30	100%

Additionally, a park staff employee who serves as the primary point-of-contact for the GWMP VA MS4 program attended four (4) Incident Command System (ICS) Courses in May 2018. The knowledge and skills gained from those courses will be used to implement the MS4 program, particularly with regard to the IDDE processes and investigations.

Beyond specific training events, GWMP employees participate in regularly occurring activities that support the three priority topic areas. For example, park staff participated in a state of Virginia MS4 site visit conducted in November 2018. The site visit identified MS4 program recommended corrective actions which park staff have completed.

Additionally, as part of the NPS' environmental management program, GWMP participates in a comprehensive environmental compliance audit once every five years. The most recent audit was conducted in May 2018 by an external company, Hitachi Consulting. Since the final audit report was issued to the park in July 2018, GWMP staff have been working to address and remedy the audit findings. The audit scope included stormwater management, spill prevention and controls, fuel storage management, hazardous materials management, and solid waste management, to name a few.

Park staff are also engaged in community emergency response and oil spill planning. During the 2019 reporting year, four (4) park employees were regularly involved in an NPS National Capital Region (NCR) Regional Response team and Area Contingency Plan (ACP). The team and plan are designed to be prepared for the use of all agencies engaged in responding to environmental emergencies within a defined geographic area. This group also makes everyone aware of the responsibilities of owners, operators and federal, state and local agencies in removing a discharge or spill. GWMP employees attended team meetings, training, and workshops, attended seminars

with the US Coast Guard and agency and industry representatives in a tabletop exercise. The presence of GWMP representation on this team brought particular NPS issues to the table for the many federal, state, and local agencies also on the team. GWMP employees served as the sole NPS representative and collaborated with Department of Interior (DOI) representative. Park management worked with the NPS Washington Area Support Office (WASO) hazardous materials spill coordinator to secure $15,000 in funding for oil spill readiness activities. The funding was used to support park staff in their efforts to develop the NPS Annex document to the NPS NCR ACP to address particularities of spill response on NPS lands. These efforts brought together an NCR park working group for the ACP review and annex development. The group held work sessions and is currently following up on deliverables.

Other strategies used to communicate stormwater and MS4 issues included the development of GWMP's Good Housekeeping procedures. The procedures were developed and training was held for Maintenance Staff on September 19, 2018.

The GWMP Environmental Committee continued its activities which support stormwater management. The committee is a collaborative group that brings together different divisions and disciplines for the good of the park, the resources, the visitors, and the employees. The committee aims to work together and take action on long-standing environmental and safety issues throughout the park while working in a collaborative manner with other divisions such as the park's safety officer, and bringing in outside expertise to support initiatives. Throughout the 2019 reporting year, the committee continued its work on environmental management issues including stormwater awareness and communication. Specifically, the committee organized:

- Interdivisional Earth Day cleanups including Weed Warriors at Glen Echo, invasive removal at Great Falls Park and along the GW Parkway, and trash cleanup at Gravelly Point, Teddy Roosevelt Island, and Arlington National Cemetery.
- Interagency staff grounds cleanup day with Arlington National Cemetery.
- Coordinated and organized regular occurring (e.g., 2-4) hazardous waste pick-ups throughout the park to ensure old and unused chemicals and other hazardous materials are properly disposed of, thereby reducing the potential for spills and leaks of hazardous materials onto park property.

Committee information and activity updates are posted on the bulletin board at Maintenance and Headquarters for information sharing to other employees.

MCM 2: Public Involvement and Participation

In accordance with the GWMP MS4 permit, this report must include: a summary of any public input on the MS4 program received (including stormwater complaints) and how the permittee responded; a webpage address to the permittee's MS4 program ad stormwater website; a description of the public involvement activities implemented by the permittee; a report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality; and the name of other MS4 permittees with whom the permittee collaborated in the public involvement opportunities.

GWMP has posted the park's MS4 program plan and annual reports on our website at http://www.nps.gov/gwmp/learn/scienceresearch.htm. This site also includes our water quality data. Additionally, on an annual basis the park sends an email to the neighboring landowners to update them on the status of the park's MS4 program. Refer to Appendix D for an example communication.

During the 2019 reporting year, the park received two (2) complaints (public input and comments) on issues related to the park's MS4 program. Each incident was specific to a reported potential spill in the park. A description of each incident is provided in more detail in Appendix A.

The park did not coordinate with any other MS4 permittees during this permit reporting year regarding public involvement opportunities.

The park provides many public engagement opportunities throughout the year. GWMP excels at public involvement and participation, well-exceeding the requirements under the permit. The park meets its public involvement and participation goals through volunteer events held throughout the year. The park aims to maintain these volunteer, public engagement efforts and expand the opportunities as funding and park staff capacity allows.

The park has a very active Friends' Groups, as well as many other volunteer groups that participate regularly in park activities, including Friends of Dyke Marsh, Weed Warriors, Friends of Fort Hunt, and more. A summary of these volunteer events related to stormwater management is provided in Table 2 below. In total these volunteer events totaled to over 800 hours of work over the course of the year.

Table 2: Summary of Public Volunteer Events Beneficial to Stormwater Management conducted during the MS4 Reporting Year

	Number of Volunteers	**Total Hours**	**Quantitative Metrics**	**Number of Events Held**
Volunteer Trash Cleanups during the MS4 Year	1390 volunteers	4,427 hours	1610 bags	55 events
Volunteer Tree Plantings	268 volunteers	701 hours	343 trees planted	8 events
Volunteer Invasive Plant Species Removal	154 volunteers	426 hours	• Cleared approximately 119 trees of English ivy, • Cleared around 2 cubic meters of Wisteria from Great Falls; • Cleared 3 cubic meters of Wine berry from Turkey Run, • Generated 28 bags of Wineberry, 6 bags of English Ivy, 6 bags Japanese Stiltgrass, 11 bags of Mile a Minute (an invasive weed).	11 events

In addition to the stream cleanups and invasive plant removal volunteer events, park staff have developed other programs that they use throughout the year to engage with the public and share information about watershed protection and water quality. Table 3 below provides a summary of these programs.

Table 3: Summary of GWMP Park Public Engagement Programs

Activity	Estimated number of people reached
Bridging the Watershed Program – Alice Ferguson Foundation	Approximately 750 middle and high school aged students through 16 programs at Great Falls. Plus 30 students at Dyke Marsh for a sediment program.
Partner with local environmental groups (Friends of Dyke Marsh)	A new agreement has been put in place with the Friends of Dyke Marsh, which will conduct weekly programs in the spring and summer which will establish estimated numbers for people to be reached in the future.
Every Kid in a Park and Rocks programs – water-based interpretation programs covering water conservation, protection, and pollution.	656 (4th grade) students on 15 scheduled Every Kid in a Park, River and the Rocks programs at Great Falls Park.
Multi-Sensory Nature Walks and Workshops – Theodore Roosevelt Island (TRI) and Dyke Marsh	40 people participated in two, 2-hour walks (Dyke Marsh and TRI), for a total of 50 staff and participants in the workshop. It occurred at Great Falls and we were reaching the disabilities community specifically reaching out to blind and low vision visitors of our parks. We talked about our environment and conservation, the history of Theodore Roosevelt Island, TR's impact on conservation, and how the island is an invaluable resource. We had 5 staff on the scene and 3 SCA interns as support for this event.
Campfire conservation programs at Great Falls	Weekly campfires over summer; ranges of attendance.

Dyke Marsh and Theodore Roosevelt Island kayak programs	We conducted 2 kayak programs in Dyke Marsh in October for a total of about 60 people. We conduct about 10 kayak programs around TRI for 60-100 people from August - October 2018. This involves 70 hours of staff time for implementation, plus 48 hours of staff time for training.
Theodore Roosevelt Island "Safaris"	Theodore Roosevelt theories of conservation, including clean water ecosystems for the benefit of all plant and animal habitats. Weekly; 10-12 participants each event.
Birding at Dyke Marsh	Weekly events by Friends of Dyke Marsh, including water quality and ecology topics.

MCM 3: Illicit Discharge Detection and Elimination

In accordance with the GWMP MS4 permit, this report must include: a confirmation statement that the MS4 map and information tables have been updated to reflect any changes to the MS4 occurring on or before June 30 of the reporting year; the total number of outfalls screened during the reporting period as part of the dry weather screening program; and a list of illicit discharges to the MS4 including spills reaching the MS4 with information as follows:

- *The source of illicit discharge;*
- *The dates that the discharge was observed, reported, or both;*
- *Whether the discharge was discovered by the permittee during dry weather screening, reported by the public, or other method (describe);*
- *How the investigation was resolved;*
- *A description of any follow-up activities; and*
- *The date the investigation was closed.*

No changes to the MS4 map and information table were made during the reporting year, as no changes to the MS4 area occurred.

During reporting year 2019, employees used GWMP's recently developed dry weather field screening stormwater procedures to document the status for each of the outfalls assessed. In most urban areas, the flow of water from a storm drain system is not a routine event during dry weather periods and, therefore, can be an indicator of illicit discharges (e.g., illegal dumping and unauthorized connections to a MS4). However, dry weather flows from an MS4 can be from other non-stormwater discharges that would not be considered an illicit discharge and are a normal event for some MS4 outfalls (depending on location). These non-stormwater discharges could include: groundwater infiltration into the storm sewer system, irrigation return flow, foundation drain discharges, etc. Using the assumption that dry weather flows are not conclusive indicators of possible illicit discharges in GWMP outfall inspections focused on visually conspicuous evidence of possible illicit discharges to the MS4. Water quality sampling and analyses were not conducted.

During reporting year 2019, park staff conducted outfall screenings at seven (7) outfalls. Refer to Appendix E for copies of the screening reports.

The park has active and interested neighbors who make reports about issues on NPS land. In addition, we receive National Response Center notifications, U.S. Park Police Reports, EPA Regional Response Teams III, and information from surrounding landowners and agencies for issues that may affect our park. The park's Environmental Protection Specialist has training in spill identification, response, and initial cleanup. In addition, park staff are trained to notify Resource Management if any issues are identified.

We have identified our adjacent regulated physically interconnected MS4s permittees and have notified all of them and provided our mapping data. This list includes, but is not limited to, Arlington National Cemetery, the Pentagon, the Central Intelligence Agency, Arlington County, Fairfax County, and the City of Alexandria.

During the 2019 reporting there were a few reports of a potential illicit discharge. Email communication about each incident and as applicable, detailed incident assessment reports are provided in Appendix A of this report.

MCM 4: Construction Site Runoff and Control

In accordance with the GWMP MS4 permit, this report must include:

- *Total number of inspections conducted; and*
- *The total number and type of enforcement actions implemented and the type of enforcement actions.*

Current land-disturbing activities by the park during this reporting period include the Arlington House rehabilitation and inspections are conducted as required. Construction is anticipated to continue for the upcoming reporting period. For Arlington House, the rehabilitation project addresses the following:

- Redirect the flow of water throughout the entire site, into a newly designed and installed underground drainage system, that will be connected to the larger Arlington National Cemetery drainage system - positive drainage is mandated throughout the entire site
- Regrading and the installation of bonded aggregate pavement will also improve the flow of water and decrease the soil/loose particles from entering into the water system
- Rehabilitate the Kitchen and Flower Gardens as well as other key landscape areas that will improve water absorption, topsoil quality and the general vitality of the landscape.
- Erosion and sediment control measures are implemented and maintained, throughout the entire construction process.

The land-disturbing activities are in compliance with the permit conditions. An assessment of the identified BMPs has determined that they are appropriately addressing the minimum control measures outlined in the MS4 general permit.

A total of 8 land disturbance permits were issued for projects for the 2019 reporting year. These projects were monitored by the Right-of-Way / Permits Coordinator for the park. See Appendix B for descriptions of these projects. Refer to Appendix C for the permit language applicable to stormwater, sediment and erosion controls. There were no enforcement actions taken during the reporting period. Generally verbal notifications of erosion and stormwater violations are used as a first measure of correction. If necessary, Stop Work Orders can be issued in writing for any land disturbance that occurs without an approved permit.

MCM 5: Post-Construction Stormwater Management

In accordance with the GWMP MS4 permit, this report must include:

- *Total number of inspections conducted on stormwater management facilities owned or operated by the permittee;*
- *A description of the significant maintenance, repair, or retrofit activities performed on the stormwater management facilities owned or operated by the permittee to ensure it continues to perform as designed. This does not include routine activities such as grass mowing or trash collection;*
- *A confirmation statement that the permittee submitted stormwater management facility information through the Virginia Construction Stormwater General Permit database for those land disturbing activities for which the permittee was required to obtain coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities in accordance with Part I E 5 f or a statement that the permittee did not complete any projects requiring coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities; and*
- *A confirmation statement that the permittee electronically reported BMPs using the DEQ BMP Warehouse in accordance with Part I E 5 g and the date on which the information was submitted.*

In accordance with the Virginia Stormwater Management Program (9VAC25-870), GWMP understands that "stormwater management facility" (SMFs) means a control measure that controls stormwater runoff and changes the characteristics of that runoff including the quantity and quality, the period of release or the velocity of flow. Examples of SMFs include but are not limited to:

- Pervious concrete and asphalt;
- Rain gardens and bioretention ponds;
- Stormwater pre-treatment chambers; and
- Stormceptors.

Currently, GWMP does not maintain, own, nor operate any SMFs within the MS4 service area. As mentioned in the park's MS4 plan, as a National Park and a location listed on the National Register of Historic Places, the installation of any SMF would require thorough reviews, planning, and justification for the alteration of the natural environment. If, however, in the future SMF(s) are installed, GWMP commits to maintaining them in good working order and to meet conditions of the MS4 permit as set forth in VA permit 2018-2023, Part 1, E, d, 5 including but not limited to

maintaining information about each one as well as developing and implementing written inspection procedures. If GWMP employs the use of a SMF, it will report the information into the VA Department of Environmental Quality (DEQ) Best Management Practice (BMP) electronic warehouse in accordance with the MS4 permit, Part I, E, 5, g.

MCM 6: Pollution Prevention and Good Housekeeping

In accordance with the GWMP MS4 permit, this report must include:

- *A summary of any operational procedures developed or modified in accordance with Part I E 6 a during the reporting period;*
- *A summary of any new SWPPPs developed in accordance Part I E 6 c during the reporting period;*
- *A summary of any SWPPPs modified in accordance with Part I E 6 f or the rationale of any high priority facilities delisted in accordance with Part I E 6 h during the reporting period;*
- *A summary of any new turf and landscape nutrient management plans developed that includes: (a) Location and the total acreage of each land area; and (b) The date of the approved nutrient management plan; and*
- *A list of the training events conducted in accordance with Part I E 6 m, including the following information: (a) The date of the training event; (b) The number of employees who attended the training event; and (c) The objective of the training event.*

There were no operational procedures developed or modified during this reporting period.

In follow-up to a VA DEQ site visit occurring on November 7, 2018, VA DEQ requested that the park update its current Stormwater Pollution Prevention Plan (SWPPP) for Daingerfield Island to ensure the plan addressed all required elements of the MS4 permit (Part 1, E, 6, d, 1). The plan was revised during this reporting year and finalized in June 2019.

An assessment of the identified BMPs has determined that they are appropriately addressing the minimum control measures outlined in the MS4 general permit. Planning and response documents are assessed regularly and updated to reflect current staffing and requirements. We provide training on a regular basis. All pesticide operator licenses, certifications, water operator certifications are current and up to date. GWMP Maintenance continues to clean up spills, protect drainage structures, and cover open trash receptacles as noted in our Spill Containment and Countermeasure Plan.

Storm water runoff control activities are conducted as necessary. GWMP is in the process of repairing a collapsed culvert just north of Turkey Run that is currently keeping one lane of the parkway closed. Trail repairs, including reduction of erosion, stabilization of trails is conducted as necessary. GWMP installed and repaired water bars, resurfaced trails and addressed erosion along our unpaved trails.

No other changes were made to any other existing SWPPP (e.g., the GWMP Maintenance Area) and no other high-priority facilities were identified or delisted. No new storm water management facilities within the park were brought online during the reporting period.

At this time, the park does not meet the threshold requirement to develop and maintain nutrient management plans in accordance with § 10.1-104.2 of the Code of Virginia because the park does not apply nutrients to contiguous areas of greater than 1 acre. As needed, if at some point in the future the park triggers this threshold and applies nutrients in areas of greater than 1 acre, park management will comply with developing and implementing a nutrient management plan.

Stormwater pollution prevention training for maintenance staff occurred on September 19, 2018 for maintenance employees. A Spill Prevention Control and Countermeasures plan was finalized in 2014, updated in 2016, and employee training occurred on September 19, 2018. In addition, stormwater outfalls within the Maintenance Facility were mapped and identified as to the receiving facility – either the oil/water separator, or natural stream. Potential spill locations were also identified and mapped; spill kits were inventoried, replenished, mapped, and posted around the maintenance bays. Procedures for identifying pollution and responding to it were conveyed during the Sept 19th training, and a number of personnel have attended HAZWOPER training in order to increase the number of personnel qualified to respond to spill incidents. A complete list of relevant trainings completed during the 2019 reporting year is provided in Table 1 in MCM #1 above.

The park has improved its good housekeeping efforts through implementation of an internal environmental audit procedure by the Environmental Committee. Park employees conducted audits at the Maintenance facility, Great Falls Park, Glen Echo Park, and a marina, and staff have been working to correct deficiencies found during those audits. The park developed written good housekeeping procedures and trained staff on them on September 19, 2018.

Chesapeake Bay and Local TMDL Status Report and Summary of Updates

In accordance with the GWMP MS4 permit, this report must include:

- *A list of BMPs implemented during the reporting period but not reported to the DEQ BMP Warehouse in accordance with Part I E 5 g and the estimated reduction of pollutants of concern achieved by each and reported in pounds per year;*
- *If the permittee acquired credits during the reporting period to meet all or a portion of the required reductions in Part II A 3, A 4, or A 5, a statement that credits were acquired;*
- *The progress, using the final design efficiency of the BMPs, toward meeting the required cumulative reductions for total nitrogen, total phosphorus, and total suspended solids; and*
- *A list of BMPs that are planned to be implemented during the next reporting period.*

During reporting year July 1, 2018 – June 30, 2019 initial planning was conducted to update and revise the compendium GWMP Chesapeake Bay TMDL Action plan – due to the VA DEQ by November 1, 2019. However, at this time no updates to the plan have occurred. Additionally, the park has undertaken a re-evaluation of the land captured in its impervious and pervious calculated land areas and equivalent loading rates as set by the state of Virginia. This is an ongoing project expected to be completed in the fall of 2019 and which may have implications to the original calculations made by the park.

No other best management practices or quantitative information is available to demonstrate improvements or achievements in the reduction of total suspended solids, total phosphorus, or total nitrogen.

The GWMP is a historic district listed in the National Register of Historic Places and features many cultural landscapes, including: Arlington House; Arlington Ridge Park; Clara Barton Parkway; Fort Hunt Park; Fort Marcy; GWMP-North; Glen Echo Park/Clara Barton House; Great Falls Park; Lady Bird Johnson Park; Lyndon B. Johnson Memorial Grove; Memorial Avenue Corridor; Mount Vernon Memorial Highway; Patowmack Canal/Matildaville; Spout Run Parkway; Theodore Roosevelt Island; and US Marine Corps War Memorial. In addition to cultural landscapes, the GWMP also features historic properties (those cultural resources listed in the National Register of Historic Places), historic structures, memorials, and archeological sites. Integrity is the authenticity of a property's historic identity or the extent to which a property evokes its appearance during a particular historic period. The National Register identifies seven aspects of integrity: location, design, setting, materials, workmanship, feeling and association. Retention of these qualities is essential for a property to convey its significance. In order to meet requirements under the TMDL Action Plan in the future, the GWMP may require improvements to these areas in the form of structural BMPs. It is important for the Virginia Department of Environmental Quality to understand that improvements in the form of structural BMPs to these areas are very difficult because of the historical and cultural aspects of these facilities.

The park will continue to work towards reduction of nutrients rather than the purchase of nutrient credits. The option of nutrient credits is not supported through current management approaches related to solicitor guidance.

The following table outlines the permit year 5 (from the 2013-2018 VA MS4 permit) commitments and achievements excerpted from the GWMP Chesapeake Bay TMDL Action Plan:

Program Areas	Goals	Achievements
Chesapeake Bay TMDL BMP #1 – Chesapeake Bay TMDL Action Plan Revision and Reporting	In permit year 5 (PY5), the Chesapeake TMDL Action Plan shall be reviewed and revised, as needed, for the MS4 reapplication package due to VADEQ at least 90 days before the expiration date of the existing permit.	The park submitted its application package and received the 2018-2023 permit from VA DEQ.
Chesapeake Bay TMDL BMP #2 – Chesapeake Bay Nutrient Management Education	During permit year 5, the GWMP will create include information on the current website accessible to the public related to the proper application and use of fertilizers to protect water quality, and include a link to the www.onlyrain.org website.	The park did not achieve this goal. It will plan to update the website with this information in the next reporting year.
Chesapeake Bay TMDL BMP #3 – General Public Education and Outreach	The goal of this BMP is to continue to provide general stormwater quality education and outreach to a diverse range of audiences by engaging students, civic groups, and residents	The park documents efforts to engage and educate citizens, students, and other groups and reports these efforts in the annual

	through presentations, discussions and distribution of materials by participating in numerous events. Distributing general education brochures and participating in education outreach efforts increases individual and household knowledge about the steps that can be taken to reduce stormwater pollution and increases understanding of the legal implications of the improper disposal of waste. The GWMP will continue to distribute brochures and other educational materials at events and present education materials to school and civic groups.	report. For examples, refer to tables 2 and 3 of this report.
Chesapeake Bay TMDL BMP #4 – Promote and Support Local Activities	The goal is to increase overall stormwater quality awareness and education, strengthen private environmental stewardship efforts, and provide citizens with a broad range of environmentally-related volunteer and engagement opportunities. The GWMP will continue to promote local water quality events and volunteer opportunities which may include stream cleanup.	The GWMP documents its sponsorship, participation, and promotion of local events in the annual report as discussed in MCM #1 and #2 of this report.
Chesapeake Bay TMDL BMP #5 – Pollution Prevention and Good Housekeeping Training	GWMP staff engages in daily activities that have the potential to adversely impact water quality. The likelihood of these impacts occurring may be minimized or avoided by providing staff training on pollution prevention and good housekeeping. Training is required for staff working in and around recreational, public works and maintenance facilities, and staff performing road, street and parking lot maintenance. The GMWP will provide annual training to staff in these specific categories. Training tools may include, but are not limited to, videos, presentations, manuals, desktop exercises and field exercises, as appropriate.	A list of training events held, the date, number of staff attending and the objective of the training is provided in table 1 of this report.
Chesapeake Bay TMDL BMP #6 – Contractor Oversight	Contractors performing work on behalf of the GWMP must use the appropriate control measures and standard procedures to control	The GWMP has provided a summary of contractor oversight tools in this report, MCM #4.

	impacts to the MS4 from stormwater discharges. Contractors must follow the appropriate laws and regulations, and secure applicable permits as required. The GWMP will continue to ensure that contractors follow proper procedures and employ required control measures.	
Chesapeake Bay TMDL BMP #7 – Stormwater BMP Inventory Tracking Database	The purpose of this BMP is to continue to maintain a database for tracking required information for BMPs installed in the GWMP. This information enables a better understanding of areas being treated by BMPs and is used for Chesapeake Bay TMDL Action Plan reporting purposes. The GWMP will ensure that required information for all new BMPs is entered into the GWMP's tracking database.	The GWMP will document and provide a spreadsheet of all future and current BMPs brought online during the reporting period. The database information will include the project number/unique identifier, type of BMP, location, impaired water body where the GWMP discharges, description of how the GMWP will maintain the BMP, date of installation, and a breakdown of impervious and pervious drainage area.

Certification Statement and Requirements

As required by Part III (K) of the GWMP MS4 permit, all reports required by state permits, and other information requested by the board shall be signed by a responsible official or by a duly authorized representative of that person. A responsible official is:

For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this chapter, a principal executive officer of a public agency includes:

- The chief executive officer of the agency, or
- A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

Duly Authorized Representatives

A person is a duly authorized representative only if:

The authorization is made in writing by a person described above;

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

The written authorization is submitted to the department.

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.

Charles Cuvelier 9-26-2019

Responsible Official Signature and Date

VAR040111

VA MS4 Permit Number

George Washington Memorial Parkway, National Park Service

MS4 Name

Initial Assessment / Situation & Monitoring Report

February 7, 2019

DCA Airport Sanitary Sewer Forced Main (FM) rupture on CSX Property

----Comments----

NRC# 1236944
MWAA Airport and CSX
Permit Number: N/A Emergency response
Reported: 2-6-19

Assessment Findings: Noticeable turf damage from emergency response equipment using an existing emergency access (normally used by Dominion for power pole access). There is no other large vehicle access points available to the east side of the CSX tracks without infrastructure removal. (See Pictures)

Work in Progress:
(2-6-19) Response and reporting
(2-7-19) Continue Reporting, communication between stakeholders

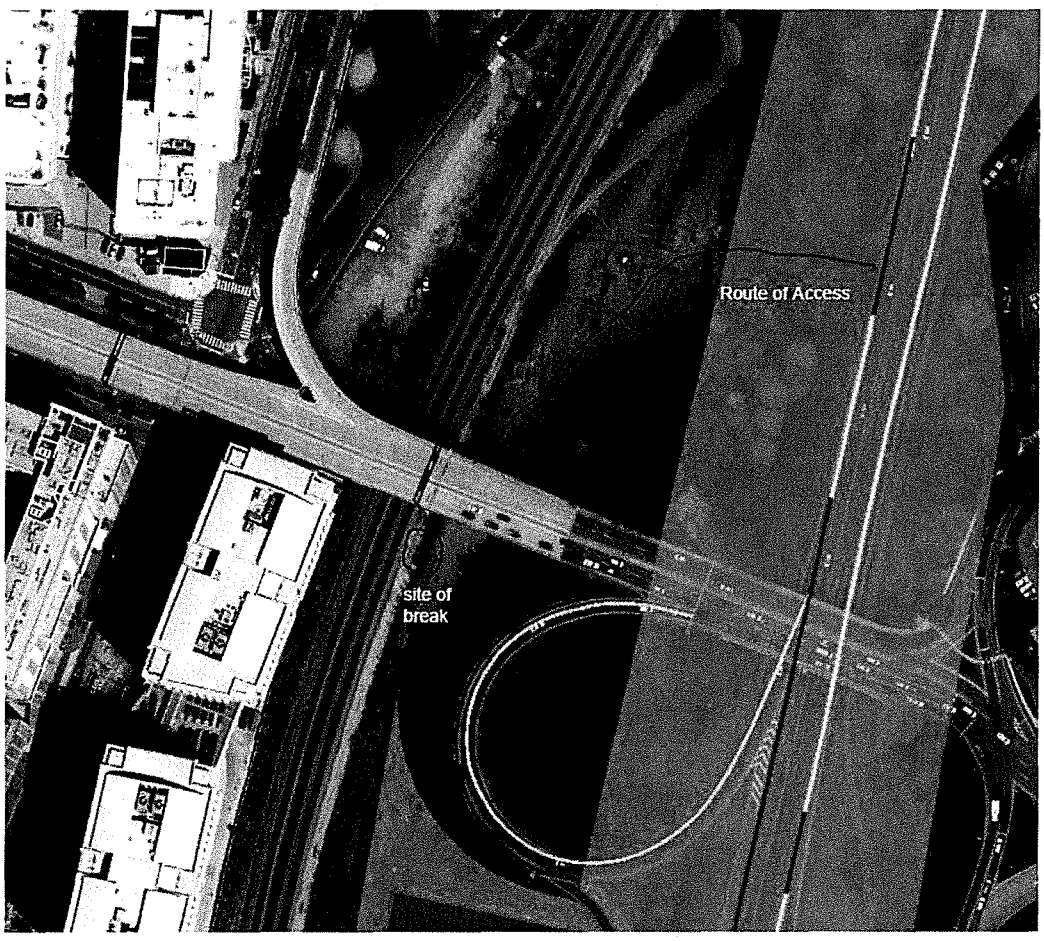
Expected Completion: Response to ruptured FM has been resolved same day from DCA emergency contractors. Restoration to minor turf damage on adjacent NPS lands expected within one week. (See Attached Map of Location) Seeding is expected to be performed when seeding season begins in March 2019.

COMMENTS/PROBLEMS:

1. Seeding this time of year is not recommended until season warms for seed germination.
2. The use of this access point will need to be restored ASAP so the general public do not try to access or trespass the closed area off NPS property.

RECCOMENDED SOLUTIONS:

1. Continue to communicate with Richard Golinowski MWAA on scheduling of restoration effort by MWAA staff.



Map of Location

The pictures above are from the CSX and MWAA Property under Rt 233 overpass where the rupture occurred. (White Pole is where dig occurred).

The next one to the right shows the direction north to the access point.

Looking from parking lot to access onto NPS. Line is roughly where NPS starts. Orange barrier itself is not NPS property. Unsure who placed it.

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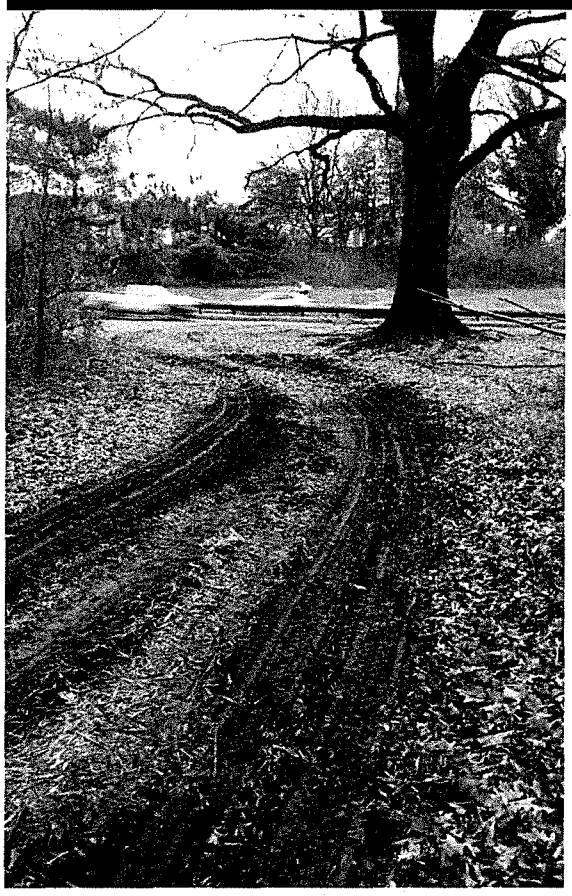


Looking at ruts which will need restored. It does not look like roots were damaged but soil could be compacted.

Initial Assessment / Situation & Monitoring Report

May 16, 2019

Underground Storage Tank (UST) full of #2 heating oil and partial rupture By Peter McCallum

----Comments----

Location: Conway House, 8210 East Boulevard Drive, Alexandria Virginia 22308 USPP Incident Number 051619-42

Reported: 0900 5-16-19

Narrative: At about 0900 on Thursday May 16, 2019, Mr. Dexture Lusi reported a possible oil spill at the Conway House project site from contractors. Mr. Peter McCallum asked if USPP has been notified to start any required emergency response. Mr. Tony Migliaccio called USPP D2, who were already notified and on way. Mr. Lusi and Ms. Sharee Satterwhite were also on way to site and would notify Mr. McCallum of any spill reporting as necessary. Mr. McCallum was notified at 0930 to report to site as the smell of petroleum was present. Mr. McCallum arrived at approximately 1015 and noticed the area has been previously disturbed where the house was located and loads of trash fill was piled up nearby. The reporting party (contractors), and the, NPS' Mr. Lusi and Mrs. Satterwhite showed where the possible tank was hit. A noticeable smell was present coming from a depressed area dug out. Mr. McCallum notified USPP Sgt. Michael Young to call the Fairfax County (FX) Fire Department to have a technical haz mat specialist respond non- emergency to analyze the situation. FX Fire arrived, provided assessment stating the product is #2 Fuel Oil used for heating and the tank is most likely a 500 Gal tank (common used for heating oil furnaces). The on scene Fire officer requested the FX County Fire Marshal's office to report and document. The Fire Marshall (FMO) arrived an hour later and started to document the incident. He stated to go ahead and to start the process to have the oil removed from the tank ASAP. FMO stated the VDEQ was notified by the contractor. 1152 NPS Ms. Simone Monteleone stated to let contractors know to be on site to meet VDEQ Alex Wardle between 1400 and 1500. Agreed by all parties.

1200 to 1230 Mr. McCallum called Simone Monteleone, Safety Officer Mr. Ruben Rodriguez, and NPS - EPS Mr. David Birney and advised them of the findings. FMO inquired about the ownership of the property and Mr. McCallum stated the ownership was NPS owned. The FMO called his office to ask about NPS ownership and they stated the NPS is responsible for documenting the incident to appropriate authority. FMO stated to tell the contractor to rip up the county violation notice. 1300 The contracting office was able to let the contractor proceed in the emergency oil removal by having the contractor hire Atlas to remove the oil. At 1340 Atlas started pumping the oil from the UST resulting at 500 gallons of oil removed from site for disposal at an approved facility. Contractor's secured site by posting "No Trespassing" signs, fenced off area and covered hole with tarps to keep rain out.
1439 VDEQ Mr. Alex Wardle arrived and assessed the site. His findings are in agreement to proceed with Atlas and contracting plans are to continue with the removal of the empty tank and soil around the tank. Testing will be required by Atlas to determine clean parameters.
1450 Peter McCallum left site.

Resources notified:

Fairfax Fire Department and Fairfax County Fire Marshal's office NCRO
EPS David Birney
Simone Monteleone GWMP Chief of Resource Managements Tony
Migliaccio GWMP Chief of Maintenance
Einar Olsen GWMP Acting Chief LPD
VDEQ

Work in Progress:
(5-16-19) Response
(5-23-19) Reporting of incident

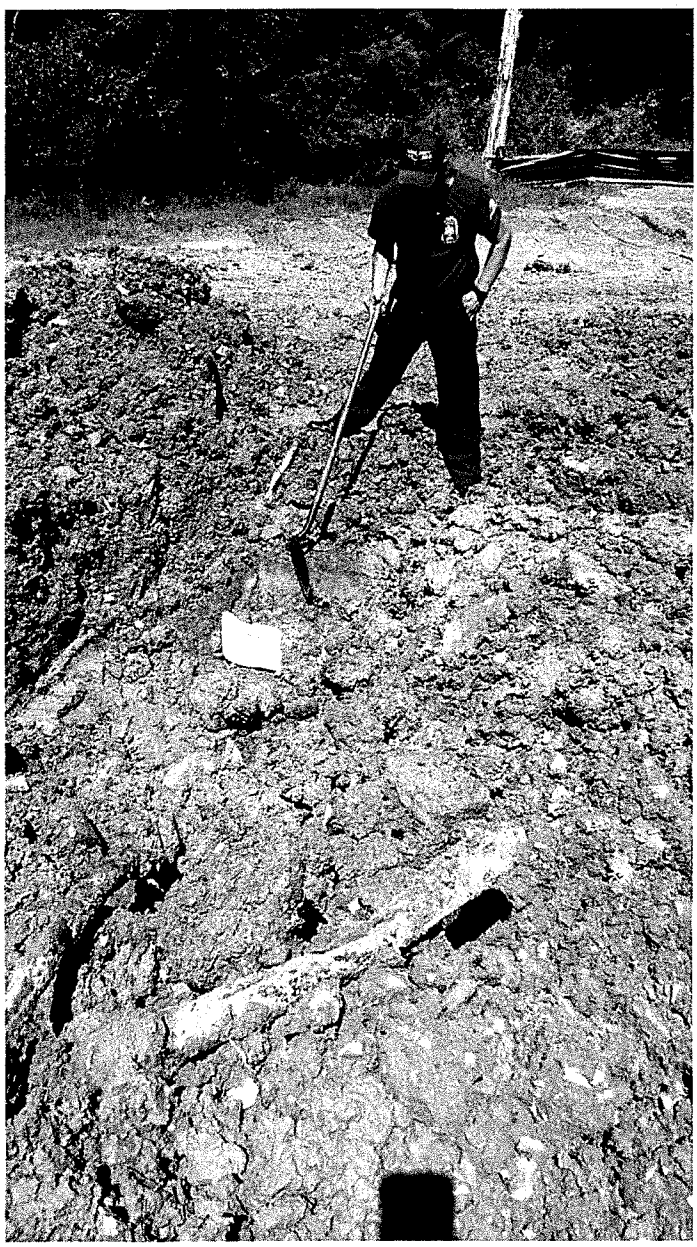
Expected Completion: Continue reporting UST removal when NCR contracting office gives Notice To Proceed (NTP) for contractor to start clean-up process with Atlas.

COMMENTS/PROBLEMS:

1. The length of time to have the contractors out to remove the UST and affected soil.

RECCOMENDED SOLUTIONS:

1. Continue to communicate with Dexture Lusi, VDEQ Alex Wardle, Sharee Satterwhite, Rob Mocko, and NCRO David Birney on action steps necessary to result in clean-up of this incident.
2. Upon notice of tank removal and estimated surrounding oiled soil removed off site by contractor; the soil is required to be tested and sent to VDEQ to assess for clean parameters. Once VDEQ has clean parameters resulting from testing, the restoration of fill can resume.



The Fairfax Firefighter showing where the top of the UST. The firefighter was able to see oil on his shovel when he dug it in the ground. They placed a white absorbent pad down showing the oil.

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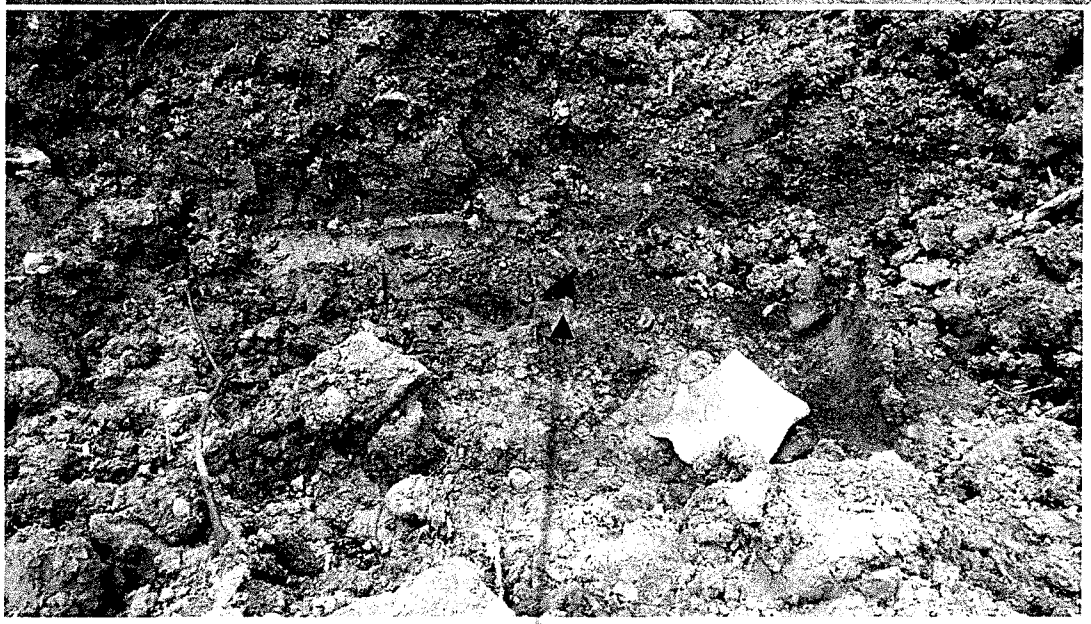

Arrow pointing where the Atlas was able to access the port of the tank and remove 500 Gallons of #2 heating oil.

Appendix B: 2019 Land Disturbance Permit Summary

A. Projects:

1. **Arlington National Cemetery Millennium expansion project**
   Project finished but monitored during heavy rainfall events for any failures. None observed.

2. **DDOT Key Bridge Rehabilitation / Staging area under Key Bridge**
   PEPC 67389 Daily monitoring by DDOT inspectors and NPS for stormwater and sediment control of improved construction entrance and staging area. All problems reported by NPS inspection have been immediately addressed by DDOT project team. Project in final stages and will be starting restoration in fall 2019.

3. **MWAA Stormwater Repair / replacement of collapsed stormwater pipe**
   PEPC 82806 MWAA under construction special use permit on March 20, 2019 has repaired collapsed stormwater pipe on NPS land. NPS will monitor for any subsequent stormwater problems after construction.

4. **Arlington County DES Stormwater Outfall Maintenance / 4121 North Randolph St.**
   PEPC 79855 Arlington County has submitted application for permit to make repairs. Repair in under compliance review. When permitted, Arlington County and NPS will monitor for stormwater and sediment control devices are in working order and maintained daily.

5. **MWAA Perimeter and Security Fence Replacement**
   PEPC 75717 MWAA has been issued a SUP for the MWAA contractors to replace fence(s) surrounding the airport facility. Ongoing work has been slow but proceeding. Reports of sediment control problems onto MVT has been fixed by the use of silt fence on MWAA property.

6. **Arlington County DES / Spout Run Maintenance Hole Investigation and Re-commission Access**
   PEPC 80364 Arlington DES has discovered a maintenance access to their sewer line under the asphalt on Spout Run Parkway. Construction SUP provided for them to perform work in roadway to uncover maintenance lid. Arlington County and NPS have monitored for stormwater and sediment control devices in working order and maintained during construction.

7. **Arlington Bikeshare / Gravelly Point Station Installation**
   PEPC 61787 Arlington County has a SUP to install a Bikeshare station. Station installed in December 2018. Arlington County and NPS has monitored for stormwater and sediment control devices were in working order and were maintained daily during construction of the station.

8. **Dominion Energy Power Line Replacement for Wellington Estates / Alexandria Bridge**
   PEPC 83292 Dominion Energy has applied for renewing the ROW and SUP for construction of the replacement of an existing underground power line crossing GWMP at Alexandria Bridge. Line was installed in May 2019 including stormwater and sediment control devices in working order and maintained during construction.

Appendix C: Stormwater, Sediment and Erosion Control Permit Language

Permit language included into all NPS construction and right of way permits:

Erosion control methods shall be used to prevent silt-laden water from entering the stream and watershed. These may include, but are not limited to, silt fencing, filter fabric, excelsior or fumigated straw filter logs, temporary sediment ponds, check dams of pea gravel-filled burlap bags or other material, and/or immediate mulching of exposed areas. In order to prevent import of non-native plants, straw bales or non-fumigated products shall not be permitted. This measure is designed to keep fine and course sediments from reaching flowing waters where they can be transported downstream and may affect spawning gravels, substrate embeddedness, pool frequency/quality and the development of large pools. Silt protection structures should be inspected and cleaned out periodically.

Both during and upon completion of the construction phase of the project, Permittee agrees to take all measures necessary to curtail erosion and sedimentation caused by the excavation, and further to restore and re-vegetate the area to its original condition. Furthermore, Permittee agrees to meet, at a minimum, all state and local erosion and sedimentation regulations.

The Permittee shall take all necessary measures to prevent air, noise and water pollution by managing all products, material and/or equipment used during this permitted construction, and these include:

- Any waste or erosion materials entering on park land shall be removed and the affected property cleaned, stabilized, or restored, to the satisfaction of NPS. This restoration shall take place within the time period directed by NPS.
- Only NPS / park approved native seed mixtures and plant species shall be used to re-vegetate areas specified by NPS.
- As a part of the initial construction activity under this permit, the Permittee accepts responsibility for cleaning of accumulated silt and debris from the existing culverts and open drainage channels as directed by NPS.
- Silt barriers shall be installed on parkland in a manner directed by NPS to minimize associated impacts.
- All paved and unpaved areas that are damaged as a result of this permit will be restored to the satisfaction of NPS.
- Construction activities shall be restricted during saturated soil conditions and halted involving a single rain event of more than ½ inch or severe weather conditions to avoid damage to soils and vegetation.
- Avoid use of heavy equipment where soils are wet or extensive compaction could occur.

Appendix D. Example Notification of MS4 Program to Neighboring Landowners

McCallum, Peter <peter_mccallum@nps.gov>

MS4 permitting on George Washington Memorial Parkway

2 messages

McCallum, Peter <peter_mccallum@nps.gov> Thu, Sep 14, 2017 at 3:52 PM
To: jesse.maines@alexandriava.gov
Cc: lydia.durand@alexandriava.gov

Jesse,

The National Park Service, George Washington Memorial Parkway, is updating the MS4 program plan in preparation for the new general permit effective July 2018. The MS4 Program Plan (2013) is posted at https://www.nps.gov/gwmp/learn/scienceresearch.htm.

GWMP has also prepared MS4 Chesapeake Bay and Consolidated TMDL action plans. These plans are available at https://parkplanning.nps.gov/projectHome.cfm?projectID=64883 for review.

If you have any questions, you can reach Brenda Wasler at 703-289-2540

Thank you,

--
Peter McCallum
Park Ranger
National Park Service
George Washington Memorial Parkway
Office (703-419-6435
Mobile (202)-439-7322
peter_mccallum@nps.gov

National Park Service Core Values

- **Respect**, We embrace each other's differences so that we may enrich the well being of everyone.
- **Integrity**, We deal honestly and fairly with the public and one another
- **Tradition**, We are proud of it, we learn from it, we are not bound by it.
- **Excellence**, We strive continually to learn and improve so we may achieve the highest ideals of public service.
- **Shared Stewardship**, We share a commitment to resource stewardship with the global preservation community.

Jesse Maines <Jesse.Maines@alexandriava.gov> Thu, Sep 14, 2017 at 3:57 PM
To: "McCallum, Peter" <peter_mccallum@nps.gov>

Jesse Maines <Jesse.Maines@alexandriava.gov> Thu, Sep 14, 2017 at 3:57 PM
To: "McCallum, Peter" <peter_mccallum@nps.gov>
Cc: Lydia Durand <lydia.durand@alexandriava.gov>, Joni Calmbacher <joni.calmbacher@alexandriava.gov>

Peter,

Thanks for reaching out and providing the links. Our current MS4 Program Plan and past reports are on this page. Our Bay TMDL AP can be found here. Like yourselves, we are also in the process of updating our Program Plan and

Bay TMDL AP for the new GP. I've cc'd Joni Calmbacher here in case you or Brenda have any questions, or if Joni wants to reach out to Brenda.

Thanks,

Jesse Maines, MPA

Division Chief

T&ES, Stormwater Management

703.746.4643 (direct)

571.414.8237 (mobile)

From: McCallum, Peter [mailto:peter_mccallum@nps.gov]
Sent: Thursday, September 14, 2017 3:52 PM
To: Jesse Maines
Cc: Lydia Durand
Subject: MS4 permitting on George Washington Memorial Parkway

[Quoted text hidden]

Appendix E: Outfall Screening Reports

June 2019

Outfall inspection report –

For this segment (Between Spout run and rt 123 on the GW Parkway, between the parkway and the Potomac River), I was able to locate all of the outfalls. I parked at the overlooks, and walked along the shoulder of the parkway. Very dangerous, don't recommend this to everyone to try (steep, narrow, and close to traffic). Every time I saw a drop-inlet in the roadway, I looked over the edge of the gorge and was able to find the associated outfalls each time. Again, be careful because there could be unseen erosion/sinkholes as you get closer to the outfall. All of them were dry (had been close to a week since the last rain fall) and it was very steep, so there were no pools of residual water left from the last rain fall). I took pictures of each outfall I found and recorded the GPS location. After doing all the inspections, I hope to make a better GIS map recording the location of each outfall, with pictures. I believe this is the first time these outfalls are being inspected in quite some time.

All the outfalls were in decent shape, and within 50-100 feet of the roadway. However, each of them had scoured the slope with a decent sized erosion gully. This will hopefully be repaired during the north parkway rehab project.

***Note, this is the only inspection this summer that fell within the MS4 2018-19 Annual Report. The remainder of the inspections will be included in next year's annual report.

[See attached outfall screening reports]

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
GEORGE WASHINGTON MEMORIAL PARKWAY

Date: 6/24/19 Time: 10am-3pm

Pipe/Outfall Location & Description: Swmp Weather: Sunny/Hot

Waterway: Potomac Outfall ID: 101,183

NOTES:
Inspector(s) Name(s): Robert Mucko
Date of Last Rainfall: 6/15/19
Amount of Last Rainfall (in): 1.14 in

Is pipe/outfall active? No - dry
If active, is flow sufficient to sample? n/a

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: (slow (<2 ft/s)) Moderate (2-5ft/s) Fast (> 5ft/s)
Water Level in Pipe/Channel: 0 inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)
Is outfall submerged? No
Outfall Damaged? No
Stains/Deposits/Sediment at Outfall? No
Algae Growth at Outfall? No
Abnormal Vegetation at Outfall? No
Unusual Water Color? No
Unusual Odor? No
Turbidity? No
Floatables? No
Surface Sheen? No
Detergents? No

Additional Comments/Observations:
A see attached write up!

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
GEORGE WASHINGTON MEMORIAL PARKWAY

Date: 6/24/19 Time: 10a - 1pm

Pipe/Outfall Location & Description: GWMP Weather: Sunny / Hot

Waterway: Potomac Outfall ID: 101, 121

NOTES:
Inspector(s) Name(s): Robert Mehta
Date of Last Rainfall: 6/17/19
Amount of Last Rainfall (in): 1.16 in

Is pipe/outfall active? No (dry)
If active, is flow sufficient to sample? n/a

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: (slow (<2 ft/s)) Moderate (2-5ft/s) Fast (> 5ft/s)
Water Level in Pipe/Channel: 0 inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)
Is outfall submerged? No
Outfall Damaged? No
Stains/Deposits/Sediment at Outfall? No
Algae Growth at Outfall? No
Abnormal Vegetation at Outfall? No
Unusual Water Color? No
Unusual Odor? No
Turbidity? No
Floatables? No
Surface Sheen? No
Detergents? No

Additional Comments/Observations:

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
GEORGE WASHINGTON MEMORIAL PARKWAY

Date: 6/24/19 Time: 10a - 1pm

Pipe/Outfall Location & Description: GWMP Weather: Sunny 100

Waterway: Potomac Outfall ID: 101, 102

NOTES:
Inspector(s) Name(s): Robert Mack
Date of Last Rainfall: 1.16 in
Amount of Last Rainfall (in): to 6/18/19

Is pipe/outfall active? No
If active, is flow sufficient to sample? n/a

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: (slow (<2 ft/s)) Moderate (2-5ft/s) Fast (> 5ft/s)
Water Level in Pipe/Channel: 0 inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)
Is outfall submerged? No
Outfall Damaged? No
Stains/Deposits/Sediment at Outfall? No
Algae Growth at Outfall? No
Abnormal Vegetation at Outfall? No
Unusual Water Color? no flow
Unusual Odor? No
Turbidity? No
Floatables? No
Surface Sheen? No
Detergents? No

Additional Comments/Observations:

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
GEORGE WASHINGTON MEMORIAL PARKWAY

Date: 6/24/19 Time: 10a - 1p

Pipe/Outfall Location & Description: GWMP - gorge Weather: Sunny / Hot

Waterway: Potomac Outfall ID: 101,187

NOTES:
Inspector(s) Name(s): Robert Mocko
Date of Last Rainfall: 6/18/19
Amount of Last Rainfall (in): 1.16 in

Is pipe/outfall active? No (dry)
If active, is flow sufficient to sample? N/A

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: (slow) (<2 ft/s) Moderate (2-5ft/s) Fast (> 5ft/s)
Water Level in Pipe/Channel: 0 inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)

Is outfall submerged? N
Outfall Damaged? N
Stains/Deposits/Sediment at Outfall? N
Algae Growth at Outfall? N
Abnormal Vegetation at Outfall? N
Unusual Water Color? No flow
Unusual Odor? N
Turbidity? N
Floatables? N
Surface Sheen? N
Detergents? N

Additional Comments/Observations:

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
GEORGE WASHINGTON MEMORIAL PARKWAY

Date: 6/24/19 Time: 10am - 1pm

Pipe/Outfall Location & Description: GW Parkway - gorge Weather: Sunny, hot!

Waterway: Potomac River Outfall ID: 101, 130

NOTES:

Inspector(s) Name(s): Robert Mucko

Date of Last Rainfall: 6/18/19

Amount of Last Rainfall (in): 1.16 inches

Is pipe/outfall active? No (dry)

If active, is flow sufficient to sample? n/a

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: (slow (<2 ft/s)) Moderate (2-5ft/s) Fast (> 5ft/s)

Water Level in Pipe/Channel: 0 inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)

Is outfall submerged? N

Outfall Damaged? N

Stains/Deposits/Sediment at Outfall? N

Algae Growth at Outfall? N

Abnormal Vegetation at Outfall? N

Unusual Water Color? N

Unusual Odor? N

Turbidity? N

Floatables? N

Surface Sheen? N

Detergents? N

Additional Comments/Observations:

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
GEORGE WASHINGTON MEMORIAL PARKWAY

Date: 6/24/19 Time: 10am - 1pm

Pipe/Outfall Location & Description: GW Parkway - gorge Weather: Sunny, hot

Waterway: Potomac Outfall ID: 101, 213

NOTES:
Inspector(s) Name(s): Robert Mocks
Date of Last Rainfall: 6/19/19
Amount of Last Rainfall (in): 1.16 inches

Is pipe/outfall active? No (currently dry)
If active, is flow sufficient to sample? N/A

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: (slow (<2 ft/s)) Moderate (2-5ft/s) Fast (> 5ft/s)
Water Level in Pipe/Channel: 0 inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)
Is outfall submerged? N
Outfall Damaged? N
Stains/Deposits/Sediment at Outfall? N
Algae Growth at Outfall? N
Abnormal Vegetation at Outfall? N
Unusual Water Color? N
Unusual Odor? N
Turbidity? N
Floatables? N
Surface Sheen? N
Detergents? N

Additional Comments/Observations:

STORM WATER OUTFALL DRY WEATHER SCREENING INSPECTION FORM
GEORGE WASHINGTON MEMORIAL PARKWAY

Date: 6/24/19 Time: 10am - 1pm

Pipe/Outfall Location & Description: GWMP - gurge Weather: Sunny / Hot

Waterway: Potomac Outfall ID: 101, 199

NOTES:
Inspector(s) Name(s): Robert Mocko
Date of Last Rainfall: 6/19/19
Amount of Last Rainfall (in): 1.16 inches

Is pipe/outfall active? No
If active, is flow sufficient to sample? n/a

FLOW/DISCHARGE ESTIMATE (for active outfalls)

Velocity: (slow) (<2 ft/s) Moderate (2-5ft/s) Fast (> 5ft/s)
Water Level in Pipe/Channel: 0 inches.

OUTFALL SCREENING RESULTS

VISUAL OBSERVATIONS (evaluate and add notes as applicable at each item or in the comments section)
Is outfall submerged? N
Outfall Damaged? N
Stains/Deposits/Sediment at Outfall? N
Algae Growth at Outfall? N
Abnormal Vegetation at Outfall? N
Unusual Water Color? N
Unusual Odor? N
Turbidity? N
Floatables? N
Surface Sheen? N
Detergents? N

Additional Comments/Observations: